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**FACTORS AFFECTING THE DEVELOPMENT OF
MANUFACTURING SMEs IN YANGON REGION**

THIN THIN YU
AUGUST, 2023

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**FACTORS AFFECTING THE DEVELOPMENT OF MANUFACTURING
SMEs IN YANGON REGION**

**This Thesis Submitted in Partial Fulfillment of the Requirement for the Degree
of Doctor of Philosophy (Ph.D.) in Economics,
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ABSTRACT

This study examines the factors affecting the development of manufacturing SMEs in the industrial zones in the Yangon Region and the differences in influencing factors among different types of industries. In order to fulfill the objectives of the study, descriptive methods, multiple regression analysis and ANOVA analysis are used. The required information was acquired from the 296 manufacturing SMEs selected by a simple random sampling method from the total of registered 1104 manufacturing SMEs at the Directorate of Industrial Supervision and Inspection. The result of the study revealed that the gender and managerial skills of owner/manager, firm size, financial resource, the regulatory environment, technology and information, and infrastructure positively affected SMEs development. Improving these factors will accelerate the development of SMEs. These influencing factors are also different among industry groups, except managerial skills. According to the result, the development of SMEs should be facilitated by providing skills development training programs for improving the capacity of male owners and managerial skills, providing the needed supports for accessing financial resource, relaxing restrictions and stabilizing the laws and regulations for supportive regulatory environment, facilitating and accessing the advanced technology and information, upgrading infrastructure such as electricity and storage facilities. For supporting businesses to survive and develop in a competitive environment, policies should be adopted for SMEs development, that will promote managerial skills, access to financial resource, adoption of technology and information, carrying out the needed changes in the regulatory environment, and developing infrastructure.

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LIST OF ABBREVIATIONS

ACCA	The Association of Chartered Certified Accountants
ADB	Asian Development Bank
ANOVA	Analysis of Variance
ASEAN	Association of Southeast Asian Nations
BDS	Business Development Services
BEE	Business Enabling Environment
CCI	Chamber of Commerce and Industry
CESD	Center for Economic and Social Development
COA	Certification of Approval
CSO	Central Statistical Organization
DBS	Development Business Service
DEval	Development Evaluation
DHSHD	Department of Human Settlement and Housing Development
DICA	Directorate of Investment and Company Administration
DISI	Directorate of Industrial Supervision and Inspection
DOI	Diffusion of Innovation Theory
ECL	Environmental Conservation Law
EDFI	European Development Finance Institutions
EIA	Environmental Impact Assessment
ERIA	Economic Research Institute for ASEAN and East Asia
ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
FDA	Food and Drug Administration
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
HP	Horse Power
HRM	Human Resource Management
ICT	Information and Communication Technology
IEE	Initial Environmental Examination
IFC	International Finance Cooperation
LCU	Local Currency Unit

LLC	Limited Liability Company
MIL	Myanmar Investment Law
MONREC	Ministry of Natural Resources and Environmental Conservation
MSIC	Myanmar Standard Industrial Classification
MSMEs	Micro, Small and Medium Enterprises
OECD	Organization for Economic Cooperation and Development
OSSC	One Stop Service Centre
RBT	Resource-Based Theory
R&D	Research & Development
SDGs	Sustainable Development Goals
SEM	Structural Equation Modeling
SEZs	Special Economic Zones
SLORC	State Law and Order Restoration Council
SMEs	Small and Medium Enterprises
SOEs	State Owned Enterprises
SPSS	Statistical Package for the Social Sciences
TAM	Technology Acceptance Model
TPB	Theory of Planned Behavior
UMFCCI	Union of Myanmar Federation of Chambers of Commerce and Industry
UN	United Nations
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
USD	United States Dollar
UTAUT	Unified Theory of Acceptance and Use of Technology
VIF	Variance Inflation Factor
WITS	World Integrated Trade Solution

CHAPTER I

INTRODUCTION

The transformation from an agrarian to an industrial nation is one of the objectives for crucial development in many developing countries. In the late 1970s and early 1980s, small and medium enterprises (SMEs) became the major vehicle of industrialization that led to the economic growth. The development of economies toward industrialization begins with SMEs. Thus, SMEs are crucial for industrial development as well as the economic development of countries. On the other hand, SMEs also represent the majority of businesses operating around the world.

Although the size and importance of the SME sector can vary from one country to another, its importance is significant in achieving numerous socioeconomic objectives. SMEs play a critical role in global economic expansion and regional development by contributing to the gross domestic product (GDP), income generation, and employment of the economy. In this way, SMEs development becomes an important part of achieving some of the UN's Sustainable Development Goals. With respect to the study of Kamal-Chaoui (2017), SMEs play a leading role in promoting inclusive and sustainable economic growth, employment, and decent work for all (Goal 8), as well as sustainable industrialization and fostering innovation (Goal 9).

Moreover, SMEs are important for the development of countries around the world due to their significant contribution to the economy. According to the World Bank (2023), SMEs account for about 90% of businesses and contribute to more than 50% of employment in the world. In the stated by the World Trade Organization (WTO, 2016), SMEs in developed economies are the major share with over 90 per cent of all enterprises, contribute to 60-70% of employment and 55% of GDP. In addition, EDFI (2016) reported that SMEs in developing countries provide two-thirds of all formal jobs and 80% of jobs in low-income countries. Yoshino and Taghizadeh-Hesary (2018) also indicated that SMEs represent more than 96% of all Asian businesses and provide two out of three private-sector jobs. According to the World

Bank (2022), SMEs in emerging economies generate the most formal jobs, creating 7 out of 10 jobs.

Additionally, SMEs can also make more efficient allocations of resources for developing countries. According to the ADB (2020), SMEs development becomes a key to promoting inclusive growth and an effective antipoverty program in developing countries. Similarly, SMEs development is considered as a key driver for narrowing the development gaps among the ASEAN economies. Thus, an important part of ASEAN economic cooperation is to promote the role and development of SMEs and to improve their competitiveness in the regional market as well as in the world.

An economic transformation must be accomplished by improving productivity in the manufacturing sector. The importance of manufacturing SMEs is mainly significant in developing countries because SMEs in these countries involve in most manufacturing activities. Further development of SMEs is also important because they represent a high share of the nation's manufacturing sector. Promoting the development of manufacturing SMEs increase the productivity and competitiveness, and which are crucial for import substitution, local employment, and poverty alleviation.

As stated by Laub and Overton (2022), SME development starts at the local level and then contributes to state, regional, and global economic growth. Therefore, governments provide the efforts for promoting and supporting SME expansion as a part of their national development strategy, while SMEs development becomes a priority for governments around the world.

1.1 Rationale of the Study

The manufacturing sector is the backbone of Myanmar's economic development. In the longer term, there is the potential for manufacturing sector development since Myanmar is moving towards industrialization. According to the Directorate of Investment and Company Administration (DICA, 2023), the manufacturing sector in Myanmar has prospects because of its significant domestic market and direct access to the major markets of Southeast Asia, China, and India. Additionally, Myanmar's abundant natural resource endowments and cheap labor costs encourage further value-added production, which supports the manufacturing sector. By generating job opportunities and boosting productivity, manufacturing

businesses contribute to poverty alleviation. The rapid growth of the private manufacturing sector has significant potential to encourage economic growth. Since SMEs have a prominent share of the manufacturing sector, manufacturing SMEs are vital for the economic growth of developing countries.

According to the OECD (2016), approximately 99.4% of all businesses in Myanmar, and 92% of the manufacturing sector, are SMEs. According to Chaltons Myanmar (2022), SMEs in Myanmar contribute to 50%–95% of employment and 30%–53% of GDP. According to Ministry of Industry 2020 data, 50,705 manufacturing firms are registered, and among them, 41,676 (82.18%) are SMEs. Thus, it is found that SMEs have a high share of the manufacturing sector in Myanmar. However, the status of SMEs in Myanmar among Southeast Asian countries is relatively low due to the low level of productivity, shortage of capital, outdated technology, and poor market access (Nang Saw Nandar Hlaing, 2013).

The World Bank's Enterprise Survey (2014) showed that only 4.2% of medium enterprises and 0.8% of small enterprises can export, which is at least 1% of their sales. According to this World Bank survey, Myanmar's SMEs may export far less than those in other ASEAN nations. Bernhardt and Dickenson-Jones (2016) noted that the competitiveness of firms is often measured by their ability to export. In addition, they also stated that SMEs in Myanmar are still less competitive since their ability to export is a measure of their ability to compete in regional and global markets. Moreover, SMEs also face other important problems in their operations, like SMEs in other developing countries.

In Myanmar, since 1990, industrial zones have been developed as a means to create job opportunities, attract foreign investment, and increase the value of products based on domestic raw materials. In 2020, fifty-six industrial zones were developed in Myanmar. According to the Ministry of Industry 2020 data, there are 49,873 registered manufacturing firms. Among them, 7,779 are located in industrial zones and 56.10% of manufacturing firms in industrial zones are SMEs. According to the share of manufacturing firms within the industrial zones, the significant shares (48.41% and 28.69%, respectively) can be found in Yangon and Mandalay Regions. Among them, the highest share (28.62%) and the second highest share (28.53%) of manufacturing SMEs are found in industrial zones in Yangon and Mandalay Regions. According to the 2020 registration data, most SMEs are located in industrial zones of Yangon Region.

Among the regions in Myanmar, Yangon Region is the commercial hub for both domestic and foreign businesses. Since Yangon Region has the greatest population, demand for goods and services may rise so that Yangon Region represents a market for SMEs. Manufacturing firms within industrial zones in Yangon Region contribute to a high share of the country's employment, investment, and production, with 90% of all employment, 75.91% of all investment, and 78.61% of all production (Ministry of Industry, 2020). The development of manufacturing firms within industrial zones in Yangon Region is crucial for economic development with their significant contribution to the economy. On the other hand, there has been a growing trend in consumption in Yangon Region. As a result of growing consumption, more regional brands enter the market, and developing innovative products or services as well as utilizing technology more effectively is increasingly important for SMEs in order to compete with local and international businesses.

According to Aung Khin (2019), most SMEs in Myanmar have less potential to produce value-added products, which leads to an increase in import volumes. Similarly, the Flanders Investment and Trade Market Survey (2020) presented that most value-added processed foods, such as canned or dairy products, are imported since Myanmar still needs to improve its food processing skills. Moreover, according to WITS (2020), Flanders Investment and Trade Market Survey (2020) also pointed out that 1,018.59 million USD for food and 47.30 million USD for beverages and tobacco, among the total import value of 9,859.32 million USD, were imported during the first six months of the financial year 2018-2019. SMEs have frequently confronted difficulties due to low-priced imports and foreign competition in the domestic market. Thus, CESD (2016) recommended that the survival rates of SMEs are quite high but might just reflect low levels of competition.

The development of SMEs is crucial for competitiveness since the development of SMEs in the manufacturing sector can increase industrial competitiveness. Abe, Troilo, Juneja and Narain (2012) revealed that further development of SMEs is also essential since they are important for industrialization by representing a major share of the nation's industrial sector. They also described that for the further development of SMEs, they need to overcome obstacles rather than reduce obstacles throughout their development process. According to their view, SMEs can start, survive, and develop their businesses only if they resist and overcome the challenges. Therefore, Myanmar essentially needs to solve the problems in order

to gain SMEs development (Abe, Troilo, Juneja and Narain, 2012). In this regard, this study intends to investigate the influencing factors for SMEs development in Myanmar, especially in the Yangon Region.

1.2 Problem Statement

Many studies with respect to SMEs development have revealed that the challenges prevent SMEs from reaching their full potential. In the global era, SMEs experience many challenges due to increasing competition. Thus, any firm's ability to compete for survival is crucial. The characteristics of owners and managers, such as better management knowledge and practices, are key challenges for SMEs development. Thus, the SME owners and managers themselves should recognize the importance of better management knowledge and practices for an understanding of the problems faced by SMEs. As Chron (2023), the size of the firm in terms of the number of employees should be a considerable factor in SMEs development since an understaffed business cannot catch up on good opportunities since it lacks the capacity to meet customer needs.

Restricted access to finance, poor managerial skills, a lack of training opportunities, and the high cost of inputs changing market demand, technological change, capacity constraints, and a lack of resources such as finance, technology, skilled labor, market access, and market information are mainly inhibiting factors in the development of SMEs.

In addition, Kimuru (2018) revealed that finance is the most important constraint. According to Kimuru, without financing, SMEs cannot expand and are unable to compete in international markets, adopt new technologies, or even establish business relationships with bigger businesses. Further, Kimuru also explored that the legal and regulatory environment is important in addressing internal challenges. SMEs' entrepreneurs must be aware of the advantages or benefits of technology in order to promote effective management. In the global competitive environment, the adoption of technology by an organization may be extremely difficult because of obstacles like a lack of technological expertise or understanding, a lack of technology awareness, etc.

Concerning SMEs development in Myanmar, it is still needed to solve its problems in order to develop SMEs. Relatively technology is being used in the operations of SMEs in Myanmar, and their products can only be offered for sale

domestically since SMEs in Myanmar have less potential to innovate and utilize information and communication technology to enhance their operations. As the stated by Charltons Myanmar (2017), access to finance is a huge challenge for most SMEs, and without access to finance, SMEs may face a vicious cycle of inefficiency and low productivity, which leads to a lack of capital investment. Improving infrastructure is crucial for small businesses to be competitive and grow in a rapidly changing market. SMEs rely on the reform of infrastructure to transform a country from an agricultural-centered economy to an industrial and service-centered economy. As the development of infrastructure is important for industrial growth, poor infrastructure severely delays SMEs development in Myanmar. Such problems make the operations of the businesses slow and ineffective, which then retards SMEs competitiveness and further development. Moreover, Nang Saw Nandar Hlaing (2013) also pointed out that the supportive policy measures and encouragement for SMEs development are still needed at the sub-regional and national levels.

As previously stated, numerous literatures identified the challenges for the development of SMEs from various perspectives based on their research. However, it is also needed to understand the importance of challenges for SMEs development in order to effectively support SMEs development in Myanmar. Among the challenges that have been pointed out by previous studies, this study considered the influences of financial resource, the regulatory environment, technology and information, infrastructure, and market access as the influencing factors on SMEs development. These factors are mentioned as important challenges and also included in the priority areas specified by the SMEs Development Policy (2015) of Myanmar. Therefore, the main aim of this study is to examine the most influential factors for the development of manufacturing SMEs within industrial zones in Yangon Region and to provide relevant and important information and recommendations for SMEs.

1.3 Research Questions

Based on the interest of the study, this research intends to answer the following questions about the development of manufacturing SMEs in Yangon Region:

- (1) What is the current situation of SMEs in Yangon Region?
- (2) Which factors determine the development of manufacturing SMEs in the Yangon Region?

- (3) What are the differences in the influencing factors among the types of industries?

1.4 Objectives of the Study

To fulfill this aim, the following objectives of the study are set:

- (1) To study the current status of SMEs in Yangon Region,
- (2) To investigate the influencing factors on the development of manufacturing SMEs in Yangon Region and
- (3) To examine the differences in the influencing factors among the types of industries.

1.5 Method of Study

The required data and information are collected from primary as well as secondary sources. The primary data have been collected from owners/managers of selected firms by using a face-to-face interviewing method with a questionnaire. Firms included in the survey are chosen by simple random sampling. Secondary data is collected from books, articles, internet sources, and relevant organizations. Both quantitative and qualitative approaches are used in order to achieve the overall aim of the study. In order to identify the current status of small and medium enterprises in Yangon Region, descriptive statistics are used. In order to determine the factors affecting the development of manufacturing SMEs in Yangon Region, multiple regression analysis is used. To examine whether the determinants are different among the types of industries, a one-way ANOVA is also used. To know specifically how to differ the influencing factors depending on the types of industries, the study uses the Bonferroni pairwise comparison.

1.6 Scope and Limitations of the Study

The study has some limitations. Firstly, the terms ‘growth’ and ‘development’ are used interchangeably, and SMEs development is measured broadly by using the growth theories in the previous literature. Thus, the SMEs development is also measured by applying the concepts of growth theories and growth measures in this study. Secondly, the study focuses only on manufacturing SMEs, although micro, small, medium, and large enterprises with various activities are operated in Yangon Region. Thirdly, registered manufacturing SMEs under DISI, which are located in

industrial zones, are selected to investigate influencing factors on the development of manufacturing SMEs. Samples of 296 SMEs among the total registered 1104 SMEs were chosen by using simple random sampling with proportional allocation. Finally, this study focuses on the perspectives of business owners/ managers based on the year 2020 and secondary data related on the situation of SMEs in Myanmar are also used to 2020.

1.7 Organization of the Study

The study is organized with five main chapters. Chapter 1 describes the introduction of the study. It includes the rationale of the study, problem statement, research questions, objectives of the study, method of study, scope and limitations of the study and organization of the study. Chapter 2 reviews the literature related to the SMEs development. It describes definitions of small and medium enterprises (SMEs), theoretical concepts related to SMEs, factors affecting the SMEs development, measurement of the development and growth of SMEs, review on previous studies and conceptual framework of the study. Chapter 3 is the overview of small and medium enterprises (SMEs) in Myanmar. It covers the policy for SMEs development in Myanmar, contributions of SMEs in the economy of Myanmar, situation of SMEs in Myanmar, SMEs in industrial zones in Myanmar, challenges of the development of SMEs in Myanmar, differences of influencing factors among industries in Myanmar and situation of SMEs in Yangon Region. Chapter 4 analyses the factors influencing manufacturing SMEs in Yangon Region. It includes survey profile, research design, data analysis and differences of influencing factors among the types of industries. Chapter 5 describes conclusion, including findings and suggestions.

CHAPTER II

LITERATURE REVIEW

The chapter starts with definitions of small and medium enterprises. And then it proceeds with the theoretical concepts related to SMEs development and the effects of influencing factors on SMEs development. Moreover, the study describes the measurements of development and growth of SMEs and a review on previous studies. In the end, the conceptual framework for the study was presented.

2.1 Definitions of Small and Medium Enterprises (SMEs)

One of the first attempts to provide a definition of SMEs can be found in the Bolton Report of 1971. Although the importance of micro, small, and medium enterprises (MSMEs) is well recognized worldwide, the universally accepted definition of MSMEs is absent. Countries define SMEs according to their stage of development. The definitions of SMEs vary not only from one country to another but also within the borders of an economy.

SMEs are defined by the World Bank Group in three ways namely the number of employees in an enterprise, capital investment, and annual turnover. Enterprises are defined as micro-enterprises if they have fewer than 10 employees, less than \$100,000 in capital investment, and less than \$100,000 in annual turnover. Firms are defined as small enterprises if they have between 10 and 50 employees, between \$100,000 and \$3 million in capital investment, and between \$100,000 and \$3 million in turnover per year. Firms are defined as medium enterprises if they have between 51 and 300 employees, between \$3 million and \$15 million in capital investment, and between \$3 million and \$15 million in turnover per annum.

On the other hand, the United Nations Industrial Development Organization (UNIDO) defines SMEs in developing countries, based on the number of employees. An enterprise that has between five and nineteen employees is defined as a small enterprise. An enterprise is defined as a medium enterprise if it has 20 to 99 workers. These definitions cover only manufacturing firms and exporting enterprises.

According to the European Union, enterprises are defined as medium enterprises if they have fewer than 250 employees, an annual turnover that does not exceed 50 million euros, and/or an annual balance sheet total that is no more than 43 million euros. An enterprise is defined as a small enterprise if it has fewer than 50 employees, an annual turnover total that is not more than 10 million euros, and/or an annual balance sheet total that is no more than 10 million euros. Enterprises are defined as micro enterprises if they have fewer than 10 employees, an annual turnover that does not exceed two million euros, and/or an annual balance sheet total that is no more than two million euros.

The International Finance Cooperation (IFC) provided that an enterprise is defined as a micro, small, or medium enterprise if it meets two out of three criteria of the IFC. These criteria are employees, assets, and sales, or if the loan falls within the relevant MSMEs loan size proxy (IFC, 2012). The enterprise was defined as a microenterprise if the loan was less than 10,000 in US dollars, a small business if the loan was less than 100,000 in US dollars, and a medium business if the loan was less than 1 million in US dollars (US\$2 million for more advanced countries). IFC uses loan size as an alternative measure compared to other organizations.

A suitable definition of SMEs is necessary for the development of SMEs in Myanmar. Thus, the Myanmar government has tried to emerge with a sustained definition of a supportive business environment. Myanmar attempted to adopt appropriate definitions by modifying the weaknesses of the existing SME definition. The evolving definitions are the official definition of SMEs (1990), the legal definition of SMEs in the 2011 revised law, the legal definition of SMEs in the 2012 revised law, and the legal definition of SMEs in the 2012 (July) revised law. The last definition was developed according to the Pyidaungsu Hluttaw Law No. 23/2015.

According to the Industrial Enterprise Law 1990, SMEs were classified by using four measures, namely power usage, the number of employees, capital investment, the value of annual production, and electrical usage, as follows:

Table 2.1: Definition of SMEs by the Private Industrial Enterprise Law (1990)

No.	Categories	Small	Medium
1	Power Used (HP)	3 - 25	26 - 50
2	Number of Workers	10 - 50	51 - 100
3	Capital Outlay (Kyat million)	Up to 1	Over 1 to 5
4	Production Value per year (million)	Up to 2.5	Over 2.5 to 10

Source: Ministry of Industry (2), 2010.

According to this law, enterprises are defined if they use power (HP) from 3 to 25 HP as small and 26 to 50 HP as medium. Small enterprises had 10 to 50 workers, whereas medium enterprises had 51 to 100 workers. The capital outlay was set at Kyat 1 million for small enterprises and over 1 to 5 million Kyat for medium enterprises. Production value per year was set at Kyat (2.5) million for small enterprises and over Kyat (2.5) to 10 million for medium enterprises. Since the official definition of SMEs (1990) focuses only on the industrial sector, it has faced difficulties in defining other types of businesses. Therefore, the current law (2015) was developed to conform with the business environment.

Firms are categorized as SMEs based on the number of employees, capital investment, or turnover related to the categories of activity such as manufacturing businesses, labor-intensive businesses, wholesale, retail, service businesses, and others. The classification of the firms is illustrated in the following Table (2.2).

Table 2.2: Definition of SMEs by the Pyidaungsu Hluttaw Law (2015)

Classification	Number of Employees	Capital (mil. Kyats)	Turnover (mil. Kyats)
SMALL			
Manufacturing	Up to 50	Up to 500	
Labour-intensive manufacturing	Up to 300	Up to 500	
Wholesale	Up to 30		Up to 100
Retail	Up to 30		Up to 50
Service	Up to 30		Up to 100
Other	Up to 30		Up to 50
MEDIUM			
Manufacturing	51-300	501-1,000	
Labour-intensive manufacturing	301-600	501-1,000	
Wholesale	31-60		101-300
Retail	31-60		51-100
Service	31-100		101-200
Other	31-60		51-100

Source: SME Development Law (Government of Myanmar 2015)

The number of employees is higher for labor-intensive activities than other types of businesses. Small manufacturing enterprises have operated with fewer than 50 permanent employees, and their capital investments have not exceeded 500 million kyats. Labor-intensive manufacturing enterprises are considered small if they have fewer than 300 permanent employees or if their capital investment does not exceed 500 million kyats. Medium manufacturing enterprises that operate with more than 50 but not more than 300 permanent employees or capital investment that is between 500 and 1000 million kyats.

International organizations also considered microenterprises when defining enterprises. For instance, the World Bank's SMEs Department defines enterprises as microenterprises if they have 1-9 employees, as small enterprises if enterprises that have 10-50 employees, as medium enterprises if enterprises with 51-300 employees, and as large enterprises if enterprises with more than (300) employees. Myanmar SMEs Development Law (2015) did not consider the classification of microenterprises.

The above studies revealed that there is no common definition for SMEs. In defining SMEs, the number of employees, the annual sales revenue they generate, and

the value of assets and capital investment the business retains are used but the number of employees is commonly used.

This study used the definition of SMEs based on the latest definition developed with Pyidaungsu Hluttaw Law, 2015. The determination of the number of employees as a measure is used, although SMEs are also defined in terms of capital investment and level of turnover.

2.2 Theoretical Concepts Related to SMEs

The importance of the SME sector is significant due to its contribution to such things as higher growth of employment, output, promotion of exports, and fostering entrepreneurship. According to OECD (2004), the World Bank explored the fact that SMEs in high income countries represent about 90% of businesses, contribute to over 55% of GDP, and account for over 65% of total employment. On the other hand, in low-income countries, SMEs and informal enterprises contribute to over 60% of GDP and over 70% of total employment, while SMEs in middle income countries contribute to over 95% of total employment and about 70% of GDP. IFC (2010) stated that SMEs provide nearly 45% of employment and 33% of the GDP in emerging economies.

ACCA (2016) expressed that SMEs represent more than 96% of the business population in the ASEAN region. In the study of Bernhardt, De and Dickenson-Jones (2016), SMEs in ASEAN member countries such as the Philippines, Vietnam, and Indonesia contribute more than 30% of the GDP. Myanmar's SMEs contribute 69% of total output and 80% of national exports while employing 80% of the local workforce. MSMEs represent an average of 97.2% of all enterprises and contribute 69.4% of the total workforce and 41.1% of GDP in Southeast Asia during 2010–2019 (ADB, 2020).

In Myanmar, SMEs contribute to employment and income generation, utilization of resources, and promotion of investment. SMEs development is being attempted by all countries since they are important for the national economy. Therefore, Myanmar needs to develop its small and medium enterprises (SMEs) sector in order to compete with neighboring countries.

According to Xiao (2017), the development of enterprises represents the process of change that is dynamic and trending. In the previous studies, the terms “growth” and “development” of the enterprise are used interchangeably as the stated

by Lisowska (2015). In the study of Lisowska (2013), he stated that growth is essential to the enterprise's development.

Perenyi (2008) also presented that the matter of SME development is addressed through the SME growth theories in the literature studied by Davidsson, Delmar and Wiklund, 2006; Penrose, 1995; Pitelis, 2002; Reid, 2007. In the studies of Nay Lin Oo, 2014; Xiao, 2017; Khoi, 2020; Nikmah, Sudarmiati, Wardoyo, Hermawan and Soetjipto, 2020; Galadanchi and Umar, 2022, the development of SMEs was investigated through growth theories such as resource-based view theory, social capital theory, sociological theories, economic theories, psychological theories, market orientation theory, adoption theory, policy implementation theories, socio-economic theories and models, entrepreneurial capability, and internationalization.

In studying the factors affecting the development of SMEs in Myanmar, Nay Lin Oo (2014) focused on the theories such as policy implementation theories, socio-economic theories and models, adoption theory, entrepreneurial capability, and internationalization. On the other hand, Xiao (2017) studied the transformation and development of SMEs in China based on traditional development theory and modern development theory. According to his study, modern development theory includes transaction cost theory, resource theory, the theory of strategy, management theory, the theory of industry level, and contract agency theory.

In the study of Khoi (2020), economic theories, sociological theories, and psychological theories were used in order to investigate SMEs development. Moreover, Nikmah, Sudarmiati, Wardoyo, Hermawan, Soetjipto (2020) noted that market orientation is the key to SME development and they focused on the market orientation theory in their study. In the study of the factors affecting SMEs development in Nigeria, Galadanchi and Umar (2022) employed the resource-based view theory and the social capital theory and investigated the effects of internal and external sources on SMEs development.

Among these theories, this study mainly focused on three theories in order to investigate the effect of various factors on SMEs development. The focusing theories are resource-based theory, market orientation theory, and adoption theory. Thus, the following sub-section presents the literature providing a broad concept of the three theories.

2.2.1 Resource Based Theory

Resource-based theory (RBT) has been widely recognized and applied in business management and entrepreneurship contexts. According to resource-based theory, the performance of firms depends on a significant measure of unique input and capabilities. If a firm has different resources and capabilities, as well as different ways to develop those resources, its performance may be superior. If valuable resources are possessed by a few firms, the firms that are able to use these resources could potentially generate a sustained competitive advantage. Barney (1991) considered assets, business processes, capabilities, the firm's attributes, knowledge, and information as resources.

Gottschalk (2007) considered resources as anything that could be a strength or weakness to a given firm, and he also stated that resources may be both tangible and intangible assets that are tied to the firm over a substantial period of time. On the other hand, Perenyi (2008) revealed that firm resources may include both external and internal resources in terms of resource generation and ownership. According to Simpeh (2011), external resources are critical for the success of business enterprises.

Nkansah (2011) considered six types of resources, namely financial, physical, human, technological, reputational and organizational. Again, Seppanen (2009) described the physical, financial, organizational, relational, human, informational and legal as the firm's resources.

2.2.2 Market Orientation Theory

Market orientation refers to a firm's assessment of the customers and the ways to meet the customer needs. According to Situmorang, Raharja, Maulina and Muftiadi (2019), Narver and Slater (1990), customer orientation, competitor orientation, and interfunctional coordination are components of market orientation. Customer orientation is the ability to understand buyers well enough to consistently provide superior value to them. Competitor orientation centered on understanding the strengths and weaknesses of current and potential competitors as well as their attitudes in order to generate better ideas to satisfy customers. On the one hand, interfunctional coordination is the coordinated utilization of resources to create superior value for target customers.

Thus, market orientation theory focused on understanding customers and competitors and responding to customers' needs better than competitors through a

coordinated effort across the organization. Firms with a better understanding of their customers, competitors, and environment have a competitive edge. Thus, enterprises should endeavor to understand customer needs before providing products or services. When the market environment is changing quickly, customer orientation becomes even more crucial.

2.2.3 Adoption Theory

Technology adoption is the process of accepting and using the new technologies by people or organizations. In other words, the word ‘technology adoption’ describes how new technology is embraced, accepted, and integrated. The adoption of technology can provide enterprises with a competitive advantage over their competitors. Thus, technology adoption is important to develop SMEs. Adoption of new technology is a complicated, inherent social and developmental process. Oliveira and Martins (2011) presented that the most commonly used adoption theories are the technology acceptance model (TAM) (Davis 1986, Davis 1989, Davis et al. 1989), theory of planned behavior (TPB) (Ajzen 1985, Ajzen 1991), unified theory of acceptance and use of technology (UTAUT) (Venkatesh et al. 2003), DOI (Rogers 1995), and the TOE framework (Tornatzky and Fleischer 1990). Among them, DOI and TAM focus solely on beliefs about the technology.

As the initial step in technology adoption, technology acceptance is an attitude toward technology that is affected by many kinds of situations. The technology acceptance model (TAM) describes how people accept information systems. TAM has two primary theoretical concepts, namely perceived usefulness and perceived ease of use.

The theory of ‘diffusion of innovation’ was founded on the innovation acceptance and adoption. According to Oliveira and Martins (2011), the DOI theory views innovation as a process that is conveyed through specific channels. According to the theory, business owners must have various capacities and a willingness to adopt innovations. The theory emphasizes an organization’s ability to use its resources in order to improve its capability for handling and affording new technology.

2.3 Factors Affecting the SMEs Development

Both internal and external forces influence enterprise development. Internal factors are those within a firm that may be managed by the organization, while external factors are under little or no control of the organization. According to Lisowska (2015), the development of small and medium enterprises is influenced by many internal determinants related to the characteristics of the entrepreneur and the enterprise, and external determinants arising from the environment. Thus, based on the previous studies, the study considered the effects of internal and external factors on SMEs development. In this study, it examined the effects of firm characteristics and the characteristics of the entrepreneurs as internal factors and financial resources, the regulatory environment, technology and information, infrastructure, and market access as external factors.

2.3.1 Characteristics of the Entrepreneur

Entrepreneurial characteristics include the actions of an entrepreneur. Lisowska (2015) examined entrepreneur characteristics such as age, gender, experience, education, personality traits, and potential competence as affecting factors on the development of small and medium enterprises. Owino (2017) explored that age, gender, work experience, and education significantly affect the success of SMEs. The study of Barine (2021) found that entrepreneurial characteristics have a positive and significant impact on the performance of small and medium enterprises.

The effects of characteristics of entrepreneurs such as age, gender, level of education, previous work experience, and managerial skills on the development of SMEs were examined in this study. The previous studies discovered different results related to the effect of the characteristics of entrepreneurs on SMEs development.

(i) **Age of Owner:** The study of Sinha (1996) found that entrepreneurs who were younger in age were more successful. According to Chilya (2012), the owner's age has a significantly negative impact on the profitability of the business. The study of Sajilan, Hadi and Tehseen (2015) has revealed a positive relationship between age and a firm's performance. However, Osunsan, Kinyatta, Baliruno and Kibirige (2015) and Abeh (2017) indicated that there is no significant relationship between the age of the owner and the performance of a small business.

(ii) **Gender:** In studying the effect of gender on SMEs development, the literature found different results. In the studies of Chell and Baines, 1998; Kangasharju, 2000;

Shava and Rungai, 2016; Abeh, 2017; Meressa, 2020; Kassa 2021, gender has no effect on firm performance. On the other hand, Fairlie and Robb (2009) found that female-owned businesses are less successful than male-owned businesses. However, Scarborough (2011) indicated that the gender of the owner/manager is a significant influencing factor for a successful business's performance. In the study of Sajilan, Hadi and Tehseen (2015), it is indicated that there is a positive relationship between gender and a firm's performance.

(iii) Level of Education: In the study of the effect of educational level on SMEs development, a greater degree of education can be expected to give better results in business. However, the previous literature presented different findings. Hall (2000) argued that owner/managers of SMEs who had degrees generally had less achievement compared to those who were less well educated. In the findings of Chiliya, 2012; Njanike, 2019, educational level has a significant impact on the profitability of the business. On the contrary, Amarteifio and Agbeblewu, 2017; Meressa, 2020; Kassa, 2021 found that the level of education of owner/managers has no significance for the performance of SMEs. On the other hand, Ndlovu, Shumba and Vakira (2018) explored that there was a strong relationship between education and SME performance.

(iv) Previous Work Experience: Owner's work experience refers to the experience gained by the SME's owner in previous occupations. Various studies examined the effect of previous work experiences on SMEs development, and they explored different results. In the studies of Kalleberg and Leicht, 1991; Amarteifio and Agbeblewu, 2017, they revealed that there is no relationship between prior experience and firm survival. In addition, Mazzarol, Volery, Doss, and Thein (1999) also pointed out that respondents were less likely to succeed in businesses if they previously worked as government staff. According to the findings of Dahlqvist, Davidsson and Wiklund (2000), management experience of an entrepreneur has a significant impact on the firm's performance. The study of Perez and Pablos (2003) also supported the idea that the previous work experiences of entrepreneurs can create new market opportunities. However, Tuan and Takahashi (2009) indicated that there is a negative relationship between prior sector experience and firm success. However, Ndlovu, Shumba and Vakira (2018) argued that there was a strong relationship between experience of owner-managers and SME performance.

(v) **Managerial Skills:** Managerial skills are the abilities, motivations, and attitudes that are required for effective job performance. According to the study of Terpstra and Olson (1993), a lack of management abilities or competencies causes business failures. Ruhu, Ngugi and Waititu (2014) also explored the positive effect of managerial skills in SMEs. From their point of view, an entrepreneur who has managerial skills can make successful business decisions. According to their study, the three most common skills are human skills, technical skills, and conceptual skills. Abrar-ul-haq, Jali and Islam, 2015; Olowu and Aliyu, 2015; Mwakalobo and Lwesya, 2022 also presented that managerial skill is one of the most important factors contributing to SMEs development.

2.3.2 Characteristics of Firm

Firm characteristics are different among firms in terms of their functions and operations. In the study of Vecchiato (2012), firm size, firm age, industry type, and ownership are used as firm characteristics. According to the study of Lisowska (2015), the characteristics of enterprise consist of age, size, type of activity, company resources (human, tangible, financial, and intangible), and action strategy. This study examined the effect of firm size, firm age, and ownership structure on the development of SMEs.

(i) **Firm Size:** Firm size is measured in terms of total assets, total sales, market capitalization, and the number of employees. Olutunla and Obamuyi, 2008; Dogan, 2013; Oyelde, 2019 explored the fact that growth in the size of a business is positively related to profitability. Bala (2016) pointed out that SMEs with a larger number of full-time employees can be more successful in terms of sales and profitability. However, Margaretha and Supartika (2016) argued that firm size has a negative effect on profitability. In the study of Hung, Vinh and Thai (2021) related to manufacturing SMEs, the firm size is also significantly related to the SMEs.

(ii) **Firm Age:** In the findings related to the effect of firm age, Yasuda (2005) found that firm age has a negative impact on firm development. According to the study by Yilun (2020), firm age has a negative impact on profitability. Conversely, as the stated by Coad, Segarra and Teruel (2013), firms improve their performance with age. In the study of Coad, Segarra and Teruel, the mature firms are increasing their levels of productivity, higher profits, larger size, lower debt ratios, and higher capital ratios. According to Vo, older firms outperform younger firms in terms of firm

performance. Kassa (2021) described that the firm's age had no effect on the enterprise.

(iii) Ownership Structure: The ownership structure could be defined as the means of controlling the enterprise. Ownership systems include such as sole proprietorship, partnership, limited partnership, limited liability company (LLC), and corporation (profit and non-profit). As the effect of ownership structure on SMEs development, Lema (2013) explored that ownership structure has no effect on the performance of SMEs, while Worlu, Evioghenesi, Ajagbe and Okoye (2015) indicated that there is a significant relationship between ownership structure and the performance of small and medium firms. Obasan (2016) presented ownership structure as having a major impact on the success of small and medium businesses. According to Ahmad and Fakh (2021), open shareholding, closed shareholding, partnership, and limited partnership enterprises have higher growth rates in annual sales and annual productivity than sole proprietorship firms.

2.3.3 Financial Resource

SMEs need to have both internal and external financial resources in order to grow, expand, develop, and succeed. According to the study of Moreno and Casillas (2007), access to finance facilitates small and medium enterprises. In the findings of Haron, Said, Jayaraman and Ismail, 2013; Sefiani, 2013b; Abrar-ul-haq, Jali and Islam, 2015; access to finance is one of the most important factors for SMEs development. As a result of the study of Msoka (2013), business capital is necessary for SMEs development. Amadasun and Mutezo (2022) found that collateral, access to financial information, and bank and business support services significantly affect the competitiveness of SMEs.

2.3.4 Regulatory Environment

The regulatory environment is the set of taxes, rules, and laws or regulations that must be followed by the businesses. Levy (1993) indicated the importance of the effect of taxation, as high tax constraints are important obstacles for the smallest firms. In addition, Qimiao (2003) and Olatunji (2013) pointed out the importance of stability of the legal, political, and policy framework, publicity of the rules and laws, and clarity and certainty of the legal framework in promoting SMEs. According to Chamberlain and Smith (2006), overregulation hinders the success of the small

business sector. On the other hand, Nyarku and Oduro (2017) found that simplifying loan conditions, easing the registration processes for SMEs, reforming the tax systems, having an effective price stabilization policy, and having flexible customs and port regulations developed enterprises. According to the findings of Belghitar, Clark, Dropsy and Mefteh-Wali (2021), exchange rate fluctuations have a strongly negative effect on SME performance.

2.3.5 Technology and Information

SMEs should adopt fast-evolving technologies in order to acquire a competitive advantage and enhance performance, and build strength to compete with competitors. Technological investment can result in higher-value-added products, increasing corporate competitiveness.

The study of Lybaert (1998) explored the positive relationship between information use and the performance of SME. In the study of Birraux and Steolea (1999), they indicated that the introduction of new technologies in SMEs makes SMEs more competitive. According to Thatcher and Oliver (2001), investments in technology can maintain existing capacity as well as improve production quality and productivity. According to the Asia Foundation (2013), access to information is important for a business. According to the study results of Safiani (2013b), access to information is crucial for small businesses at the start-up stage and during daily operations. In addition, Kiveu and Ofafa (2013) pointed out that access to information is positively related to market access. According to the study of Islam and Nasira (2017), there is positive relationship between SME development and introduction to new technology, technological acquiring, and operating capabilities.

2.3.6 Infrastructure

Infrastructure for businesses includes such factors as transportation, water supply, roads, bridges, telecommunication, sewers, power grids, and other factors needed for the effective operation of the enterprise. According to the studies of the World Bank, 1994; Nabli, 2007, the adequate good infrastructure encourages SME competitiveness. In the studies of Hatega, 2007; Fjose, Grunfeld, & Green, 2010; Sitharam and Hoque, 2016, it was indicated that a lack of electricity or an adequate power supply may hinder the operation of a business or be very expensive to operate. Similarly, Obokoh and Goldman (2016) pointed out that a deficiency in infrastructure

negatively impacts the profitability and performance of SMEs. Taiwo, Esther, Daniel (2016) also pointed out that there is a significant positive relationship between good infrastructure and SME performance. According to previous studies, good infrastructure is important for SMEs development.

2.3.7 Market Access

Market access refers to a person's capacity to reach out to consumers in order to sell their products or services. According to the Narver and Slater (1990), market orientation influences firm performance. The studies of Baker and Sinkula, 2002; Nwokah, 2008 found that there is no relationship between market orientation and business performance. According to the studies of Abor and Quartey, 2010; Kiveu and Ofafa, 2013, market access is a major impediment to SME development, particularly in developing nations. However, Zakari and Ibrahim (2021) explored the fact that customer satisfaction in business is positively affected by business performance. As the finding of Reshid (2022), customer orientation, competitor orientation, and inter-functional orientation are significantly influenced by the business performance of SMEs.

2.4 Measurements of the Development and Growth of SMEs

The development and growth of SMEs are measured by using broadly different indicators. As the stated by Govori (2013), there is a problem in determining the way of measuring the development in order to measure the development of SMEs because there is no a general approach to measure the development of enterprises. Barkham, Gudgin, Hart and Hanvey (1996) also mentioned that researchers used various indicators to measure the SMEs development.

The development of SMEs should be measured by multiple indicators. Financial success indicates a firm's ability to sustain and continue its operations, as well as its ability to grow in the industry. However, the use of non-financial indicators is also significant in evaluating the performance of smaller firms due to the difficulties in obtaining data on their financial performance. Although development is measured in terms of an increase in the number of employees since employment is much more important for the government, owners and managers use the financial performance of the enterprise as a measurement for SMEs development.

In the view of Davidsson, Delmar and Wiklund (2006), the use of several indicators together is very important in studying the development of enterprises. They also mentioned that a combination of the measurements may be more significant depending on the various business's activities. According to the study of Shepherd and Wiklund, 2009; Levie and Autio, 2013, the SME growth is measured in terms of employment growth, sales growth, and asset growth. Govori (2013) described sales or turnover growth as indicators for the development of SMEs. He also stated that additional indicators such as asset value, market share, profits and output are used for measuring the development of SMEs.

According to GASME (2015), business performance is one of the parameters for SMEs development. Govori, 2013; Nay Lin Oo, 2014; Munizu, Sumardi and Armayah, 2016 used sales growth or turnover growth, asset growth, profitability, market share, capital growth, and employment, increase in employment, asset value and output growth to measure the SMEs development. In the study of Galadachi and Umar (2022), SMEs development was measured by growth. According to the previous studies, literatures used growth measures in studying the SMEs development.

Sales revenue can provide more information about firm value and sales revenue is the income generation of a business. Profitability is crucial for the survival of an enterprise. In the study of Du and Cai (2020), profitability is an important indicator to evaluate the development of SMEs. Dhliwayo (2021) noted that financial growth relates to the development of the enterprise and financial growth was considered in terms of turnover, investment, the profit, and the increased value of the assets. As the Shi (2021), profitability means the enterprise's ability to obtain profit. Profitability is usually expressed as the amount and level of enterprise income in a period. He also indicated that according to Li (2021), enterprise development is its ability to obtain profit, and profitability is the core index to measure the development status and prospects of enterprises. Moreover, assets are important to all businesses. Thus, asset growth should also be considered as a measure.

Based on the previous literature, this study used sales revenue, profitability, and asset growth as the measurements for SMEs development. In order to measure SMEs development, the situation of sales revenue, profitability, and asset growth is considered between 2015 and 2020. In the study of Shaikh (2019), SMEs development was identified by the mean value of the combination of four variables

namely growth of sales, profitability, productivity, and market share, which are data received from Likert scale questions. This study also used a combination of three variables as one measure for SMEs development.

2.5 Review on Previous Studies

Numerous previous studies have analyzed the determinants of SMEs development from various points of view.

Tem (2015) examined the key success factors for small and medium enterprises in the border trade area between Cambodia and Thailand. The result found that leadership and management, time management, work values, inception, capital, social economic policy, infrastructure, and market factors affect the success of SMEs. SETHA (2021) analyzed the factors influencing small business start-ups in Phnom Penh by using descriptive statistics and multiple linear regression. He indicated that marital status and technology, particularly social media, influence small businesses.

On the other hand, Maaji, Shrubasall, Anderson (2023) tried to examine the determinants of SMEs success or failure in Cambodia by using logistic regression. In his study, resource-based theory was used to reach the objective of the study. The result revealed that the owner's education level, owner's marketing skills, customer complaints, and the age of the business are significant for SMEs.

On the other hand, Indarti and Langenberg (2004) investigated factors affecting the business success among SMEs in Indonesia through regression analysis. The study explored that marketing, technology, and capital access are positive factors, and legality (complicated bureaucracy and legal aspects) is a negative factor for business success. Additionally, Munizu, Sumardi, Armayah (2016) investigated the determinants of micro and small enterprise development in Indonesia. According to the findings of their study, human resources, finance, production, and marketing, government policies, socio-economic and cultural factors, the role of related institutions, and information technology are crucial factors for SMEs development in Indonesia. In the study of Guci, Ghazali, Foziah and Arifin (2021) on the factors affecting SMEs development in Indonesia, they found that there is a positive relationship between government support, training, digital marketing, and financial capital and SMEs development.

In the case of Laos, Inmyxai and Takahashi (2010) examined the performance contrast of male and female-headed firms in Laos through the use of ordered probit

models. According to their study, female entrepreneurs relatively underperform compared to male entrepreneurs. Again, the effects of the entrepreneurs training, working experience, and education on firm performance are significant. Moreover, they also found that business development services are important for the performance of male-headed firms but have a weak impact on the performance of female headed firms.

Kyophilavong, Rasphone, Sayvaya and Vannalath (2014) examined the factors that determine SMEs performance in Laos by using the Logit model. The study found that the nationality of the owner, the receiving of training, getting advice, the firm size, the technology level, access to foreign markets, and proximity to the market have a positive and significant effect on SMEs performance.

Concerning SMEs in Vietnam, Nguyen, Alam and Prajogo (2008) investigated the influence of physical, managerial, technological, strategic, cultural, and organizational factors on SMEs. In their study, resource-based theory, clustering, networking, and institutional theories are used to explain the importance of supports for developing SMEs in a transitional economy. In addition, Hang (2021) also analyzed the critical factors for successful start-up businesses by using structural equation modeling (SEM). The study pointed out that human capital, financial access, networking capability, business strategy, and organizational structure are crucial determinants for successful start-up businesses in Vietnam.

Huong, Ninh, Hoan, Toan, Van and Lan (2022) also examined the factors affecting SMEs' development in Vietnam by using factor analysis and linear structural modeling. They investigated the effect of the level of production technology, government policies, raw materials, labor, management capacity, local support policies, financial access, corporate social responsibility, green growth orientation, and global epidemics on SMEs development. According to their findings, the level of production technology and financial access are the greatest influencing factors on the development of Vietnam's SMEs.

Regarding the development of SMEs in Bangladesh, Philip (2010) examined factors determining the success of SMEs through regression. The study revealed that management know-how, products and services, the way of doing business, and the external environment have a significant relationship with the business success of SMEs. In addition, Uddin and Bose (2013) also analyzed the effects of factors on the success of SMEs in Bangladesh through regression analysis. Their study revealed that

a business plan, channel of distribution, management skills, government support, technology, customer management, and access to capital have a positive effect on the success of SMEs, while personnel and products and services have a negative effect on SME success.

In the study of concerning SMEs in Pakistan, Jasra, Khan, Hunjra, Rehman and Azam (2011) investigated the factors affecting business performance for SMEs in Pakistan. Their study investigated the influence of financial resources, marketing techniques, technology resources, government assistance, information access, a business plan, and entrepreneur skills on business success. The study revealed that financial resources are the most important factor affecting SMEs success.

Similarly, Abrar-ul-haq, Jali and Islam (2015) examined the factors affecting the development of SMEs in Pakistan by using descriptive statistics and regression techniques. Their study found that financial access, managerial skills, and government support are the most important factors contributing to the development of SMEs, and SMEs are not important adopters of technology.

In Thailand, Chittithaworn, Islam, Keawchana and Yusuf (2011) analyzed the factors affecting the business success of SMEs in Thailand. According to the regression analysis, the study indicated that SMEs characteristics, management and know-how, products and services, customers and markets, mode of operation and cooperation, resources and finance, strategy, and external environment are significant factors.

In the study of Larprojpaiboon (2017), he examined the factors affecting the performance of small and medium manufacturing enterprises in Thailand by using multiple linear regression. His study analyzed the effects of firm size, training in production capability, employment retention, managerial capability, firm age, training in marketing capability, and accessing financial support. According to the findings, firm size, training in production capability, employment retention, and managerial capability have an effect on SMEs, but firm age, training in marketing capability, and accessing financial support do not affect on SMEs.

In Malaysia, Arshad, Zain, Arshad and Kamil (2017) explored the factors affecting the business success of small and medium enterprises in Malaysia by using Pearson correlation as well as multiple regression analysis. The study expressed that financial management, management skills, and marketing skills do have an influence on business success. Similarly, Othman, Mahmud, Mustafa and Abujarad (2022)

examined the success factors of small and medium enterprises (SMEs) in Malaysia. In their study, marketing, human resources, service quality, operations, finance, and business opportunities were identified as critical determinants of success.

In the case of SMEs in Myanmar, Ohn Mar Thein (2007) studied the policies and practices of SMEs in Myanmar by using descriptive methodology. From the study, she discovered that supporting policies are one of the important determinants for the development of SMEs.

Furthermore, Nay Lin Oo (2014) studied the implementation of small and medium enterprise development in Myanmar's rice sector, emphasizing Yangon Region, Ayeyarwady Region, and Sagaing Region. He used regression, mean comparison, and descriptive statistics to analyze the impact of policy implementation, socioeconomic conditions, entrepreneurial capability, and internationalization on the development of SMEs. He applied policy implementation theories, socio-economic theories and models, adoption theory, entrepreneurial capability, and internationalization. According to the findings, the development of SMEs was influenced by the policy and regulatory environment, infrastructure, corruption, access to finance, governance, bureaucratic barriers, business development services, experience, capacity, organizational culture, and technology.

Additionally, Nu Nu Lwin (2017) investigated the development of SMEs in Myanmar, particularly the development of manufacturing SMEs in the Yangon Municipal Area. Her study discovered that a weak institutional and legal environment, limited sources of finance and technology, poor managerial skills, inadequate infrastructure, and a lack of readiness in business strategies and practices to face regional integration hinder the development of SMEs.

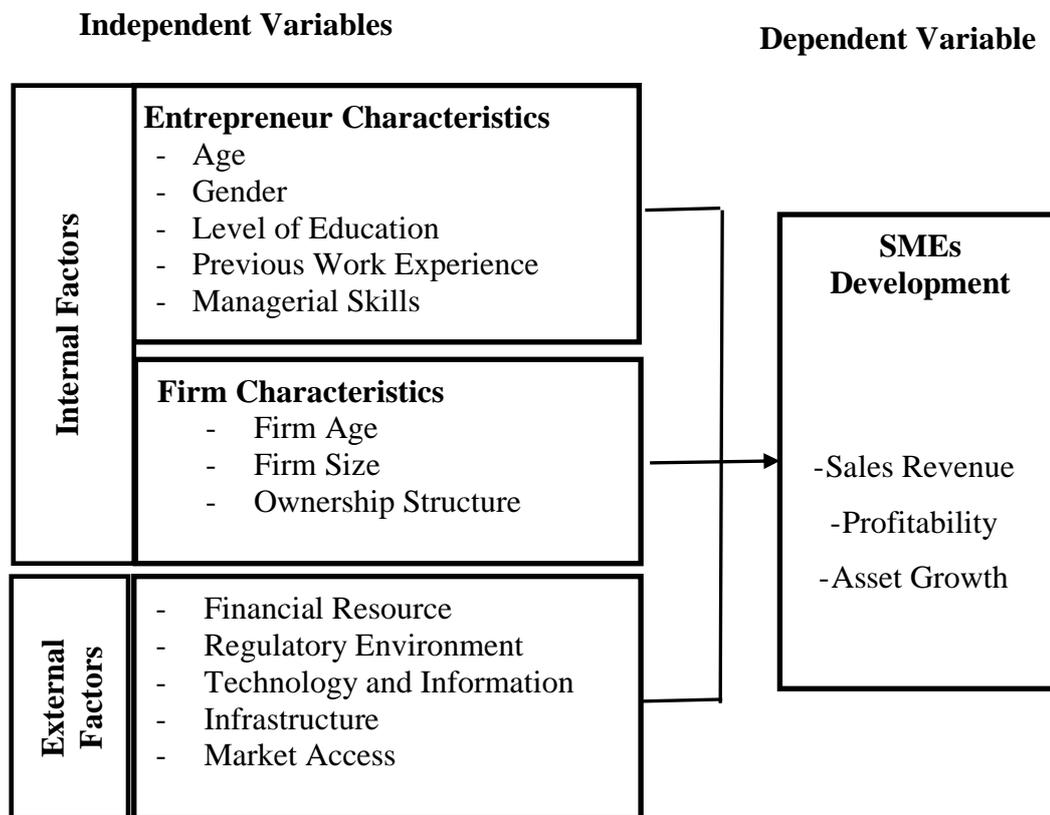
In 2019, Yin Thu Aye and Hla Theingi analyzed the importance of networking behaviors and network resources to achieve sustainable competitive advantages of SMEs in Myanmar (Yangon) by using multiple regression, simple linear regression, and one-way ANOVA. In their study, the resource-based view theory (RBV) was used, and they discovered that networking, network channels, and resources are important in attaining a sustainable competitive advantage for SMEs. And then, they also found that there are mean differences between manufacturing SMEs and trading SMEs, trading SMEs, and service SMEs, whereas manufacturing and service SMEs have no significant difference.

2.6 Conceptual Framework of The Study

Based on the three theories mentioned in the previous section, the study constructs a conceptual framework that postulates the factors affecting the development of SMEs. Then, the effects of entrepreneur characteristics, firm characteristics, financial resources, the regulatory environment, technology and information, infrastructure, and market access on SMEs development are examined in this study. In the study, the characteristics of an entrepreneur include the age of the owner/manager, the gender, the level of education, previous work experience, and managerial skills. The firm characteristics consist of its age, its size (the number of employees), and its ownership structure.

Figure (2.1) describes the conceptual framework for factors affecting the SMEs development.

Figure 2.1: Conceptual Framework



Source: Own Compilation

According to the conceptual framework, the study mainly focuses on the effect of influencing factors on the development of manufacturing SMEs. As independent variables, the entrepreneur characteristics, the firm characteristics, the financial resources, the regulatory environment, technology and information, infrastructure, and

market access are examined. The entrepreneur characteristics and the firm characteristics are internal factors. The financial resources, the regulatory environment, technology and information, infrastructure, and market access are the external factors. In this study, internal and external factors are considered as the independent variables. SMEs development is considered as the dependent variable, that is measured in terms of sales revenue, profitability, and asset growth.

CHAPTER III

OVERVIEW OF SMALL AND MEDIUM ENTERPRISES (SMEs) IN MYANMAR

This chapter covers policy for SMEs development in Myanmar, the contribution of SMEs in the economy of Myanmar, the situation of SMEs in Myanmar, SMEs in industrial zones in Myanmar, challenges of the development of SMEs in Myanmar, differences of influencing factors among industries in Myanmar, and the situation of SMEs in the Yangon Region.

3.1 Policy for SMEs Development in Myanmar

Nations, including Myanmar, have concentrated on the importance of SMEs development since SMEs have gained the recognition of governments through their contribution to the economic growth and employment. On the other hand, the SME sector suffers from numerous threats and challenges. Thus, the role of policymakers as well as implementing effective policies are important in developing SMEs since SME development in nations will be slow with restrictive policy environments.

UNDP (1999) pointed out that in order to support the development of SMEs, the government should maintain competitive markets, develop policies and laws, and construct infrastructure. For these reasons, according to the UNDP, it needs to focus on the creation of appropriate tax laws, avoiding high taxation and interest rate ceilings, following labor and environmental regulations, and promoting the development of a modern business infrastructure.

Therefore, numerous nations have put SME development policies and strategies into practice. In East and South Asia, countries like Hong Kong, India, and the Republic of Korea have developed distinctive policies to protect SMEs from the competitiveness of imports and offer incentives to boost productivity (ILO,1987).

In order to successfully promote SMEs and foster regionally creative and competitive SMEs in all industries, the Myanmar government developed a small and

medium enterprise development policy in 2015. According to the policy, some of the following areas will be carried out as priority areas:

(i) Development of Basic Infrastructures and Providing Business Development Services (BDS)

For SMEs development, developing infrastructure and improving the business development service are important. Thus, in order to develop infrastructure, it is going to be carried out by cooperating with the developers and implementing a private-public partnership and joint venture system. For providing BDS, it will facilitate the ease of operation of business development services and the establishment of business development services.

(ii) Enabling a conducive business environment

In order to enable a conducive business environment, it can be carried out by assisting and supporting the banks and money lender enterprises, arranging the workshops, seminars, and trainings related to management and production, the vocational and technical trainings, developing the research institutions, incubation centers, and intellectual property certification centers, and increasing cooperation.

(iii) The Development of Technology, Innovation, and Information

For the purpose of the development of technology, it will also be facilitated through developing and transferring appropriate technology, providing technical advice, enhancing collaboration with SMEs, cooperating with public and private organizations for technology exchange, promoting human resource development and innovation, and facilitating research activities. For the availability of information concerned with SMEs development, SMEs will be facilitated with relevant information, facilitating the wide disseminating of information, and supporting the easy obtaining of facts and figures for information related to the international market, local and foreign transport information, product standardization, and the international financial situation.

(iv) Promoting Human Resources

Human resources are important for businesses. Thus, providing research and development funds and facilities for cooperation in research will promote human resources. And then, it will also be facilitated through encouraging the performance of entrepreneurs, supporting intellectual property rights, allowing the opening of domestic or international private technical schools, technological institutes, enhancing

the establishment of vocational training, and cooperating with international organizations.

(v) Supporting the Market

With respect to the supporting market, it can assist in enhancing market competitiveness, encouraging export-oriented businesses, educating SME owners on international practices and procedures, facilitating market penetration and market share, issuing smooth taxation and trade procedures, and relaxing or abolishing the export-import licensing system except for restricted goods. Moreover, it can be carried out by developing the technology that will promote the capacity of product quality and services, arranging to enable the standards that can link the global supply chain, and facilitating trade. Finally, it shall undertake market research in cooperation with international organizations and development partners as a means of supporting the market.

(vi) Financial Resources

Positive cash flow is crucial for the survival and success of SMEs, with the continued provision of working capital to SMEs by a number of financial instruments. For financial requirements, it may be filled by providing the loan with a low interest rate, encouraging the establishment of businesses with venture capital, or issuing recommendations for the loan application. Moreover, SMEs development will be supported by identifying insurance-related facts with the establishment of insurance corporations and facilitating necessary insurance services, providing awareness training for loan access, evaluating financial management, and educating SMEs to use the loan correctly.

(vii) Appropriate Taxation and Procedures

For the development of SMEs and increasing their competitiveness, tax relief and exemption in line with legal procedures may be implemented. In order to implement that, it shall be carried out by giving tax relief to the business enterprises that are trying to produce new products, producing new products, and producing finished products with by-products and wastes; modifying the factors for the effective and efficient use of energy. Moreover, it will facilitate by giving long-term relief and exemption for SMEs that are included in the priority list and are established in the least developed economic areas. In addition, granting tax relief and exemption for SMEs established in developed economic areas in line with the expression contained in the SME development law will encourage SMEs development. Finally, SMEs

development will be facilitated by granting profit tax exemption to SMEs with an appropriate recovery duration that suffered enormous losses due to natural disasters; and prescribing simple taxation procedures and providing trainings on taxation and dissemination of information.

3.2 Contributions of SMEs in the Economy of Myanmar

SMEs are important for Myanmar's economic progress since their share is a significant part of the economy in terms of number and contribution to employment, output, and investment. Among them, the most significant feature of SMEs is their contribution to employment. Aung Kyaw (2008) revealed that Myanmar's economic growth is totally dependent on the development of SMEs in the private sector. The government also recognizes the SME sector as key to the national economy and makes efforts to grow SMEs into larger enterprises.

Since economic development needs structural change from low to high productive activities, the industrial sector becomes the key to the development process. Overall productivity and income per capita can be increased by transferring labor from the agriculture sector, which has low productivity, to the industrial sector, which has high productivity. Although SMEs exist in all sectors of the economy, SMEs in the industrial sector play a critical role in economic development. It employs a diverse range of skilled workers, contributes to import substitution and export promotion, utilizes natural resources, and improves technology.

SMEs have the greatest potential for employment opportunities, industrial production, and exports. Therefore, SMEs development should be fostered by the local government, private sector, and civil society for local economic development. According to the ADB Asia SMEs Monitor (2020) in Myanmar, the food and beverages industry employs 26.4% of the employment of all SMEs, the construction materials industry employs 6.6%, the mineral and petroleum products industry employs 2.7%, and the clothing and wearing industry employs 64.4%.

According to 2020 data, registered SMEs in Yangon Region contributed the highest share of employment, investment, and production to the Myanmar economy. Manufacturing enterprises in Yangon Region represent a vital role for the economic development of Myanmar, with their significant contributions to employment, investment and production while their contribution to production is less significant compared to their contributions to investment and employment. The following Table

(3.1), Table (3.2) and Table (3.3) show the contribution of SMEs to employment, investment, and production in Myanmar.

Table 3.1: Contribution of SMEs in Employment by States and Regions (2020)

Sr. No.	State, Region/ Union Territory	Employment (Number)	%
1	Kachin	238	0.42
2	Kayah	251	0.44
3	Kayin	1282	2.24
4	Chin	376	0.66
5	Sagaing	4691	8.20
6	Tanintharyi	723	1.26
7	Bago	478	0.84
8	Magway	784	1.37
9	Mandalay	8786	15.36
10	Mon	572	1.00
11	Rakhine	4305	7.53
12	Yangon	25680	44.91
13	Shan	1609	2.81
14	Ayeyarwady	7284	12.74
15	Nay Pyi Taw	129	0.22
Total		57187	100.00

Source: Ministry of Industry (2020)

For the contribution of SMEs in employment, SMEs in Yangon Region employ the highest share (44.91%) of employment in the economy and the remaining share (55.09%) is contributed by other states and regions. The share of employment contributed by Mandalay Region with 15.36%, Ayeyarwady Region with 12.74% and Sagaing Region with 8.20% follows as the second, the third and the fourth. The share of employment of SMEs in Nay Pyi Taw was the least with 0.22%. The gap between shares of contribution in employment is the too large between the first and the second although the gap between the second, the third and the fourth is little. Contribution of SMEs in Yangon Region is greatly significant in employment since they are using labor-intensive production techniques. Because of significant contributing in employment, SMEs become extremely important in terms of social as well as

economical in the country. SMEs contribute not only in employment but also in investment for the economy.

Table 3.2: Contribution of SMEs in Investment by States and Regions (2020)

Sr. No.	State, Region/Union Territory	Investment (Million Kyats)	%
1	Kachin	2575.75	1.37
2	Kayah	821.87	0.44
3	Kayin	1643.91	0.87
4	Chin	704.19	0.37
5	Sagaing	8007.16	4.24
6	Tanintharyi	2095.29	1.11
7	Bago	6403.22	3.39
8	Magway	4856.11	2.57
9	Mandalay	10718.62	5.68
10	Mon	2809.43	1.49
11	Rakhine	1648.10	0.87
12	Yangon	121255.09	64.28
13	Shan	11651.02	6.18
14	Ayeyarwady	12499.01	6.63
15	Nay Pyi Taw	955.00	0.51
Total		188643.77	100.00
Us (\$) in million		11.20	

Source: Ministry of Industry (2020)

Table (3.2) shows the contribution of SMEs in investment. SMEs in Yangon Region have the highest share with 64.28%, followed by the share of Ayeyarwady with 6.63%, Shan with 6.18% and Mandalay Region with 5.68%. Chin's share was merely 0.37% of total investment. The gap between shares of contribution in investment is not significant. It is possible that good business opportunities encouraged investors to invest in Yangon Region while political instability and unrest in the area caused to low investment in Chin. SMEs contribute to the employment, investment as well as production in the country.

Table 3.3: Contribution of SMEs in Production by States and Regions (2020)

Sr. No.	State, Region/Union Territory	Production (Million Kyats)	%
1	Kachin	12290.79	8.00
2	Kayah	1250.42	0.81
3	Kayin	3149.02	2.05
4	Chin	648.53	0.42
5	Sagaing	15824.61	10.30
6	Tanintharyi	4094.79	2.66
7	Bago	11867.50	7.72
8	Magway	9596.50	6.24
9	Mandalay	21896.43	14.25
10	Mon	4511.14	2.94
11	Rakhine	3151.20	2.05
12	Yangon	28641.44	18.64
13	Shan	16576.95	10.79
14	Ayeyarwady	18457.92	12.01
15	Nay Pyi Taw	1711.38	1.11
Total		153668.62	100.00
Us (\$) in million		8.40	

Source: Ministry of Industry (2020)

Table (3.3) indicates the contribution of SMEs in production of the country. Among the states and regions, SMEs in Yangon Region have the highest share with 18.64% among other states and regions, followed by the share of Mandalay Region with 14.25%, Ayeyarwady with 12.01% and Shan with 10.79%. The share of Chin was the least among states and regions, at 0.42%. The gap among the shares of contribution in production of the first, the second, the third, and the fourth is too small. It is found that there is the direct linkage between investment, employment and production in Yangon Region.

3.3 Situation of Small and Medium Enterprises (SMEs) in Myanmar

SMEs play a vital role in every country's economic operation. Thus, the development of SMEs is also an effective instrument for achieving socioeconomic growth in Myanmar. SMEs in Myanmar are basically classified into three types, namely traditional SMEs, import substitution SMEs (active SMEs), and agricultural

and resource-based export-oriented SMEs (modern SMEs). SMEs development is mainly concerned with the transformation of traditional SMEs into active SMEs and then into modern SMEs (Nang Saw Nandar Hlaing, 2013). Traditional enterprises, which are small cottage industries, have long existed in Myanmar. Traditional enterprises include handicrafts, textile manufacturing, weaving, jewel cutting and polishing, lacquerware, woodworking, gold, silver, and blacksmithing.

SMEs account for the bulk of enterprises in Myanmar's private sector and had achieved significant headway by the early 1960s. Moreover, manufacturing SMEs have been expected to become one of the country's most important drivers of economic growth. Especially, development in the food, clothes and wearing, weaving, cosmetics, chemicals, consumer goods, and apparel sectors is significant. At that time, the government was promoting investment by giving industrial loans and raw material subsidies. However, the expansion of private manufacturing businesses has been hampered since the government has restricted the issuing permits for the establishment of new firms.

In order to promote the private manufacturing sector, the Ministry of Industry and the former Ministry of Co-operatives worked directly with manufacturers. They are separately responsible for manufacturing enterprises. The Ministry of Industry facilitates all private manufacturers as well as manufacturing state-owned enterprises (SOEs), while the Ministry of Co-operatives promotes only micromanufacturing and manufacturing cooperatives. To encourage private sector participation in the manufacturing sector, state and regional governments collaborated to build industrial zones, and then a lot of manufacturing SMEs have relocated to industrial zones since the early 1990s (Abe & Dutta, 2014).

With the enactment of the SMEs Development Law in 2015, the SMEs Development Rule in 2016, and the formulation of the SMEs Development Policy in 2015, SMEs assistance activities have been ongoing for their development. According to the SME Development Law, SMEs need to register to be formal and to be eligible for SME development schemes. Since the Department of Micro, Small, and Medium Enterprises Development cannot yet implement the SMEs registration, it is issuing member cards to verify as formal SMEs. With the aim of providing appropriate support to a great extent, the ministry has been issuing the SME member card since 2016. In order to provide effective support, verify SMEs, issue the recommendation

letter for loan applications, and provide other benefits such as attending training and joining trade fairs, SMEs member cards are issued.

3.3.1 Membership of SMEs in Myanmar

Member SMEs as well as nonmember SMEs can run the business. However, member SMEs can enable feasibility for import licenses, Food and Drug Administration (FDA) approval, and loan access. They can receive recommendations from relevant organizations for loan applications, have the opportunity to attend seminars and workshops, and link market and cluster SMEs. Member cards indicate a two-year term of recognition at the respective branch offices. The Table (3.4) shows the number of SMEs that obtained member cards in Myanmar. Detail information can be seen in Appendix (A).

Table 3.4: Number of Enterprises Obtaining SME Member Cards by States and Regions in Myanmar (2017-2020)

(Percentage)

Sr. No.	State, Region/ Union Territory	2017	2018	2019	2020
1	Kachin	1.57	1.30	4.46	1.42
2	Kayah	0.96	0.96	0.92	0.87
3	Kayin	0.88	0.74	2.61	1.76
4	Chin	2.12	1.47	10.79	5.80
5	Sagaing	5.99	5.94	5.21	9.55
6	Tanintharyi	5.63	4.83	2.67	1.99
7	Bago	8.68	6.45	6.38	11.72
8	Magway	7.74	13.28	4.22	2.88
9	Mandalay	13.76	23.69	17.21	12.79
10	Mon	3.38	3.57	2.36	1.45
11	Rakhine	2.91	1.27	3.00	1.21
12	Yangon	21.68	11.67	23.59	21.85
13	Shan	9.25	8.51	8.22	7.47
14	Ayeyarwady	13.01	13.97	6.12	12.44
15	Nay Pyi Taw	2.44	2.34	2.24	6.78
	Total	100.00	100.00	100.00	100.00

Source: Ministry of Industry (2017- 2020)

From 2017 to 2020, except in 2018, the number of SMEs obtained member cards was the highest in the Yangon Region as an entire country. As a share, there

were 21.68% and 21.85% of the whole country in 2017 and 2020, respectively, which are also the highest shares of member SMEs. In 2017, a number of member SMEs in Kayin was the fewest, with 0.88%. In 2020, SMEs in Kayah were the smallest in obtaining member cards, with 0.87%.

Most SMEs do not attempt to get member cards because relevant organizations are weak in informing the related benefits for being the SMEs membership. Since enterprises in Yangon Region may have strength in accessing information, the share of member SMEs in Yangon Region is the greatest. Although Kayin State has investment potential and resources for business development, the lack of peace in the area limits opportunities for local and international investment (DICA, 2018). Therefore, the number of SMEs, especially the number of member SMEs in Kayin, may be lower.

Kayah State Business Investment Opportunity Survey Report (2018) stated that business owners in the Kayah State have limited knowledge and unfamiliarity with business law and regulations. And then, it also noted that industrial development is slow due to few industries already located in the state. Moreover, lack of stability and peace were also the main barriers and limitation for businesses investments. According to the Myanmar Economic Monitor (2021), most firms experienced temporary closures by Covid-19. Hilly zones such as Kayah, Kachin, and Shan also experienced temporary firm closures of 2%. Therefore, the number of member SMEs in Kayah may significantly decrease in 2020.

3.3.2 Registration of SMEs in Myanmar

In order to be a formal firm, an enterprise must apply for a license under the municipality, be registered under DISI, or be both. The pattern of registration can be chosen depending on the business activities. Enterprises operating in mining and quarrying, manufacturing, electricity, gas, steam, and air conditioning need to register under the DISI, while non-industrial enterprises may apply for licenses through city and township development committees. Registered or member SMEs can have a chance, such as access to credit eligibility, lower interest rates, and getting a loan without collateral. In addition to these benefits, they get priority access to training, technology, market access, and services related to trade fairs and competitions.

There are various drivers for the economic growth of a country. Among them, SMEs contribute more than 99.4 percent of all businesses in Myanmar. The following Table (3.5) shows the number of registered SMEs and large enterprises under DISI.

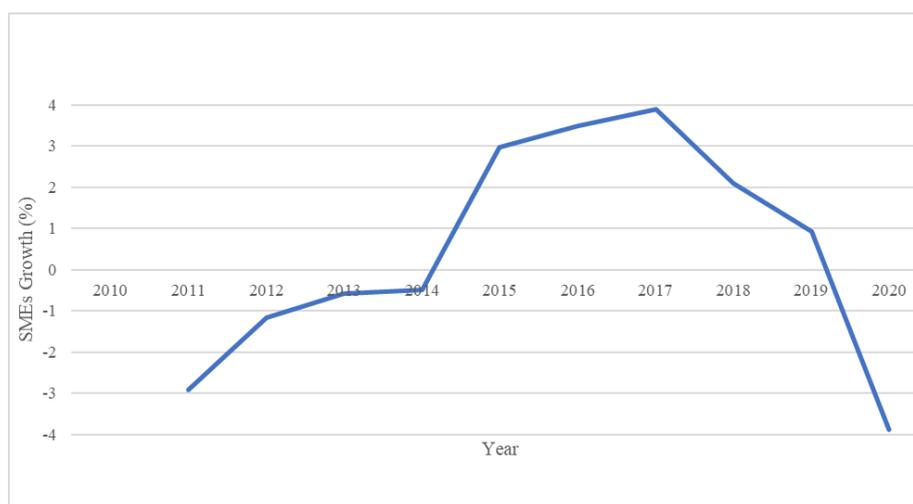
Table 3.5: Number of Registered SMEs in Myanmar (2010-2020)

Sr. No.	Year	Small Enterprises	%	Medium Enterprises	%	Number of SMEs	SMEs Growth (%)
1	2010	33,431	83.43	6,641	16.57	40,072	
2	2011	31,911	79.63	6,992	17.45	38,903	-2.9
3	2012	31,177	77.80	7,273	18.15	38,450	-1.2
4	2013	30,681	76.56	7,547	18.83	38,228	-0.6
5	2014	30,146	75.23	7,891	19.69	38,037	-0.5
6	2015	30,380	75.81	8,782	21.92	39,162	3.0
7	2016	31,044	77.47	9,486	23.67	40,530	3.5
8	2017	31,885	79.57	10,216	25.49	42,101	3.9
9	2018	31,927	79.67	11,055	27.59	42,982	2.1
10	2019	31,699	79.11	11,661	29.10	43,360	0.9
11	2020	29,395	73.36	12,281	30.65	41,676	-3.9

Source: Ministry of Industry (2010-2020)

According to the status of registration, the number of small enterprises in Myanmar was higher than the number of medium enterprises from 2010 to 2020. However, percentage of small enterprises gradually declined and percentage of medium enterprises gradually increased. It is the good sign of the economy. The highest share (83.43%) of the SMEs in 2010 was small enterprises and the share of medium enterprises was too small compared to the share of small enterprises. In 2020, the share of small enterprises was only 73.36% and the share of medium enterprises increased to 30.65%. Thus, the majority of SMEs were small enterprises from 2010 to 2020. On the other hand, it is found that it has a good potential for SMEs by reducing small enterprises and increasing the share of medium enterprises. The total number of SMEs from 2011 to 2015 was lower by 2010. The number of SMEs increased again in 2016 and it was decreased again in 2020. SME growth (%) is shown in Figure (3.1).

Figure 3.1: Growth of Registered SMEs in Myanmar (2010-2020)



Source: Table (3.5)

As shown in Figure (3.1), the growth rate (%) of SMEs in 2017 significantly increased. After 2011, the government increasingly engaged in a process of legal and administrative reforms, such as improving the business registration procedures through a reduction of the company registration fees, encouraging the expansion of foreign investment, providing support to the export sector through the abolishment of export and import license requirements, and establishing an SME development center in order to promote SMEs development. Since 2012, the growth rate (%) of SMEs has gradually increased, except 2020. With the goal of attracting foreign direct investment (FDI), substantial FDI flowed in 2014-2015. Improving the operational environment for businesses has consequently increased the number of SMEs.

The growth rate (%) of SMEs gradually decreased after 2017. Thus, decreasing the number of registered SMEs may be due to the growth of SMEs into large enterprises. In 2020, the decline in growth (%) of SMEs was significant in percentage. The COVID-19 pandemic and political instability caused a decline in the number of small businesses. With the operations of many factories ceasing and the establishment of new businesses declining, the number of registered enterprises was reduced. Table (3.6) shows the percentage of registered SMEs in states and regions in Myanmar. Details are presented in Appendix (A).

**Table 3.6: Registered SMEs in States and Regions in Myanmar
(2010-2020)**

(Percentage)

Sr. No.	State, Region/ Union Territory	2010 (%)	2011 (%)	2012 (%)	2013 (%)	2014 (%)	2015 (%)	2016 (%)	2017 (%)	2018 (%)	2019 (%)	2020 (%)
1	Kachin	2.62	3.03	3.00	2.89	2.96	3.36	3.47	3.6	3.76	3.93	4.30
2	Kayah	0.70	0.70	1.00	0.8	0.89	1.01	1.09	1.14	1.19	1.24	1.37
3	Kayin	1.34	1.90	2.00	2.16	2.14	2.13	2.14	2.22	2.29	2.37	2.62
4	Chin	1.32	1.26	1.00	1.41	1.55	1.80	1.82	1.88	1.90	1.93	1.73
5	Sagaing	11.06	10.10	10.00	9.93	9.94	9.81	10.04	10.23	10.54	10.58	11.21
6	Tanintharyi	2.25	2.78	3.00	3.15	3.02	3.35	3.51	3.64	3.67	3.75	3.91
7	Bago	11.19	11.21	11.00	11.55	11.60	10.96	10.32	9.92	9.67	9.49	9.22
8	Magway	5.72	6.10	6.00	6.54	6.98	7.32	7.49	7.69	7.86	7.98	8.34
9	Mandalay	17.4	18.05	18.00	16.22	16.54	16.27	15.88	15.58	15.46	15.22	15.38
10	Mon	5.43	5.30	5.00	5.43	5.42	5.29	5.40	5.45	5.54	5.64	5.97
11	Rakhine	5.21	4.99	5.00	5.03	4.93	5.23	5.56	5.85	5.94	6.23	3.95
12	Yangon	11.34	10.99	10.00	10.09	9.84	9.59	9.39	9.22	9.14	9.19	9.50
13	Shan	8.97	8.80	9.00	8.64	8.47	8.89	9.11	9.34	9.54	9.59	10.15
14	Ayeyarwady	15.45	14.79	15.00	14.74	14.44	13.7	13.53	12.99	12.27	11.66	11.15
15	Nay Pyi Taw	0.00	0.00	0.00	1.41	1.30	1.27	1.26	1.25	1.21	1.19	1.19
	Total (%)	100.00										

Source: Ministry of Industry (2010 - 2020)

According to Table (3.6), the highest share (17.40%) of registered SMEs can be found in Mandalay Region, and the least share (0.70%) was found in Kayah in the year 2010. In 2020, the highest share (15.40%) of registered SMEs was also found in Mandalay Region, and the least share (1.19%) was found in Nay Pyi Taw.

Mandalay has good potential for manufacturing sector development due to its strategic location, culture, closeness to China and natural resources, abundance of low-cost laborers, unexploited land resources, and infrastructure. Therefore, Mandalay can offer unique investment opportunities to international investors in many kinds of industries. According to the Mandalay Investment Opportunity Survey Report (2015), Mandalay and its 20-mile-circle surrounding area have the greatest potential for development and investment, including agriculture, agro/food processing, manufacturing, and other types of businesses. Thus, most SMEs are operated in Mandalay Region due to these potential opportunities.

Kayah State Investment Opportunities Survey (2018) pointed out that industrial development is slow due to the small number of industries located in Kayah State, logistics, and the procurement of local and foreign raw materials. As that survey, lack of stability and peace discourage businesses and potential investors. Thus, the share of SMEs operating in Kayah State was small. On the other hand, it may also be due to the impact of the COVID-19 pandemic and political instability.

3.3.3 Registered SMEs by Commodity Group in Myanmar

There are 13 classifications of industries depending on producing types of commodity groups, namely food and beverages, clothing, apparel, and wearing, construction materials; personal goods; household goods; printing and publishing; industrial raw materials; minerals and petroleum products; agricultural equipment; machinery and equipment; transport vehicles; electrical goods; and miscellaneous.

According to the Myanmar Standard Industrial Classification (MSIC), there are 24 types of manufacturing SMEs, depending on their activities. The types of manufacturing SMEs include the manufacture of food products, the manufacture of beverages, manufacture of tobacco products, the manufacture of textiles, the manufacture of wearing apparel, the manufacture of wood and products of wood and cork (except furniture), the manufacture of paper and paper products, the printing and reproduction of recorded media, the manufacture of coke and refined petroleum products, the manufacture of chemicals and chemical products, and the manufacture of basic pharmaceutical products and pharmaceutical preparations. Moreover, it also includes the manufacture of rubber and plastic products, the manufacture of other non-metallic mineral products, the manufacture of basic metals, and the manufacture of fabricated metal products, except machinery and equipment. Moreover, the manufacture of computer, electronic and optical products; the manufacture of electrical equipment; the manufacture of machinery and equipment n.e.c., manufacture of motor vehicles, trailers and semi-trailers; the manufacture of other transport equipment; the manufacture of furniture; and other manufacturing, repair and installation of machinery and equipment are also types of manufacturing enterprises. Table (3.7) describes the share of registered SMEs in Myanmar according to commodity groups. Details are stated in Appendix (A).

**Table 3.7: Share of Registered SMEs by Commodity Groups in Myanmar
(2010-2020)**

(Percentage)

Sr. No.	Year Enterprises	Year										
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	Food & Beverages	67.81	64.92	65.53	64.73	63.92	62.26	61.07	59.92	58.73	59.02	56.85
2	Clothing Apparel & Wearing	3.86	3.54	3.57	3.79	4.07	4.59	4.71	4.91	5.1	5.04	5.53
3	Construction Materials	6.55	6.97	7.15	7.83	7.75	7.45	7.58	7.67	7.86	7.98	8.58
4	Personal Goods	1.84	1.8	1.89	1.9	1.96	2.09	2.15	2.19	2.45	2.47	2.66
5	Household Goods	0.49	0.5	0.47	0.42	0.39	0.39	0.38	0.41	0.42	0.38	0.35
6	Printing & Publishing	0.62	0.76	0.75	0.78	0.76	0.78	0.77	0.79	0.81	0.81	0.85
7	Industrial Raw materials	1.33	1.42	1.38	0.94	0.88	0.94	0.9	0.86	0.85	0.85	0.89
8	Minerals & Petroleum Products	3.75	3.97	4.11	4.28	4.65	5.35	5.92	6.49	6.86	6.79	6.85
9	Agricultural Equipment	0.18	0.14	0.15	0.15	0.14	0.16	0.15	0.14	0.16	0.15	0.15
10	Machinery & Equipment	0.47	0.32	0.3	0.25	0.21	0.18	0.17	0.16	0.16	0.14	0.16
11	Transport Vehicles	0.31	0.24	0.18	0.16	0.13	0.16	0.13	0.13	0.12	0.09	0.08
12	Electrical Goods	0.05	0.08	0.07	0.12	0.15	0.11	0.1	0.08	0.07	0.07	0.09
13	Miscellaneous	12.74	15.34	14.45	14.65	14.99	15.54	15.97	16.25	16.41	16.21	16.96
	Total (%)	100.00										

Source: Ministry of Industry (2010-2020)

Since the rising population of Myanmar is focused on consumption, the food and beverages sector has become a great promise for all business players. According to Cyriac (2019), the food and beverage sector accounted for 15% of total average consumer spending in recent years. This industry became dominant compared to other industries in Myanmar. According to the status of registration, the share of enterprises in the food and beverages industry was the highest among other industries from 2010 to 2020.

In 2010, the share of food and beverages enterprises was the highest with 67.81%, and the share of electrical goods enterprises was the least with 0.05%. The share of food and beverages enterprises was the highest with 55.82% in 2020, but that was less compared to 2010, and the share of both electrical goods enterprises and transport vehicle enterprises was the least with 0.08% in 2020.

Some registered food and beverages enterprises in 2020 decreased by ceasing the production of some enterprises due to transportation and warehouse problems during COVID-19. Moreover, electricity, high energy prices, and electricity interruptions hindered the business operation. Consequently, the registration of food and beverage enterprises has also declined, and some enterprises have been shut down.

The reasons for the reduction in the number of electrical goods enterprises may be due to the lower consumption of electricity appliances. The relevant organization may revoke or cancel the registration of firms without issuing the Certification of Approval (COA) if registered SMEs did not operate actually and do not conform with the specification. Thus, this may be the one of the causes reducing the number of enterprises in the transport vehicle industry.

3.4 SMEs in Industrial Zones in Myanmar

Industrial zones were first introduced in the 1990s in order to encourage private sector participation in manufacturing, enhance production agglomeration, and foster industrial clusters. It was also intended to attract investment, promote the production of competitive semi-manufactured and/or manufactured goods, and attain equitable development among states and regions. In 2020, the Industrial Zone Law was enacted by the Pyidaungsu Hluttaw, aiming to promote industrialization, create job opportunities, attract foreign investment, and increase value-added products based on domestic raw materials.

Industrial zones could provide benefits from gaining collective efficiency due to the availability of a specialized labor force and machinery and input suppliers, the collective attraction to traders and buyers, and ability to share information and knowledge. Although SMEs in Myanmar were spread all over the country before 1988, the State Law and Order Restoration Council (SLORC) relocated them into industrial zones around towns and cities. Most of Myanmar's labor-intensive, export-oriented industries are concentrated in the industrial zones.

According to the Ministry of Industry (2020), 56 industrial zones have been developed in Myanmar. There are three industrial zones in Mandalay Region: Mandalay industrial zone, Myingyan industrial zone, and Meiktila industrial zone. In the Yangon Region, there are three industrial zones: The Eastern District, the Southern District, and the Northern District.

In Ayeyarwady Region, Patheingyi industrial zone, Myaungmya industrial zone, and Hinthada industrial zone have been developed. In Sagaing Region, Monywa industrial zone, Monywa sub-industrial zone (Shwebo), Monywa sub-industrial zone (Sagaing), and Kalay industrial zone have been developed. In addition, Pyaw industrial zone in Bago Region; Yenangyaung and Pakokku industrial zones in Magway Region have been developed. Moreover, the remaining industrial zones, Mawlamyine industrial zone in Mon State, Aye Tharyar industrial zone in Shan State, Innlay Myaing industrial zone in Tanintharyi Region, Hpa-an industrial zone in Kayah State; Dekkhina Thiri industrial zone in Nay Pyi Taw, Myitkyina industrial quarter in Kachin Region, and Loikaw industrial quarter in Kayah State, have also been developed. The following Table (3.8) shows the distribution of SMEs in the industrial zones in Myanmar. Details can be found in Appendix (A).

Table 3.8: Number of Registered SMEs in Industrial Zones in Myanmar (2020)

Sr. No.	Industrial Zone	SMEs	%
1	(3) Industrial Zones in Mandalay Region	1253	28.71
2	(36) Industrial Zones in Yangon Region	1249	28.62
3	(3) Industrial Zones in Ayeyarwady Region	59	1.35
4	(4) Industrial Zones in Sagaing Region	607	13.91
5	(1) Industrial Zones in Bago Region	149	3.41
6	(2) Industrial Zones in Magway Region	296	6.78
7	(1) Industrial Zones in Mon State	155	3.55
8	(1) Industrial Zones in Shan State	448	10.27
9	(1) Industrial Zones in Tanintharyi Region	4	0.09
10	(1) Industrial Zones in Kayah State	9	0.21
11	(1) Industrial Zones in Nay Pyi Taw	0	0.00
12	(1) Industrial Zones in Kachin State	71	1.63
13	(1) Industrial Zones in Kayah State	64	1.47
	Total	4364	100.00

Source: Ministry of Industry (2020)

There are 7,779 registered enterprises within industrial zones as a whole, among them, 4,364 (56.10%) are SMEs. The highest share (28.62% of all SMEs) is also found in industrial zones in Yangon Region. The share (28.53%) of SMEs in industrial zones in Mandalay Region and the share (13.91%) of SMEs in Sagaing Region follow as second and third. Registered SMEs increase since most industrial zones in Yangon Region are situated on the periphery of the city, where land is available. In addition, Yangon is the country's commercial and logistics hub for international trade, the ports and harbors in the Yangon area and cheap labor costs for export-oriented production also facilitate the entire international container and cargo trade. Thus, the manufacturers want to produce goods for the Myanmar population or for export-oriented production and so consider investing in the industrial zones in Yangon Region. In this way, most SMEs focus mainly on the Yangon market, which is the largest consumer market in Myanmar and has high affordability. For these reasons, most registered enterprises can be found in industrial zones in Yangon Region.

3.5 Challenges of the Development of SMEs in Myanmar

As stated in previous sections, SMEs development is very important for all countries. However, the development of most SMEs around the world is hindered by various factors. Similarly, the development of SMEs in Myanmar is restricted by common difficulties such as inadequate access to finance, the unavailability of long-term credit from external sources, a lack of capital, a lack of a proper banking system, a shortage and instability of electricity, a lack of market intelligence, insufficient managerial skill, weak telecommunications and transportation systems, and weak drainage and sewage systems. In addition, other difficulties are limited space, a low level of technology, education, training, research, and development, the unfavorable exchange rate, poor human resource management, poor infrastructure, limited market access, low skill and productivity levels, and a lack of business development services (BDS) (Ohnmar Thein, 2007; OECD, 2013; Supinit, 2016).

According to the SME Development Policy (2015) of Myanmar, the development of SMEs was hindered by other obstacles such as difficulties in the transfer of technology, difficulties in accessing information in a timely manner, deficiencies in corporate governance, a lack of appropriate taxation and incentives, a lack of a level playing field, incomplete infrastructure, and a weakness in the

emergence of a conducive business environment. Moreover, the CSO (2018) also found that even the most successful businesses face difficulties related to inadequate access to capital, infrastructure, trained labor, and technical knowledge. 70% of enterprises in the manufacturing sector are facing serious constraints. Additionally, Ei Ei Mon (2020) stated that inadequate infrastructure, such as storage facilities and technology, transportation and logistics, tenants, and energy supplies, can hinder their operations, productivity, and market access. According to Ohnmar Myint (2020), limited access to stable energy services and skilled labor are also challenges faced by SMEs.

(i) Financial Resource: SMEs need finance at every stage of their development. Thus, financing is an absolute essential for SMEs development since inadequate funding discourages investment, and financial access can enable productive investments to expand businesses and acquire the latest technologies. According to Aung Kyaw (2008), the financing problem for SMEs is one of the biggest constraints in Myanmar. According to his study, although SMEs have to rely on personal savings, funds from relatives, and earnings from operations, personal sources are limited to the size of business expansion, upgrades, and boosting competitiveness.

ESCAP (2009) indicated an ineffective financial sector, high interest rates, a lack of information on capital availability, excessive red tape, a lack of collateral, a lack of proper financial products, missing credit rating agencies, poor human resources in the financial sector, and limitations in access to funds as challenges facing by SMEs. In addition, Mya Yee Mon (2015) indicated that the provision of SMEs financing is quite limited in terms of both coverage and amount. According to Kapteyn and Wah (2016), only 14% of the SMEs obtained a formal loan, while 23% received an informal loan. In the study of Hansen, Rand, Tarp and Trifkovic (2018), strict collateral requirements, financial illiteracy and low quality of loan applications, complex application procedures, and liquidity problems of banks are the most crucial constraints for SME development. Yin Phway Phway Thone (2019) also indicated that SMEs still face difficulties such as working capital and financing their businesses.

(ii) Regulatory Environment: The regulatory environment is important for the development of SMEs in any country. Abe (2013) indicated that SMEs face an absence of a user-friendly legal and regulatory environment. Moreover, according to his study, weak coordination among responsible agencies, the absence of a SME

development strategy, and insufficient facilitation in the formalization of SMEs are still stumbling blocks for the development of SMEs. According to SME development policy (2015), it may need to be convenient, simplifying the procedures and practices, facilitating businesses and the availability of necessary information, providing mobile services, and supporting innovative SMEs by laying down patent rights, intellectual property rights, and laws and regulations for the registration of trademarks. The study of Kyi Lwin (2016) also pointed out the importance of a regulatory environment and how frequent changes in rules and regulations seriously affect the production of industries. Moreover, Thida Myint (2020) pointed out the legal and regulatory framework, and tariff and tax protection as challenges for SMEs development.

(iii) Technology and Information: Technology development is crucial for promoting SMEs. Technology development and adaptation include research and development activities, the dissemination of information and knowledge, the matching of technology with needs, and the creative adaptation of technologies for new uses. Businesses must be upgraded to be competitive in the domestic market and, particularly, abroad. However, according to Bernhardt, Dickenson-Jones and De (2017), SMEs face challenges such as limited investment in technology and innovation and minimal use of ICT.

According to the World Bank Enterprise Survey, the level of technology usage and technological sophistication is quite low among Myanmar SMEs. Only 7% of small firms have their own website, and just 20% of them use email to connect with clients or suppliers. For medium firms, the percentages in using website and email are considerably higher, at 29% and 46%, respectively. According to ESCAP (2009), a lack of information on capital availability and limited access to information and technological know-how, and, as Yin Phway Phway Thone (2019) pointed out a lack of market information in doing business are challenges faced by SMEs. Moreover, in the stated by the Irrawaddy (2019), businesses in all states and regions face poor access to government information related to budgets, regulations, and licensing fees.

(iv) Infrastructure: Infrastructure for businesses includes transportation, water supply and sewers, power grids, telecommunications, training, and research facilities. Adequate and quality infrastructure provides SME competitiveness. Infrastructure facilitates the production of goods and the provision of services by enterprises. On the other hand, poor infrastructure seriously hinders SMEs in Myanmar. According to Ohnmar Thein (2007), the shortage of electricity is the greatest constraint for almost

all firms. In the study of Aung Kyaw (2008), he indicated that power shortages, rising fuel prices, accelerating rental and property prices, and the high cost of inputs severely limit SMEs potential. In the study of Brahma Vamsa Myo Min Han and Supinit (2016), they pointed out that a lack of business development services is the barrier to SMEs reaching their full potential and bringing widespread benefits to their people. According to Charltons Myanmar (2022), inadequate and underdeveloped infrastructure is the biggest challenge facing by the manufacturing sector in Myanmar.

(v) **Market Access:** Market access can generally be divided into local and international markets. Stable access to markets is important for enhancing entrepreneurship and SME success. SMEs in Myanmar face many major physical and non-physical challenges relating to access to the market. The existence of non-tariff barriers prohibits SMEs' access to foreign markets. As the stated by Abe (2014), limited market access among challenges is included among those that need to be overcome first. As ADB (2020) described in Asia Small and Medium-Sized Enterprise Monitor 2020, SMEs face barriers to market access, particularly the international market, due to their inadequate capabilities and product quality. Participation in global value chains is limited, and access to markets remains a major challenge.

3.6 Differences of Internal and External Factors Among Industries in Myanmar

According to Khin Maung Cho (2017), in supporting businesses, it needs to select the sectors that should be urgently prioritized, find out the most important thing to do, and tackle that first. Thus, it needs to examine the different influencing factors for different industries. In Myanmar, the following factors are found to be different among types of industries.

(i) Ownership by Gender

The percentage of female-owned SMEs in Myanmar was smaller than in its neighboring countries. According to the OECD Business Survey, only around 7% are female business owners in enterprises with more than 100 employees. According to the German Institute for Development Evaluation (Deval) (2015), around 20% of business owners are female, and they are likely to be business owners only in a few sectors. In addition, according to the World Bank Enterprise Survey (2016), only about 35% of all small and medium firms are owned by women, which is lower than

in Cambodia, Lao PDR and Vietnam. Similarly, the study of Bala (2016) also found that firms owned by women increased from 18.1% in 2013 to 25.4 percent in 2016. According to the findings, the participation of female owners is significantly lower. With the different nature of the business, the percentage of female owners/managers also differs from the share of male owners/managers across industries. According to the Japan International Cooperation Agency (JICA) (2016), owners of repair and machinery businesses are male since they receive more technical training than females. According to the MSMEs 2017 Survey, about 70% of the firms are owned by men. In the study of Hansen, Rand, Tarp and Trifkovic (2018), they also described that around 30% of the formal manufacturing SMEs are owned and managed by women. According to the MSMEs 2018 Survey, only one-third of SMEs are female-owned or managed, possibly due to different opportunities, preferences, and skills between genders.

(ii) Educational Attainment of the Owner/Manager

Education is defined as the highest level of education that a person has completed. According to the Center for Economic and Social Development (CESD) (2016), founders or owners of family-run garment manufacturing enterprises are university educated. In addition, the CESD study indicated that 92% of food manufacturing enterprises and 60% of garment manufacturing firms are family-owned and controlled by the founder or owner with the greatest educational attainment. According to the study of ERIA (2019), owners of family-run apparel manufacturing firms are more likely to be university educated compared to those of food manufacturing firms.

(iii) Operating Years of Enterprises

Years of operation (firm age) is the total number of years an SME has been in business. According to the World Bank's Enterprise Survey, most SMEs have an average age of 12 years. Similarly, both the German Institute for Development Evaluation (Deval) and the OECD-UMFCCI-UNESCAP Surveys (2015) found that a clear majority of firms have been operating for more than 10 years. In addition, the Deval (2015) Survey found that 23% of all SMEs have four operating years. According to the study of the CESD Survey (2016), most SMEs have an average age of 11 years, and only 38% of firms are younger than five years. According to the CESD Survey (2016), the food manufacturing sector was nearly twice as old as the

garment manufacturing sector. Jpmorganchase (2023) founded that 51% of small businesses are 10 years old or less, and 32% of them are 5 years old or less.

(iv) Ownership Structure

Ownership structure could be defined as the means of controlling a business enterprise and being able to dictate its functioning and operations. There are different types of ownership structures, which can be grouped into managerial/insider ownership and foreign ownership. These include sole proprietorships, partnerships, limited partnerships, limited liability companies (LLCs), and corporations (profit and non-profit). A partnership is simply a business owned by two or more people, with each personally liable for any business debts and claims. A sole proprietorship is the business owned by one-person while a limited liability company (LLC) or corporation is more complicated, but it limits the owners' personal liability. The sole proprietorships and partnerships as the most common types of ownership structures found in Myanmar. According to the World Bank Enterprise Survey and the CESD Survey, the legal status of almost all Myanmar SMEs is sole proprietorship. In addition, these studies also stated that only around 4% of small enterprises and 5% of medium enterprises operate in partnership with state-owned SMEs.

(v) Firm Size Pattern

SMEs comprise businesses that have various sizes. The number of employees employed by businesses varies substantially by industry. According to the CESD (2016) Survey, the food manufacturer employs 105 workers, while the wearing enterprise has 657 employees. This survey also discovered that the food and clothing sectors use 8 and 106 employees, respectively, but other sectors, namely the manufacturing of wood products, use 10 employees; the manufacturing of textiles uses 27 employees; the manufacturing of electronics uses 66 employees; and the manufacturing of electrical equipment uses 51 employees. According to the nature of business, the clothing sector needs the largest number of employees. In the MSMEs 2019 Survey, there are significant differences in employment changes for petroleum, coal, chemicals, rubber, mining, electrical equipment, machinery and equipment, and motor vehicles. On the other hand, food and beverages, clothing, and related leather industries are labor-intensive industries. As the stated by the 2020 ADB Monitor, the food and beverages industry, construction materials industry, garment industry, and mineral and petroleum industries employ 26.4%, 6.6%, 64.4%, and 2.7%, respectively.

(vi) Financial Resource

The study of Ordnur (2023) stated that financing is required for different stages of business example, the manufacturing industry required finance for a startup or for expansion of business. According to the study of Ordnur, clothing and wearing industry requires huge amount of capital for investment to buy different types of equipment such as power and electricity generator, spinning machine, knitting machine, dyeing machine, printing machine, sewing machine, cutting machine. According to the MSMEs 2018 Survey, petroleum, coal, chemicals, rubber, mining and electrical equipment, machinery and equipment, and motor vehicles increased capital. Moreover, clothes and apparel, wood processing, and handicrafts require more finance than other industries, accounting for 27.9%, 23%, and 21%, respectively. Food and beverages, and construction materials, request only 14.8%. A business loan that is best suited for business expansions and long-term investments. KBZ Bank (Myanmar) also stated that some enterprises can apply for loans for fixed asset acquisition, infrastructure development such as factories and warehouses, the purchase of machinery and industrial vehicles, and the opening and renovation of new business outlets.

(vii) Regulatory Environment

Fair and effective legal procedures for dispute resolution and maintaining law and order are needed for business development. Moreover, registration procedures are different among industries due to the nature of their businesses. Under the Small and Medium Enterprises Development Law (2015), they can register only if SMEs are able to submit the license, permit, or registration certificate. However, some permits are allowed to be exempted if the enterprises are not affecting the health of the public in the surrounding area, have a minimum impact on the natural and socio-economic environment, provide conservation work, are safe from fire, and do not affect the safety of the work site or health.

According to industrial policy (2016), the vehicle and parts manufacturing and installation industries were tax exempt. Environmental Conservation Law (2012), Environmental Conservation Rules (2014), and Environmental Impact Assessment Procedures (2015) must be followed by industries that may impact the environment. In the MSME Survey (2018), it is found that the wood industry is declining due to conservation policies and timber production procedures. Greeniee (2021) stated that mineral and petroleum industries require environmental, safety, and labor-related

compliance for applying permits. A mining business is governed by the Myanmar Investment Law 2017 (MIL) and the Environmental Conservation Law 2012 (ECL).

(viii) Technology and Information

The benefits of technology adoption and acceptance are different across sectors. Industrial policy (2016) determined the types of industries that would be supported, depending on technical requirements. As stated by the Industrial policy (2016), medium-technical-based industries include the textile and apparel industry, which includes dyeing and printing; the equipment and tyre and rubber products manufacturing industry; the automobile parts manufacturing industry; and shipbuilding and related industries. On the other hand, advanced technical-based industries include the pharmaceutical industry, which uses nanotechnology; the advanced chemicals manufacturing industry, which has fewer environmental effects; the semi-conductor manufacturing industry; and the advanced ICT accessories manufacturing industry.

The CESD (2016) Survey found that food manufacturers introduced new products and/or services between 2012 and 2014, with a higher percentage than apparel manufacturers. Food manufacturers have invested more in R&D and other innovation efforts than apparel producers. According to the MSMEs Survey (2018), the fabricated and metal products industry is the most innovative sector, with 50%, followed by wood (40%), then food and beverages (7.8%).

(ix) Infrastructure

In Myanmar, the quality of the infrastructure has improved a great deal but remains a significant issue. Among types of infrastructure, good and sufficient warehouse and storage facilities are necessary for the food and beverages (F&B) industry. In addition, the F&B industry is very energy intensive and one of the largest users of refrigeration, with greater than 50% of electricity consumption (British Chamber Myanmar, 2023). Moreover, disturbances in the power supply and unscheduled interruptions can be very costly in terms of lost material, production units, non-delivery, and hours spent clearing and cleaning to restart. According to the requirement of power supply for food and beverages industry, ABB (2023) stated that the extremely high hygiene requirements and electricity interruption is critical for the production of milk is critical due to a high risk of unscheduled interruption. It may minimize the risk of unscheduled interruptions in dairy processing by ensuring a high-quality, stable voltage supply.

(x) Market Access

The general orientation of SMEs focuses on domestic markets. According to the previous studies, the customer base of firms varies slightly across industries. As stated by the MSMEs Survey (2018), 38.5% of firms were from the food and beverages industry with more than 21 customers, 39.4% were from the wood industry, and other manufacturers had 43.5%, which was the largest customer base among industries, and the textile industry was small. In addition, the 2017 MSMEs Survey stated that the food and beverages sector faces the most competition, while the tobacco and wood sectors tend to face the least competition.

3.7 Situation of Small and Medium Enterprises (SMEs) in Yangon Region

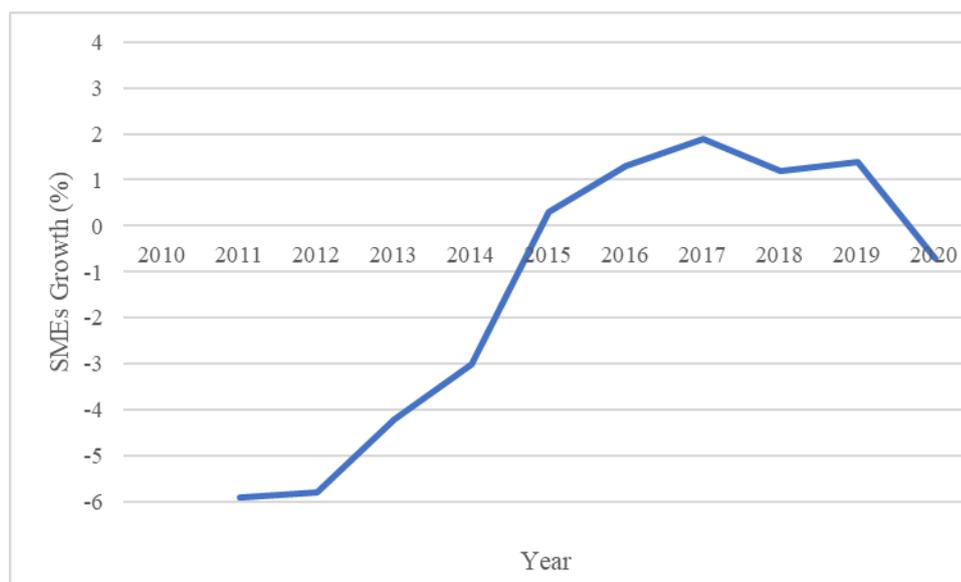
Yangon is the business center of Myanmar and it is also the sole region where can access foreign markets through international trade. Moreover, it is the country's biggest consumer market and the location of the wholesale and export markets. According to CCI France Myanmar (2018), the Directorate of Investment and Company Administration (DICA) described that a significant proportion of the country's foreign and local investments has gone into Yangon. A total of USD 25.84 billion in investments have been made in Yangon during the previous six years. The following Table (3.9) and Figure (3.2) describe the number of registered SMEs and its growth (%), that are located in Yangon Region from 2010 to 2020. The number of registered SMEs decreased in 2020 than 2010.

Table 3.9: Number of Registered SMEs in Yangon Region (2010-2020)

Sr. No.	Year	Small	%	Medium	%	Number of SMEs	SMEs Growth (%)
1	2010	2,948	64.89	1,595	35.11	4,543	
2	2011	2,661	58.57	1,614	35.53	4,275	-5.9
3	2012	2,410	53.0	1,616	35.57	4,026	-5.8
4	2013	2,206	48.56	1,652	36.36	3,858	-4.2
5	2014	2,036	44.82	1,708	37.60	3,744	-3.0
6	2015	1,909	42.02	1,847	40.66	3,756	0.3
7	2016	1,799	39.60	2,007	44.18	3,806	1.3
8	2017	1,750	38.52	2,130	46.89	3,880	1.9
9	2018	1,657	36.47	2,271	49.99	3,928	1.2
10	2019	1,629	35.86	2,355	51.84	3,984	1.4
11	2020	1,558	34.29	2,400	52.83	3,958	-0.7

Source: Ministry of Industry (2010-2020)

Figure 3.2: Growth of Registered SMEs in Yangon Region (2010-2020)



Source: Table (3.9)

According to the status of registration as shown in Table (3.9), the number of SMEs has gradually decreased since 2011. In 2011, SMEs growth was -5.9%. However, with a rate of 0.3% in 2015, the SMEs growth returned to positives. Although SMEs growth from 2015 to 2019 was positive, SMEs growth in 2020

returned to negative. The number of SMEs has decreased due to the shutdown of firms impacted by the COVID-19 pandemic and political instability. Since SMEs cannot resist the impact of the COVID-19 pandemic and political instability, it is found that the number of registered SMEs has significantly declined.

3.7.1 Registered Small and Medium Enterprises by Commodity Groups in Yangon Region

In Yangon Region, SMEs also produce (13) commodity groups, Following Table (3.10) describes the situation of SMEs by commodity groups in Yangon Region. In Appendix (A), detailed information is described.

Table 3.10: Situation of Registered Small and Medium Enterprises by Commodity Groups in Yangon Region (2010-2020)

(Percentage)

Sr. No.	Enterprises	Year										
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	Food & Beverages	49.57	38.9	39.32	36.78	38.38	37.99	36.89	37.5	35.16	34.24	35.04
2	Clothing Apparel & Wearing	3.06	2.32	2.71	3.11	3.61	4.93	5.83	6.06	6.77	7.61	8.34
3	Construction Materials	8.63	10.01	10.18	10.83	11.11	10.81	10.64	10.26	10.11	10.44	9.6
4	Personal Goods	9.6	9.92	9.56	10.63	10.58	10.49	11.11	10.95	11.2	11.22	10.31
5	Household Goods	2.03	2.46	2.36	2.23	2.06	2	1.97	2.14	2.49	2.51	2.53
6	Printing & Publishing	2.93	4.49	4.57	5.08	5.02	5.3	5.47	5.7	6.24	6.35	6.52
7	Industrial Raw materials	1.94	2.57	2.41	2.18	1.63	1.6	1.55	1.44	1.53	1.56	1.49
8	Minerals & Petroleum Products	10.98	9.57	9.39	9.8	9	9.48	9.46	9.54	9.9	10.04	10.08
9	Agricultural Equipment	0.37	0.12	0.07	0.08	0.11	0.16	0.13	0.13	0.15	0.18	0.18
10	Machinery & Equipment	2.44	0.91	1.12	1.14	0.43	0.37	0.34	0.36	0.31	0.33	0.25
11	Transport Vehicles	0.75	0.28	0.25	0.34	0.35	0.37	0.37	0.36	0.31	0.28	0.25
12	Electrical Goods	0.22	0.19	0.3	0.21	0.24	0.21	0.21	0.18	0.15	0.2	0.23
13	Miscellaneous	7.48	18.26	17.76	17.59	17.48	16.29	16.03	15.38	15.68	15.04	15.18
	Total (%)	100.00										

Source: Ministry of Industry (2020)

In 2010, the share of food and beverages enterprises in Yangon Region was the highest, at 49.57%. and the share of the electrical goods enterprises was only 0.22%. that was the least share among SMEs. The share of food and beverages enterprises in 2020 was also the highest share (35.04%) while the contribution share of agricultural equipment enterprises was the lowest, at 0.18%.

3.7.2 Contribution of SMEs to Investment and Production in Yangon Region

Private industrial enterprises in Yangon Region contribute to the economy according to employment, investment, and production. The contribution of SMEs was as shown in Table (3.10).

Table 3.11: Contribution of Registered SMEs by Investment and Production in Yangon Region (2020)

Sr.No.	Enterprises	Investment		Production	
		(Kyat Millions)	%	(Kyat Millions)	%
1	Small	2350.626	0.97	4456.23	7.78
2	Medium	240159.55	99.03	52826.6	92.22
Total		242510.18	100.00	57282.9	100.00
US (\$) (in million)		11.20		8.40	

Source: Ministry of Industry (2020)

According to Table (3.11), medium firms have a larger contribution than small firms in investment and production, with 99.03% in investment and 92.22% in production. The contribution share of small firms is merely 0.97% in investment and 7.78% in production, respectively. According to the 2020 data, medium firms in Yangon Region have higher investment and, therefore, higher production. According to these circumstances, the higher the investment, the higher the production.

In Myanmar, developing industrial zones has the objectives of creating more employment opportunities, promoting urban development, and promoting technical know-how and expertise. Most (65 percent) of the industrial zones are located in Yangon Region (Yin Phway Phway Thone, 2019).

3.7.3 Industrial Zones in Yangon Region

Yangon Region has (36) industrial zones, and the Thilawa Special Economic Zone, which is jointly operated by Japan and Myanmar. There are (11) industrial zones in the Eastern District, (24) industrial zones in the Northern District, and one industrial zone in the Southern District.

There are (13) industrial zones in Hlaing Thar Yar township (7) in Shwe Pyi Thar township. And then, South-Dagon township and Mingalardon township have established (3) industrial zones, respectively. The remaining can be found in Shwe Pouk Kan township, Hmaw Bi Township, Thanlyin Kyauktan township, Dagon Myothit (East) township, Dagon Myothit (North) township, and Dagon Myothit (East) township, with one industrial zone in each township.

Industrial zones in Hlaing Thar Yar township are namely: Hlaing Thar Yar (1), Hlaing Thar Yar (2), Hlaing Thar Yar (3), Hlaing Thar Yar (4), Hlaing Thar Yar (5), Hlaing Thar Yar (6), Hlaing Thar Yar (7), Ngwe Pin Lal, Shwe Lin Pan, Shwe Than Lwin, Anawyahta, Mya Sein Yaung, and Mway Myu Yay. Industrial zones in Shwe Pyi Thar township are Shwe Pyi Thar (1), Shwe Pyi Thar (2), Shwe Pyi Thar (3), Shwe Pyi Thar (4), Watayar, Thar Du Kan, and wood-based industrial zones. There are three industrial zones in South-Dagon township, namely: South-Dagon (1), South-Dagon (2), and South-Dagon (3). Three industrial zones in Mingalardon township are Mingalardon Garden Park, Yangon Industrial Zone, and Pyin Ma Bin.

Foreign investors can invest in the local industrial zones on a long-term lease with the permission of the Myanmar Investment Commission (MIC). Yangon, Mingalardon, Hlaing Thar Yar, and Thanlyin-Kyauktan industrial zones were developed between foreigners and the government. Mingalardon industrial zone has international standards, which were developed with the first foreign joint venture in 1996.

3.7.4 Distribution of SMEs in the Industrial Zones in Yangon Region

Among industrial zones in Myanmar, the Yangon Eastern and Northern Industrial Zones are significantly larger than the other zones (OECD, 2020). The following Table (3.12) shows the distribution of SMEs in the industrial zones in each district in Yangon Region.

Table 3.12: Number of Registered SMEs in the Industrial Zones by District in Yangon Region (2018-2020)

Sr. No.	District	2018	2019	2020
1	Northern District	116	118	185
	Share (%)	10.46	10.56	14.81
2	Eastern District	993	999	1064
	Share (%)	89.54	89.44	85.19
3	Southern District	0	0	0
	Share (%)	0.00	0.00	0.00
	Total	1109	1,117	1,249
	Share %	100.00	100.00	100.00

Source: Ministry of Industry (2018-2020)

According to the status of registration, the shares of SMEs (10.46%,10.56% and 14.81%) in the Northern District were the less compared to the Eastern District. In the Southern District, SMEs cannot be seen. The highest shares (89.54%,89.44% and 85.19%) of SMEs can be found in the Eastern District. The majority of large firms are located in the Northern District, and the majority of SMEs are located in the Eastern District. Since Northern District has many industrial zones with its favorable location and easy access to migrant workers, most large enterprises are located there.

3.7.5 Registered Small and Medium Enterprises by Commodity Groups in Industrial Zones in Yangon Region

SMEs also produce only (13) commodity groups in the industrial zones in Yangon Region. The following Table (3.13) describes the situation of SMEs by commodity groups in industrial zones in Yangon Region. In Appendix (A), detailed information is described.

Table 3.13: Situation of Registered Small and Medium Enterprises by Commodity Groups in Industrial Zones in Yangon Region (2018-2020)

Sr. No.	Enterprises	2018			2019			2020		
		Small	Medium	Total	Small	Medium	Total	Small	Medium	Total
1	Food & Beverages	14	99	113	17	136	153	20	168	188
2	Clothing Apparel & Wearing	3	51	54	3	58	61	2	62	64
3	Construction Materials	11	82	93	12	81	93	10	82	92
4	Personal Goods	8	158	166	8	203	211	9	224	233
5	Household Goods	2	31	33	2	32	34	2	40	42
6	Printing & Publishing	0	16	16	0	16	16	0	20	20
7	Industrial Raw materials	1	25	26	2	26	28	2	35	37
8	Minerals & Petroleum Products	31	223	254	31	221	252	37	248	285
9	Agricultural Equipment	0	2	2	0	2	2	1	4	5
10	Machinery & Equipment	1	3	4	1	4	5	1	9	10
11	Transport Vehicles	0	0	0	4	1	5	0	10	10
12	Electrical Goods	1	4	5	1	3	4	1	7	8
13	Miscellaneous	53	192	245	54	199	253	53	202	255
	Total	125	886	1011	135	982	1117	138	1111	1249
	Share (%)	12.36	87.64	100.00	12.09	87.91	100.00	11.05	88.95	100

Source: Ministry of Industry (2018-2020)

In 2018, the share of minerals and petroleum products enterprises within industrial zones in Yangon Region was the highest, at 25.12 %. and the share of the transport vehicles enterprises was only 0.00%. that was the least share among SMEs. The share of minerals and petroleum products enterprises in 2020 was also the highest share (22.82%) while the contribution share of agricultural equipment enterprises was the lowest, at 0.09%. U.S. Geological Survey (2023) stated that the Ministry of Natural Resources and Environmental Conservation (MONREC) passed new rules under Notification No. 13/2018 (the Mines Rules). That survey also noted that the new rule provides a longer period for permits and allows foreign investment in SMEs projects. Since new rules removed the restriction in order to reduce the impact of

COVID-19, new project proposals in metals and mineral fuels in the mineral industry are likely to grow. It leads to number of registered minerals and petroleum products enterprises.

3.7.6 Contribution of Registered SMEs in Industrial Zones by Investment, Production and Employment in Yangon Region

Private industrial enterprises contribute to the economic activities of Yangon Region with investment, production and employment. The following Table (3.14) indicates the contribution of SMEs within industrial zones in Yangon Region to employment, investment, and production.

Table 3.14: Investment, Production and Employment of Registered SMEs in Industrial Zones in Yangon Region (2020)

Sr. No.	Enterprises	Investment (Kyat Millions)	%	Production (Kyat Millions)	%	Employment (Number of Workers)	%
1	Small	81.93	2.16	176.177	2.35	610	7.10
2	Medium	3713.13	97.84	7306.588	97.65	7980	92.90
	Total	3795.06	100.00	7482.77	100.00	8590.00	100.00
US (\$) (in million)		4.20		3.80			

Source: Ministry of Industry (2020)

In industrial zones in Yangon Region, the share of medium enterprises in investment is significantly higher with 97.84% than that of small enterprises with 2.16%. The shares of medium enterprises in production (97.65%) and employment (92.90%) are also higher than the shares of small enterprises (2.35%) and (7.10%) respectively. According to 2020 data, the contribution of medium enterprises is very obvious in the economy while the contribution of small enterprises is too little. The contribution of SMEs should be increased in the economy through increasing the number of registered SMEs and encouraging their development.

CHAPTER IV

ANALYSIS ON THE FACTORS INFLUENCING MANUFACTURING SMEs IN YANGON REGION

This chapter presents an analysis of underlying factors that may influence the development of sample SMEs. This analysis is based on the results of data collected from 296 owners/ managers. A multiple regression model is used to find out which factors are affecting the development of manufacturing SMEs in the Yangon Region. Moreover, a one-way ANOVA and pairwise comparison are also employed to investigate the differences of influencing factors among different types of industries.

4.1 Survey Profile

This study examined the factors affecting manufacturing SMEs in the Yangon Region. All of the sample SMEs are located within industrial zones and registered with DISI. During the study period, 1,104 manufacturing SMEs were located in the study area. Thus, the study population is 1,104, and the population distribution (distribution of manufacturing SMEs by commodity group) is shown in Table (4.1).

Table 4.1: Distribution of Manufacturing SMEs by Commodity Groups

Sr. No.	Types of Manufacturers	Number of SMEs
1	Manufacture of Food Products	150
2	Manufacture of Beverages	11
3	Manufacture of Tobacco products	0
4	Manufacture of Textiles	9
5	Manufacture of Wearing Apparel	42
6	Manufacture of Leather and Related products	6
7	Manufacture of Wood and Products of Wood and Cork, except Furniture	60
8	Manufacture of Paper and Paper Products	28
9	Printing and Reproduction of Recorded Media	22
10	Manufacture of Coke and Refined Petroleum Products	3
11	Manufacture of Chemical and Chemical Products	15
12	Manufacture of Basic Pharmaceutical, Medicinal Chemical and Botanical Products	2
13	Manufacture of Rubber and Plastics Products	203
14	Manufacture of Others non-metallic Mineral Products	8
15	Manufacture of Basic Metals	35
16	Manufacture of Fabricate Metal Products, except Machinery and Equipment	260
17	Manufacture of Computer, Electronic and Optical Products	0
18	Manufacture of Electrical Equipment	2
19	Manufacture of Machinery and Equipment n.e.c	1
20	Manufacture of Motor Vehicles, Trailers and Semi-Trailers	1
21	Manufacture of Others Transport Equipment	1
22	Manufacture of Furniture	22
23	Other Manufacturing	15
24	Repair and Installation of Machinery and Equipment	208
	Total	1,104

Source: Ministry of Industry (2022)

In the study area, SMEs produce twenty-four different types of commodity groups. However, the study included only SMEs producing (22) commodity groups since enterprises producing tobacco and related goods and enterprises producing

computer, electronic, and optical products were not registered in the study period. Thus, the study selected 296 SMEs among 1,104 SMEs that produce different commodity groups.

4.2 Research Design

Since this research aimed to describe the influencing factors on the development of manufacturing SMEs in Yangon Region, a descriptive survey design was used. This design collects data by administering the questionnaire to a sample of individuals. Kothari (2008) noted that the design has enough provisions for protection from bias and maximized reliability.

Sampling Design

The study used simple random sampling to select sample SMEs from 1,104 SMEs. Since the number of SMEs was already known, the study applied Yamane (1973) formula to determine the representative sample size from the manufacturing SMEs within the industrial zones in Yangon Region. The sample size was acquired through the calculation by using the following formula:

$$n = \frac{N}{(1 + Ne^2)}$$

where;

n = required sample size

N = size of the population

e = allowable error e = 0.05

$$\begin{aligned} n &= \frac{1104}{1 + 1104 (0.05)^2} \\ &= 1104 / 4.305 \cong 294 \end{aligned}$$

The required sample size was at least 294 manufacturing SMEs. However, in this study, 296 of the total SMEs were used as samples in order to cover all SMEs producing (22) commodity groups. This sample of SMEs was proportionately

allocated based on the number of each type of manufacturing SMEs, as shown in Table (4.2).

Table 4.2: Sample Size Distribution

Sr. No.	Commodity Groups	Sample SMEs (n)
1	Manufacture of Food Products	40
2	Manufacture of Beverages	3
3	Manufacture of Textiles	2
4	Manufacture of Wearing Apparel	11
5	Manufacture of Leather and Related Products	2
6	Manufacture of Wood and Products of Wood and Cork, except Furniture	16
7	Manufacture of Paper and Paper Products	7
8	Printing and Reproduction of Recorded Media	6
9	Manufacture of Coke and Refined Petroleum Products	1
10	Manufacture of Chemical and Chemical Products	4
11	Manufacture of Basic Pharmaceutical, Medicinal Chemical and Botanical Products	1
12	Manufacture of Rubber and Plastics Products	54
13	Manufacture of Others non-metallic Mineral Products	2
14	Manufacture of Basic Metals	9
15	Manufacture of Fabricate Metal Products, except Machinery and Equipment	69
16	Manufacture of Electrical Equipment	1
17	Manufacture of Machinery and Equipment n.e.c	1
18	Manufacture of Motor Vehicles, Trailers and Semi-trailers	1
19	Manufacture of Others Transport Equipment	1
20	Manufacture of Furniture	6
21	Other Manufacturing	4
22	Repair and Installation of Machinery and Equipment	55
Total		296

Source: Ministry of Industry (2022)

According to Kerlinger (1986), a sample size of 10% of the target population is large enough so long as it allows for reliable data analysis and allows testing for the significance of differences between estimates. According to Mugenda & Mugenda (2003), a sample size of 10% of the total population is considered adequate for a

descriptive study. However, the study used 26.8% of total SMEs as samples in order to cover all SMEs producing (22) commodity groups.

4.2.1 Data Collection and Questionnaire Design

The primary data were collected using the face-to-face interviewing method through a questionnaire. According to Saunders, Lewis and Thornhill (2016), a questionnaire is generally a good tool for collecting structured data or information. This study employed a questionnaire that included both structured and unstructured questions. Structured questions relied on closed-ended categories preselected by the researcher, and the study used open-ended and closed-ended questions. Although the questionnaire is based on both open- and closed-ended questions, the study applied most closed-ended questions, which include multiple-choice questions and a five-point Likert scale.

The questionnaire used in the study was organized with four sections. The first section included questions to provide information related to the respondents' demographic data, such as gender, age, level of education, position, and previous work experience. On the one hand, the second section is related to the questions for getting information from sample SMEs. But the third section is concerned with factors affecting SMEs development in the Yangon Region. The last section dealt with questions regarding the business' development between 2015 and 2020. The questions from the third and fourth sections are five-point Likert scale questions, and the respondents can fill up their answer by selecting one from five options ranging from (1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; and 5 = strongly agree).

4.2.2 Multiple Regression Models

The research used multiple regression analysis to investigate the determinants of the development of manufacturing SMEs. In this study, entrepreneur characteristics, firm characteristics, financial resources, regulatory environments, technology and information, infrastructure, and market access were examined as independent variables. Among entrepreneurial characteristics, the study analyzed the effect of the age of the owner/manager, gender, level of education, previous work experience, and managerial skills on the development of SMEs. As firm characteristics, it examined the effect of firm age, firm size, and ownership structure

on SMEs development. A dependent variable is the development of SMEs as measured by sales revenue, profitability, and asset growth.

Information related to managerial skills, financial resources, the regulatory environment, technology and information, infrastructure, and market access is collected based on the perceptions of owners/managers. Information related to sales revenue, profitability, and asset growth of the SMEs is collected based on their development. The study considered that sales revenue is the situation of sales revenue for each firm between 2015 and 2020, while profitability is the situation of net profit for the firm during that period. Asset growth is the situation of the asset growth of each firm during the same period. Thus, most data are based on the perception of the owner/manager of each SME to receive the required information.

As the study examined the effects of influencing factors on the development of SMEs through their effect on sales revenue, profitability, and asset growth, four multiple regression models were considered. Therefore, the identification of independent and dependent variables for the four models is shown in the following Table (4.3).

Table 4.3: Identification between Independent and Dependent Variables for Multiple Regression Analysis

No.	Independent Variables	Dependent Variables	Model
1	Internal and External Factors	Sales Revenue	Model 1
2	Internal and External Factors	Profitability	Model 2
3	Internal and External Factors	Asset Growth	Model 3
4	Internal and External Factors	SMEs Development	Model 4

Source: Survey data,2022.

Table (4.3) shows the identification of multiple regression models between independent variables (internal and external factors) and dependent variables. Model 1 is used to explore the effect of influencing factors (internal and external) on sales revenue. Model 2 is used to analyze the effect of influencing factors on profitability. Model 3 is used to investigate the effect of influencing factors on asset growth. Model 4 is used to examine the effect of influencing factors on SMEs development. The identification of variables used in analysis is shown in Appendix (C).

(i) Model 1 :

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + \beta_7 X_{7i} + \beta_8 X_{8i} \\ + \beta_9 X_{9i} + \beta_{10} X_{10i} + \beta_{11} X_{11i} + \beta_{12} X_{12i} + \beta_{13} X_{13i} + e_i$$

Y_i = Sales Revenue of SMEs

(ii) Model 2 :

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + \beta_7 X_{7i} + \beta_8 X_{8i} \\ + \beta_9 X_{9i} + \beta_{10} X_{10i} + \beta_{11} X_{11i} + \beta_{12} X_{12i} + \beta_{13} X_{13i} + e_i$$

Y_i = Profitability of SMEs

(iii) Model 3:

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + \beta_7 X_{7i} + \beta_8 X_{8i} \\ + \beta_9 X_{9i} + \beta_{10} X_{10i} + \beta_{11} X_{11i} + \beta_{12} X_{12i} + \beta_{13} X_{13i} + e_i$$

Y_i = Asset Growth of SMEs

(iv) Model 4:

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + \beta_7 X_{7i} + \beta_8 X_{8i} \\ + \beta_9 X_{9i} + \beta_{10} X_{10i} + \beta_{11} X_{11i} + \beta_{12} X_{12i} + \beta_{13} X_{13i} + e_i$$

Y_i = Development of SMEs

In constructing from Models (1) to (4), the variable descriptions for the independent variables are noted as follows:

β_0 = Constant

β_i = Coefficient of regression for X_{ki} ($k = 1, 2, 3, \dots$ and $i = 1, 2, 3, \dots, n$)

X_{1i} = Age of Owner/Manager

X_{2i} = Gender of Owner/Manager

X_{3i} = Level of Education of Owner/Manager

X_{4i} = Previous Work Experience of Owner/Manager

X_{5i} = Managerial Skills of Owner/Manager

X_{6i} = Ownership Structure of Firm

X_{7i} = Firm Age

X_{8i} = Firm Size

X_{9i} = Financial Resource

X_{10i} = Regulatory Environment
 X_{11i} = Technology and Information
 X_{12i} = Infrastructure
 X_{13i} = Market Access
 e_i = Error Term ($i= 1,2,3,\dots,n$)

4.2.3 Reliability Test

is a measure of the degree to which a research instrument yields consistent results or data after repeated trials. In this study, the reliability of the measures was tested using Cronbach's alpha. As Nunnally (1978) noted, the most commonly cited minimum threshold was 0.70, and Slater (1995) suggested that reliability coefficients (i.e., Cronbach's alpha) as low as 0.60 were acceptable for hypothesis testing. The closer Cronbach's alpha coefficient is to 1.0, the greater the internal consistency of the items. Since multiple Likert questions are used in the study, Cronbach's alpha was used as an index of test reliability, with a reliability coefficient of 0.60 as the accepted coefficient.

4.2.4 Analysis of Variance (ANOVA)

An analysis of variance (ANOVA) is a statistical test that compares the means among three or more groups in order to determine if there is a difference between them. It is an inferential statistical test to test if any of several means are different from each other. In the ANOVA, the dependent variable can be used with an interval or ratio scale, but it is often also used with ordinaly scaled data. It shows the between-groups estimate of variance (the estimate that measures the effect and error) and the within-groups estimate of variance (the estimate of error). In this study, a one-way ANOVA was used to find out whether influencing factors differ among industry groups. ANOVA indicates whether the mean of at least one group is significantly different from that of the other groups. In order to determine which means are significantly different from the others, it needs to run a post-hoc test. Thus, the study also ran the Bonferroni Pairwise test among several post-hoc tests available for use with ANOVA in order to specifically examine the differences in factors among industries.

4.3 Data Analysis

In the study, descriptive analysis was conducted to describe the demographic characteristics of the surveyed SMEs and their owners/managers. Reliability analysis was also conducted for the data received through the Likert scale in order to determine the consistency of the data for use. And then, regression analysis was also conducted to examine the influence of internal and external factors on the development of manufacturing SMEs. Since the factors influencing the development of manufacturing SMEs may differ among different industry groups, an ANOVA test was conducted. Types of industries are divided into eight groups: food and beverages, clothing and wearing, construction materials, personal goods, printing and publishing, minerals and petroleum, repair and installation of machinery and equipment industry, and other types of manufacturing industries.

4.3.1 Descriptive Analysis

This section presents the profiles of the owners/managers of the sample SMEs included in the survey.

(i) Profile of Respondents

In order to identify the profile of respondents (owners/managers) from surveyed SMEs, data related to the gender of the owner/manager, age of the owner/manager, educational level of the owner or manager, and their position are collected from the respondents. And then, the study described the profile of owners/managers of the surveyed manufacturing SMEs in Table (4.4).

Table 4.4: Profile of Owners/Managers in Sample SMEs

Items	Category	No. of Owners/ Managers	Percent (%)
Gender of Owner/Manager	Female	63	21.3
	Male	233	78.7
Total		296	100.0
Age of Owner/Manager (Years)	Less than 30	6	2.0
	Between 30 and 40	37	12.5
	Between 41 and 50	124	41.9
	Between 51 and 60	98	33.1
	Above 60	31	10.5
Total		296	100.0
Level of Education of Owner/Manager	High School	52	17.6
	Undergraduate	50	16.9
	Graduate	172	58.1
	Postgraduate	22	7.4
Total		296	100.0
Position	Owner and Manager	53	17.9
	Owner	193	65.2
	Manager	50	16.9
Total		296	100.0

Source: Survey data,2022

As shown in Table (4.4), out of the 296 sample SMEs, 233 respondents are male, representing 78.7% of the total respondents, and only 63 respondents are female, with 21.3%. Thus, the share of male participants in SMEs is higher than the share of female respondents. It is indicated that the skills of male entrepreneurs should be improved through training, and female entrepreneurs should also be encouraged in order to promote the participation of female entrepreneurs in SMEs.

With regards to age structure, six (2.0%) respondents are below 30 years of age, and 37 (12.5%) are between 30 and 40 years of age. And then, 124 respondents are between 41 and 50 years of age, with the highest share (41.9%), 98 respondents are between 51 and 60 years of age (33.1%), and the remaining 31 (10.5%) respondents are over 60 years of age. Most owner/managers of SMEs fall in the age bracket of 41–50 years. It is possible that middle aged people are interested in getting involved in businesses.

Regarding educational level, out of 296 respondents, 52 (17.6%) received high school education, while 50 (16.9%) attained undergraduate level. However, 172

(58.1%) respondents were graduates, with the highest share, and postgraduates were 22 (7.4%) respondents. Thus, most SME owners and managers are well educated. The result confirmed that the education level of entrepreneurs is quite high. Thus, it may be concluded that supporting activities such as education and training, the transfer of technology, and activities related to R&D for SMEs development may be successful.

According to the positions of respondents in their businesses, 53 (17.9%) respondents are responsible both as owners and managers. 193 respondents are responsible only as owners, with the highest share (65.2%), while the remaining 50 (16.9%) respondents are responsible as managers. Thus, most of the respondents are owners of their enterprises.

(ii) Profile of Sample SMEs

This section describes the profile of sample SMEs, such as their age, ownership structure, and firm size (number of employees). The Table (4.5) shows the profile of the sample SMEs.

Table 4.5: Profile of Sample SMEs

Descriptions	Category	Respondents	Percent
Age of Enterprise (Years)	Between 5 and 9	144	48.6
	Between 10 and 14	67	22.6
	Between 15 and 19	47	15.9
	Above 19	38	12.8
Total		296	100.0
Ownership Structure	Sole Proprietorship	280	94.6
	Partnership	13	4.4
	Private Limited Enterprise	1	0.3
	Others	2	0.7
Total		296	100.0
Firm Size (Number of employees)	Up to 50	215	72.6
	Between 51 and 300	81	27.4
Total		296	100.0

Source: Survey data,2022

Regarding the years of operations of the sample SMEs, 144 (48.6%) firms are between 5 and 9 years old, while 67 (22.6%) firms are between 10 and 14 years old. On the other hand, 47 (15.9%) firms are between 15 and 19 years old, and 38 (12.8%) firms are older than 19 years old. Thus, most of the firms included in the study were

between five and nine years old. As a result, the surveyed firms were established before the COVID-19 pandemic, but their operating years are too short, so they may have limited experience in their current business operations. Among the 296 sample SMEs, 280 are sole proprietorships (94.6%), with the highest percentage, 13 are partnerships (4.4%), one is a private limited enterprise (0.3%), and 2 (0.7%) are other types of firms.

Regarding the use of employees, 215 (72.6%) firms employed no more than 50 employees, while the remaining 81 (27.4%) firms employed between 51 and 300 employees. Since most firms operate with no more than fifty employees, most of the firms included in the study are small firms.

4.3.2 Reliability Result

In the study, Cronbach's alpha is used to measure the internal consistency or reliability of 5 items for managerial skills, 10 items for financial resources, 11 items for regulatory environments, 8 items for technology and information, 8 items for infrastructure, 13 items for market access, 7 items for sales revenue, 5 items for profitability, 5 items for asset growth, and 17 items for the development of SMEs. The calculated value of Cronbach's alpha is presented in the following Table (4.6).

Table 4.6: Reliability Results

No.	Variables	Cronbach's Alpha	No. Items
	Internal Factor		
1	Managerial Skills of Owners/Managers	0.871	5
	External Factors		
1	Financial Resource	0.844	10
2	Regulatory Environment	0.894	11
3	Technology and Information	0.759	8
4	Infrastructure	0.794	8
5	Market Access	0.726	13
	SMEs Development Factors (Sale Revenue, Profitability, Asset Growth)	0.934	17
1	Sale Revenue	0.861	7
2	Profitability	0.824	5
3	Asset Growth	0.857	5

Source: Survey data,2022.

According to the above Table (4.6), Cronbach's alpha values for all factors are greater than the acceptable score (0.6). Thus, the measurement scale in the questionnaire is reliable, and there is also internal consistency among statements that influence sales revenue, profitability, asset growth, and then the development of SMEs.

4.3.3 Regression Analysis between Influencing Factors and SMEs Development

The study presented the following four models to explain the relationship between influencing factors and SMEs development through sales revenue, profitability, and asset growth.

(i) Analysis of Factors Affecting on Sales Revenue

In the following analysis for Model 1, the independent variables include internal factors such as age of owner/manager, gender, level of education, previous work experience, managerial skills, ownership structure, firm age, and firm size. Moreover, independent also includes external factors, namely financial resource, regulatory environment, technology and information, infrastructure, and market access. The dependent variable is sales revenue. Table (4.7) shows the result of the regression analysis of factors affecting the sales revenue of the surveyed SMEs.

Model (1)

Table 4.7: Regression Analysis of Factors Affecting on Sales Revenue

Independent Variable	Unstandardized Coefficients		t	Sig.	VIF
	B	Std. Error			
(Constant)	-.476	.639	-.746	.456	
Age of Owner/Manager	-.032	.040	-.803	.423	1.118
Gender of Owner/Manager	.095*	.053	1.774	.077	1.062
Level of Education of Owner/Manager	.075	.078	.955	.340	1.098
Previous Work Experience of Owner/Manager	-.011	.038	-.282	.778	1.088
Managerial Skills of Owner/Manager	.326***	.070	3.542	.000	1.374
Ownership Structure	.110	.165	.670	.504	1.170
Firm Age	-.019	.034	-.560	.576	1.099
Firm Size (Number of Employees)	.317***	.095	3.318	.001	1.525
Financial Resource	.176**	.069	2.542	.012	2.158
Regulatory Environment	.339***	.069	4.884	.000	1.472
Technology and Information	.161**	.063	2.571	.011	1.477
Infrastructure	.143***	.054	2.657	.008	1.598
Market Access	.067	.110	.606	.545	1.694
R					0.746
R ²					0.557
Adjusted R ²					0.537
F-Value					27.276***
***, **, * statistically significant at (1%), (5%) level, (10%) level respectively.					

Dependent Variable: Sales Revenue

Source: Survey data,2022

According to Table (4.7), the value of the F test, the overall significance of the model, is highly significant at a 1% level. The adjusted R² is 0.537, which means that the independent variables can explain 53.7% of the variation in the sales revenues. According to the analysis of the effects of influencing factors on sales revenue, managerial skills of owners/managers, firm size, regulatory environment, and infrastructure are strongly significant at the 1% level. Financial resource, technology,

and information are statistically significant at the 5% level. The gender of the owner/manager is statistically significant at a 10% level.

The coefficients of gender and managerial skills of the owner/manager are 0.095 and 0.326, respectively. The coefficient of firm size is 0.317. The coefficients of financial resources, regulatory environment, technology and information, and infrastructure are 0.176, 0.339, 0.161, and 0.143. Since all of the coefficients are positive, there is a positive relationship between the independent variables and the sales revenue of SMEs.

According to the study's findings, there is a significant and positive relationship between gender and sales revenue. It is noted that it can increase sales revenue for SMEs if the participation of men as owners and managers in enterprises increases. It is possible that males are more willing to take risks than females, which leads to higher business performance and increased sales revenue in their enterprises.

In addition, the study also indicated that managerial skills are significantly and positively related to sales revenue. According to the result, owners and managers who have managerial skills such as possessing skills in technical or functional areas, the ability to create a positive work climate, having human resource management skills, financial management skills, and good communication skills increase the sales revenue of SMEs. In addition, since there is a significant and positive relationship between firm size and sales revenue, SMEs can increase sales revenue by increasing the number of employees. It is possible that an enterprise with sufficient employees may be able to respond to market demand immediately and increase sales revenue.

Concerning financial resource, the result revealed that there is a significant and positive relationship between financial resource and sales revenue. Thus, SMEs that have sufficient working capital, access to loans with low interest rates and favorable repayment terms, and a well-functioning banking system can increase their sales revenue by supporting the operation of their businesses. Moreover, as stated in the analysis, the regulatory environment is significantly and positively related to sales revenue. It is indicated that a supportive regulatory environment can increase the sales revenue of SMEs. Thus, reducing restrictions, stabilizing laws and regulations, ensuring convenience and smoothness in registration, applying permits and licensing,

and having supportive rules and regulations with a favorable tax rate, exchange rate, and tariff can accelerate the development of SMEs and increase sales revenue. Additionally, according to the result, there is a significant and positive relationship between technology and information and sales revenue, increasing skills to adopt new technology, the ability to create new products, and access to supportive information can increase the sales revenue of SMEs. Similarly, the result also pointed out that infrastructure is significantly and positively related to sales revenue. Thus, good infrastructure that facilitates the operations of businesses and increases production can increase sales revenue. According to the findings, the independent variables are not significantly linked to a multi-collinearity problem since all of the Variance Inflation Factor (VIF) values are less than 10.

However, contrary to the above findings, this study also found that the age of the owner/manager, educational level, previous work experience, ownership structure of the firm, age of the firm, and market access do not have any relationship with the sales revenue of a firm. It may be that these variables are not able to contribute to the sales revenue of the enterprise.

According to the result, the age and educational level of owners/managers do not have any significant contribution to sales revenue. It may also be possible that owners/managers who have education degrees related to the businesses will take significant actions to increase the firm's sales revenue. If the work experience of owners and managers is not related to their current job or they do not directly apply the experience to their current job, their work experience may not affect the sales revenue. Moreover, ownership structure, the operation period of a firm, and market access also do not significantly change sales revenue.

(ii) Analysis of Factors Affecting on Profitability

In the following analysis for Model 2, the independent variables are also the same as in Model 1. The dependent variable is profitability. Table (4.8) shows the result of the analysis of factors affecting on profitability of the surveyed SMEs.

Model (2)

Table 4.8: Regression Analysis of Factors Affecting on Profitability

Independent Variable	Unstandardized Coefficients		t	Sig.	VIF
	B	Std. Error			
(Constant)	-.833	.674	-1.235	.218	
Age of Owner/Manager	.001	.043	.018	.985	1.118
Gender of Owner/Manager	.116**	.092	2.456	.015	1.073
Level of Education of Owner/Manager	.023	.083	.278	.781	1.098
Previous Work Experience of Owner/Manager	-.049	.040	-1.228	.220	1.088
Managerial Skills of Owner/Manager	.193***	.073	2.627	.009	1.374
Ownership Structure	.162	.174	.932	.352	1.170
Firm Age	-.037	.036	-1.053	.293	1.099
Firm Size (Number of Employees)	.390***	.101	3.872	.000	1.525
Financial Resource	.399***	.073	3.760	.000	2.158
Regulatory Environment	.404***	.073	5.511	.000	1.472
Technology and Information	.111*	.066	1.686	.093	1.477
Infrastructure	.120**	.057	2.124	.035	1.598
Market Access	.135	.117	1.158	.248	1.694
R					0.733
R ²					0.537
Adjusted R ²					0.516
F-Value					24.543***
***, **, * statistically significant at (1%), (5%) level, (10%) level respectively.					

Dependent Variable: Profitability

Source: Survey data, 2022

According to Table (4.8), the value of the F test, the overall significance of the model, is highly significant at a 1% level. The adjusted R² is 0.516, which means that 51.6% of the variation in the profitability of manufacturing SMEs can be explained by the independent variables. According to the analysis of the effects of influencing factors on profitability, gender of owner/ manager and infrastructure are statistically significant at the 5% level, while managerial skills of owner/manager, firm size,

financial resources, and regulatory environment are strongly significant at the 1% level. On the other hand, technology and information are statistically significant at the 10% level.

The coefficients of gender of owner/manager, managerial skills, firm size, financial resource, regulatory environment, technology and information, and infrastructure are 0.116, 0.193, 0.390, 0.399, 0.404, 0.111, and 0.120, respectively. Since all of the coefficients are positive, there is a positive relationship between the independent variables and the profitability of SMEs.

According to the result, males can also perform better to increase profitability in business than females since there is a positive relationship between the gender of the owner/manager and the profitability of the firm. It may be that men can catch up on profitable opportunities by taking risks and making the right decisions based on the situation. In addition, as a result, managerial skill is positively related to the profitability of the firm. Thus, owners and managers who have managerial skills such as skills in technical or functional areas, the ability to create a positive work climate, human resource management skills, financial managerial skills, and good communication skills can increase the profitability of SMEs. Moreover, as a result, there is a positive relationship between firm size (number of employees) and the firm's profitability. SMEs can increase profitability by increasing the number of employees employed by the firm, since firms with sufficient employees may be able to respond to market demand immediately and may catch up on profitable chances.

Additionally, the result showed that there is a positive relationship between financial resource and a firm's profitability. SMEs with sufficient working capital, easy access to loans with low interest rates and favorable repayment terms, and a well-functioning banking system can also increase the profitability of the firm by boosting production and expanding the business to meet customer needs. Again, the result also indicated that the regulatory environment is positively related to the profitability of the firm. It means that a supportive regulatory environment can increase the profits of SMEs. Thus, reducing restrictions, stabilizing laws and regulations, reducing difficulty in registration, applying permits, and licensing, and having favorable tax rates, exchange rates, and tariffs can increase the profitability of SMEs.

Moreover, as a result, there is a positive relationship between technology and information and a firm's profitability. It is indicated that skills to adopt new

technology, the ability to create new products, and accessing supportive information can increase the profitability of SMEs because of benefits such as being able to identify market needs, expand the market, and study the marketing of other businesses. Moreover, the result also pointed out that infrastructure and a firm's profitability are positively related. Thus, good infrastructure, especially transportation and communication, warehouse and storage facilities, waste and drainage management, and business development services, encourages profitability. According to the findings, the independent variables are not significantly suspected of having a multi-collinearity problem since all of the Variance Inflation Factor (VIF) values are less than 10.

However, contrary to the above findings, this study also found that the age of the owner/manager, educational level of owner/ manager, previous work experience of the owner/manager, ownership structure of the firm, age of the firm, and market access do not have any effect on the business's profitability. It is possible that other factors may be more important for increasing the profitability of the firm than the age of the owner/ manager, the educational level, previous work experience, the ownership structure of the firm, the age of the firm, or market access.

According to the result, owners/managers at any age do not have any significant capacity to make decisions for profitability. In addition, it is possible that owners/managers who have a higher education degree as well as owners/managers who are less well educated may operate the business operations if the firm is a small one. It may also be possible that owners/managers who have an education degree related to the business may have a significant impact on the profitability of the firm. And then, it is possible that owners' education that is not related to the job does not affect the profitability of the firm. If the work experience of owners and managers is not related to their current job or they do not directly apply the experience to their current job, their work experience may not affect the profitability.

Moreover, ownership structure, the operation period of the firm, and market access do not also change the profitability of the firm. It is possible if the firm owners do not want to diversify products and improve product and service quality, although the operation period of the firm is long.

(iii) Analysis of Factors Affecting on Asset Growth

In the following analysis for Model 3, the independent variables are also the same as in Model 1 and Model 2. The dependent variable was asset growth. Table

(4.9) shows the result of the analysis of factors affecting the asset growth of the surveyed SMEs.

Model (3)

Table 4.9: Regression Analysis of Factors Affecting on Asset Growth

Independent Variable	Unstandardized Coefficients		t	Sig.	VIF
	B	Std. Error			
(Constant)	-.043	.646	-.066	.947	
Age of Owner	-.045	.041	-1.102	.272	1.118
Gender of Owner/Manager	.229***	.088	2.598	.010	1.073
Level of Education of Owner/Manager	-.034	.079	-.431	.667	1.098
Previous Work Experience of Owner/Manager	-.034	.038	-.887	.376	1.088
Managerial Skills of Owner/Manager	.236***	.070	3.063	.002	1.374
Ownership Structure	.181	.167	1.083	.280	1.170
Firm Age	.012	.034	.351	.726	1.099
Firm Size (Number of Employees)	.309***	.097	3.201	.002	1.525
Financial Resource	.252***	.070	3.607	.000	2.158
Regulatory Environment	.273***	.070	3.888	.000	1.472
Technology and Information	.136**	.064	2.121	.035	1.477
Infrastructure	.146**	.055	2.091	.037	1.598
Market Access	.013	.112	.117	.907	1.694
R					0.713
R ²					0.508
Adjusted R ²					0.485
F-Value					22.338***
***, ** statistically significant at (1%) level and (5%) level respectively.					

Dependent Variable: Asset Growth

Source: Survey data, 2022

According to Table (4.9), the value of the F test, the overall significance of the model, is highly significant at a 1% level. The adjusted R² is 0.485, which means that 48.5% of the variation in the asset growth of manufacturing SMEs can be explained by the independent variables. According to the analysis of the effects of influencing factors on asset growth, gender of owner/manager, managerial skills of

owner/manager, firm size, financial resources, and regulatory environment are strongly significant at the 1% level. Technology and information, and infrastructure are statistically significant at the 5% level.

The coefficient of gender of the owner/manager is 0.229, the coefficient of managerial skills of the owner/manager is 0.236, the coefficient of firm size is 0.309, the coefficient of financial resources is 0.252; the coefficient of the regulatory environment is 0.273; the coefficient of technology and information is 0.136, the efficient value of infrastructure is 0.146. Since all of the coefficients are positive, there is a positive relationship between the independent variables and the asset growth of SMEs.

According to the findings, gender and asset growth have a positive relationship. It indicated that male owners/managers may increase assets through reinvestment in the business due to their ability to make the right decisions. The result showed that there is a positive relationship between managerial skill and asset growth. It is possible that the managerial skills of owners and managers may grow the assets of enterprises due to their systematic management of sales, revenue, and profits. Owners and managers can make reinvestments in the assets of the enterprises through the dividend portion of the profit. In addition, according to the results, firm size and asset growth have a positive relationship. It means that increasing the number of employees at the firms may also increase their assets by generating profits and operating the business with the strength of a large number of employees.

Regarding the effect of financial resource, the result revealed that financial resource and asset growth of the firm are positively related. It is possible that sufficient working capital, access to loans with low interest rates and favorable repayment terms, and a well-functioning banking system can stimulate asset growth. The result also indicated that there is a positive relationship between the regulatory environment and the asset growth of the firm. It means that a supportive regulatory environment with reduced restrictions, stabilizing laws and regulations, reducing difficulty in registration, applying permits, and licensing, and a favorable tax rate, exchange rate, and tariff can encourage the asset growth of SMEs. Thus, encourage the operations of the business as well as the asset growth of SMEs. Moreover, technology and information is positively related to asset growth. Thus, increasing skills to adopt new technology, the ability to create new products, and access to supportive information may stimulate the growth of the asset.

Additionally, infrastructure has a positive relationship with asset growth. It noted that good infrastructure, such as well-maintained transportation and communication facilities, a stable electricity supply, cost savings for energy, sufficient warehouses and storage facilities, an efficient waste management and drainage system, and the availability of business development services, can grow the business's assets. According to the findings, the explanatory variables (independent variables) are not significantly suspected of having a multi-collinearity problem since all of the Variance Inflation Factor (VIF) values are less than 10.

However, contrary to the above findings, this study also found that the age of the owner/manager, educational level, previous work experience, ownership structure of the firm, age of the firm, and market access do not influence the ability to grow business assets. It is possible that other factors can be more important for asset growth than the age of the owner/manager, gender, educational level, previous work experience, ownership structure of the firm, age of the firm, and market access. It is possible that owners' education that is not related to the job is not affected by asset growth. If the work experience of owners and managers is not related to their current job or they do not directly apply the experience to their current job, their work experience may not affect the asset growth.

Moreover, as a result, ownership structures, age of the firm, and market access are not related to asset growth. It is possible that ownership structures with legal forms, the length of the firm, and market access do not significantly change with asset growth. If it could not effectively perform the business during the operating period, although the firm has a long operating period, the assets of the enterprise could not be increased.

(iv) Analysis of Factors Affecting on SMEs Development

In the following analysis for Model 4, the independent variables are also the same as in Model 1, Model 2, and Model 3. The dependent variable was SMEs development. Table (4.10) shows the result of the analysis of factors affecting the development of the surveyed SMEs.

Model (4)

Table 4.10: Regression Analysis of Factors Affecting on SMEs Development

Independent Variable	Unstandardized Coefficients		t	Sig.	VIF
	B	Std. Error			
(Constant)	-.454	.572	-.793	.428	
Age of Owner	-.026	.036	-.729	.467	1.118
Gender of Owner/Manager	.115**	.078	2.108	.036	1.073
Level of Education of Owner/Manager	.027	.070	.392	.695	1.098
Previous Work Experience of Owner/Manager	-.029	.034	-.850	.396	1.088
Managerial Skills of Owner/Manager	.222***	.062	3.556	.000	1.374
Ownership Structure	.146	.148	.991	.323	1.170
Firm Age	-.015	.030	-.506	.614	1.099
Firm Size (Number of Employees)	.336***	.086	3.931	.000	1.525
Financial Resource	.337***	.062	3.670	.000	2.158
Regulatory Environment	.339***	.062	5.446	.000	1.472
Technology and Information	.139**	.056	2.482	.014	1.477
Infrastructure	.128***	.048	2.663	.008	1.598
Market Access	.071	.099	.719	.473	1.694
R					0.744
R ²					0.554
Adjusted R ²					0.533
F-Value					23.867***
***, ** statistically significant at (1%) level and (5%) level respectively.					

Dependent Variable: SMEs Development

Source: Survey data, 2022

According to Table (4.10), the value of the F test, the overall significance of the model, is highly significant at a 1% level. The adjusted R² is 0.533, which means that 53.3% of the variation in the development of manufacturing SMEs can be explained by the independent variables. According to the analysis of the effects of influencing factors on the development of SMEs, the gender of the owner/manager and technology and information are statistically significant at the 5% level. Managerial skills of the owner/manager, firm size, financial resources, regulatory environment, and infrastructure are strongly significant at the 1% level.

The coefficients of gender and managerial skills of the owner/manager are 0.115 and 0.222, respectively. While the coefficient of firm size is 0.336, the coefficients of financial resources, the regulatory environment, technology and information, and infrastructure are 0.337, 0.339, 0.139, and 0.128, respectively. Since all of the coefficients are positive, there is a positive relationship between the independent variables and the development of SMEs.

According to the findings, gender and SMEs development have a positive relationship. It is possible that male owners/managers can perform better in developing enterprises than females since men are more willing to take risks and have the ability to make the right decisions, depending on the business environment. The result also noted that there is a positive relationship between the managerial skills of owners and managers and SMEs development. Thus, owners and managers who have managerial skills such as possessing skills in technical or functional areas, creating a positive work climate, having human resource management skills, and having good communication skills may develop the enterprises. In addition, as a result, firm size and SMEs development are positively related. The result indicated that the bigger the business with a large number of employees, the more successful it can be.

Moreover, since there is a positive relationship between financial resource and SMEs development, sufficient working capital, easy access to loans with low interest rates and favorable repayment terms, and a well- functioning banking system can stimulate enterprise development. In addition, since the regulatory environment is positively related to SMEs development, a supportive regulatory environment can encourage the development of SMEs. Thus, reducing restrictions, stabilizing laws and regulations, reducing difficulty in registering, getting permits, and applying for licensing, having clear rules and regulations, and having a favorable tax rate, exchange rate, and tariff can encourage starting the business and its survival as well as its operations.

As a result, since information and technology also have a positive relationship with SMEs development, increasing skills to adopt new technology, the ability to create new products, and accessing supportive information can help SMEs development. And then, infrastructure is also positively related to SMEs development. It means that good infrastructure can assist SMEs development. Thus, good road conditions, communication facilities, a stable electricity supply, cost savings for energy, sufficient warehouses and storage facilities, an efficient waste management

and drainage system, and the availability of business development services can improve the operation of businesses and then accelerate the development of SMEs. According to the findings from this study, the explanatory variables (independent variables) are not significantly suspected of having a multi-collinearity problem since all of the Variance Inflation Factor (VIF) values are less than 10.

However, contrary to the above finding, this study found that the age of the owner/manager, educational level of the owner/manager, previous work experience of the owner/manager, ownership structure of the firm, age of the firm, and market access do not relate to SMEs development. Thus, these factors do not have an effect on the development of SMEs. Owners/managers who have any age level and any educational level may not have any significant capacity to make decisions for firm development. It may be possible that owners/managers who have education related to the businesses will have a significant role in the development of the firm.

Additionally, previous work experience may not contribute to their enterprise's development if the work experience of owners and managers is not related to their current job or they do not directly apply that experience to their current job. Thus, it is possible that there is no relationship between the previous work experience of owners and managers. In addition, the ownership structure does not significantly change the firm's development. The length of the firm and market access are not also related to the enterprise's development. It is possible if it could not effectively perform the business during the operating period.

(v) Summary Comparison of All Results from Model 1 to Model 4 for the Relationship between Influencing Factors and Sales Revenue, Profitability, Asset Growth, and SMEs Development

Table (4.11) shows the summary of the regression result of the relationship between influencing factors and sales revenue, profitability, asset growth, and the development of surveyed SMEs.

Table 4.11: Summary of Regression Analysis for the Relationship between Influencing Factors and Sales Revenue, Profitability, Asset Growth, and SMEs Development

Dependent Variable		Sales Revenue	Profitability	Asset Growth	Development of SMEs
Independent Variables					
Constant	B	-.476	-.833	-.043	-.454
	Sig.	(.456)	(.218)	(.947)	(.428)
Age of Owner/ Manager	B	-.032	.001	-.045	-.026
	Sig.	(.423)	(.985)	(.272)	(.467)
Gender of Owner/ Manager	B	.095*	.116**	.229***	.115**
	Sig.	(.077)	(.015)	(.010)	(.036)
Level of Education of Owner/Manager	B	.075	.023	-.034	.027
	Sig.	(.340)	(.781)	(.667)	(.695)
Previous Work Experience of Owner/Manager	B	-.011	-.049	-.034	-.029
	Sig.	(.778)	(.220)	(.376)	(.396)
Managerial Skills of Owner/Manager	B	.326***	.193***	.236***	.222***
	Sig.	(.000)	(.009)	(.002)	(.000)
Ownership Structure	B	.110	.162	.181	.146
	Sig.	(.504)	(.352)	(.280)	(.323)
Firm Age	B	-.019	-.037	.012	-.015
	Sig.	(.576)	(.293)	(.726)	(.614)
Firm Size (Number of Employees)	B	.317***	.390***	.309***	.336***
	Sig.	(.001)	(.000)	(.002)	(.000)
Financial Resource	B	.176**	.399***	.252***	.337***
	Sig.	(.012)	(.000)	(.000)	(.000)
Regulatory Environment	B	.339***	.404***	.273***	.339***
	Sig.	(.000)	(.000)	(.000)	(.000)
Technology and Information	B	.161**	.111*	.136**	.139**
	Sig.	(.011)	(.093)	(.035)	(.014)
Infrastructure	B	.143***	.120**	.146**	.128***
	Sig.	(.008)	(.035)	(.037)	(.008)
Market Access	B	.067	.135	.013	.071
	Sig.	(.545)	(.248)	(.907)	(.473)
R		.746	.733	.713	.744
R ²		.557	.537	.508	.554
Adjusted R ²		.537	.516	.485	.533
F-Value (Sig.)		27.276*** (.000)	24.543*** (.000)	22.338*** (.000)	23.867*** (.000)

***, **, * statistically significant at (1%) level, (5%) level, (10%) level respectively.

B= Unstandardized Coefficient

Source: Survey Data ,2022.

According to Table (4.11), the value of the F test, the overall significance of the model, is highly significant at a 1% level. That is, these four multiple linear regression models can explain that internal and external factors have an effect on sales revenue, profitability, asset growth, and the development of SMEs.

The adjusted R^2 for models 1, 2, 3, and 4 is 0.537, 0.516, 0.485, and 0.533, respectively. It means that 53.7% of the variation in the sales revenues of manufacturing SMEs, 51.6% of the variation in their profitability, 48.5% of the variation in their asset growth, and 53.3% of the variation in the development of SMEs can be explained by the independent variables, respectively. Thus, predictors can best explain the variation of sales revenues rather than other variances.

In analyzing the effect of the gender of the owner/manager on sales revenue, profitability, asset growth, and SMEs development, the gender of the owner/manager has an effect on sales revenue, profitability, and asset growth. Thus, it also affects SMEs development. The coefficient of gender of the owner/manager is significant at the 5% level and has a positive effect on profitability and the development of SMEs. On the one hand, the gender coefficient of the owner/manager has a positive effect on sales revenue, with a significant effect at the 10% level. However, the coefficient of gender of the owner/manager has a positive effect on asset growth at a significant level of 1%. The effect of gender is more significant on asset growth than sales revenue and profitability. Male entrepreneurs may lead to SMEs development through activities to increase sales revenue and profitability. Moreover, they can reinvest assets to develop businesses by making better business decisions. It means that male entrepreneurs can perform better in business development than female entrepreneurs. It means that men-owned SMEs can have greater success than women-owned SMEs.

In analyzing the effect of managerial skills of owners/managers on SMEs development through their effect on sales revenue, profitability, and asset growth, managerial skills of owner/manager have an effect on sales revenue, profitability, and asset growth. Thus, it also affects SMEs development. As a result, the coefficient of managerial skills is significant at the 1% level and has a positive effect on sales revenue, profitability, and asset growth. Thus, it also has a strongly significant effect on the development of SMEs at the 1% level. The result also indicated that the managerial skills of owners/managers can increase sales revenue, profitability, and asset growth. Again, it stimulates the SMEs development. It means that SMEs can be expected to develop under the leadership of an entrepreneur who has technical skills,

functional skills, human resource management skills, financial management skills, communication skills, and problem-solving skills.

In analyzing the effect of firm size on SMEs development through effecting sales revenue, profitability, and asset growth, firm size has an effect on sales revenue, profitability, and asset growth, and so it has an effect on SMEs development. The result showed that the coefficient of firm size is significant at the 1% level and has a positive effect on sales revenue, profitability, asset growth, and the development of SMEs. It is found that the more employees, the better the business. It means that businesses will increase sales revenue, profitability, and asset growth, and then SMEs will develop if firm size increases with an increasing number of employees. Since the firm may respond to the increasing demand by increasing production with sufficient labor force, it facilitates the development of SMEs.

In analyzing the effect of financial resources on SMEs development through their effect on sales revenue, profitability, and asset growth, financial resource has an effect on sales revenue, profitability, and asset growth, and so financial resource may develop SMEs. According to the reveal of the result, the coefficient of financial resource is significant at the 1% level and has a positive effect on profitability and asset growth. It is also strongly significant at the 1% level and has a positive effect on the development of SMEs. The coefficient of financial resources is significant at the 5% level and has a positive effect on sales revenue. Access to financial resource contributes more to profitability and asset growth than sales revenue. According to the results, financial resource significantly affected SMEs development. It means that access to financial resource influences the development of SMEs. It is possible that SMEs that get loans can make decisions quickly to produce profitable goods while market demand is high. Generally, accessing loans and a well-functioning banking system can increase sales revenue, profits, and assets and then develop the firm.

Regarding the effect of the regulatory environment on SMEs development through its effect on sales revenue, profitability, and asset growth, the regulatory environment has an effect on sales revenue, profitability, asset growth. Thus, it also supports SMEs development. The result indicated that the coefficient of the regulatory environment is significant at the 1% level, and its sign is positive. According to the result, a supportive regulatory environment can increase sales revenue, profits, and assets and then develop SMEs. Rules and regulations with fewer restrictions and simplifying the processes for registration with low registration fees, stable exchange

rate systems, and reduced tax and tariff systems are crucial for SMEs development. It means that SMEs may benefit by increasing sales revenue and profitability and growing their assets, which will then lead to business success.

According to the effect of technology and information on SMEs development by accessing their effects on sales revenue, profitability, and asset growth, technology and information have positive effects on sales revenue, profitability, and asset growth for developing SMEs. As a result, the coefficient of technology and information is significant at the 5% level for sales revenue, asset growth, and then the development of SMEs. In addition, the coefficient of technology and information is significant at the 10% level for profitability. profitability than sales revenue, asset growth. Thus, technology and information have a significant impact on business development. According to the overall result, the ability to adopt technology and information can increase sales revenue, profitability, asset growth, and the development of SMEs. It means that improving skills to adopt new technology, the ability to create new products, and accessing supportive information may help the progressive development of business.

According to the analysis of the effect of infrastructure on SMEs development on sales revenue, profitability, asset growth, and SMEs development, infrastructure has an effect on sales revenue, profitability, asset growth, and SMEs development. The coefficient of infrastructure is significant at the 1% level and has a positive effect on sales revenue. According to the result, the coefficient of infrastructure is significant at the 5% level and has a positive effect on profitability and asset growth for the firm. Thus, infrastructure has a greater impact on sales revenue for business development than profitability and asset growth. In other words, good road conditions, a well-developed communication system, and a stable electricity supply assisted in accessing raw materials, production, and the sale of goods, which led to increased sales revenue. The overall result pointed out that good infrastructure may develop businesses through increased sales revenue, profits, and assets.

The other variables: age of owner/manager, level of education, previous work experience, firm age, ownership structure, and market access do not have a significant effect. It means that the change of these variables can't influence sales revenue, profitability, asset growth, or the development of SMEs. As the age of owners/managers, owners and managers do not have any significant capacity to make decisions for sales revenue, profitability, asset growth, or firm development. It may

also be possible that education degrees related to the businesses will have a significant impact on sales revenue, profitability, asset growth. And then it contributes to the development of the firm.

If the work experience of owners and managers is not related to their current job or they do not directly apply the experience to their current job, their work experience may not affect the sales revenue, profitability, or asset growth and then the development of the firm. In addition, the ownership structure does not significantly change for the development of the firm in terms of sales revenue, profitability, asset growth. It is possible that they have little awareness of pursuing profits and have less motivation to improve the business since most firms are sole proprietorships with few employees. The length of a firm and market access are not also related to the development of the firm through sales revenue, profitability, asset growth. It is possible if the firm cannot effectively perform its business during the operating period. Moreover, the operation year of a firm as well as market access will not contribute to the development of the enterprise.

4.4 Differences of Influencing Factors Among the Types of Industries

This study used a one-way ANOVA to identify the variance of influencing factors among various types of industries. In a one-way ANOVA, different types of industries are used as factors. According to the result, factors that influence the development of SMEs are the gender of owners/managers, managerial skills of owner/manager, firm size, financial resources, regulatory environment, infrastructure, technology and information. Thus, only these factors are used as dependent variables.

In order to study precisely the difference between one industry and another depending on influencing factors, Bonferroni pairwise procedure is used, which is the comparison test of mean differences in different types of industries. Since the sample sizes included in each industry are different, the study used the Bonferroni pairwise comparison test rather than others.

4.4.1 Distribution of Industry Groups

In order to determine the result of the difference in influencing factors depending on the types of industries, the industries included in the study are divided into eight groups. The following Table (4.12) shows the contribution of industry to the study.

Table 4.12: Number of Manufacturing SMEs by Industry Group

No. of Industry	Types of Industry	Number of Firms in Each Group	%
1	Food and beverages Industry	43	15
2	Clothing and wearing industry	15	5
3	Construction Materials Industry	24	8
4	Personal Goods Industry	59	20
5	Printing and Publishing Industry	13	4
6	Mineral and Petroleum Industry	79	27
7	Repair and Installation of Machinery and Equipment Industry	55	19
8	Other Types of Manufacturing Industry	8	3
Total		296	100

Source: Ministry of Industry, 2022.

Industry 1 represents the food and beverages industry. It includes enterprises that produce coffee and tea, dairy products, powdered milk, bakery products, animal feeds, other food products, soft drinks, and drinking water.

Industry 2 represents the clothing and wearing industry, which consists of enterprises producing wearing apparel, custom tailoring, dressmaking, other textiles, leather, and related products.

Industry 3 stands for the construction materials industry. It contains enterprises that produce furniture, the cutting, shaping, and finishing of stone, tinplate, products from wood and cork, and other products from wood.

Industry 4 corresponds to the personal goods industry. It comprises enterprises producing pharmaceuticals, medical chemicals, and botanical products; rubber and plastic products; plastic articles for packaging; rubber tyres and tubes; soap and detergents; and cosmetics.

Industry 5 describes the printing and publishing industry, which incorporates enterprises related to printing, publishing, reproduction of recorded media, service activities related to printing, and publishing, and paper and paper products.

Industry 6 stands for the mineral and petroleum industry, which involves enterprises producing refined petroleum products and structural metal products.

Industry 7 represents the repair and installation of machinery and equipment.

Industry 8 is other types of manufacturing industry, which includes enterprises producing agricultural equipment, electrical appliances, and other transport equipment.

4.4.2 Difference of Gender of Owners/Managers Among Different Industries

In Myanmar, most owners and managers of businesses are men. The study examined the participation of male and female owner/manager in each industry since the gender of owners and managers may be different depending on the types of businesses.

Table 4.13: Difference of Gender of Owners/Managers Among the Industries

Descriptions		Sum of Squares	df	Mean Square	F
Gender	Between Groups	.104	7	.015	8.943***
	Within Groups	.013	8	.002	

*** denotes significant at (1%) level.

Source: Survey data, 2022

According to the result, gender is statistically significant at the 1% level. It means that the gender types of business owners/managers are different depending on the type of industry. People become owners and managers of businesses according to their interests and skills, as well as the requirements of the business. In order to know precisely the different involvement of male and female owners and managers in the industry, a pairwise analysis was also conducted.

Table 4.14: Results of Difference of Gender of Owners/Managers Among Industries Pairwise

Influencing Factors	Industries Pairwise
Gender	(2,6)**,(3,6)*,(4,8)*,(5,6)**,(7,8)*

**,* statistically significant at (5%) level, (10%) level respectively.

Source: Survey data, 2022

The study found that the gender of owners and managers in the minerals and petroleum industry differed from those in the clothing and wearing industry at a 5% significant level. Most enterprises in the mineral and petroleum industries are owned by men who are interested in those kinds of businesses, except for some businesses that are owned by women as inheritance. Most owners of enterprises in the clothing and wearing industry are females due to their natural sensitivity to what they wear as well as of their interest in fashion and design.

In addition, gender differences in the minerals and petroleum industry and the construction materials industry are at a significant 10% level. Owners of businesses in the construction materials industry may also be males, according to the nature of the businesses. Moreover, gender differences in the minerals and petroleum industry and the printing and publishing industry are at a significant level of 5%. Most owners in the printing and publishing industry may be females due to their types of business nature. Regarding gender involvement, other types of manufacturing industries differ from the personal goods industry, and the repair and installation of machinery and equipment industry at a 10% significant level.

Since some enterprises in other types of manufacturing industry produce toys, owners and managers may be females due to their preference and patience. Some enterprises in the personal goods industry produce rubber and plastic products. Most owners and managers in the repair and installation of machinery and equipment industry may be males, depending on the nature of the business. Gender of owners/managers in the industry is mainly different depending on the nature of the business, except for the interest or inheritance from their families.

4.4.3 Difference of Managerial Skills of Owners/Managers Among Different Industries

The importance of managerial skills of owners/managers may differ depending on the different types of industries although managerial skills of owners/managers are important for the development of any type of industry. Thus, the study examined the importance of managerial skills of owners/managers in the industry.

Table 4.15: Difference of Managerial Skills of Owners/Managers Among the Industries

Influencing Factor	Description	Sum of Squares	df	Mean Square	F
Managerial Skills of Owner/manager	Between Groups	3.607	7	.515	1.545
	Within Groups	96.081	288	.334	

Source: Survey data, 2022

The result shows that importance of the managerial skills of owners/managers are not statistically significant. Managerial skills of owners/managers may be important for all types of industries. Thus, there is no significant difference in the importance of managerial skills as a result. Types of managerial skills included in the study are technical skills, functional skills, human resource management skills, financial management skills, communication skills, and problem-solving skills. The importance of human resource management skills, financial management skills, communication skills, and problem-solving skills may be the same in any types of business, although the importance of technical and functional skills may differ depending on the type of business. Other types of managerial skills except technical and functional skills considered in the study may be important for any types of industry. Thus, the result may show that there is no statistically significant difference.

4.4.4 Difference of Firm Size Among Different Industries

The study examined the difference in firm size (number of employees) among the industries since the use of labor in each industry may differ depending on the business operations.

Table 4.16: Difference of Firm Size Among the Industries

Influencing Factor	Description	Descriptions	df	Mean Square	F
Firm Size (Number of Employees)	Between Groups	7.218	7	1.031	4.452***
	Within Groups	66.698	288	.232	
*** denotes significant at (1%) level.					

Source: Survey data, 2022

The result shows that firm size (number of employees) is statistically significant at the 1% level. It means that the use of labor is significantly different among industries. Thus, pairwise analysis was also conducted to examine the types of industries that have different uses of labor.

Table 4.17: Results of Difference of Firm Size Among Industries Pairwise

Influencing Factors	Industries Pairwise
Firm Size (Number of Employees)	(1,3)*, (1,7)***, (2,3)***, (2,4)**, (2,5)***, (2,6)***, (2,8)**, (3,7)***, (4,7)***, (5,7)***, (6,7)***, (7,8)***
***, **, * statistically significant at (1%), (5%) level (10%) level respectively.	

Source: Survey data, 2022

In the study, firm size is measured in terms of number of employees. In analyzing the difference in firm size, it is found that the clothing and wearing industry and the repair and installation of machinery and equipment industry are mainly different from other industries.

The result reveals that the clothing and wearing industry differs from the construction materials industry, the printing and publishing industry, and the minerals and petroleum industry at a 1% significant level. The clothing and wearing industry is one of the most labor-intensive industries because it requires labor for each process, namely cutting, sewing, and finishing. Although the construction materials industry uses labor in its business operations, it also uses mold in some production processes. Thus, it can run with less labor. Thus, it is less dependent on labor compared to the clothing and wearing industry. For the printing and publishing industry, its nature of business requires less labor than that of the clothing and wearing industry. In the printing and publishing industry, the fewer permanent employees are used since it often uses part-time employees for some functions. The minerals and petroleum industry do not need labor compared to the clothing and wearing industry. Thus, the number of employees in the clothing and wearing industry is higher than that in the minerals and petroleum industry.

In addition, the clothing and wearing industry also differs from the personal goods industry and other types of manufacturing industries at a 10% significant level. The personal goods industry uses more labor for some production lines, like manufacturing soap, naphthalene balls, and tissue paper. However, the requirement for labor in the personal goods industry is considerably lower compared to the clothing and wearing industry. Other types of manufacturing industries may also need less labor compared to the clothing and wearing industry.

Concerning the use of the repair and installation of machinery and equipment industry, there is also a difference in many industries, namely the food and beverage industry, the construction materials industry, the personal goods industry, the printing

and publishing industry, the minerals and petroleum industry, and other types of manufacturing industries at a 1% significant level. According to the result, the repair and installation of machinery and equipment industry in employing workers is significantly different from other types of industries. The repair and installation of machinery and equipment may use less labor due to its business nature compared to other industries.

4.4.5 Difference of Financial Resource Among Different Industries

The study examined whether there is a difference in importance of financial resources among the industries since the importance of financial resources may differ depending on the nature of the business.

Table 4.18: Difference of Financial Resource Among the Industries

Influencing Factor	Description	Sum of Squares	df	Mean Square	F
Financial Resource	Between Groups	104.827	7	14.975	79.967***
	Within Groups	53.933	288	.187	

*** denotes significant at (1%) level.

Source: Survey data, 2022

According to the result, the importance of financial resources is statistically significant at the 1% level. It means that the importance of financial resources differs among industries. In order to study precisely the importance of financial resource, pairwise analysis was also conducted.

**Table 4.19: Results of Difference of Financial Resource Among Industries
Pairwise**

Influencing Factors	Industries Pairwise
Financial Resource	(1,2)***, (1,4)***, (1,7)***, (2,3)***, (2,5)***, (2,6)***, (2,8)***, (3,4)***, (3,7)***, (4,5)***, (4,6)***, (4,8)***, (5,7)***, (6,7)***, (7,8)***

***, ** statistically significant at (1%), (5%) level respectively.

Source: Survey data, 2022

Regarding the different importance of financial resources among industries, the clothing and wearing industry differs from the food and beverages industry, the

construction materials industry, the printing and publishing industry, the minerals and petroleum industry, and other types of manufacturing industries at a 1% significant level. The importance of financial resources varies significantly between the clothing and wearing industry and other industries. If the clothing and wearing industry wants to expand, it needs huge amount of finance due to its business nature. The financial requirements of the clothing and wearing industry are greater than those of other industries.

As a result, the personal goods industry differs from the food and beverages industry, the construction materials industry, the printing and publishing industry, the minerals and petroleum industry, and other types of manufacturing industries at a 1% significant level. Thus, there is a difference in the requirements for financial resources among these industries. The personal goods industry may need large amount of money to expand than the food and beverages industry. However, it may be less than the construction materials industry, the printing and publishing industry, the minerals and petroleum industry, and other types of manufacturing industries.

With respect to the importance of finance by the repair and installation of machinery and equipment industry, this industry differs from the construction materials industry, the printing and publishing industry, the minerals and petroleum industry, and other types of manufacturing industries at a 1% significant level. It is possible because the repair and installation of machinery and equipment industry can operate businesses with less investment capital, and the repair and installation of machinery and equipment industry is the types of business needed the least investment capital among industries. The effect of financial resources on industries may differ depending on the nature of the businesses, the wish to expand the business, or loans requirement for business expansion.

4.4.6 Difference of Regulatory Environment Among Different Industries

The study also examined the differences in the regulatory environment among the industries since the laws and regulations of one industry may differ from those of another depending on the different business operations.

Table 4.20: Difference of Regulatory Environment Among the Industries

Influencing Factor	Description	Sum of Squares	df	Mean Square	F
Regulatory Environment	Between Groups	7.135	7	1.019	2.931***
	Within Groups	100.148	288	.348	

*** denotes significant at (1%) level.

Source: Survey data, 2022

The result shows that the regulatory environment is statistically significant at the 1% level. It means that the regulatory environment of an industry differs among industries. The study also conducted pairwise analysis to examine how the regulatory environment differs among industries.

Table 4.21: Results of Difference of Regulatory Environment Among Industries Pairwise

Influencing Factors	Industries Pairwise
Regulatory Environment	(4,7)*, (6,7)**

** , * statistically significant at (5%), (10%) level respectively.

Source: Survey data, 2022

Concerning the regulatory environment, the repair and installation of machinery and equipment industry is different from the personal goods industry and the mineral and petroleum industry, with the repair and installation of machinery and equipment industry at 10% and 5% significant level, respectively. It is possible that a regulatory environment and restrictions may be more restrictive for some industries than other industries. For example, hazardous investments are prohibited under the Prevention from Danger of Chemical and Associated Materials Law (2013) and the Environmental Conservation Law (2012).

Regarding the registration procedure, enterprises in the personal goods industry and the mineral and petroleum industry need to submit the various approvals and recommendations from the respective ministries.

Some enterprises in the personal goods industry produce chemical and chemical products, pharmaceuticals, medicinal chemical and botanical products, and cosmetics. For these products, it is required to register with the Food and Drug Administration (FDA) in Myanmar for recognizing their safety and quality.

According to Notification No. 1/2010 issued by the Ministry of Health, manufacturers of cosmetics must apply for a permit under the FDA of Myanmar.

According to Notification No. 616/2015 issued by the Ministry of Natural Resources and Environmental Conservation (MONREC), an Initial Environmental Examination (IEE) or Environmental Impact Assessment (EIA) may be needed for mining activities in the mineral and petroleum industry. Enterprises included in the mineral and petroleum industry must apply to get permits under the Myanmar Mines Rules (2018). These enterprises need to acquire various permits for registration. However, the repair and installation of machinery and equipment industry do not need to acquire various permits for registration.

4.4.7 Difference of Technology and Information Among Different Industries

The importance of technology and accessing information for each industry may differ depending on its different business operations. Thus, the study also examined whether there are differences in technology and information among the industries.

Table 4.22: Difference of Technology and Information Among the Industries

Influencing Factor	Description	Sum of Squares	df	Mean Square	F
Technology and Information	Between Groups	37.851	7	5.407	17.229***
	Within Groups	90.386	288	.314	

*** denotes significant at (1%) level.

Source: Survey data, 2022

The result indicates that technology and information are statistically significant at the 1% level. Thus, it means that the requirements for technology and information for each industry may not be the same. In order to investigate differences in their use of technology and information more specifically, a pairwise analysis was also conducted.

Table 4.23: Results of Difference of Technology and Information Among Industries Pairwise

Influencing Factors	Industries Pairwise
Technology and Information	(1,2) ^{***} ,(1,3) ^{***} ,(1,4) ^{***} ,(1,6) ^{***} ,(1,7) ^{***} ,(2,5) ^{***} ,(3,5) ^{***} , (3,6) ^{**} ,(3,8) ^{**} ,(4,5) ^{***} ,(4,6) ^{***} ,(4,8) ^{**} ,(5,7) ^{***} ,(6,7) [*] ,(7,8) ^{**}
***, **, * statistically significant at (1%), (5%) level (10%) level respectively.	

Source: Survey data, 2022

With regard to technology and information among industries, the food and beverages industry differs from the clothing and wearing industry, the construction materials industry, the personal goods industry, the minerals and petroleum industry, and the repair and installation of machinery and equipment industry at a 1% significant level. Thus, the food and beverages industry has significant differences from those industries.

Businesses need to use technology in their daily operations due to the changing in the environment. The food and beverages industry always needs to innovate and diversify its products in order to meet the changing requirements of customers. Thus, technology for the food and beverages industry is crucial to facilitate R&D activities. For these reasons, the food and beverages industry may differ from the clothing and wearing industry, the construction materials industry, the personal goods industry, the minerals and petroleum industry, and the repair and installation of machinery and equipment industry. The repair and installation of machinery and equipment industry have the lowest requirements and use of technology and information in the operations due to their nature.

Moreover, the printing and publishing industry also differs from the clothing and wearing industry, the construction materials industry, the personal goods industry, and the repair and installation of machinery and equipment industry at a 1% significant level. The printing and publishing industry uses ICT for various activities, such as designing, promoting, distributing, and marketing products. It also needs to introduce new and attractive designs to keep up with the changing environment.

Concerning the minerals and petroleum industry, that industry differs from the construction materials industry, the personal goods industry and the repair and installation of machinery and equipment industry at a 5%, 1%, and 10% significant level, respectively. The construction materials industry and the personal goods

industry may require different technology from the minerals and petroleum industry. The personal goods industry may require innovation and R&D activities due to its business nature.

Other types of manufacturing industries differ from the construction materials industry, the personal goods industry, and the repair and installation of machinery and equipment industry at a 5% significant level. Other types of manufacturing industry may use less ICT compared to the construction materials industry and the personal goods industry while other types of manufacturing industry may use more ICT than the repair and installation of machinery and equipment industry.

4.4.8 Difference of Infrastructure Among Different Industries

The study examined the difference in importance of infrastructure among the industries since the importance of infrastructure may differ depending on the different business operations of each industry.

Table 4.24: Difference of Infrastructure Among the Industries

Influencing Factor	Description	Sum of Squares	df	Mean Square	F
Infrastructure	Between Groups	69.065	7	9.866	24.291***
	Within Groups	116.976	288	.406	

*** denotes significant at (1%) level.

Source: Survey data, 2022

According to the result, infrastructure is statistically significant at the 1% level. It means that the importance of infrastructure differs among industries. As the second step, pairwise analysis was conducted to examine which industries differ in the importance of infrastructure.

Table 4.25: Results of Importance of Infrastructure Among Industries Pairwise

Influencing Factors	Industries Pairwise
Infrastructure	(1,2)***,(1,3)***,(1,4)***,(1,5)***,(1,6)***, (1,7)** (2,7)***,(3,7)***, (4,7)***, (5,7)***, (6,7)***, (7,8)***

***, ** significant at (1%), (5%) level respectively.

Source: Survey data, 2022

In studying the differences in the importance of infrastructure among industries, the food and beverages industry differs from the clothing and wearing industry, the construction materials industry, the personal goods industry, the printing and publishing industry, the minerals and petroleum industry at a 1% significant level. It differs from the repair and installation of machinery and equipment industry at a 5% significant level.

The result shows that the importance of infrastructure in the food and beverages industry differs significantly from that in the clothing and wearing industry, the construction materials industry, the personal goods industry, the printing and publishing industry, and the minerals and petroleum industry. The importance of good transportation, and communication, electricity supply, and business development services may not be different for any operation of a manufacturing enterprise. However, warehouse and storage facilities, a stable electricity supply, and a good transport network system are crucial for the food and beverages industry. Electricity interruptions have a serious impact on enterprises producing perishable goods. Thus, storage facilities are crucial for the food and beverages industry, especially for storing the perishable goods. Since safety is a priority for food products, waste management systems are also important for the operations of the food and beverages industry.

At a significant level of 1%, the repair and installation of machinery and equipment industry has a significant difference from the clothing and wearing industry, the construction materials industry, the personal goods industry, the printing and publishing industry, the minerals and petroleum industry, and other types of manufacturing industry. The importance of infrastructure in the repair and installation of machinery and equipment industry is less than in other industries.

CHAPTER V

CONCLUSION

This chapter highlights the major findings of the study. In addition, suggestions concerning SMEs development are also presented.

5.1 Findings

SMEs in Myanmar create numerous job opportunities, generate income, utilize resources, and promote investment. Most registered private enterprises (48.41%) are found in industrial zones in the Yangon Region. Although the SMEs within industrial zones in the Yangon Region was positive growth rate from 2015 to 2019, SMEs growth was negative with 0.7% in 2020. According to the share of the enterprises by the commodity groups, the share of food and beverages enterprises gradually decreased after 2012, and it was only (35.04%) in 2020 even though the share of food and beverages enterprises was highest up to 2020.

Regarding the manufacturing SMEs within the industrial zones in Yangon Region, the small enterprises contributed 7.1% of employment, 2.16% of investment, and 2.35% of production in 2020. On the other hand, the medium enterprises contributed 92.9% of employment, 97.84% of investment, and 97.65% of production in 2020. The contribution of manufacturing SMEs was significantly low in the Yangon Region since the number of registered SMEs declined due to the impact of COVID-19 and political instability. However, as in the whole country, SMEs in Yangon Region contribute the highest share among states and regions, with 64.28% of total investment, 18.64% of total production, and 44.91% of total employment in the country. Since SMEs employ the largest share of total employment, it is observed that SMEs are extremely important in the economy.

With examining the importance of SMEs in the economy of Myanmar, this study investigates the factors affecting their development based on theories and previous studies.

Generally, there are numerous literatures that have studied SMEs development. Various growth theories, such as resource-based view theory, social capital theory, sociological theories, market orientation theory, and adoption theory are used in order to examine SMEs development. This study follows three theories, namely resource-based theory, market orientation theory, and adoption theory, to investigate the SMEs development in Yangon Region. Then, to fulfill the objective of this study, the study analyzed the effect of entrepreneur characteristics, firm characteristics, financial resource, the regulatory environment, technology and information, infrastructure, and market access on SMEs development.

With respect to the analysis of the effect of entrepreneur characteristics on SMEs development, it is found that the effect of the gender of the owner/manager is significant and has a positive relationship with SMEs development. Therefore, male entrepreneurs can perform better in business development than female entrepreneurs. In other words, it can be interpreted that SMEs owned by men can have greater success than women-owned SMEs.

In addition, the results of the study also revealed that managerial skills have a significant and positive relationship with SMEs development. Thus, it is possible to conclude that an entrepreneur who has managerial skills can lead SMEs to develop. It was also found that there is a positive effect of firm size in terms of the number of employees on SMEs development. Thus, enterprises with more employees may do better business than those with fewer employees. Some SMEs may develop by fulfilling demand quickly due to a sufficient number of employees, while firms with fewer employees are facing difficulties in fulfilling customers' needs.

According to the results of the study, financial resources significantly and positively affected SMEs development. Therefore, it can be stated that enterprises with fewer financial difficulties can run better businesses than enterprises that are facing many difficulties in financing.

Based on the result of the analysis, it is also indicated that a supportive regulatory environment can develop SMEs. This means that reducing restrictions in rules and regulations, having favorable exchange rate systems, and taxation and tariff systems encourage the SMEs development.

In studying the effect of technology and information, the study recognized that the ability to adopt technology and access to information can increase sales revenue, profitability, and asset growth, and thus contribute to the enterprise's development.

Moreover, the result of analyzing the effect of infrastructure showed that infrastructure development facilitates SMEs development. Thus, it can be concluded that good road conditions, a well-developed communication system, and a stable electricity supply leads to the development of SMEs.

According to the results of the study, it was found that some variables included in the study are not related to the development of SMEs since there is no significant relationship in the analysis. With respect to the work experience of owners and managers, it is possible that the work experience of owners and managers does not affect the development of SMEs. It is possible that either the work experience of the owner/manager is not related to the current job, or the owners and managers are less able to directly apply their experience to the current job.

Regarding the ownership structure, it has not significantly influenced the development of SMEs. This means that any ownership structure cannot contribute to sales revenue, profitability, or asset growth. Additionally, the result also indicated that the age of the firm as well as market access are not related to the SMEs development. It implies that the operation year of a firm as well as market access may not significantly contribute to the development of the enterprise.

In studying the differences in influencing factors among industries, it is found that the gender of owners/managers, firm size (number of employees), financial resource, regulatory environment, technology and information, and infrastructure, except the managerial skills of owners and managers, are different among industries.

According to the result of the analysis, it is observed that the firms' owners and managers may be females or males, depending on the different types of businesses. The result showed that most of the owners and managers of the minerals and petroleum industry are males, while the owners and managers of the clothing and wearing industry are females.

With respect to the difference in firm size (number of employees) among different industries, it is observed that the clothing and wearing industry needs a large number of employees for its operation, while the repair and installation of machinery and equipment industry can run its business with a small number of employees. As the nature of the firm depends on the number of employees, the sizes of these industries are very different from other industries. With respect to the difference in financial resources, it is found that there is a difference among industries due to the nature of business. The result revealed that some industries like the clothing and

wearing industry, the personal goods industry, the construction materials industry, the printing and publishing industry, and the minerals and petroleum industry need a larger financial requirement than other types of industries in business operations.

Concerning the regulatory environment, it is indicated that the minerals and petroleum industry and the personal goods industry are different from the repair and installation of machinery and equipment industry. For these industries, registration is more restrictive than in the repair and installation of machinery and equipment industry.

Furthermore, the result indicated that technology and information are different among industries. To be more specifically, technology is more important for the business activities of some industries, like the food and beverages industry and the personal goods industry. Such industries use technology in their R&D activities, while the printing and publishing industry use ICT in their business operations.

Similarly, it is stated that infrastructure requirements are also different among industries. As the nature and types of firms are not identical, the requirement for electricity usage in business operations cannot be the same. Some industries, like the food and beverages industry need more stable electricity for their operations.

To sum up, based on the findings, it can be concluded that the study provides important implications for practitioners who are business owners, relevant organizations, and others to some extent. The findings from the study may provide crucial information related to the important influencing factors for SMEs development. By informing people that there are different influencing factors among different industries, it will facilitate searching for specific ways to effectively implement the policy, and SMEs may be developed by providing different supports. In this regard, this study provided the following suggestions in order to encourage the competitiveness of SMEs and support their development.

5.2 Suggestions

Since the participation of male entrepreneurs in SMEs may develop SMEs, it should encourage them to establish private businesses. In addition, it should accelerate the capacity of male entrepreneurs by providing supports such as providing the required training and, arranging and planning foreign trips for international experiences. On the other hand, it also needs to consider to improve the capacity of female entrepreneurs and their interest in businesses.

In order to fulfill and improve managerial skills, the study suggests that opportunities should be created for the participation of owners and managers of SMEs in skills development training programs, seminars and workshops through collaboration and coordination with stakeholders. Relevant organizations should educate the SMEs to actively participate in development schemes and offer the required training services to enhance managerial skills and knowledge to manage the businesses.

This study pointed out that increasing in use of workers by firms develop the business. SMEs need for reducing employee turnover, increasing employee retention, and pulling employees to the firms in order to be sufficient employee. Thus, the study suggested that SMEs should create an attractive work environment, provide rewards for hard work, and create opportunities for learning and development.

Since financial resources facilitate the SMEs development, the study suggested that accessing finance should be supported by reducing the collateral requirement, having a suitable interest rate and repayment term, cooperating among various financial institutions and relevant organizations, and easily accessing the required information.

Moreover, it should also provide necessary training such as financial management training, accounting training, and business planning training since SMEs need to submit audited financial statements and business plans. Regarding the regulatory environment, the study suggests the reducing restrictions on applying for business permits and registration, stabilizing the laws and regulations, developing the supportive taxation system and educating the owners and managers of SMEs.

For improving the adoption of technology and information, it should be supported by transferring the technology among businesses, accelerating the diffusion of advanced technology, encouraging R&D activities, holding competitions for improving business ideas and business plans, and establishing technological development centers and incubation centers and facilitating to disseminate the information related to the market and technology.

As SMEs, they should make efforts to improve their skills and capacity to adopt better the production technology. Necessary training should be provided for SMEs on how to identify and adopt an appropriate technology based on their needs.

Concerning infrastructure for SMEs development, the suggestion of the study was that it should develop transport infrastructure, ensure stable and sufficient

electricity supplies, provide business development services (BDS), and facilitate warehouses and storage facilities for SMEs.

In making efforts to develop SMEs, policymakers should also provide support for the businesses to survive and compete in a competitive environment. Thus, policies that should be central to promoting managerial skills, access to financial resources, adoption of technology and information, carrying out the needed reforms in rules and regulations, and developing infrastructure should be formulated and implemented. Besides, it should treat SMEs as clusters to get the benefits of economies of scale, easy management and administration, lower production costs, transfer technology, and disseminate information.

In addition to the above suggestions, this study would like to highlight that further studies may use other theories to provide more comprehensive and concrete suggestions that are valuable for SMEs development.

Moreover, other factors that are not included in the study may have an effect on SMEs development, and further studies that can investigate the effect of other factors may provide support for the comprehensive development of SMEs.

Finally, it can be expected that the full potential for SMEs development will be realized through further research related to their development.

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APPENDICES

Appendix (A)
Secondary Data

Table (1) Number of Enterprises Obtained SME Member Cards by State, Region/ Union Territory in Myanmar (2017-2020)

Sr. No.	STATE/ REGION/ UNION TERRITORY	2017		2018		2019		2020	
		Small	Medium	Small	Medium	Small	Medium	Small	Medium
1	Kachin	104	3	128	10	270	27	80	13
	Share (%)	0.017	0.006	0.014	0.006	0.055	0.015	0.018	0.006
2	Kayah	57	8	87	15	53	8	35	22
	Share (%)	0.009	0.015	0.010	0.009	0.011	0.005	0.008	0.010
3	Kayin	60	0	78	1	164	10	84	31
	Share (%)	0.010	0.000	0.009	0.001	0.034	0.006	0.019	0.014
4	Chin	138	6	156	0	716	3	378	1
	Share (%)	0.022	0.011	0.017	0.000	0.146	0.002	0.087	0.000
5	Sagaing	405	2	598	33	300	47	412	212
	Share (%)	0.065	0.004	0.067	0.020	0.061	0.027	0.095	0.096
6	Tanintharyi	381	2	491	22	165	13	115	15
	Share (%)	0.061	0.004	0.055	0.013	0.034	0.007	0.027	0.007
7	Bago	573	17	583	102	338	87	619	147
	Share (%)	0.092	0.031	0.065	0.062	0.069	0.049	0.143	0.067
8	Magway	521	5	1349	61	228	53	142	46
	Share (%)	0.083	0.009	0.150	0.037	0.047	0.030	0.033	0.021
9	Mandalay	869	67	2215	300	802	345	575	261
	Share (%)	0.139	0.124	0.247	0.183	0.164	0.195	0.133	0.119
10	Mon	228	2	355	24	136	21	79	16
	Share (%)	0.036	0.004	0.040	0.015	0.028	0.012	0.018	0.007
11	Rakhine	198	0	130	5	171	29	64	15
	Share (%)	0.032	0.000	0.014	0.003	0.035	0.016	0.015	0.007
12	Yangon	1144	330	734	505	771	801	733	695
	Share (%)	0.183	0.609	0.082	0.308	0.158	0.453	0.169	0.316
14	Shan	578	51	758	145	433	115	273	215
	Share (%)	0.092	0.094	0.084	0.088	0.088	0.065	0.063	0.098
15	Ayeyarwady	842	43	1118	365	232	176	424	389
	Share (%)	0.135	0.079	0.125	0.223	0.047	0.099	0.098	0.177
16	Nay Pyi Taw	160	6	196	52	115	34	324	119
	Share (%)	0.026	0.011	0.022	0.032	0.023	0.019	0.075	0.054
	Total	6258	542	8976	1640	4894	1769	4337	2197
	Share (%)	1.000							

Source: Ministry of Industry (2017-2020)

Table (2) Number of Registered SMEs in States and Regions

Sr. No.	State/Region		Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magway	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyarwady	Nay Pyi Taw	Total
	Year																	
1	2010	Small	955	108	517	526	3716	824	3842	2075	5101	1950	2033	2948	3256	5580	-	33431
		Medium	96	173	21	1	715	78	642	219	1873	224	54	1595	338	612	-	6641
	Total	1051	281	538	527	4431	902	4484	2294	6974	2174	2087	4543	3594	6192	0	40072	
	Share (%)	2.62	0.70	1.34	1.32	11.06	2.25	11.19	5.72	17.40	5.43	5.21	11.34	8.97	15.45	0.00	100.00	
2	2011	Small	1082	95	711	488	3226	1000	3678	2136	4906	1844	1884	2661	3071	5129	-	31911
		Medium	97	178	27	2	705	81	683	238	2115	219	56	1614	352	625	-	6992
	Total	1179	273	738	490	3931	1081	4361	2374	7021	2063	1940	4275	3423	5754	0	38903	
	Share (%)	3.03	0.70	1.90	1.26	10.10	2.78	11.21	6.10	18.05	5.30	4.99	10.99	8.80	14.79	0.00	100.00	
3	2012	Small	1038	88	740	475	3163	1030	3626	2169	4689	1811	1904	2410	2988	5046	-	31177
		Medium	98	184	47	4	725	88	723	260	2218	236	75	1616	342	657	-	7273
	Total	1136	272	787	479	3888	1118	4349	2429	6907	2047	1979	4026	3330	5703	0	38450	
	Share (%)	3	1	2	1	10	3	11	6	18	5	5	10	9	15	0	100	
4	2013	Small	1011	96	761	535	3055	1110	3635	2225	4024	1847	1853	2206	2944	4998	381	30681
		Medium	93	210	64	4	740	94	779	277	2178	230	71	1652	359	638	158	7547
	Total	1104	306	825	539	3795	1204	4414	2502	6202	2077	1924	3858	3303	5636	539	38228	
	Share (%)	2.89	0.80	2.16	1.41	9.93	3.15	11.55	6.54	16.22	5.43	5.03	10.09	8.64	14.74	1.41	100.00	

Source: Ministry of Industry (2010-2020)

Table (2) Number of Registered SMEs in States and Regions (Continued)

Sr. No.	State/ Region		Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magway	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyar wady	Nay Pyi Taw	Total
	Year																	
5	2014	Small	1018	96	755	586	3005	1058	3541	2377	4019	1824	1796	2036	2816	4875	344	30146
		Medium	106	242	58	5	774	89	872	278	2271	238	79	1708	405	617	149	7891
		Total	1124	338	813	591	3779	1147	4413	2655	6290	2062	1875	3744	3221	5492	493	38037
		Share (%)	2.96	0.89	2.14	1.55	9.94	3.02	11.60	6.98	16.54	5.42	4.93	9.84	8.47	14.44	1.30	100.00
6	2015	Small	1167	109	739	697	2994	1185	3371	2488	3918	1798	1934	1909	2973	4754	344	30380
		Medium	150	287	96	7	849	126	921	379	2453	275	116	1847	510	612	154	8782
		Total	1317	396	835	704	3843	1311	4292	2867	6371	2073	2050	3756	3483	5366	498	39162
		Share (%)	3.36	1.01	2.13	1.80	9.81	3.35	10.96	7.32	16.27	5.29	5.23	9.59	8.89	13.70	1.27	100.00
7	2016	Small	1243	114	738	720	3145	1279	3244	2596	3872	1879	2131	1799	3070	4872	342	31044
		Medium	164	326	129	17	925	145	938	438	2564	308	123	2007	622	613	167	9486
		Total	1407	440	867	737	4070	1424	4182	3034	6436	2187	2254	3806	3692	5485	509	40530
		Share (%)	3.47	1.09	2.14	1.82	10.04	3.51	10.32	7.49	15.88	5.40	5.56	9.39	9.11	13.53	1.26	100.00
8	2017	Small	1343	129	779	768	3298	1365	3148	2715	3895	1966	2331	1750	3198	4856	344	31885
		Medium	171	353	157	22	1011	166	1030	523	2663	328	131	2130	733	615	183	10216
		Total	1514	482	936	790	4309	1531	4178	3238	6558	2294	2462	3880	3931	5471	527	42101
		Share (%)	3.60	1.14	2.22	1.88	10.23	3.64	9.92	7.69	15.58	5.45	5.85	9.22	9.34	12.99	1.25	100.00

Source: Ministry of Industry (2010-2020)

Table (2) Number of Registered SMEs in States and Regions (Continued)

Sr. No.	State/ Region		Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magway	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyarwady	Nay Pyi Taw	Total
	Year																	
9	2018	Small	1430	148	795	787	3363	1391	3051	2799	3860	2025	2406	1657	3251	4639	325	31927
		Medium	187	365	191	29	1167	185	1107	580	2787	355	149	2271	850	635	197	11055
	Total	1617	513	986	816	4530	1576	4158	3379	6647	2380	2555	3928	4101	5274	522	42982	
	Share (%)	3.76	1.19	2.29	1.90	10.54	3.67	9.67	7.86	15.46	5.54	5.94	9.14	9.54	12.27	1.21	100.00	
10	2019	Small	1493	155	818	785	3355	1434	2960	2808	3719	2071	2545	1629	3204	4412	311	31699
		Medium	209	381	210	53	1234	191	1155	653	2882	376	156	2355	956	644	206	11661
	Total	1702	536	1028	838	4589	1625	4115	3461	6601	2447	2701	3984	4160	5056	517	43360	
	Share (%)	3.93	1.24	2.37	1.93	10.58	3.75	9.49	7.98	15.22	5.64	6.23	9.19	9.59	11.66	1.19	100.00	
11	2020	Small	1567	162	849	646	3294	1429	2676	2757	3474	2083	1490	1558	3138	3992	280	29395
		Medium	225	410	241	75	1379	202	1166	720	2937	405	156	2400	1093	655	217	12281
	Total	1792	572	1090	721	4673	1631	3842	3477	6411	2488	1646	3958	4231	4647	497	41676	
	Share (%)	4.30	1.37	2.62	1.73	11.21	3.91	9.22	8.34	15.38	5.97	3.95	9.50	10.15	11.15	1.19	100.00	

Source of Industry (2010-2020: Ministry)

Table (3) Number of Registered SMEs by Commodity Group in Myanmar

Sr. No.	Year		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	Enterprises												
1	Food & Beverages	Small	23211	21465	21109	20550	19946	19625	19753	19884	19577	19600	17357
		Medium	3961	3792	4088	4194	4367	4758	4999	5342	5667	5990	6336
	Total		27172	25257	25197	24744	24313	24383	24752	25226	25244	25590	23693
	Share (%)		67.81	64.92	65.53	64.73	63.92	62.26	61.07	59.92	58.73	59.02	56.85
2	Clothing Apparel & Wearing	Small	1192	1015	1006	981	1037	1159	1206	1306	1361	1328	1325
		Medium	354	363	366	466	513	637	702	763	833	859	978
	Total		1546	1378	1372	1447	1550	1796	1908	2069	2194	2187	2303
	Share (%)		3.86	3.54	3.57	3.79	4.07	4.59	4.71	4.91	5.10	5.04	5.53
3	Construction Materials	Small	2116	2118	2110	2225	2109	1943	1931	1919	1919	1887	1883
		Medium	510	595	640	768	840	973	1142	1309	1460	1572	1692
	Total		2626	2713	2750	2993	2949	2916	3073	3228	3379	3459	3575
	Share (%)		6.55	6.97	7.15	7.83	7.75	7.45	7.58	7.67	7.86	7.98	8.58
4	Personal Goods	Small	443	358	324	331	325	352	353	357	441	445	453
		Medium	293	341	401	394	421	467	519	566	613	626	656
	Total		736	699	725	725	746	819	872	923	1054	1071	1109
	Share (%)		1.84	1.80	1.89	1.90	1.96	2.09	2.15	2.19	2.45	2.47	2.66
5	Household Goods	Small	117	110	102	77	71	71	72	84	89	79	67
		Medium	79	86	79	84	79	83	84	89	92	86	80
	Total		196	196	181	161	150	154	156	173	181	165	147
	Share (%)		0.49	0.50	0.47	0.42	0.39	0.39	0.38	0.41	0.42	0.38	0.35
6	Printing & Publishing	Small	181	183	172	160	153	150	143	142	137	139	135
		Medium	66	114	117	138	137	155	169	190	210	213	219
	Total		247	297	289	298	290	305	312	332	347	352	354
	Share (%)		0.62	0.76	0.75	0.78	0.76	0.78	0.77	0.79	0.81	0.81	0.85
7	Industrial Raw materials	Small	330	328	300	166	155	184	173	175	179	175	173
		Medium	203	225	231	193	180	183	191	188	186	192	196
	Total		533	553	531	359	335	367	364	363	365	367	369
	Share (%)		1.33	1.42	1.38	0.94	0.88	0.94	0.90	0.86	0.85	0.85	0.89

Source: Ministry of Industry (2010-2020)

Table (3) Number of Registered SMEs by Commodity Group in Myanmar
(Continued)

Sr. No.	Enterprises	Year		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
		Small	Medium											
8	Minerals & Petroleum Products	Small		1202	1186	1198	1224	1340	1559	1781	2067	2245	2230	2333
		Medium		301	357	382	411	429	537	617	665	703	715	522
	Total		1503	1543	1580	1635	1769	2096	2398	2732	2948	2945	2855	
	Share (%)		3.75	3.97	4.11	4.28	4.65	5.35	5.92	6.49	6.86	6.79	6.85	
9	Agricultural Equipment	Small		44	30	35	38	33	37	36	36	39	37	35
		Medium		29	23	22	19	19	25	24	25	29	29	28
	Total		73	53	57	57	52	62	60	61	68	66	63	
	Share (%)		0.18	0.14	0.15	0.15	0.14	0.16	0.15	0.14	0.16	0.15	0.15	
10	Machinery & Equipment	Small		112	75	68	47	39	36	34	32	32	30	35
		Medium		76	48	49	50	40	34	33	34	36	32	32
	Total		188	123	117	97	79	70	67	66	68	62	67	
	Share (%)		0.47	0.32	0.30	0.25	0.21	0.18	0.17	0.16	0.16	0.14	0.16	
11	Transport Vehicles	Small		83	40	32	19	14	23	22	22	21	13	14
		Medium		42	52	39	41	37	38	32	31	32	28	18
	Total		125	92	71	60	51	61	54	53	53	41	32	
	Share (%)		0.31	0.24	0.18	0.16	0.13	0.16	0.13	0.13	0.12	0.09	0.08	
12	Electrical Goods	Small		10	13	12	29	33	26	24	18	17	16	16
		Medium		12	19	15	18	20	17	16	17	15	16	20
	Total		22	32	27	47	53	43	40	35	32	32	36	
	Share (%)		0.05	0.08	0.07	0.12	0.14	0.11	0.10	0.08	0.07	0.07	0.09	
13	Miscellaneous	Small		4390	4990	4709	4834	4891	5215	5516	5820	5880	5845	5815
		Medium		715	977	844	771	809	875	958	1020	1169	1178	1258
	Total		5105	5967	5553	5605	5700	6090	6474	6840	7049	7023	7073	
	Share (%)		12.74	15.34	14.44	14.66	14.99	15.55	15.97	16.25	16.40	16.20	16.97	
		Small	33431	31911	31177	30681	30146	30380	31044	31862	31937	31824	29641	
		Medium	6641	6992	7273	7547	7891	8782	9486	10239	11045	11536	12035	
		Total	40072	38903	38450	38228	38037	39162	40530	42101	42982	43360	41676	

Source: Ministry of Industry (2010-2020)

Table (4): Number of Registered SMEs in Industrial Zones in Myanmar (2020)

Sr. No.	Industrial Zones	Small	Medium	SMEs	% of SMEs
	Mandalay Region	670	575	1245	28.58
1	Mandalay Industrial Zone	480	312	792	18.18
2	Myingyan Industrial Zone	60	133	193	4.43
3	Meiktila Industrial Zone	130	130	260	5.97
	Yangon Region	138	1111	1249	28.62
4	South Dagon Industrial Zone (1)	129	935	1064	24.38
5	South Dagon Industrial Zone (2)	0	40	40	0.92
6	South Dagon Industrial Zone (3)	32	373	405	9.28
7	Dagon Myothit Seikkan	55	128	183	4.19
8	Dagon Myothit (East)	1	16	17	0.39
9	Dagon Myothit (East) (Extend) Industrial Zone	0	13	13	0.30
10	North Dagon Industrial Zone	0	60	60	1.37
11	North Oakkalapa Industrial Zone	6	23	29	0.66
12	Shwe Poukkan Industrial Zone	16	188	204	4.67
13	South Oakkalapa Industrial Zone	14	42	56	1.28
14	Tharkayta Industrial Zone	4	10	14	0.32
15	Thilawa Industrial Zone	1	42	43	0.99
16	Hlaingtharyar Industrial Zone (1)	0	0	0	0.00
17	Hlaingtharyar Industrial Zone (2)	0	0	0	0.00
18	Hlaingtharyar Industrial Zone (3)	9	176	185	4.24
19	Hlaingtharyar Industrial Zone (4)	0	4	4	0.09
20	Hlaingtharyar Industrial Zone (6)	0	0	0	0.00
21	Hlaingtharyar Industrial Zone (7)	0	0	0	0.00
22	Hlaingtharyar Industrial Zone (5)	0	70	70	1.60
23	Shwe Lin Ban Industrial Zone	3	71	74	1.70
24	Shwe Than Lwin Industrial Zone	0	0	0	0.00
25	Ngwe Pin Lal Industrial Zone	0	5	5	0.11
26	Ahnawrahta Industrial Zone	0	2	2	0.05
27	Mya Sein Yaung Industrial Zone	0	0	0	0.00
28	Mwaymyuyay Industrial Zone	0	2	2	0.05
29	Shwepyithar Industrial Zone (1)	0	0	0	0.00
30	Shwepyithar Industrial Zone (2)	0	0	0	0.00
31	Shwepyithar Industrial Zone (3)	0	0	0	0.00
32	Shwepyithar Industrial Zone (4)	2	15	17	0.39
33	Thardukan Industrial Zone	4	1	5	0.11
34	Wartayar Industrial Zone	0	0	0	0.00
35	Wood Based Industrial Zone	0	0	0	0.00

Source: Ministry of Industry (2020)

Table (4): Number of Registered SMEs in Industrial Zones in Myanmar (2020)
(Continued)

Sr. No.	Industrial Zones	Small	Medium	SMEs	(%) of SMEs
36	Mingalardone Industrial Zone	0	1	1	0.02
37	Yangon Industrial Zone	0	5	5	0.11
38	Pyin Ma Bin Industrial Zone	0	0	0	0.00
39	Myaung Takar Industrial Zone	0	0	0	0.00
	Ayeyarwady Region	41	18	59	1.35
40	Patheingyi Industrial Zone	36	6	42	0.96
41	Myaungmya Industrial Zone	3	4	7	0.16
42	Hinthada Industrial Zone	2	8	10	0.23
	Sagaing Region	372	235	607	13.91
43	Monywa Industrial Zone	248	147	395	9.05
44	Monywa Sub-Industrial Zone (Shwebo)	48	51	99	2.27
45	Monywa Sub-Industrial Zone (Sagaing)	1	15	16	0.37
46	Kalay	75	22	97	2.22
	Bago Region	78	71	149	3.41
47	Pyaw Industrial Zone	78	71	149	3.41
	Magway Region	199	97	296	6.78
48	Yenangyaung Industrial Zone	74	27	101	2.31
49	Pakokku Industrial Zone	125	70	195	4.47
	Mon	39	116	155	3.55
50	Mawlamyine Industrial Zone	39	116	155	3.55
	Shan	343	105	448	10.27
51	Aye Tharyar Industrial Zone	343	105	448	10.27
	Tanintharyi Region	2	2	4	0.09
52	Innlay Myaing Industrial Zone	2	2	4	0.09
	Kayin	0	9	9	0.21
53	Hpa-an Industrial Zone	0	9	9	0.21
	Nay Pyi Taw	0	0	0	0.00
54	Dekkhina Thiri Industrial Zone	0	0	0	0.00
	Kachin	65	6	71	1.63
55	Myitkyina Industrial Qtr	65	6	71	1.63
	Kayah	3	61	64	1.47
56	Loikaw Industrial Qtr	3	61	64	1.47
	Total	1958	2406	4364	100.00

Source: Ministry of Industry (2020)

Table (5) Number of Registered SMEs by Commodity Group in Yangon Region

Sr. No.	Year		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	Enterprises												
1	Food & Beverages	Small	1569	1246	1171	1021	1016	974	919	908	800	779	739
		Medium	683	417	412	398	421	453	485	547	581	585	648
	Total		2252	1663	1583	1419	1437	1427	1404	1455	1381	1364	1387
	Share (%)		49.57	38.90	39.32	36.78	38.38	37.99	36.89	37.50	35.16	34.24	35.04
2	Clothing Apparel & Wearing	Small	61	28	28	27	29	32	35	34	35	43	43
		Medium	78	71	81	93	106	153	187	201	231	260	290
	Total		139	99	109	120	135	185	222	235	266	303	330
	Share (%)		3.06	2.32	2.71	3.11	3.61	4.93	5.83	6.06	6.77	7.61	8.34
3	Construction Materials	Small	237	228	206	203	188	175	163	153	152	148	132
		Medium	155	200	204	215	228	231	242	245	245	268	248
	Total		392	428	410	418	416	406	405	398	397	416	380
	Share (%)		8.63	10.01	10.18	10.83	11.11	10.81	10.64	10.26	10.11	10.44	9.60
4	Personal Goods	Small	247	174	127	154	122	102	97	85	85	87	86
		Medium	189	250	258	256	274	292	326	340	355	360	322
	Total		436	424	385	410	396	394	423	425	440	447	408
	Share (%)		9.60	9.92	9.56	10.63	10.58	10.49	11.11	10.95	11.20	11.22	10.31
5	Household Goods	Small	51	55	50	37	32	27	27	33	47	50	50
		Medium	41	50	45	49	45	48	48	50	51	50	50
	Total		92	105	95	86	77	75	75	83	98	100	100
	Share (%)		2.03	2.46	2.36	2.23	2.06	2.00	1.97	2.14	2.49	2.51	2.53
6	Printing & Publishing	Small	87	98	89	85	78	77	75	74	73	73	70
		Medium	46	94	95	111	110	122	133	147	172	180	188
	Total		133	192	184	196	188	199	208	221	245	253	258
	Share (%)		2.93	4.49	4.57	5.08	5.02	5.30	5.47	5.70	6.24	6.35	6.52
7	Industrial Raw materials	Small	49	36	23	20	14	15	15	15	15	15	12
		Medium	39	74	74	64	47	45	44	41	45	47	47
	Total		88	110	97	84	61	60	59	56	60	62	59
	Share (%)		1.94	2.57	2.41	2.18	1.63	1.60	1.55	1.44	1.53	1.56	1.49

Source: Ministry of Industry (2010-2020)

**Table (5) Number of Registered SMEs by Commodity Group in Yangon Region
(Continued)**

Sr. No.	Year		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	Enterprises												
8	Minerals & Petroleum Products	Small	350	214	185	167	130	127	113	109	114	122	118
		Medium	149	195	193	211	207	229	247	261	275	278	281
	Total		499	409	378	378	337	356	360	370	389	400	399
	Share (%)		10.98	9.57	9.39	9.80	9.00	9.48	9.46	9.54	9.90	10.04	10.08
9	Agricultural Equipment	Small	9	5	3	3	3	3	3	3	3	3	3
		Medium	8	0	0	0	1	3	2	2	3	4	4
	Total		17	5	3	3	4	6	5	5	6	7	7
	Share (%)		0.37	0.12	0.07	0.08	0.11	0.16	0.13	0.13	0.15	0.18	0.18
10	Machinery & Equipment	Small	51	22	18	19	10	8	7	7	5	5	4
		Medium	60	17	27	25	6	6	6	7	7	8	6
	Total		111	39	45	44	16	14	13	14	12	13	10
	Share (%)		2.44	0.91	1.12	1.14	0.43	0.37	0.34	0.36	0.31	0.33	0.25
11	Transport Vehicles	Small	31	5	3	3	4	4	4	4	3	3	2
		Medium	3	7	7	10	9	10	10	10	9	8	8
	Total		34	12	10	13	13	14	14	14	12	11	10
	Share (%)		0.75	0.28	0.25	0.34	0.35	0.37	0.37	0.36	0.31	0.28	0.25
12	Electrical Goods	Small	5	4	5	2	1	1	1	1	0	0	1
		Medium	5	4	7	6	8	7	7	6	6	8	8
	Total		10	8	12	8	9	8	8	7	6	8	9
	Share (%)		0.22	0.19	0.30	0.21	0.24	0.21	0.21	0.18	0.15	0.20	0.23
13	Miscellaneous	Small	201	546	502	465	409	364	340	324	325	301	298
		Medium	139	235	213	214	246	248	270	273	291	299	300
	Total		340	781	715	679	655	612	610	597	616	600	598
	Share (%)		7.48	18.26	17.76	17.59	17.48	16.29	16.03	15.38	15.68	15.04	15.18
	Total	Small	2948	2661	2410	2206	2036	1909	1799	1750	1657	1629	1558
		Medium	1595	1614	1616	1652	1708	1847	2007	2130	2271	2355	2400
	Total		4543	4275	4026	3858	3744	3756	3806	3880	3928	3984	3958
	Share (%)		100.00										

Source: Ministry of Industry (2010-2020)

Table (6) Situation of Registered Small and Medium Enterprises by Commodity Group in Industrial Zones in Yangon Region (2018-2020)

Sr. No.	Year Enterprises	2018				2019				2020			
		Small	Medium	Total	%	Small	Medium	Total	%	Small	Medium	Total	%
1	Food & Beverages	14	99	113	11.18	17	136	153	13.70	20	188	152	15.05
2	Clothing Apparel & Wearing	3	51	54	5.34	3	58	61	5.46	2	64	60	5.12
3	Construction Materials	11	82	93	9.20	12	81	93	8.33	10	92	87	7.37
4	Personal Goods	8	158	166	16.42	8	203	211	18.89	9	233	210	18.65
5	Household Goods	2	31	33	3.26	2	32	34	3.04	2	42	32	3.36
6	Printing & Publishing	0	16	16	1.58	0	16	16	1.43	0	20	16	1.60
7	Industrial	1	25	26	2.57	2	26	28	2.51	2	37	27	2.96
8	Minerals & Petroleum Products	31	223	254	25.12	31	221	252	22.56	37	285	262	22.82
9	Agricultural Equipment	0	2	2	0.20	0	2	2	0.18	1	5	3	0.40
10	Machinery & Equipment	1	3	4	0.40	1	4	5	0.45	1	10	7	0.80
11	Transport Vehicles	0	0	0	0.00	4	1	5	0.45	0	10	1	0.80
12	Electrical Goods	1	4	5	0.49	1	3	4	0.36	1	8	6	0.64
13	Miscellaneous	53	192	245	24.23	54	199	253	22.65	53	255	255	20.42
	Total	125	886	1011		135	982	1117	100.00	138	1249	1118	100.00
	Share (%)	12.36	87.64	100.00		12.09	87.91	100.00		12.16	87.84	100.00	

Source: Ministry of Industry (2018-2020)

Appendix (B)
Questionnaire

Yangon University of Economics

Ph.D Programme

Dear Respondent:

This is academic survey is to investigate the Factors Affecting the Manufacturing SMEs in Yangon Region. I sincerely invite you to spend a few minutes to complete this questionnaire. This survey is one part of the Thesis for my Ph.D Degree in Economics at Yangon University of Economics. All the information provided will be kept strictly confidential and will only be used for the purpose of this study. Your help is crucial to this thesis paper. I deeply appreciate your kind cooperation.

Date_____/_____/2022

Name of Questioner - Ma Thin Thin Yu

Name of Enterprise -----

Type of Industry -----

Major Products -----

Address of Business

Industrial Zone	
District	

SECTION A: DEMOGRAPHIC INFORMATION

(Please tick one box for each of the questions)

1. Age:

2. Gender:

Male Female

3. What is the highest level of education you have completed?

High school Undergraduate Diploma Bachelor Master/Ph.D

Other (Please specify):

4. Position

Owner+ Manager Owner Manager Other (Please specify):

5. How long did you work before you started up your current business?

SECTION B: BUSINESS INFORMATION

1. What is the ownership structure of your business?

- Sole Proprietorship Partnership Private Limited Enterprise
 Other (Please specify):

2. How long has the business been in operation?

3. How many full-time staff does the business employ?

SECTION C: FACTORS INFLUENCING SMEs DEVELOPMENT

1. ENTREPRENEUR’S CHARACTERISTICS

Identify the influence of entrepreneur’s characteristics on the business development.

(Please select the appropriate answer by ticking the appropriate box)

(Strongly Disagree=1; Disagree=2; Neutral=3; Agree=4; Strongly Agree=5)

Statement		1	2	3	4	5
	Managerial Skills					
1	Possessing skills in technical or functional areas influences on the development of business.					
2	Ability to create a positive work climate through discussion and problem-sharing influences on the development of business.					
3	Having human resource management skill influences on the development of business.					
4	Having financial management skill influences on the development of business.					
5	Having good communication skill influences on the development of business.					

2. FINANCIAL RESOURCE

How has financial resource influenced on business development?

(Please select the appropriate answer by ticking the appropriate box)

(Strongly Disagree=1; Disagree=2; Neutral=3; Agree=4; Strongly Agree=5)

Statement		1	2	3	4	5
1	Access to finance influences on the development of business.					
2	Sufficient working capital is important for the development of business.					
3	Credit achievement from government organizations and other lending organizations influences on the development of business.					
4	Affordable repayment term for loan influences on the development of business.					
5	Accessing to long term credit with appropriate interest rates from financial institutions influences the growth of sales turnover in the business.					
6	Keeping audited financial statements supported for accessing loans influences on the growth of profit margin in the business.					
7	Keeping a business plan influences on the development of business through accessing loans.					
8	Flexible collateral requirements for getting credit from banks and other lending institutions influence on the development of business.					
9	Regular operating banking system is important for the development of business.					
10	Ability to draw needed amount of cash from banks at the needed time influences on the development of business.					

3. REGULATORY ENVIRONMENT

What is the influence of legal and regulatory factors on your business development?

(Please select the appropriate answer by ticking the appropriate box)

(Strongly Disagree=1; Disagree=2; Neutral=3; Agree=4; Strongly Agree=5)

Statement		1	2	3	4	5
1	Law and regulation motivated to start new businesses and to expand the existing business influence on the development of business.					
2	Reducing restrictions supports the development of business.					
3	Stability of laws and regulations influence the development of business.					
4	Clarify government rules and regulation influence the development of business.					
5	Rules and regulations supported to register the enterprise influence on the development of business.					
6	Ability to get business permit and other permits easily and quickly influence the development of business.					
7	Secure law and regulations in reality in doing business supports to the development of business.					
8	Stability of exchange rate influences the development of business.					
9	Reducing tax rates (e.g profit tax, sales tax and commercial tax rates) increases the profit margin and leads to the development of business.					
10	Tariffs reduction for exported and imported products increases the profit margin.					
11	Customs regulation supported import and export influence the development of business.					

4. TECHNOLOGY AND INFORMATION

Identify the influence of technology and information on your business development.

(Please select the appropriate answer by ticking the appropriate box)

(Strongly Disagree=1; Disagree=2; Neutral=3; Agree=4; Strongly Agree=5)

Statement		1	2	3	4	5
1	Skills to handle new technology support to the development of business.					
2	Ability to introduce new products by using new technology influence on the development of business.					
3	Ability to introduce products/ services via a web site and emails influence on the development of business.					
4	Access to information benefits SMEs through improving packaging technology.					
5	Accessing information on current technology of businesses influences on the development of business.					
6	Access to business information influences on the development of business.					
7	Access to information on new markets has led to increase in sales and profitability.					
8	Access to information on customers has led to increase in sales and profitability.					

5. INFRASTRUCTURE

Identify the influence of infrastructure on your business development.

(Please select the appropriate answer by ticking the appropriate box)

(Strongly Disagree=1; Disagree=2; Neutral=3; Agree=4; Strongly Agree=5)

Statement		1	2	3	4	5
1	Good roads conditions influence the development of business.					
2	Well communication system (mobile and internet) affects on the development of business.					
3	Low charges of telecommunication and internet services develop the business by increasing the profit.					
4	Sufficient and stable supply of electricity support business operations that lead to the development of business.					
5	Cost savings of energy related to electricity supply reduces costs and increase the profit.					
6	Sufficient warehouses and storage facilities affect the development of business.					
7	Efficient waste management and drainage system influence the development of business.					
8	Availability and affordability of business development services develop the business.					

6. MARKET ACCESS

Identify the influence of market access on your business development.

(Please select the appropriate answer by ticking the appropriate box)

(Strongly Disagree=1; Disagree=2; Neutral=3; Agree=4; Strongly Agree=5)

Statement		1	2	3	4	5
1	Ability to search new market influence on the development of business.					
2	Proximity to the market influence on the development of business.					
3	Ability to penetrate the online market promote the development of business.					
4	Availability to connect with other businesses via organized trade shows and entrepreneur mentorship forums influence on the development of business.					
5	Advertising and holding promotion events to attract potential users increasing sales influence on the development of business.					
6	Well-planning for marketing of products in accessing the market influence on the development of business. through increasing sales.					
7	Ability to compete in the local and foreign market influence on the development of business due to low costs of production.					
8	Ability of competition in product quality influence on the development of business.					
9	Ability of competition in service quality influence on the development of business.					
10	Receiving from customers' trust benefits to the development of business.					
11	Maintaining loyal customers supports the development of business.					
12	Creating product differentiation from competitors influences on the development of business.					
13	Responsiveness to customer needs benefits to the development of business.					

SECTION D: SMALL AND MEDIUM ENTERPRISE DEVELOPMENT

Identify your business' condition.

(Please select the appropriate answer by ticking the appropriate box)

(Strongly Disagree=1; Disagree=2; Neutral=3; Agree=4; Strongly Agree=5)

Statements		1	2	3	4	5
	(From 2015 to 2020)					
1	Sales Revenue					
1.1	Annual sale revenue of business is satisfied.					
1.2	Level of annual sales is reached on targeted level.					
1.3	Sale revenue of business is increased annually.					
1.4	Increasing annual sale revenue support to extend the business.					
1.5	Sale revenue of business support to increase the number of employees.					
1.6	Sale revenue of business support to adopt changing technology.					
1.7	Sale revenue of business grow assets of business.					
2	Profitability					
2.1	Level of net profit of business increased the number of employees.					
2.2	Net profit is annually increased.					
2.3	Goods can be sold at a profit.					
2.4	Level of net profit of the business is reached at the expected level.					
2.5	Increasing in net profit increased investment in business expansion.					
3	Assets Growth					
3.1	Assets value is annually increased.					
3.2	Business can operate to grow assets.					
3.3	Asset growth of business is reached to targeted level.					
3.4	Increased in asset increased production level.					
3.5	Increased in asset promoted business expansion.					

Thank You Very Much for Your Time and Filling the Questionnaire.

Appendix (C)

**Identification of Dependent and Independent Variables for Sales Revenue,
Profitability, Asset Growth and SMEs Development**

Dependent Variables	Independent Variables
<p>Sales Revenue of SMEs (Annual sales revenue is annually increased and develop the business) = 1 if strongly disagree = 2 if disagree =3 if neutral =4 if agree =5 if strongly agree</p> <p>Profitability of SMEs (Profit is annually increased and develop the business) = 1 if strongly disagree = 2 if disagree =3 if neutral =4 if agree =5 if strongly agree</p> <p>Asset Growth of SMEs (Asset is annually increased and support business development) = 1 if strongly disagree = 2 if disagree =3 if neutral =4 if agree =5 if strongly agree</p> <p>SMEs Development (Means of Sales revenue, profitability and asset growth)</p>	<p>Age of Owner/Manager $X_1 = 1$ if less than 30 years =2 if between 30 and 40 years = 3 if between 41 and 50 years = 4 if between 51 and 60 years =5 if above 60 years</p>
	<p>Gender of Owner/Manager $X_2 = 1$ if respondent is male = 0 if female</p>
	<p>Level of Education of Owner/Manager $X_3 = 1$ if respondent is graduate = 0 if otherwise</p>
	<p>Previous Work Experience of Owner/Manager $X_4 = 1$ if less than 5 years = 2 if between 5 and 10 years = 3 if between 11 and 16 years = 4 if above 16 years</p>
	<p>Managerial Skills of Owner/Manager (Technical skills, ability to create a positive work climate, human resource management skills, communication skill develop the business) $X_5 = 1$ if strongly disagree = 2 if disagree =3 if neutral =4 if agree =5 if strongly agree</p>

Source: Own Compilation

**Identification of Dependent and Independent Variables for Sales Revenue,
Profitability, Asset Growth and SMEs Development (Continued)**

Dependent Variables	Independent Variables
<p>Sales Revenue of SMEs (Annual sales revenue is annually increased and develop the business) = 1 if strongly disagree = 2 if disagree =3 if neutral =4 if agree =5 if strongly agree</p> <p>Profitability of SMEs (Profit is annually increased and develop the business) = 1 if strongly disagree = 2 if disagree =3 if neutral =4 if agree =5 if strongly agree</p> <p>Asset Growth of SMEs (Asset is annually increased and support business development) = 1 if strongly disagree = 2 if disagree =3 if neutral =4 if agree =5 if strongly agree</p> <p>SMEs Development (Means of Sales revenue, profitability and asset growth)</p>	<p>Ownership Structure of Firm $X_6 = 1$ if the business is sole proprietorship = 0 if otherwise</p>
	<p>Firm Age $X_7 = 1$ if between 5 and 10 years = 2 if between 41 and 50 years = 4 if between 51 and 60 years = 5 if above 60 years</p>
	<p>Firm Size $X_8 = 1$ if the employee is between 51 and 300 = 0 if the employee is less than 51</p>
	<p>Financial Resource (Access to finance, sufficient working capital, credit achievement, healthy banking system develop the business) $X_9 = 1$ if strongly disagree = 2 if disagree = 3 if neutral = 4 if agree = 5 if strongly agree</p>
	<p>Regulatory Environment (Supportive and stable laws and regulations develop the business) $X_{10} = 1$ if strongly disagree = 2 if disagree = 3 if neutral = 4 if agree = 5 if strongly agree</p>

Source: Own Compilation

**Identification of Dependent and Independent Variables for Sales Revenue,
Profitability, Asset Growth and SMEs Development (Continued)**

Dependent Variables	Independent Variables
<p>Sales Revenue of SMEs (Annual sales revenue is annually increased and develop the business) = 1 if strongly disagree = 2 if disagree =3 if neutral =4 if agree =5 if strongly agree</p>	<p>Technology and Information (improvement of technology skills and accessing information for the development of the business) X_{11} =1 if strongly disagree = 2 if disagree = 3 if neutral = 4 if agree = 5 if strongly agree</p>
<p>Profitability of SMEs (Profit is annually increased and develop the business) = 1 if strongly disagree = 2 if disagree =3 if neutral =4 if agree =5 if strongly agree</p>	<p>Infrastructure (Good hard and soft infrastructures develop the business) X_{12} =1 if strongly disagree = 2 if disagree = 3 if neutral = 4 if agree = 5 if strongly agree</p>
<p>Asset Growth of SMEs (Asset is annually increased and support business development) = 1 if strongly disagree = 2 if disagree =3 if neutral =4 if agree =5 if strongly agree</p>	<p>Market Access (Customer orientation, competitor orientation and inter-functional coordination develop the business) X_{13} =1 if strongly disagree = 2 if disagree = 3 if neutral = 4 if agree = 5 if strongly agree</p>
<p>SMEs Development (Means of Sales revenue, profitability and asset growth)</p>	

Source: Own Compilation

SPSS Output

1. Regression Result

(1.) Regression (Factors Affecting on Sales Revenue)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.746 ^a	.557	.537	.48176

a. Predictors: (Constant), Market Access, Regulatory Environment, Gender, Ownership Structure, Age, Level of Education, Technology and Information, Firm Age (Operation Period), Managerial Skills, Firm Size (Number of Employees), Infrastructure, Finance, Previous Work Experience

ANOVA^a

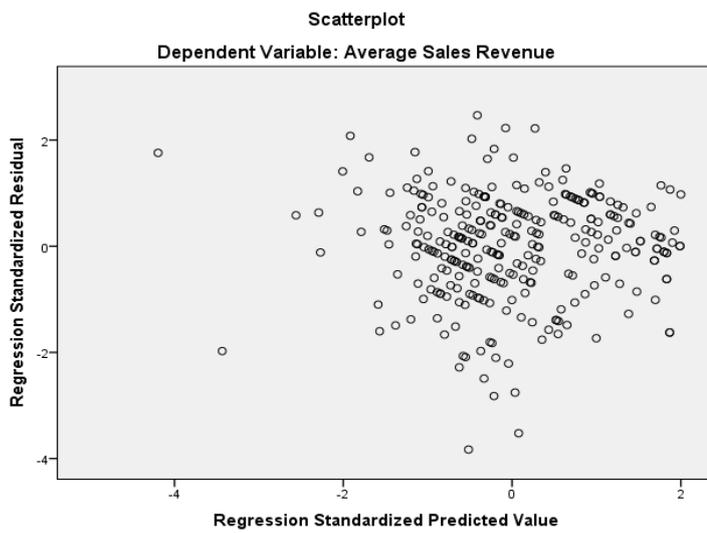
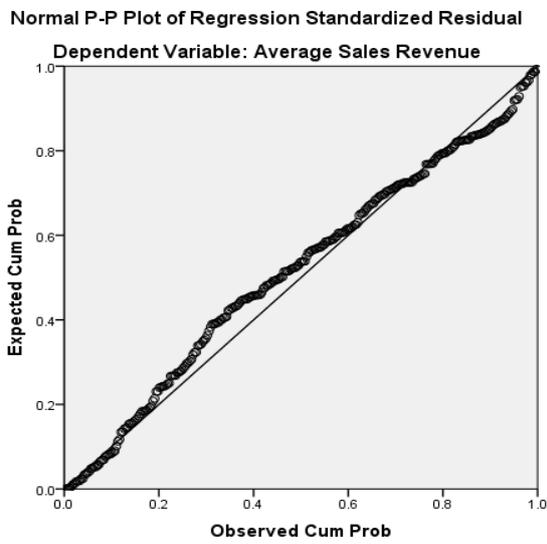
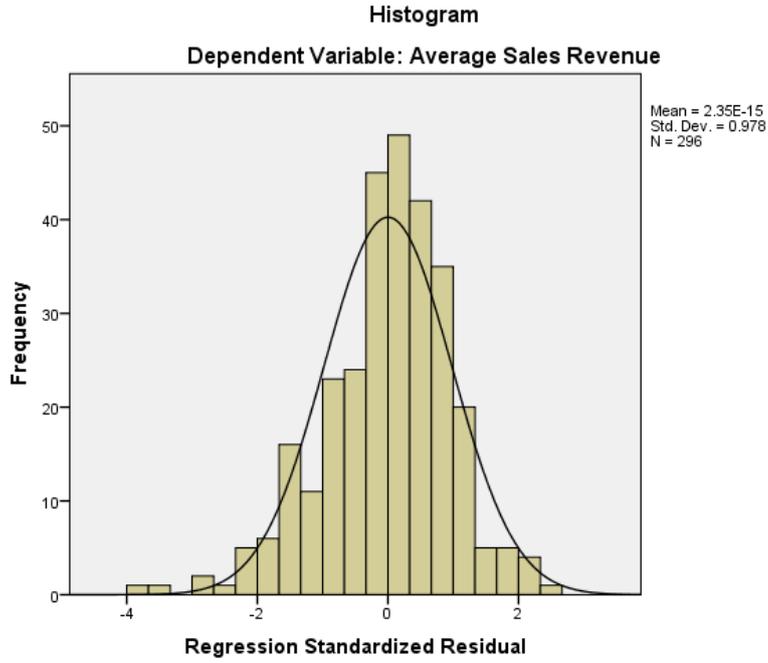
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	82.266	13	6.328	27.276	.000 ^b
	Residual	65.449	282	.232		
	Total	147.715	295			

a. Dependent Variable: Sales Revenue

b. Predictors: (Constant), Market Access, Regulatory Environment, Gender, Ownership Structure, Age, Level of Education, Technology and Information, Firm Age (Operation Period), Managerial Skills, Firm Size (Number of Employees), Infrastructure, Finance Resource, Previous Work Experience

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
		1	(Constant)	-.476	.639		-.746	.456
	Age	-.032	.040	-.041	-.803	.423	.894	1.118
	Gender	.095	.053	.121	1.774	.077	.941	1.062
	Level of Education	.075	.078	.049	.955	.340	.911	1.098
	Previous Work Experience	-.011	.038	-.014	-.282	.778	.919	1.088
	Managerial Skills	.326	.070	.202	3.542	.000	.728	1.374
	Ownership Structure	.110	.165	.035	.670	.504	.854	1.170
	Firm Age (Operation Period)	-.019	.034	-.029	-.560	.576	.910	1.099
	Firm Size (Number of Employees)	.317	.095	.200	3.318	.001	.656	1.525
	Finance Resource	.176	.069	.182	2.542	.012	.463	2.158
	Regulatory Environment	.339	.069	.289	4.884	.000	.679	1.472
	Technology and Information	.161	.063	.150	2.571	.011	.677	1.477
	Infrastructure	.143	.054	.161	2.657	.008	.626	1.598
	Market Access	.067	.110	.039	.606	.545	.590	1.694

a. Dependent Variable: Sales Revenue



(2.) Regression (Factors Affecting on Profitability)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.733 ^a	.537	.516	.52517

a. Predictors: (Constant), Market Access, Regulatory Environment, Gender, Ownership Structure, Age, Level of Education, Technology and Information, Firm Age (Operation Period), Managerial Skills, Firm Size (Number of Employees), Infrastructure, Finance, Work Experience

ANOVA^a

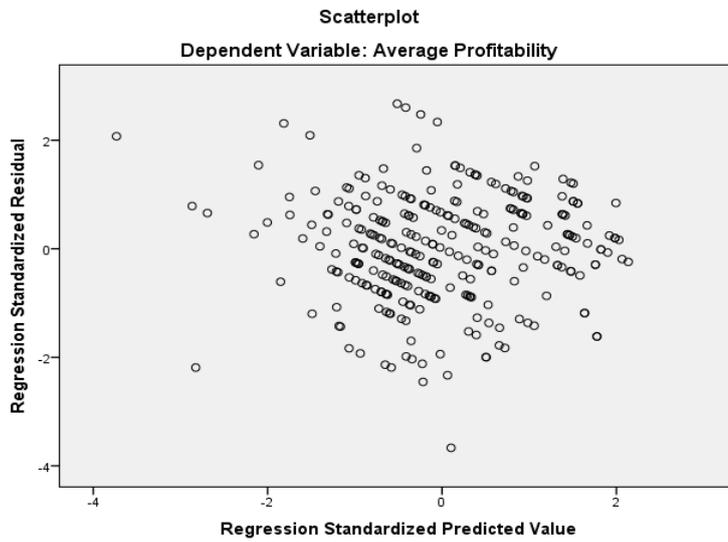
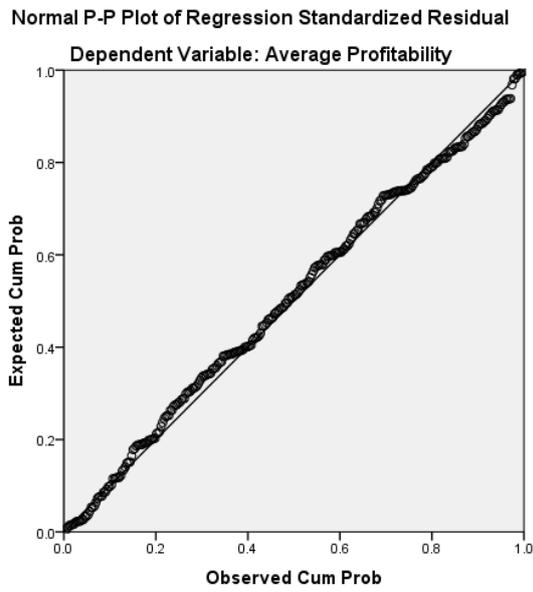
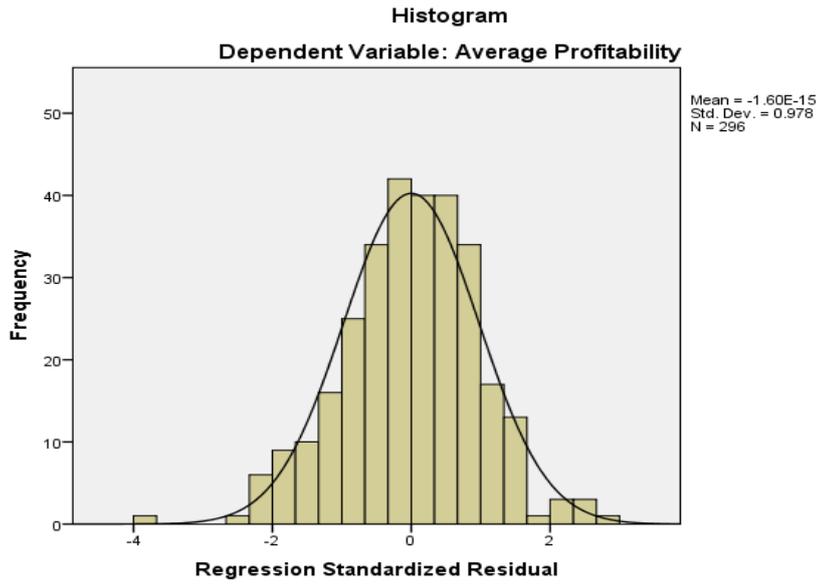
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	88.057	13	6.774	24.543	.000 ^b
	Residual	77.778	282	.276		
	Total	163.835	295			

a. Dependent Variable: Profitability

b. Predictors: (Constant), Market Access, Regulatory Environment, Gender, Ownership Structure, Age, Level of Education, Technology and Information, Firm Age (Operation Period), Managerial Skills, Firm Size (Number of Employees), Infrastructure, Finance Resource, Previous Work Experience

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
		1	(Constant)	-.833	.674		-1.235	.218
Age	.001		.043	.001	.018	.985	.894	1.118
Gender	.116		.092	.124	2.456	.015	.932	1.073
Level of Education	.023		.083	.014	.278	.781	.911	1.098
Previous Work Experience	-.049		.040	-.063	-1.228	.220	.919	1.088
Managerial Skills	.193		.073	.151	2.627	.009	.728	1.374
Ownership Structure	.162		.174	.049	.932	.352	.854	1.170
Firm Age (Operation Period)	-.037		.036	-.054	-1.053	.293	.910	1.099
Firm Size (Number of Employees)	.390		.101	.234	3.872	.000	.656	1.525
Finance Resource	.399		.073	.270	3.760	.000	.463	2.158
Regulatory Environment	.404		.073	.327	5.511	.000	.679	1.472
Technology and Information	.111		.066	.098	1.686	.093	.677	1.477
Infrastructure	.120		.057	.128	2.124	.035	.626	1.598
Market Access	.135	.117	.074	1.158	.248	.590	1.694	

a. Dependent Variable: Profitability



(3.) Regression (Factors Affecting on Asset Growth)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.713 ^a	.508	.485	.50951

a. Predictors: (Constant), Market Access, Regulatory Environment, Gender, Ownership Structure, Age, Level of Education, Technology and Information, Firm Age (Operation Period), Managerial Skills, Firm Size (Number of Employees), Infrastructure, Finance Resource, Previous Work Experience

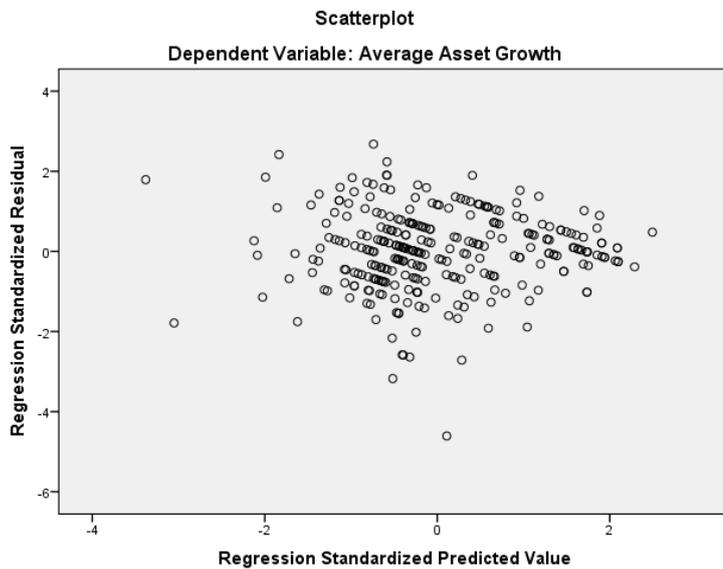
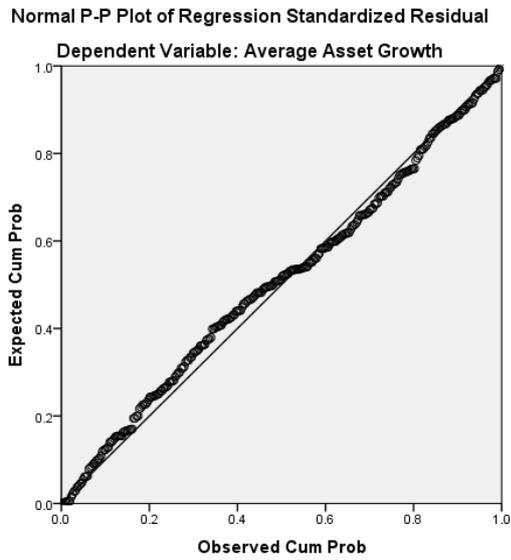
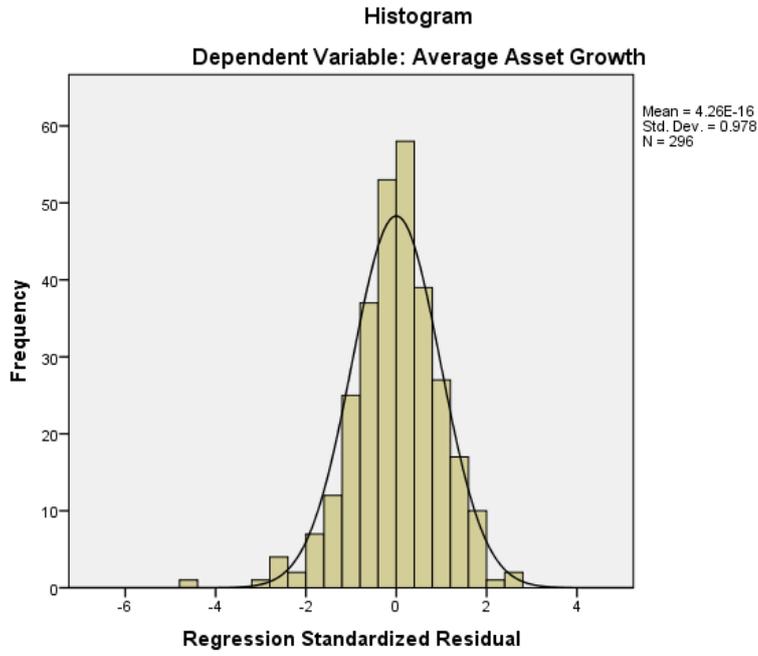
ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75.510	13	5.808	22.338	.000 ^b
	Residual	73.208	282	.260		
	Total	148.718	295			

a. Dependent Variable: Asset Growth

b. Predictors: (Constant), Market Access, Regulatory Environment, Gender, Ownership Structure, Age, Level of Education, Technology and Information, Firm Age (Operation Period), Managerial Skills, Firm Size (Number of Employees), Infrastructure, Finance Resource, Previous Work Experience

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
		1	(Constant)	-.043			.646	
Age	-.045		.041	-.057	-1.102	.272	.894	1.118
Gender	.229		.088	.132	2.598	.010	.932	1.073
Level of Education	-.034		.079	-.022	-.431	.667	.911	1.098
Previous Work Experience	-.034		.038	-.046	-.887	.376	.919	1.088
Managerial Skills	.236		.070	.177	3.063	.002	.728	1.374
Ownership Structure	.181		.167	.058	1.083	.280	.854	1.170
Firm Age (Operation Period)	.012		.034	.018	.351	.726	.910	1.099
Firm Size (Number of Employees)	.309		.097	.194	3.201	.002	.656	1.525
Finance Resource	.252		.070	.231	3.607	.000	.463	2.158
Regulatory Environment	.273		.070	.232	3.888	.000	.679	1.472
Technology and Information	.136		.064	.126	2.121	.035	.677	1.477
Infrastructure	.146		.055	.129	2.091	.037	.626	1.598
Market Access	.013		.112	.008	.117	.907	.590	1.694

a. Dependent Variable: Asset Growth



(4.) Regression (Factors Affecting on SMEs Development)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.744 ^a	.554	.533	.45006

a. Predictors: (Constant), Market Access, Regulatory Environment, Gender, Ownership Structure, Age, Level of Education, Technology and Information, Firm Age (Operation Period), Managerial Skills, Firm Size (Number of Employees), Infrastructure, Finance Resource, Previous Work Experience

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	70.902	13	5.454	26.867	.000 ^b
	Residual	57.121	282	.203		
	Total	128.023	295			

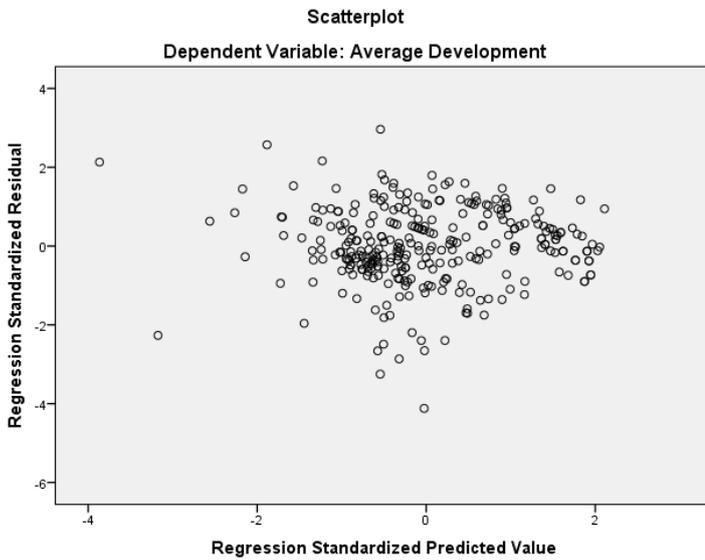
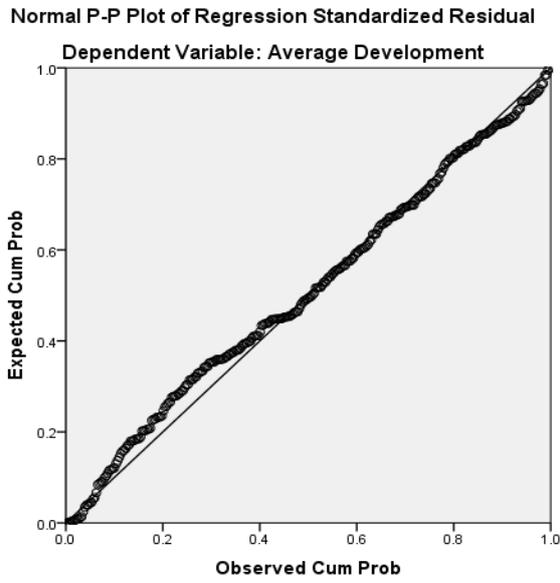
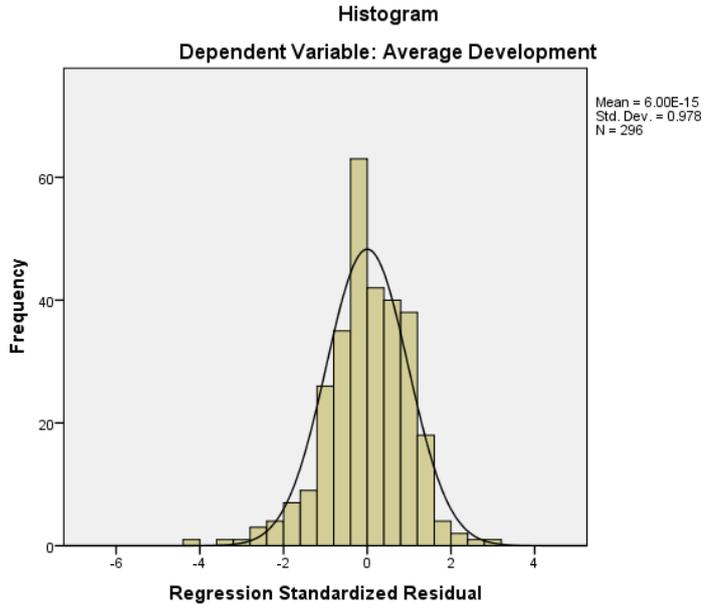
a. Dependent Variable: Development

b. Predictors: (Constant), Market Access, Regulatory Environment, Gender, Ownership Structure, Age, Level of Education, Technology and Information, Firm Age (Operation Period), Managerial Skills, Firm Size (Number of Employees), Infrastructure, Finance Resource, Previous Work Experience

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.454	.572		-.793	.428		
	Age	-.026	.036	-.036	-.729	.467	.894	1.118
	Gender	.115	.078	.103	2.108	.036	.932	1.073
	Level of Education	.027	.070	.019	.392	.695	.911	1.098
	Previous Work Experience	-.029	.034	-.042	-.850	.396	.919	1.088
	Managerial Skills	.222	.062	.196	3.556	.000	.728	1.374
	Ownership Structure	.146	.148	.050	.991	.323	.854	1.170
	Firm Age (Operation Period)	-.015	.030	-.025	-.506	.614	.910	1.099
	Firm Size (Number of Employees)	.336	.086	.228	3.931	.000	.656	1.525
	Finance Resource	.337	.062	.253	3.670	.000	.463	2.158
	Regulatory Environment	.339	.062	.310	5.446	.000	.679	1.472
	Technology and Information	.139	.056	.159	2.482	.014	.677	1.477
	Infrastructure	.128	.048	.155	2.663	.008	.626	1.598
Market Access	.071	.099	.044	.719	.473	.590	1.694	

a. Dependent Variable: Development



2. ANOVA Result

(i) Gender Average

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.104	7	.015	8.943	.003
Within Groups	.013	8	.002		
Total	.118	15			

Multiple Comparisons

Dependent Variable: Gender Average Bonferroni

(I) Industry8	(J) Industry8	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Food and Beverages	Clothing & Wearing	.09912	.04083	1.000	-.0882	.2864
	Construction	.09074	.04083	1.000	-.0965	.2780
	Personal Goods	-.05106	.04083	1.000	-.2383	.1362
	Printing and Publishing	.11220	.04083	.704	-.0751	.2995
	Mineral & Petroleum	-.08948	.04083	1.000	-.2768	.0978
	Machinery and Equipment	-.04312	.04083	1.000	-.2304	.1442
	Others	.12937	.04083	.370	-.0579	.3167
Clothing and wearing	Food and Beverages	-.09912	.04083	1.000	-.2864	.0882
	Construction	-.00838	.04083	1.000	-.1957	.1789
	Personal Goods	-.15018	.04083	.175	-.3375	.0371
	Printing and Publishing	.01308	.04083	1.000	-.1742	.2004
	Mineral & Petroleum	-.18860*	.04083	.048	-.3759	-.0013
	Machinery and Equipment	-.14224	.04083	.232	-.3295	.0450
	Others	.03025	.04083	1.000	-.1570	.2175
Construction	Food and Beverages	-.09074	.04083	1.000	-.2780	.0965
	Clothing & Wearing	.00838	.04083	1.000	-.1789	.1957
	Personal Goods	-.14180	.04083	.235	-.3291	.0455
	Printing and Publishing	.02146	.04083	1.000	-.1658	.2087
	Mineral & Petroleum	-.18022	.04083	.063	-.3675	.0071
	Machinery and Equipment	-.13386	.04083	.314	-.3212	.0534
	Others	.03863	.04083	1.000	-.1487	.2259
Personal Goods	Food and Beverages	.05106	.04083	1.000	-.1362	.2383
	Clothing & Wearing	.15018	.04083	.175	-.0371	.3375
	Construction	.14180	.04083	.235	-.0455	.3291
	Printing and Publishing	.16326	.04083	.111	-.0240	.3505

	Mineral & Petroleum	-.03842	.04083	1.000	-.2257	.1489
	Machinery and Equipment	.00794	.04083	1.000	-.1794	.1952
	Others	.18043	.04083	.062	-.0069	.3677
Printing and Publishing	Food and Beverages	-.11220	.04083	.704	-.2995	.0751
	Clothing & Wearing	-.01308	.04083	1.000	-.2004	.1742
	Construction	-.02146	.04083	1.000	-.2087	.1658
	Personal Goods	-.16326	.04083	.111	-.3505	.0240
	Mineral & Petroleum	-.20168*	.04083	.032	-.3890	-.0144
	Machinery and Equipment	-.15532	.04083	.146	-.3426	.0320
	Others	.01717	.04083	1.000	-.1701	.2045
Mineral & Petroleum	Food and Beverages	.08948	.04083	1.000	-.0978	.2768
	Clothing & Wearing	.18860*	.04083	.048	.0013	.3759
	Construction	.18022	.04083	.063	-.0071	.3675
	Personal Goods	.03842	.04083	1.000	-.1489	.2257
	Printing and Publishing	.20168*	.04083	.032	.0144	.3890
	Machinery and Equipment	.04636	.04083	1.000	-.1409	.2336
	Others	.21885*	.04083	.019	.0316	.4061
Machinery and Equipment	Food and Beverages	.04312	.04083	1.000	-.1442	.2304
	Clothing & Wearing	.14224	.04083	.232	-.0450	.3295
	Construction	.13386	.04083	.314	-.0534	.3212
	Personal Goods	-.00794	.04083	1.000	-.1952	.1794
	Printing and Publishing	.15532	.04083	.146	-.0320	.3426
	Mineral & Petroleum	-.04636	.04083	1.000	-.2336	.1409
	Others	.17249	.04083	.081	-.0148	.3598
Others	Food and Beverages	-.12937	.04083	.370	-.3167	.0579
	Clothing & Wearing	-.03025	.04083	1.000	-.2175	.1570
	Construction	-.03863	.04083	1.000	-.2259	.1487
	Personal Goods	-.18043	.04083	.062	-.3677	.0069
	Printing and Publishing	-.01717	.04083	1.000	-.2045	.1701
	Mineral & Petroleum	-.21885*	.04083	.019	-.4061	-.0316
	Machinery and Equipment	-.17249	.04083	.081	-.3598	.0148

*. The mean difference is significant at the 0.05 level.

(ii) Managerial Skills

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.607	7	.515	1.545	.152
Within Groups	96.081	288	.334		
Total	99.689	295			

Multiple Comparisons

Dependent Variable: Managerial Skills
Bonferroni

(I) IND	(J) IND	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Food and Beverages	Clothing & Wearing	-.30304	.18290	1.000	-.8798	.2737
	Construction	-.27535	.14534	1.000	-.7336	.1829
	Personal Goods	-.29892	.11717	.315	-.6684	.0705
	Printing and Publishing	-.18202	.17329	1.000	-.7284	.3644
	Mineral & Petroleum	-.08803	.10880	1.000	-.4311	.2550
	Machinery and Equipment	-.18808	.11763	1.000	-.5590	.1828
	Others	.03322	.23552	1.000	-.7094	.7759
Clothing and wearing	Food and Beverages	.30304	.18290	1.000	-.2737	.8798
	Construction	.02769	.19760	1.000	-.5954	.6507
	Personal Goods	.00412	.17790	1.000	-.5568	.5651
	Printing and Publishing	.12103	.21897	1.000	-.5694	.8115
	Mineral & Petroleum	.21501	.17251	1.000	-.3289	.7590
	Machinery and Equipment	.11497	.17821	1.000	-.4470	.6769
	Others	.33626	.27091	1.000	-.5180	1.1905
Construction	Food and Beverages	.27535	.14534	1.000	-.1829	.7336
	Clothing & Wearing	-.02769	.19760	1.000	-.6507	.5954
	Personal Goods	-.02357	.13900	1.000	-.4619	.4147
	Printing and Publishing	.09333	.18873	1.000	-.5018	.6884
	Mineral & Petroleum	.18732	.13202	1.000	-.2290	.6036
	Machinery and Equipment	.08727	.13939	1.000	-.3522	.5268
	Others	.30857	.24711	1.000	-.4706	1.0877
Personal Goods	Food and Beverages	.29892	.11717	.315	-.0705	.6684
	Clothing & Wearing	-.00412	.17790	1.000	-.5651	.5568
	Construction	.02357	.13900	1.000	-.4147	.4619
	Printing and Publishing	.11690	.16800	1.000	-.4128	.6466
	Mineral & Petroleum	.21089	.10018	1.000	-.1050	.5268

	Machinery and Equipment	.11084	.10970	1.000	-.2351	.4568
	Others	.33214	.23166	1.000	-.3983	1.0626
Printing and Publishing	Food and Beverages	.18202	.17329	1.000	-.3644	.7284
	Clothing & Wearing	-.12103	.21897	1.000	-.8115	.5694
	Construction	-.09333	.18873	1.000	-.6884	.5018
	Personal Goods	-.11690	.16800	1.000	-.6466	.4128
	Mineral & Petroleum	.09398	.16228	1.000	-.4177	.6057
	Machinery and Equipment	-.00606	.16833	1.000	-.5368	.5247
	Others	.21524	.26451	1.000	-.6188	1.0493
Mineral & Petroleum	Food and Beverages	.08803	.10880	1.000	-.2550	.4311
	Clothing & Wearing	-.21501	.17251	1.000	-.7590	.3289
	Construction	-.18732	.13202	1.000	-.6036	.2290
	Personal Goods	-.21089	.10018	1.000	-.5268	.1050
	Printing and Publishing	-.09398	.16228	1.000	-.6057	.4177
	Machinery and Equipment	-.10004	.10072	1.000	-.4176	.2175
	Others	.12125	.22754	1.000	-.5962	.8387
Machinery and Equipment	Food and Beverages	.18808	.11763	1.000	-.1828	.5590
	Clothing & Wearing	-.11497	.17821	1.000	-.6769	.4470
	Construction	-.08727	.13939	1.000	-.5268	.3522
	Personal Goods	-.11084	.10970	1.000	-.4568	.2351
	Printing and Publishing	.00606	.16833	1.000	-.5247	.5368
	Mineral & Petroleum	.10004	.10072	1.000	-.2175	.4176
	Others	.22130	.23190	1.000	-.5099	.9525
Others	Food and Beverages	-.03322	.23552	1.000	-.7759	.7094
	Clothing & Wearing	-.33626	.27091	1.000	-1.1905	.5180
	Construction	-.30857	.24711	1.000	-1.0877	.4706
	Personal Goods	-.33214	.23166	1.000	-1.0626	.3983
	Printing and Publishing	-.21524	.26451	1.000	-1.0493	.6188
	Mineral & Petroleum	-.12125	.22754	1.000	-.8387	.5962
	Machinery and Equipment	-.22130	.23190	1.000	-.9525	.5099

*. The mean difference is significant at the 0.05 level.

(iii) Firm Size (Number of Employees)

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	15.651	7	2.236	14.911	.000
Within Groups	43.183	288	.150		
Total	58.834	295			

Multiple Comparisons

Dependent Variable: Firm Size (Number of Employees)

Bonferroni

(I) IND	(J) IND	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Food and Beverages	Clothing & Wearing	-.31306	.12256	.312	-.6995	.0734
	Construction	.30233	.09739	.059	-.0048	.6094
	Personal Goods	.07018	.07851	1.000	-.1774	.3178
	Printing and Publishing	.23566	.11612	1.000	-.1305	.6018
	Mineral & Petroleum	.19257	.07291	.244	-.0373	.4225
	Machinery and Equipment	-.37040*	.07882	.000	-.6189	-.1219
	Others	.30233	.15782	1.000	-.1953	.8000
Clothing & Wearing	Food and Beverages	.31306	.12256	.312	-.0734	.6995
	Construction	.61538*	.13241	.000	.1979	1.0329
	Personal Goods	.38324*	.11921	.041	.0073	.7591
	Printing and Publishing	.54872*	.14673	.006	.0860	1.0114
	Mineral & Petroleum	.50563*	.11560	.000	.1411	.8701
	Machinery and Equipment	-.05734	.11942	1.000	-.4339	.3192
	Others	.61538*	.18153	.022	.0430	1.1878
Construction	Food and Beverages	-.30233	.09739	.059	-.6094	.0048
	Clothing & Wearing	-.61538*	.13241	.000	-1.0329	-.1979
	Personal Goods	-.23214	.09314	.371	-.5258	.0615
	Printing and Publishing	-.06667	.12647	1.000	-.4654	.3321
	Mineral & Petroleum	-.10976	.08847	1.000	-.3887	.1692

	Machinery and Equipment	-.67273*	.09340	.000	-.9672	-.3782
	Others	.00000	.16558	1.000	-.5221	.5221
Personal Goods	Food and Beverages	-.07018	.07851	1.000	-.3178	.1774
	Clothing & Wearing	-.38324*	.11921	.041	-.7591	-.0073
	Construction	.23214	.09314	.371	-.0615	.5258
	Printing and Publishing	.16548	.11258	1.000	-.1895	.5205
	Mineral & Petroleum	.12239	.06713	1.000	-.0893	.3341
	Machinery and Equipment	-.44058*	.07351	.000	-.6724	-.2088
	Others	.23214	.15524	1.000	-.2573	.7216
Printing and Publishing	Food and Beverages	-.23566	.11612	1.000	-.6018	.1305
	Clothing & Wearing	-.54872*	.14673	.006	-1.0114	-.0860
	Construction	.06667	.12647	1.000	-.3321	.4654
	Personal Goods	-.16548	.11258	1.000	-.5205	.1895
	Mineral & Petroleum	-.04309	.10874	1.000	-.3860	.2998
	Machinery and Equipment	-.60606*	.11279	.000	-.9617	-.2504
	Others	.06667	.17725	1.000	-.4922	.6256
Mineral & Petroleum	Food and Beverages	-.19257	.07291	.244	-.4225	.0373
	Clothing & Wearing	-.50563*	.11560	.000	-.8701	-.1411
	Construction	.10976	.08847	1.000	-.1692	.3887
	Personal Goods	-.12239	.06713	1.000	-.3341	.0893
	Printing and Publishing	.04309	.10874	1.000	-.2998	.3860
	Machinery and Equipment	-.56297*	.06749	.000	-.7758	-.3502
	Others	.10976	.15248	1.000	-.3710	.5905
Machinery and Equipment	Food and Beverages	.37040*	.07882	.000	.1219	.6189
	Clothing & Wearing	.05734	.11942	1.000	-.3192	.4339
	Construction	.67273*	.09340	.000	.3782	.9672
	Personal Goods	.44058*	.07351	.000	.2088	.6724
	Printing and Publishing	.60606*	.11279	.000	.2504	.9617
	Mineral & Petroleum	.56297*	.06749	.000	.3502	.7758

	Others	.67273*	.15539	.001	.1828	1.1627
Others	Food and Beverages	-.30233	.15782	1.000	-.8000	.1953
	Clothing & Wearing	-.61538*	.18153	.022	-1.1878	-.0430
	Construction	.00000	.16558	1.000	-.5221	.5221
	Personal Goods	-.23214	.15524	1.000	-.7216	.2573
	Printing and Publishing	-.06667	.17725	1.000	-.6256	.4922
	Mineral & Petroleum	-.10976	.15248	1.000	-.5905	.3710
	Machinery and Equipment	-.67273*	.15539	.001	-1.1627	-.1828

*. The mean difference is significant at the 0.05 level.

(iv) Financial Resource

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	104.827	7	14.975	79.967	.000
Within Groups	53.933	288	.187		
Total	158.760	295			

Multiple Comparisons

Dependent Variable: Finance Resource
Bonferroni

(I) IND	(J) IND	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Food and Beverages	Clothing & Wearing	-.91225*	.12977	.000	-1.3214	-.5031
	Construction	.07826	.10751	1.000	-.2607	.4172
	Personal Goods	-1.24634*	.08882	.000	-1.5264	-.9663
	Printing and Publishing	-.07891	.12977	1.000	-.4881	.3303
	Mineral & Petroleum	.04232	.08165	1.000	-.2151	.2998
	Machinery and Equipment	-1.19040*	.08845	.000	-1.4693	-.9115
	Others	-.12558	.15863	1.000	-.6258	.3746
Clothing & Wearing	Food and Beverages	.91225*	.12977	.000	.5031	1.3214
	Construction	.99051*	.14031	.000	.5481	1.4329
	Personal Goods	-.33409	.12656	.245	-.7332	.0650
	Printing and Publishing	.83333*	.15802	.000	.3351	1.3316

	Mineral & Petroleum	.95457 ⁷	.12164	.000	.5710	1.3381
	Machinery and Equipment	-.27815	.12630	.796	-.6764	.1201
	Others	.78667 ⁷	.18246	.001	.2113	1.3620
Construction	Food and Beverages	-.07826	.10751	1.000	-.4172	.2607
	Clothing & Wearing	-.99051 [*]	.14031	.000	-1.4329	-.5481
	Personal Goods	-1.32460 [*]	.10361	.000	-1.6513	-.9979
	Printing and Publishing	-.15718	.14031	1.000	-.5996	.2852
	Mineral & Petroleum	-.03594	.09754	1.000	-.3435	.2716
	Machinery and Equipment	-1.26866 [*]	.10330	.000	-1.5944	-.9429
	Others	-.20385	.16736	1.000	-.7316	.3239
Personal Goods	Food and Beverages	1.24634 [*]	.08882	.000	.9663	1.5264
	Clothing & Wearing	.33409	.12656	.245	-.0650	.7332
	Construction	1.32460 [*]	.10361	.000	.9979	1.6513
	Printing and Publishing	1.16742 [*]	.12656	.000	.7684	1.5665
	Mineral & Petroleum	1.28866 [*]	.07645	.000	1.0476	1.5297
	Machinery and Equipment	.05594	.08367	1.000	-.2079	.3198
	Others	1.12075 [*]	.15602	.000	.6288	1.6127
Printing and Publishing	Food and Beverages	.07891	.12977	1.000	-.3303	.4881
	Clothing & Wearing	-.83333 [*]	.15802	.000	-1.3316	-.3351
	Construction	.15718	.14031	1.000	-.2852	.5996
	Personal Goods	-1.16742 [*]	.12656	.000	-1.5665	-.7684
	Mineral & Petroleum	.12123	.12164	1.000	-.2623	.5048
	Machinery and Equipment	-1.11148 [*]	.12630	.000	-1.5097	-.7132
	Others	-.04667	.18246	1.000	-.6220	.5287
Mineral & Petroleum	Food and Beverages	-.04232	.08165	1.000	-.2998	.2151
	Clothing & Wearing	-.95457 ⁷	.12164	.000	-1.3381	-.5710
	Construction	.03594	.09754	1.000	-.2716	.3435
	Personal Goods	-1.28866 [*]	.07645	.000	-1.5297	-1.0476
	Printing and Publishing	-.12123	.12164	1.000	-.5048	.2623
	Machinery and Equipment	-1.23272 [*]	.07603	.000	-1.4724	-.9930
	Others	-.16790	.15205	1.000	-.6473	.3115
Machinery and Equipment	Food and Beverages	1.19040 [*]	.08845	.000	.9115	1.4693
	Clothing & Wearing	.27815	.12630	.796	-.1201	.6764
	Construction	1.26866 [*]	.10330	.000	.9429	1.5944

	Personal Goods	-.05594	.08367	1.000	-.3198	.2079
	Printing and Publishing	1.11148*	.12630	.000	.7132	1.5097
	Mineral & Petroleum	1.23272*	.07603	.000	.9930	1.4724
	Others	1.06481*	.15581	.000	.5735	1.5561
Others	Food and Beverages	.12558	.15863	1.000	-.3746	.6258
	Clothing & Wearing	-.78667*	.18246	.001	-1.3620	-.2113
	Construction	.20385	.16736	1.000	-.3239	.7316
	Personal Goods	-1.12075*	.15602	.000	-1.6127	-.6288
	Printing and Publishing	.04667	.18246	1.000	-.5287	.6220
	Mineral & Petroleum	.16790	.15205	1.000	-.3115	.6473
	Machinery and Equipment	-1.06481*	.15581	.000	-1.5561	-.5735
*. The mean difference is significant at the 0.05 level.						

(v) Regulatory Environment

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.135	7	1.019	2.931	.006
Within Groups	100.148	288	.348		
Total	107.284	295			

Multiple Comparisons

Dependent Variable: Regulatory Environment

Bonferroni

(I) IND	(J) IND	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Food and Beverages	Clothing & Wearing	-.00507	.17683	1.000	-.5627	.5525
	Construction	-.09319	.14650	1.000	-.5551	.3687
	Personal Goods	-.26168	.12103	.880	-.6433	.1199
	Printing and Publishing	.08584	.17683	1.000	-.4717	.6434
	Mineral & Petroleum	-.26007	.11127	.563	-.6109	.0908
	Machinery and Equipment	.07607	.12053	1.000	-.3040	.4561
	Others	.21917	.21616	1.000	-.4624	.9007

Clothing & Wearing	Food and Beverages	.00507	.17683	1.000	-.5525	.5627
	Construction	-.08811	.19120	1.000	-.6910	.5148
	Personal Goods	-.25660	.17246	1.000	-.8004	.2872
	Printing and Publishing	.09091	.21533	1.000	-.5880	.7699
	Mineral & Petroleum	-.25499	.16576	1.000	-.7777	.2677
	Machinery and Equipment	.08114	.17211	1.000	-.4615	.6238
	Others	.22424	.24864	1.000	-.5597	1.0082
Construction	Food and Beverages	.09319	.14650	1.000	-.3687	.5551
	Clothing & Wearing	.08811	.19120	1.000	-.5148	.6910
	Personal Goods	-.16849	.14119	1.000	-.6137	.2767
	Printing and Publishing	.17902	.19120	1.000	-.4239	.7819
	Mineral & Petroleum	-.16688	.13292	1.000	-.5860	.2522
	Machinery and Equipment	.16926	.14076	1.000	-.2746	.6131
	Others	.31235	.22806	1.000	-.4068	1.0315
Personal Goods	Food and Beverages	.26168	.12103	.880	-.1199	.6433
	Clothing & Wearing	.25660	.17246	1.000	-.2872	.8004
	Construction	.16849	.14119	1.000	-.2767	.6137
	Printing and Publishing	.34751	.17246	1.000	-.1963	.8913
	Mineral & Petroleum	.00161	.10418	1.000	-.3269	.3301
	Machinery and Equipment	.33775	.11402	.093	-.0218	.6973
	Others	.48085	.21260	.685	-.1895	1.1512
Printing and Publishing	Food and Beverages	-.08584	.17683	1.000	-.6434	.4717
	Clothing & Wearing	-.09091	.21533	1.000	-.7699	.5880
	Construction	-.17902	.19120	1.000	-.7819	.4239
	Personal Goods	-.34751	.17246	1.000	-.8913	.1963
	Mineral & Petroleum	-.34590	.16576	1.000	-.8686	.1768
	Machinery and Equipment	-.00976	.17211	1.000	-.5525	.5329
	Others	.13333	.24864	1.000	-.6507	.9173
Mineral & Petroleum	Food and Beverages	.26007	.11127	.563	-.0908	.6109
	Clothing & Wearing	.25499	.16576	1.000	-.2677	.7777

	Construction	.16688	.13292	1.000	-.2522	.5860
	Personal Goods	-.00161	.10418	1.000	-.3301	.3269
	Printing and Publishing	.34590	.16576	1.000	-.1768	.8686
	Machinery and Equipment	.33614*	.10360	.037	.0095	.6628
	Others	.47924	.20720	.600	-.1741	1.1326
Machinery and Equipment	Food and Beverages	-.07607	.12053	1.000	-.4561	.3040
	Clothing & Wearing	-.08114	.17211	1.000	-.6238	.4615
	Construction	-.16926	.14076	1.000	-.6131	.2746
	Personal Goods	-.33775	.11402	.093	-.6973	.0218
	Printing and Publishing	.00976	.17211	1.000	-.5329	.5525
	Mineral & Petroleum	-.33614*	.10360	.037	-.6628	-.0095
	Others	.14310	.21231	1.000	-.5264	.8126
Others	Food and Beverages	-.21917	.21616	1.000	-.9007	.4624
	Clothing & Wearing	-.22424	.24864	1.000	-1.0082	.5597
	Construction	-.31235	.22806	1.000	-1.0315	.4068
	Personal Goods	-.48085	.21260	.685	-1.1512	.1895
	Printing and Publishing	-.13333	.24864	1.000	-.9173	.6507
	Mineral & Petroleum	-.47924	.20720	.600	-1.1326	.1741
	Machinery and Equipment	-.14310	.21231	1.000	-.8126	.5264
*. The mean difference is significant at the 0.05 level.						

(vi) Technology and Information

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	37.851	7	5.407	17.229	.000
Within Groups	90.386	288	.314		
Total	128.237	295			

Multiple Comparisons

Dependent Variable: Technology and Information
Bonferroni

(I) IND	(J) IND	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Food and Beverages	Clothing & Wearing	-.78469*	.16799	.000	-1.3144	-.2550
	Construction	-.85264*	.13917	.000	-1.2915	-.4138
	Personal Goods	-1.01283*	.11498	.000	-1.3754	-.6503
	Printing and Publishing	.01531	.16799	1.000	-.5144	.5450
	Mineral & Petroleum	-.40321*	.10570	.005	-.7365	-.0699
	Machinery and Equipment	-.73654*	.11450	.000	-1.0976	-.3755
	Others	-.09302	.20535	1.000	-.7405	.5545
Clothing & Wearing	Food and Beverages	.78469*	.16799	.000	.2550	1.3144
	Construction	-.06795	.18164	1.000	-.6407	.5048
	Personal Goods	-.22814	.16384	1.000	-.7448	.2885
	Printing and Publishing	.80000*	.20456	.003	.1550	1.4450
	Mineral & Petroleum	.38148	.15747	.449	-.1151	.8780
	Machinery and Equipment	.04815	.16351	1.000	-.4674	.5637
	Others	.69167	.23621	.103	-.0531	1.4365
Construction	Food and Beverages	.85264*	.13917	.000	.4138	1.2915
	Clothing & Wearing	.06795	.18164	1.000	-.5048	.6407
	Personal Goods	-.16020	.13414	1.000	-.5831	.2628
	Printing and Publishing	.86795*	.18164	.000	.2952	1.4407
	Mineral & Petroleum	.44943*	.12628	.012	.0513	.8476
	Machinery and Equipment	.11610	.13373	1.000	-.3056	.5378
	Others	.75962*	.21666	.015	.0764	1.4428
Personal Goods	Food and Beverages	1.01283*	.11498	.000	.6503	1.3754
	Clothing & Wearing	.22814	.16384	1.000	-.2885	.7448
	Construction	.16020	.13414	1.000	-.2628	.5831

	Printing and Publishing	1.02814*	.16384	.000	.5115	1.5448
	Mineral & Petroleum	.60963*	.09898	.000	.2975	.9217
	Machinery and Equipment	.27629	.10832	.316	-.0653	.6178
	Others	.91981*	.20197	.000	.2830	1.5567
Printing and Publishing	Food and Beverages	-.01531	.16799	1.000	-.5450	.5144
	Clothing & Wearing	-.80000*	.20456	.003	-1.4450	-.1550
	Construction	-.86795*	.18164	.000	-1.4407	-.2952
	Personal Goods	-1.02814*	.16384	.000	-1.5448	-.5115
	Mineral & Petroleum	-.41852	.15747	.233	-.9151	.0780
	Machinery and Equipment	-.75185*	.16351	.000	-1.2674	-.2363
	Others	-.10833	.23621	1.000	-.8531	.6365
Mineral & Petroleum	Food and Beverages	.40321*	.10570	.005	.0699	.7365
	Clothing & Wearing	-.38148	.15747	.449	-.8780	.1151
	Construction	-.44943*	.12628	.012	-.8476	-.0513
	Personal Goods	-.60963*	.09898	.000	-.9217	-.2975
	Printing and Publishing	.41852	.15747	.233	-.0780	.9151
	Machinery and Equipment	-.33333*	.09842	.023	-.6437	-.0230
	Others	.31019	.19684	1.000	-.3105	.9309
Machinery and Equipment	Food and Beverages	.73654*	.11450	.000	.3755	1.0976
	Clothing & Wearing	-.04815	.16351	1.000	-.5637	.4674
	Construction	-.11610	.13373	1.000	-.5378	.3056
	Personal Goods	-.27629	.10832	.316	-.6178	.0653
	Printing and Publishing	.75185*	.16351	.000	.2363	1.2674
	Mineral & Petroleum	.33333*	.09842	.023	.0230	.6437
	Others	.64352*	.20170	.044	.0075	1.2795
Others	Food and Beverages	.09302	.20535	1.000	-.5545	.7405
	Clothing & Wearing	-.69167	.23621	.103	-1.4365	.0531
	Construction	-.75962*	.21666	.015	-1.4428	-.0764
	Personal Goods	-.91981*	.20197	.000	-1.5567	-.2830
	Printing and Publishing	.10833	.23621	1.000	-.6365	.8531

	Mineral & Petroleum	-.31019	.19684	1.000	-.9309	.3105
	Machinery and Equipment	-.64352*	.20170	.044	-1.2795	-.0075
*. The mean difference is significant at the 0.05 level.						

(vii) Infrastructure

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	69.065	7	9.866	24.291	.000
Within Groups	116.976	288	.406		
Total	186.041	295			

Multiple Comparisons

Dependent Variable: Infrastructure
Bonferroni

(I) IND	(J) IND	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Food and Beverages	Clothing & Wearing	.76550*	.19111	.002	.1629	1.3681
	Construction	.63730*	.15833	.002	.1381	1.1365
	Personal Goods	.71676*	.13080	.000	.3043	1.1292
	Printing and Publishing	.71550*	.19111	.006	.1129	1.3181
	Mineral & Petroleum	.83649*	.12025	.000	.4573	1.2157
	Machinery and Equipment	-.42200*	.13026	.037	-.8327	-.0113
	Others	.55717	.23361	.496	-.1794	1.2938
Clothing & Wearing	Food and Beverages	-.76550*	.19111	.002	-1.3681	-.1629
	Construction	-.12821	.20664	1.000	-.7798	.5234
	Personal Goods	-.04874	.18639	1.000	-.6365	.5390
	Printing and Publishing	-.05000	.23271	1.000	-.7838	.6838
	Mineral & Petroleum	.07099	.17914	1.000	-.4939	.6359
	Machinery and Equipment	-1.18750*	.18601	.000	-1.7740	-.6010
	Others	-.20833	.26871	1.000	-1.0556	.6390
Construction	Food and Beverages	-.63730*	.15833	.002	-1.1365	-.1381
	Clothing & Wearing	.12821	.20664	1.000	-.5234	.7798
	Personal Goods	.07946	.15260	1.000	-.4017	.5606

	Printing and Publishing	.07821	.20664	1.000	-.5734	.7298
	Mineral & Petroleum	.19919	.14365	1.000	-.2538	.6522
	Machinery and Equipment	-1.05929*	.15213	.000	-1.5390	-.5796
	Others	-.08013	.24648	1.000	-.8573	.6971
Personal Goods	Food and Beverages	-.71676*	.13080	.000	-1.1292	-.3043
	Clothing & Wearing	.04874	.18639	1.000	-.5390	.6365
	Construction	-.07946	.15260	1.000	-.5606	.4017
	Printing and Publishing	-.00126	.18639	1.000	-.5890	.5865
	Mineral & Petroleum	.11973	.11260	1.000	-.2353	.4748
	Machinery and Equipment	-1.13876*	.12323	.000	-1.5273	-.7502
	Others	-.15959	.22977	1.000	-.8841	.5649
Printing and Publishing	Food and Beverages	-.71550*	.19111	.006	-1.3181	-.1129
	Clothing & Wearing	.05000	.23271	1.000	-.6838	.7838
	Construction	-.07821	.20664	1.000	-.7298	.5734
	Personal Goods	.00126	.18639	1.000	-.5865	.5890
	Mineral & Petroleum	.12099	.17914	1.000	-.4439	.6859
	Machinery and Equipment	-1.13750*	.18601	.000	-1.7240	-.5510
	Others	-.15833	.26871	1.000	-1.0056	.6890
Mineral & Petroleum	Food and Beverages	-.83649*	.12025	.000	-1.2157	-.4573
	Clothing & Wearing	-.07099	.17914	1.000	-.6359	.4939
	Construction	-.19919	.14365	1.000	-.6522	.2538
	Personal Goods	-.11973	.11260	1.000	-.4748	.2353
	Printing and Publishing	-.12099	.17914	1.000	-.6859	.4439
	Machinery and Equipment	-1.25849*	.11196	.000	-1.6115	-.9054
	Others	-.27932	.22393	1.000	-.9854	.4268
Machinery and Equipment	Food and Beverages	.42200*	.13026	.037	.0113	.8327
	Clothing & Wearing	1.18750*	.18601	.000	.6010	1.7740
	Construction	1.05929*	.15213	.000	.5796	1.5390
	Personal Goods	1.13876*	.12323	.000	.7502	1.5273
	Printing and Publishing	1.13750*	.18601	.000	.5510	1.7240
	Mineral & Petroleum	1.25849*	.11196	.000	.9054	1.6115
	Others	.97917*	.22946	.001	.2556	1.7027
Others	Food and Beverages	-.55717	.23361	.496	-1.2938	.1794

	Clothing & Wearing	.20833	.26871	1.000	-.6390	1.0556
	Construction	.08013	.24648	1.000	-.6971	.8573
	Personal Goods	.15959	.22977	1.000	-.5649	.8841
	Printing and Publishing	.15833	.26871	1.000	-.6890	1.0056
	Mineral & Petroleum	.27932	.22393	1.000	-.4268	.9854
	Machinery and Equipment	-.97917*	.22946	.001	-1.7027	-.2556
*. The mean difference is significant at the 0.05 level.						