

**YANGON UNIVERSITY OF ECONOMICS
DEPARTMENT OF COMMERCE
PhD PROGRAMME**

**ANALYSIS ON RELATIONSHIP BETWEEN
MARKETING MIX AND PERFORMANCE OF
PURIFIED DRINKING WATER MANUFACTURING
BUSINESSES IN YANGON**

**YAN YAN MYO NAING
JUNE, 2018**

CERTIFICATION

I hereby certify that content of this dissertation is wholly my own work unless otherwise referenced or acknowledged. Information from sources is referenced with original comments and ideas from the writer herself/himself.

Yan Yan Myo Naing

4 Ph.D Za-3

YANGON UNIVERSITY OF ECONOMICS
DEPARTMENT OF COMMERCE
PhD PROGRAMME

**Analysis on Relationship between Marketing Mix and
Performance of Purified Drinking Water Manufacturing
Businesses in Yangon**

Submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy (PhD) of Commerce, Yangon University of
Economics, Myanmar

Supervised by:

Dr. Myint Myint Kyi
Professor
Department of Management Studies
Yangon University of Economics

Submitted by:

Yan Yan Myo Naing
4.Ph.DZa – 3

YANGON UNIVERSITY OF ECONOMICS

DEPARTMENT OF COMMERCE

PhD PROGRAMME

This is to certify that this dissertation entitled “**Analysis on Relationship between Marketing Mix and Performance of Purified Drinking Water Manufacturing Businesses in Yangon**” submitted as the requirement for the Degree of Doctor of Philosophy (PhD) has been accepted by the Board of Examiners.

BOARD OF EXAMINERS

Prof. Dr. Tun Aung
(Chairman)

Pro Rector, Yangon University of Economics

Prof. Dr. Khin Naing Oo
(External Examiner)
Rector (Retired)
Yangon University of Economics

Prof. Dr. Khin May Hla
(Referee)
Pro Rector (Retired)
Yangon University of Economics

Prof. Dr. Sein Min
(External Examiner)
Department of Economics
Yangon University of Distance Education

Prof. Dr. Daw Soe Thu
(Internal Examiner)
Head of Department
Department of Commerce
Yangon University of Economics

Prof. Dr. Moe Moe Khaing
(Internal Examiner)
Head of Department
Department of Management Studies
Yangon University of Economics

Prof. Dr. Tin Tin Htwe
(Member)
Department of Commerce
Yangon University of Economics

Prof. Dr. Mya Thandar
(Member)
Department of Statistics
Yangon University of Economics

Prof. Dr. Myint Myint Kyi
(Promoter)
Department of Management Studies
Yangon University of Economics

JUNE, 2018

Abstract

This study aims to analyse the effect of marketing mix on performance of purified drinking water manufacturing businesses in Yangon. The specific objectives are to investigate the marketing mix practices dominating in those businesses, to examine the relationship between characteristics of businesses and their marketing mix practices, and to analyse the effect of their marketing mix on performance. Business characteristics considered in this study are age, size and ownership form of businesses. Only four elements of marketing mix (product, price, place, and promotion) are accounted for this study. Performance is measured with four criteria such as sales revenue, sales volume, profit and number of employees. In this research, the simple random sampling method is applied by doing survey on 84 businesses which are located in Yangon. To collect primary data from those businesses, personal interview method is applied by using structured questionnaire. Data are collected during 2016 and 2017. To reach research objectives, the hypotheses are tested by applying linear regression analysis. From the analysis, it is found that the firms' marketing-mix practices are related to characteristics of businesses such as age and size. Large and old businesses are emphasizing more on product quality and promotion tools while small and young manufacturers are more committed in practicing delivery function tactfully. However, the large and old businesses invested more in building distribution networks and for delivery human resources. The study found that performance measured by sales revenue, sales volume, profit and number of employees is largely related to distribution practices, and performance measured by sales revenue is also related to pricing practices. Thus, for market share and for staying only at the above survival level in market, purified drinking water manufacturing businesses should compete with the use of pricing strategy. However, for long-term success with good sales revenue, profit and business growth by recruiting more employees, they should pay attention to establishment of effective and efficient distribution structure.

ACKNOWLEDGEMENTS

First and foremost, I would like to thank Professor Dr. Khin Naing Oo, Former Rector, and Dr. Tun Aung, Pro-Rector of Yangon University of Economics for giving me an opportunity to write this Ph.D thesis.

I hereby wish to enthusiastically show my sincere appreciation to my beloved and honorable teachers and members of Ph.D Steering Committee for their guidance and valuable suggestions in my thesis. I am also deeply thankful to Professor Dr. Daw Soe Thu, Professor and Head, Department of Commerce, Yangon University of Economics, for taking responsibilities of the Chairman of Ph.D Steering Committee and for her kind and generous support to finish this thesis.

I would like to convey an exceptional heartfelt gratefulness to my supervisor, Dr. Myint Myint Kyi, Professor of Department of Management Studies for her tolerant and kind supervision throughout various stages of this thesis, and her enthusiasm and exhausted energy bring this paper to light.

I would also like to thank purified drinking water manufacturing business owners/managers interviewed for this research. They all kindly share me their knowledge, experience and information about marketing mix practices in small, medium and large sized businesses they are running.

Special thanks go to my colleagues of Yangon, Meiktila, and Monywa Universities of Economics for their kind assistance in doing research and giving seminars, and also for their encouragement. I thank with pleasure to all who lovingly and patiently have helped and given me special assistance in the accomplishment of this thesis.

And last but not least to my beloved parents and family, for their full support and encouragement throughout my research work. Without their support, the completion of this paper is impossible. Thanks also go to my brothers and sister for their empathy and understanding in letting me devote all the time busy with this research.

Yan Yan Myo Naing
Ph.D Za (3)

TABLE OF CONTENTS

	Page
Abstract	i
Acknowledgements	ii
Table of Contents	iii
List of Tables	v
List of Figures	vi
List of Abbreviations	vii
Chapter 1 Introduction	
1.1 Rationale of the Study	4
1.2 Problem Statement of the Study	7
1.3 Research Questions	11
1.4 Objectives of the Study	11
1.5 Hypotheses of the Study	11
1.6 Scope and Method of the Study	12
1.7 Organization of the Study	13
Chapter 2 Theoretical Background of the Study	
2.1 Concept of Marketing Mix	15
2.2 Marketing Mix Elements	16
2.3 Empirical Studies of Marketing Mix and Performance	23
2.4 Conceptual Models of Previous Researchers	28
2.5 Items to be Measured for Marketing Mix and Performance	33
2.6 Conceptual Model of the Study	34
2.7 Analytical Framework of the Study	35
Chapter 3 Research Methodology	
3.1 Sampling Procedure	38
3.2 Pilot Study	39
3.3 Reliability and Validity Test	39
3.4 Research Instrument	49
3.5 Data Collection and Data Analysis Methods	53

3.6	Assumptions of Multiple Linear Regressions	54
3.7	Dummy Variables and Interactions in Regression Analysis	55
Chapter 4	Analysis on Relationship between Marketing Mix and Performance of Purified Drinking Water Manufacturing Businesses in Yangon	
4.1	Profile of Purified Drinking Water Manufacturing Businesses	57
4.2	Barriers to Practice Marketing Mix	60
4.3	Marketing Mix of Purified Drinking Water Manufacturing Businesses	61
4.4	Dominant Marketing Mix Practices in Purified Drinking Water Manufacturing Businesses	71
4.5	Descriptive Analysis on Firm's Characteristics and Marketing Mix	78
4.6	Analysis on Effect of Firm's Characteristics on Marketing Mix	84
4.7	Analysis on Effect of Marketing Mix on Firm's Performance	97
Chapter 5	Conclusion	
5.1	Findings and Discussions	106
5.2	Suggestions and Recommendations	110
5.3	Needs for Further Studies	117
	References	
	Appendices	

LIST OF TABLES

Table No.	Title	Page
3.1	Question Items Removed After Pilot Study	39
3.2	Reliability of Data for Marketing Mix Elements	40
3.3	Validity of Data for Marketing Mix Elements	42
3.4	Factor Loadings of Product Variable	43
3.5	Factor Loadings of Price Variable	44
3.6	Factor Loadings of Place Variable	45
3.7	Factor Loadings of Promotion Variable	47
3.8	Factor Loadings of Performance	48
4.1	Profile of Purified Drinking Water Manufacturing Businesses	59
4.2	Practices on Product	61
4.3	Pricing Practices	63
4.4	Practices for Place	64
4.5	Promotion Practices	69
4.6	Marketing Mix	71
4.7	Dominant Marketing Mix in Businesses	72
4.8	Marketing Mix Based on Size of Businesses	79
4.9	Marketing Mix Based on Ownership Form of Businesses	80
4.10	Marketing Mix Based on Age of Businesses	82
4.11	Effect of Marketing Mix on Sales Revenue	99
4.12	Effect of Marketing Mix on Sales Volume	100
4.13	Effect of Marketing Mix on Number of Employees	102
4.14	Effect of Marketing Mix on Profit	104

LIST OF FIGURES

Figure No.	Title	Page
2.1	Four P Elements of Marketing Mix	17
2.2	Factors Influencing Marketing Mix and Its Effect on Performance	29
2.3	Conceptual Model of Organization-Environment-Strategy- Performance (OESP)	31
2.4	The Relationship between Marketing Mix Strategy and Drivers of Export Performance	32
2.5	Conceptual Model of the Study	35
2.6	Analytical Framework of the Study	36

LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
BEF	Broad Environmental Factors
CAGR	Compound Annual Growth Rate
DISI	Directorate of Industrial Supervision and Inspection
FDA	Food and Drug Administration
HACCP	Hazard Analysis and Critical Control Points
MIDC	Myanmar Industrial Development Committee
MM	Marketing Mix
MP	Marketing Performance
OESP	Organization – Environment – Strategy – Performance
PE	Polyethylene
PP	Polypropylene
RBV	Resource – Based View
ROI	Return On Investment
SME	Small and Medium Enterprises
SPSS	Statistical Packages for Social Science
STP	Segmentation, Targeting and Positioning
TEF	Task Environmental Factors
YCDC	Yangon City Development Committee

Chapter 1

Introduction

Purified drinking water manufacturing was started in Myanmar during 1970s. However, Myanmar consumers were not aware of this product and the product had not developed at that time. The market for this product has developed only after the introduction of Market Oriented Economy in 1988.

Drinking water should be free from the dangers such as lead, arsenic and other toxic minerals. Purified drinking water is produced through distillation, deionization, reverse osmosis, ultra violet radiation and ozonation water treatment process. Purified drinking water manufacturing businesses are controlled by Yangon City Development Committee, (YCDC) supervised by Directorate of Industrial Supervision and Inspection (DISI), Myanmar Industrial Development Committee (MIDC) and Food and Drug Administration (FDA) for quality product. All water purification entrepreneurs have to apply the permit for digging tube well from YCDC because only raw water from tube well is allowed to be used for water purification. Afterwards, they need to register at DISI, under the Ministry of Industrial (1) and (2). Then they submit report to MIDC for the license. In the last stage, every manufactured drinking water is tested by FDA for qualified product and the qualified enterprise receives the purified drinking water production certificate. Thus DISI and FDA control and inspect these enterprises. The number of purified drinking water brands has been rising. However, some were not registered legally (Myawaddy News, July 22, 2016). Recently, FDA has shut down 13 unregistered drinking water brands in Yangon.

In this decade, people recognize that using purified drinking water is the sign of modernization, safety for health, and higher living status. Habit of drinking purified water has become more increased than before. To take advantage on these opportunities, some of the Myanmar entrepreneurs have set up purified drinking water manufacturing businesses. In almost all areas of Myanmar, people can find purified

drinking water although the products vary in terms of price, brand, packaging, product quality and other characteristics.

Bottle sizes of purified drinking water in Myanmar are 0.3, 0.6, 1, 5, 20 liters. Package size for 0.3 liter is 15-bottle case, 0.6 liter is 12-bottle plastic pack, 1 liter is 6-bottle plastic pack respectively. Most of the small businesses produce only one category (20 litre). Containers for 20 liters can be classified into two types. They are Polyethylene (PE) container and Polypropylene (PP) container. Polyethylene is flexible, durable and tear-resistant and these three characteristics are extremely important to contain heavy items. Most of the businesses use polyethylene for purified drinking water. Other characteristics of PP are crystal clear for great product presentation, stiff and hard plastic rough surface has the potential to produce scratches outstanding vapor and moisture barrier meets FDA specifications.

PE bottles possess low cost, strength and flexibility. Most of the businesses prefer PE bottles. However, most of the consumers prefer PP bottles to PE bottles. For manufacturers, PP bottles have high cost, low strength and rigidity. In the market, the price of PE bottle is about 2500 ks and PP bottle is about 4000ks. The scrap value of both of these bottles is between 500ks and 1000ks.

The purified drinking water market could be evaluated with registered brands in Yangon because one fourth of the total number of brands are sourced in Yangon. In Yangon, a large number of brands are sourced from Hlaing Township and Shwe Pyi Thar Township. In Shwe Pyi Thar Township, there is an industrial zone, and due to this point, many purified drinking water enterprises are located at that industrial zone. Although there is no industrial zone in Hlaing Township, the raw water source is in relatively better condition in that township. Therefore, the firms which consider location (raw water resource) advantage established their enterprises at Hlaing Township.

Purified drinking water market is growing significantly in the local market; however, some existing brands evaporate without knowing because they cannot survive in the world of rapidly changing customer's attitude, behavior. As number of brands is increasing, consumers are not satisfied with what they want from the product. Many brands are assumed to be reliable for health, but some are not. It is not sure that the most important factors of consumer's satisfaction are not only prices and taste of water but also the cleanliness of bottles and right time delivery services.

The success of a purified drinking water manufacturing business, in a chaotic environment, depends much on the proper marketing mix. In Myanmar, although some customers have health awareness on drinking water, many people have not yet aware well on effect of drinking water on health. Some people may pay more attention to price and convenience while others emphasize on product quality and promotion messages when making buying decision on drinking water. Moreover, some people may be more conscious in buying purified drinking water, they may consider all factors such as product, price, place, and promotion. Thus, in this market, it is not obvious that which marketing mix will lead to success and sustainable competitive advantage in Myanmar purified drinking water market. Only one common finding is that manufacturers must not neglect the marketing mix factors – product quality and attributes, pricing strategies, distribution practices (place where consumers feel convenience to buy), and promotion tools – for gaining success, even for survival in highly competitive market. Many authors also argue that understanding the customer's attitude toward 4Ps marketing mix is important (Purnomo, Ende, Vanapalli, & Mugele, 2008) in marketing products for which customer needs are continually growing; loyalty is lacking, and changes in intensive competitive environment occur. Therefore, firms should sense and respond to these changes much more quickly than competitors to create competitive advantage. To achieve competitive advantage, proper marketing mix is important.

Most purified drinking water manufacturing businesses invest and strategize more on production than on sales and/or marketing. On the other hand, the main tool that some businesses used to fight competition seems to remain in the pricing practices. The method apart from the price competition is product proliferation and differentiation, as well as product development. Manufacturers who emphasize on distinctiveness of product rely also on promotion practices for customers' impression on their products and brands. Moreover, it cannot be concluded that Myanmar purified drinking water manufacturers do not consider the place (distribution) and promotion strategies. Although some purified drinking water manufacturing businesses are largely accepted by wholesale and retail markets, some are not. These businesses are trying to get market by providing place utility to customers: establishing small factories near the targeted group of customers and sending products right to their customers' places. Thus, in purified drinking water market in Myanmar,

the hidden issue is that which marketing mix element is influencing on the performance by the growth of sales, profit and number of employees.

In this study, the effect of marketing mix on performance of purified drinking water manufacturing businesses is analyzed for some beneficiaries such as potential purified drinking water manufacturing businesses and other interesting parties to purified drinking water market in Myanmar.

1.1 Rationale of the Study

In Myanmar, bottled water is main source of drinking water for urban people. Even in rural areas, purified drinking water consumption has been steadily growing due to decreasing quality and availability of well water in rural areas. Tap water source is also not reliable, particularly for drinking, due to lack of distribution of water sufficiently by local governments, and lack of maintenance and service for water distribution system. There has not yet established an organization to take care about water from public water system as drinking water. Thus, most people do not depend on tap water source for drinking, even for cooking in some areas. Tap water supply is still only for other uses such as for washing, taking bath and so on. Thus, for drinking, bottled purified drinking water would be necessary for daily lives of Myanmar people.

Myanmar's economic growth of recent years has led to rising demand for bottled drinking water in both urban and rural areas. In some industries (for example; travelling agencies, highway express service firms, airlines), bottled purified drinking water is necessary accompanying goods to provide flawless services to their customers. There are many businesses also requiring purified drinking water for their business use. It is one of the essential resources at various kinds of restaurants, and food and beverages firms. Although some importers are distributing water purifying products and machines; they cannot penetrate into broad market due to price, and convenience to use for most households and businesses, especially in low income households and small-sized businesses. Thus, in Myanmar, purified drinking water manufacturing firms are penetrating into both consumer market and industrial market.

In the other side, as bottled water become most popular in Myanmar, there are too much private water purification factories all over the country and in almost every town. Setting up a small and medium-sized purification facility is fairly simple and can even be done in a residential house or a compound, and even small facilities can

produce about fifty to a hundred 20-liter bottles per day. Such facilities had proliferated in recent years (Myanmar Now Newspaper, 2-5-2016). By law, drinking water manufacturers are required to register with FDA and allow it to inspect their facilities for hygiene, production methods and quality tests. If FDA found illegal practices, it will subsequently release a list of banned brands and their production locations.

FDA works with municipal authorities to enforce drinking water controls. The agency conducts test and check, and issues recommendations while local authorities are responsible for granting licenses and implementing a ban and shutdown of facilities. In Myanmar, particularly in Yangon, many small and medium-sized manufacturers had entered the growing drinking water market in a bid to capture a share, however, only few cared little for quality and hygiene standards. These small and medium-sized bottled water manufacturers distribute their products to near by residential quarters in townships. Their perception is that they focus on hygiene of the water although they have not yet been inspected by FDA. They perceived that consumers of their water have nothing to fear (Myanmar Now Newspaper, 2-5-2016).

With more manufacturers entering the purified drinking water industry, market share and profit margin of early established manufacturing businesses are being squeezed. Small-scale manufacturers either licensed or unlicensed are delivering water door-to-door with lower prices to near by households. In Yangon, most residents of outskirts reckon it is healthier to buy bottled water from the delivery people, particularly for drinking, instead of using tap water. In these townships, there are several different ways this business can work. Most delivery people pay a one-time deposit to the factories before obtaining the 20-liter bottles. They then sell it at a mark-up, or they can get the commission from factories. Factories do not need to spend marketing expenses for promotion and delivery facilities and human resources; they need only to emphasize on production. The freelance delivery men will take responsibilities not only for delivery but also for customer loyalty.

Manufacturers who are running with own employees might have had difficulty finding customers. Most houses already have a delivery person and do not want to order a new brand. They want to stick with the one they trust. In such markets, it is also difficult for systematically established manufacturers to prove that their brands of water are properly treated and are safe. Households would be price sensitive to purified drinking water. It seems that manufacturers who pay less attention to water

quality and promotion would gain more market acceptance in such markets due to their lower prices and delivery persons' commitment. They could reduce price by investing less amount in location and facilities, and also by controlling marketing expenses.

On the other side, it can also be found that there are many purified drinking water manufacturing businesses established with larger amount of capital outlay, located at industrial zone, running with systematic recruited employees; and by spending larger amount of money for branding, promotion and distribution channels. They have been trying for market coverage and market share. They also gained public awareness on brand names and public recognition on product quality. However, it is not sure that their performance is better or not than mom-and-pop manufacturers.

In purified drinking water industry, in Yangon, although some mom-and-pop bottled water manufacturers were shut down for failing to comply with standards or health guidelines, many manufacturers are still alive with compliance to law although their product quality is just at minimum acceptable level.

Customers' choice on brands may or may not be related to either their awareness on quality (safety) or price. At present, although many people choose the purified drinking water instead of municipal water, it is not sure which factors can justify their selection of brands. The only obvious point is that the attractiveness of this industry is high due to increasing demand potential not only in consumer market but also in business market and relatively easy to establish. Individuals and businesses are getting more and more willingness to pay for purified drinking water, instead of using tap water. At the manufacturer side, they can manage this business for satisfactory return on investment with lower operating costs. With this condition, the purified drinking water remains a product with high profits (Olson, 1999). This incentive can attract many entrepreneurs to push production and sales of purified drinking water.

Although the industry attractiveness is high, marketing activities of successful purified drinking water manufacturing businesses cannot be seen obviously. By exploring those activities of successful players of purified drinking water market, it is beneficial for persons who would like to know the nature of purified drinking water market and who would like to gain success in that market. Developing a comprehensive understanding of how marketing practices are linked with business performance is critical for both business academics and managers.

During the recent time, particularly in 2017-2018, some brands became leading brands in purified drinking water industry while many brands have gone from industry. A significant number of brands are also still gaining satisfactory return on investment, and covering satisfactory area of market. Although they are not public figures in market, they are not weak to out of market: they can survive for a long-time with satisfactory level of return on investment. Thus, it is difficult to conclude that successful firms are practicing mass marketing or they are trying for niche market because some firms can attract their consumers with innovative design, quality assurance of product, and using relatively higher promotion budget while others are gaining profits coming from just trying for availability and targeting to households who are not too conscious on water quality.

At the view from state level, the purified drinking water industry urgently needs sophisticated guidelines and effective support from government for industry's sustainability. If FDA's inspection and follow up action is not strong and capable enough to move out low quality brands from market, quality brands will be out of market soon. During the time of lack of government's capacity to supply sufficient purified drinking water to public, the contribution of industry sector would be crucial for public health, well being, and living standard. In this industry, the financial returns of businesses are largely relating to their marketing mix practices: product quality, pricing, distribution and promotion. Manufacturers may be getting sales and profit due to product quality and brand image, price attractiveness, or flawless delivery.

According to the points mentioned above, in Myanmar, there are a number of factors that make this study a valuable area to investigate. The reliable research findings are needed so that government can develop an action plan for industry's sustainability, and existing businesses can also focus on factors influencing their performance and can get knowledge on barriers to success. Thus, this study focuses on factors influencing manufacturers' sales, profit and firm's growth in purified drinking water manufacturing businesses in Myanmar.

1.2 Problem Statement of the Study

The problem statement of the study is come out with the question of what are the important marketing mix elements that affect performance and how the purified drinking water manufacturing businesses will be highly performed.

Some purified drinking water manufacturing businesses have been in the market for many years. However, some of the businesses disappeared into oblivion from the market and some have been abolished. When the cause of the businesses' economic fall is observed, it is not very clear whether they fail because of poor marketing mix or not. Likewise, there is no concrete evidence whether the businesses are successful because of the best fit marketing mix.

The following premises have cast doubt of points as mentioned above. The first thing is the nature or characteristics of product. As water is very different from other products, there is no brand addiction or brand loyalty for water labels among the consumers. Moreover, the health education concerned with purified drinking water is not very high among the public of Myanmar. For these reasons, it is not very sure whether persuasive approach with water quality is the reliable source of success and it is not very easy to come to know in what percentage the consumers consider the quality for the selection of purified drinking water although FDA is supporting and encouraging upgrading quality. Marketers have not yet sure which is the optimum way between just trying to be compliance with FDA standards and putting high commitment to premium quality and prestigious packaging.

The historical background of the purified drinking water industry is the second issue which could be a constraint on the ability of today businesses to practice some marketing practices. The pioneering drinking water production in Myanmar is Dagon purified drinking water. It was produced by Ministry of Industry (1). At that time, purified drinking water was assumed as a luxury. As there was no publicity campaign, the product could not publicize well. Even the manufacturers seemed to assume that it did not need to advertise because water is a daily commodity like salt, oil or rice. The packing design was not able to be transparent. The packing design when these were delivered to the customers as wholesales or retails was in wooden boxes.

The time has come that the purified drinking water production enterprises are very competitive to create a famous brand in the market because of the influences of the neighboring countries' civil cultures, the transition of ways of lives of Myanmar people, and the competitive publicity campaigns of the purified drinking water productions. Although the purified drinking water is assumed as a commodity product, the effect of promotion practices can be seen in the purified drinking water market because some brands could make a fortune by using a considerable amount of advertising budgets. As some industries could seize the opportunities by establishing a

famous brand among the public, they could own most of the market shares and became the market leader. However, the historical effect is still strong on minds of Myanmar people when they make buying decision on drinking water. Thus, promotion practices and brand image would not be effective to pull them to buy this product. Competitive price offer would be more effective to attract them. It is still complex to marketers between increase in promotion budget and reduction in price.

During last decade, a variety of brands came into the market. The purified drinking water changed from a luxury product into essential goods. The technology and machinery for producing the purified drinking water could be obtained easily in the market. The loan money could be attained by means of SME development programme, and the water purification machines came into existence almost in every township of Yangon. Since there is a lack of finance for promotion, the small businesses compete against the large businesses by using a tactic of reducing price. However, for manufacturing businesses with either large size or small size, it is not sure which is more important: price or promotion.

As the consumers decided the quality of the drinking water through the naked eyes by the time there is no handy measurable machine for the public to test the sanitation of the water, the consumers bought only cheap drinking water due to the thought of the same quality with cheaper price compared to the branded drinking water. Instead of reducing the price of their established brands, the large manufacturers defended against the fighter brands by means of producing new brands with low price.

Some unethical manufacturers took advantage of the situation in which the public cannot measure the quality of the purified drinking water by selling low quality water at the price as low as they can. However, at the other side, public consciousness on quality of water, health education by word of mouth, public awareness on FDA campaigns has also been increasing.

According to the circumstances and situations, the purified drinking water producers strived to own the certificates of quality (FDA, HACCP, etc.). The product designs also changed from the former designs such as rectangle and transparent bottles with blue labels on it into the innovative and persuasive designs to meet the customers' wants and needs. The size of the purified drinking water bottles varied such as 0.6 litre, 0.3 litre, 0.2 litre, etc. in order to meet the different preferences of the customers. At that time, most of the complaints about the purified drinking water

were more concerned with the quality of the water (E.g. there were thick slime, moss, dirt and dust in the water or something else like the decline of the flavour of the water, etc.).

There are some customers preferred the brand with premium price as they thought these had better quality while many people still consumed the brand with low price without taking into account of the quality. Some customers choose the brand based on attractive, portable size and convenience design. Some customers selected their preferences based on the facts such as the flavour of the water, the sanitation of the factories and the change of the colour of water when it is boiled and put tea, etc. Thus, it is also not obvious for marketers to pay more attention on which marketing mix factors: product or price.

Concerning the place (distribution) factor, on the one hand, the inherent reason of buying purified drinking water may be convenience. Thus, the place factor or availability at place where the buyers want the product to use may be important for growing sales of businesses. Some businesses in Myanmar are trying to provide their products to end users directly. Some businesses rely on distribution network for sales growth and market share. Although businesses can change pricing, promotion and product strategies more easily; depending on financial strength; the things that can bestow the businesses such as the establishment of network, the relationship with the customers, the attainability of better dealers and the faithful and mutual beneficial wholesalers and retailers cannot happen within a short time. Even though the water purification industries can be built and established within a short time, it takes a lot of time to have the regular consumers and to have the intermediary dealers. In this context, the businesses which have a broad range of regular and loyal customers could get the upper hand and became the dominant figures in the market.

As mentioned above, for gaining success, the purified drinking water manufacturing businesses today seems to need ability to handle marketing mix. However, it is not sure for them to what extent they should do for each of these four elements. Moreover, firms' characteristics and capabilities such as firm's size and age can also be influencing factors in ability to practice such marketing mix activities.

Businesses encounter difficulty to decide which element of marketing mix is being applied as a priority in the 4Ps: product, price, place, and promotion. This study focuses on analyzing the relationship between marketing mix elements and performance of purified drinking water manufacturing businesses in Yangon. The

knowledge of the relationship between marketing mix and performances can contribute as a helping hand for the betterment of the purified drinking water manufacturing, as well as to sustain the existence of this industry. As most of the purified drinking water manufacturing businesses are SMEs, the research can also play a support role for the SMEs developments.

1.3 Research Questions

This study intends to give reliable and accurate answers to the following research questions:

Research Question 1: Which element of marketing mix is dominating in purified drinking water manufacturing businesses?

Research Question 2: Should characteristics of businesses be taken into account in designing the marketing mix?

Research Question 3: Which marketing mix element(s) is important for success of purified drinking water manufacturing businesses?

1.4 Objectives of the Study

The objectives of the study are:

1. To investigate the marketing mix practices which are dominating in purified drinking water manufacturing businesses in Yangon.
2. To analyze the effect of characteristics of businesses on the marketing mix practices of purified drinking water manufacturing businesses in Yangon.
3. To analyze the effect of marketing mix practices on performance of purified drinking water manufacturing businesses in Yangon.

1.5 Hypotheses of the Study

To reach the research objectives as mentioned above, the following hypotheses are tested in analysis part of this study:

Hypothesis 1: There is an effect of firm's size on marketing mix practices of purified drinking water manufacturing businesses in Yangon.

Hypothesis 2: The ownership form of purified drinking water manufacturing businesses in Yangon is relating to their marketing mix practices.

Hypothesis 3: There is a relationship between firm's age and marketing mix practices in purified drinking water manufacturing businesses in Yangon.

Hypothesis 4: There is an effect of marketing mix practices of purified drinking water manufacturing businesses in Yangon on their performance.

Since performance is measured with four criteria in this study, hypothesis (4) is divided into four sub parts:

Hypothesis 4(a): There is an effect of marketing mix practices on performance by sales revenue.

Hypothesis 4(b): There is an effect of marketing mix practices on performance by sales volume.

Hypothesis 4(c): Performance measured with growth by number of employees is relating to marketing mix practices.

Hypothesis 4(d): Performance measured with profit is relating to marketing mix practices.

1.6 Scope and Method of the Study

The study only focuses on relationship between marketing mix activities and performance of purified drinking water manufacturing businesses in Yangon. Marketing mix is composed of product, price, place and promotion. The sampled population includes manufacturers or marketing managers of purified drinking water manufacturing businesses which are located in Yangon.

In this study, descriptive research and empirical research are employed. Descriptive research is utilized in order to explore the current status of marketing mix practices and the business characteristics. Empirical research is appropriate when proof is sought the effect of marketing mix elements on performance in some way.

In this study, both primary and secondary sources of data are used to collect the required information. The primary data are collected from manufacturers or marketing managers of purified drinking water manufacturing businesses in Yangon by conducting interviews with structured questionnaires. Secondary data are obtained from profile and reports of selected purified drinking water manufacturing businesses, relevant text books, theses and previous research papers and journals from internet websites.

The research design is mainly quantitative with some qualitative data to support and expand upon the research findings.

The total number of purified drinking water manufacturing businesses in Myanmar is about “974”. “344” out of “974” (35%) are located in Yangon (FDA,

2016). In this study, by using the formula developed by Yamane (1973) with 90% level of precision, the sample size is “78”. Thus, it may not be representative of Myanmar as a whole or even of Yangon city as a whole.

In this study, sample random sampling method is applied. Although sample size is “78”, “84” businesses are randomly selected in this study. The analysis is conducted by groups of businesses such as small, medium, and large. The firm’s size is classified based on the number of employees employing in the businesses according to the revised private industrial enterprise law (2011).

Since the study’s major focus is on the marketing mix elements (functional level strategy), this study does not consider the corporate level strategies, business level strategies and other functional strategies such as production, finance, human resources, buying, etc. In addition, this study only focuses on purified drinking water manufacturing businesses that are located in Yangon. There are various approaches to marketing strategies such as competitive marketing strategies (Miles and Snow, 1978), product/market mix strategies (Ansoff, 1957), generic strategies (Porter, 1996) and so on. However, in this study, the scope is limited to marketing mix elements such as product, price, place, and promotion (Kotler 2006).

1.7 Organization of the Study

This study consists of five chapters. Chapter one is the introduction which includes rationale of the study, problem statement, research questions, objectives of the study, hypotheses of the study, scope and method of the study and organization of the study. Chapter two is concerned with the theoretical framework related to marketing mix and performance. The aim is to build up a comprehensive framework for the first part of the research frame work with the marketing mix and performance. After that, analytical framework is established. Chapter three presents research methodology which consists of sampling procedure, pilot study, reliability and validity test, research instrument, data collection and data analysis method, assumptions of multiple linear regressions, dummy variables and interactions in regression analysis. Chapter four examines effect of business characteristics on marketing mix activities, and marketing mix activities on performance of purified drinking water manufacturing businesses in Yangon. In this chapter, the results of the analysis are explained in detail. Finally, chapter five reveals conclusions concerning findings and discussions of marketing mix practices of purified drinking water

manufacturing businesses, suggestions and recommendations which are concerned with the future development of purified drinking water manufacturing businesses in Myanmar, and needs for further study.

Chapter 2

Theoretical Background of the Study

This chapter presents the theories and concepts that form the theoretical framework of the study. The aim of this chapter is to review theories and concepts of the marketing mix and performance. The output of the observation is a conceptual framework of the study, which forms the basis of using analytical study on the marketing mix of the purified drinking water manufacturing businesses.

2.1 Concept of Marketing Mix

Marketing mix means the product, distribution, promotion and pricing strategies to produce and carry out exchanges and achieve the target markets. “Marketing Mix – interrelated actions and solutions to meet consumer needs and to achieve the company’s marketing goals, a whole” (Sereikiene and Abromaityte, 2013). “Marketing mix – a set of relevant factors and solutions that enable customers to meet the (national) needs and achieve the goals set by the company (Pruskus, 2015). According to Singh (2016), marketing is a complex range of marketing mix solution variables used in businesses seeking to sell their goods and services. According to some authors cited by Goi, 2009:

“Marketing mix is originating from the single P (price) of microeconomic theory (Chong, 2003). McCarthy (1964) offered the “marketing mix”, often referred to as the “4Ps”, as a means of translating marketing planning into practice (Bennett, 1997). Marketing mix is not a scientific theory, but merely a conceptual framework that identifies the principal decision making managers make in configuring their offerings to suit consumers’ needs. The tools can be used to develop both long-term strategies and short-term tactical programmes (Palmer, 2004)”

According to Riaz (2011) defined marketing mix as a set of controllable marketing tools that a company uses to create a desired response in the targeted market. Set of these tools is generally referred to as 4P’s of Marketing, being Product,

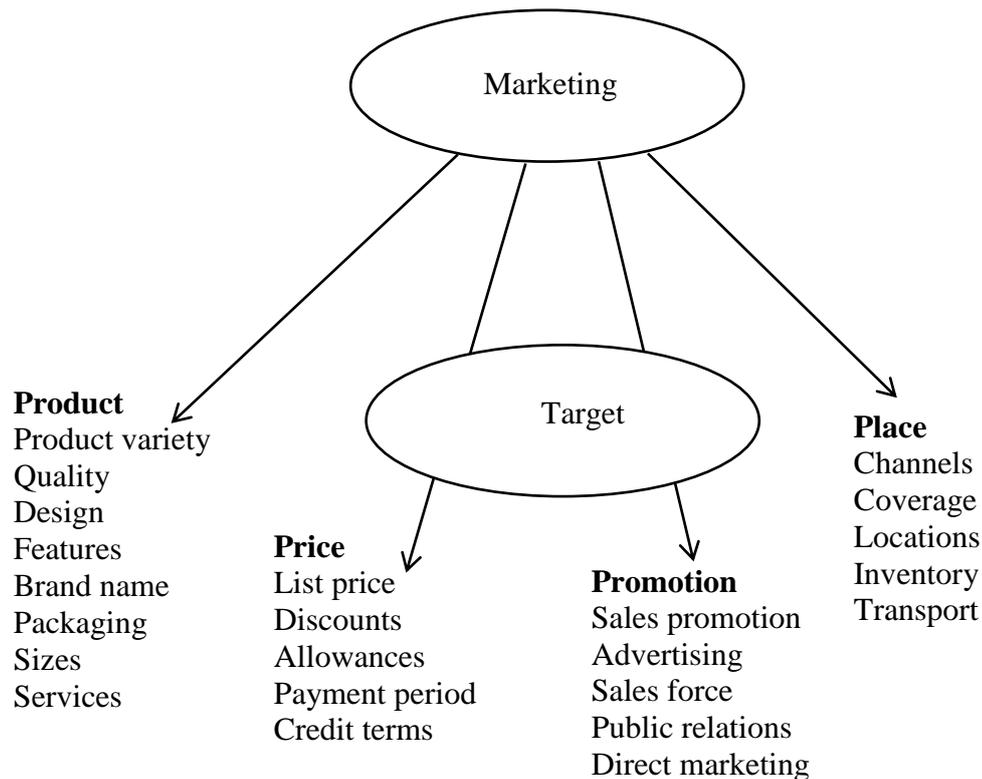
Price, Promotion and Place. Rad, Akbari (2014) also described that it is meant that the four Ps (product, price, place, promotion) should have an established and coordinated systematic approach in order to have effective influence on persuading the customers. In other words, the right product at affordable prices is accompanied by better distribution and use of appropriate communication techniques and they act together in customers' views.

Singh (2012) defined marketing mix as the combination of different marketing decision variables being used by the firm to market its goods and services. From this point of view, decision to combine marketing practices or activities should follow to identifying the market and gathering the basic information about it. An optimum combination of all marketing ingredients will lead businesses to realize performance by profit, sales volume, market share, and return on investment etc.). Therefore, to satisfy needs of customers, businesses make decision related to the product, its price, distribution/place and promotion, and the four of the group is considered to be the key marketing mix elements also called – “4P” marketing mix. However, these marketing mix elements that work in isolation could be supported by research studies on effect of marketing mix on performance.

2.2 Marketing Mix Elements

According to the theoretical aspects on marketing mix as mentioned above, it is clear that marketing mix consists of four elements namely product, price, promotion, and place/distribution. Although these four are described as elements of marketing mix, these should be viewed as practices or activities because marketers usually decide how to develop the action plan upon these four to be practiced in markets. Marketers usually consider how to create a product at the conception stage, then they decide how to price, how to distribute, and how to promote this product to fulfill the needs of targeted customers. In this study, the concept adapted is that the marketing mix is a set of controllable practices (product, price, place, and promotion) that businesses use to produce the response they want from their target markets. Figure (2.1) shows the marketing mix elements in detail.

Figure (2.1) Four P Elements of Marketing Mix



Source: Kotler (2000)

According to this figure, the first element of marketing mix is product which is considered as the core of the marketing strategy. Product is usually a combination of goods, services, and even people (Ferrell & Hartline 2002). Strategic pricing is the second element which consists of three major driven factors such as cost, market, and competitor driven pricing (Nagle, Hogan, & Zale 2000). Moving product to the right place in the right time and cost-efficient manner by efficient system is to be adopted by business management (Vignali, 2001). Promotion activities are needed for businesses to communicate the feature and the benefits of products to their intended markets, and promotion mix in a particular marketing strategy which depends on the nature of the promoted products (Czinkota, Michael, Ronkainen, & Ikka,2002).

(a) Product

Kotler & Armstrong (2006) defined a product as anything that can be offered to a market for attention, acquisition, use, or consumption that might satisfy a want or need. Many attributes of a company’s products including brand name, quality,

newness, and complexity can affect consumer behaviour. The physical appearance of the product, packaging, and labeling information can also influence whether consumers notice a product, examine it, and purchase it. One of the key tasks of marketers is to differentiate their products from those of their competitors and create consumer perceptions that the product is worth purchasing (Peter & Donnelly, 2007).

Product involves considerably more than just producing goods or services and focuses on benefits. It includes decisions about package design, brand names, trademarks, warranties, product image, new-product development and customer service (Boone, 2007).

When organizations are trying to differentiate themselves, this can be achieved by having a range of products (product mix or product assortment), means of branding, packaging and labeling, after sales service and customer service (Levitt 1983, Ennew & Watkins 1992, Kotler 2000, Baker 2000 and McDonald 2002). In this study, offering product lines, new product development, customer service, unique and attractive packaging, packaging sizes, labeling and developing long-term relationship with key customers are included in the product variable. All these activities of product variable are being practical in purified drinking water manufacturing businesses in Myanmar, especially in Yangon.

(b) Pricing

Pricing is one of the 4 Ps outlined in the marketing mix activities of a company. The price of products and services often influences whether consumers purchase them at all and, if so, which competitive offering is selected. For some offerings, higher prices may not deter purchase because consumers believe that the products or services are of higher quality or are more prestigious. However, many of today's value-conscious consumers may buy products more on the basis of price than other attributes.

Price is the only one of the four Ps that produces revenue. In setting prices, a company follows a six-step procedure: (1) select the pricing objective, (2) determine demand, (3) estimate costs, (4) analyze competitors' costs, prices, and offers, (5) select a pricing method, and (6) select the final price (Kotler, 2000).

There are many variables (Tung, Capella, & Tat, 1997; Carson, David, Gilmore, Audrey, Cummins, Darryl, 1998) that have important effects on price setting which many of them are not seen under a business control (Tung et al 1997). These

variables, which are exclusive rather than inclusive, are the unique characteristics of product (Levitt 1981; Berry, Leonard, Yadav, & Manjit, 1996; Kasper, Helsdingen, & Vries, 1999; Zeithaml and Bitner 2000), the supply and demand patterns in the marketplace (Marn and Rosiello 1992), understanding the costs structure in the company (Howcroft and Lavis 1989), the ability of the company to have some elements (superior customer service) that differentiate itself from its rivals, competitors pricing strategies (Arnold, Danny, Hoffman, McComick, & James, 1989; Zeithaml and Bitner 2000), and different environmental forces in the product business environment in which it operates (Cannon, Hugh, Morgan, & Fred, 1990; Mitra and Capella 1997).

Zeithaml (1988) discussed the concept of perceived value. Exploratory research has shown that respondents who have discussed the concept of perceived value have used the value concept in different ways. An increasing number of companies base price on customers' perceived value. They see the buyers' perceptions of value, not the seller's cost, as the key to pricing. Then they use the other marketing-mix elements such as advertising, to build up perceived value in buyers' minds.

Mitra and Capella (1997) defended the price differentiation approach. Differential pricing involves selling the same product to different buyers under a variety of prices. This is the practice of charging different buyers different prices for the same quantity & quality of products or services. Differential pricing works because the market is heterogeneous or simpler differences in reaction to price existing among consumers or consumer segments in the market.

They argue that price discrimination is affected by two broad categories; intrinsic factors and extrinsic factors. Intrinsic factors are criticality, customization of product, demand fluctuations, products characteristics. Extrinsic/environmental factors refer to the nature of the served market and degree of competition. The nature of the target market refers to the elasticity of demand and prices charged in a market segment that is being served by the company.

Companies do not usually set a single price, but rather a pricing structure that reflects variations in geographical demand and costs, market-segment requirements, purchase timing, order levels, and other factors. Several price-adaptation strategies are available: (1) geographical pricing; (2) price discounts and allowances; (3) promotional pricing; (4) discriminatory pricing, in which the company sells a product

at different prices to different market segments; and (5) product-mix pricing, which includes setting prices for product lines, optional features, captive products, two-part items, by-products, and product bundles (Kotler, 2000).

After developing pricing strategies, firms often face situations in which they need to change prices by initiating price cuts or price increases. In these situations, companies need to consider how stakeholders react to price changes. In addition, marketers must develop strategies for responding to competitors' price changes. The firm's strategy often depends on whether it is producing homogeneous or nonhomogeneous products. Market leaders who are attacked by lower-priced competitors can choose to maintain price, raise the perceived quality of their product, reduce price, increase price and improve quality, or launch a low-price fighter line (Kotler, 2000).

In this study, setting prices based on the offering something different, different customer groups or different target market segments, customization, customers' ability to pay, competitors' price, customers' perceived value, price promotions and discounts and price changes are included in the pricing activities. All these activities of pricing variable are carried out in some degree by purified drinking water manufacturing businesses.

(c) Place

Kotler and Armstrong (2006) define place or distribution as a set of interdependent organizations involved in the process of making a product available for use or consumption by consumers. Place strategy calls for effective distribution of products among the marketing channels such as the wholesalers or retailers (Berman, 1996). Place strategy in retail stores includes more than the question of how consumers access the stores and it also includes the availability of products in such stores (Kotler, Ang, Leong and Tan 2003). A store can position or reposition a product by locating that product within a store. The dimensions of place are channels, coverage, assortment, location, inventory, and transport (Borden, 1984).

Distribution is a fundamental element in the marketing mix (Harrison 2000) by which companies can cover target markets and gain access and deliver services to customers (Devlin 1995; Easingwood and Storey 1996; Shumrak 1996). The distribution element has a profound role on company operations, which may enable

the company to differentiate itself from rivals and achieve a competitive advantage in the marketplace (Friars, Gregor, & Reid 1985; Devlin 1995; Shumrak 1996).

Using multiple channels provides access to multiple market segments (Easingwood and Storey 1996). Furthermore, any employee in the company, either external e. g., intermediaries or internal e. g., employees, in contact with the customer is potentially in a personal selling role (Tina, 2000). In the past, many companies sold to a single market through a single channel. Today, with the proliferation of customer segments and channel possibilities, more companies have adopted multichannel marketing. Multichannel marketing occurs when a single firm uses two or more marketing channels to reach one or more customer segments.

Easingwood and Storey (1996) found that there were four clear-cut and very different distribution strategies. They are intermediary strategy, balanced strategy, arm's length strategy and network strategy. Intermediary strategy is using a single channel strategy with occasional support from direct response advertising. Balanced strategy is the most widely used strategy drawing on all the distribution methods. It is the only strategy that made significant use of the direct selling root. The emphasis of arm's length strategy is put on using three main methods which are direct response advertising, direct mail, and intermediaries without using any direct personal contact between the firm and its customers. Network strategy is the second most widely used employed strategy by making a heavy use of networks, either the company network or a network of intermediaries.

Arnold, Wheeler, Abernathy and Bates (1999) argue that there has been an increasing use of direct response marketing channels which include telemarketing, direct mail, and the Internet based marketing. It is expected that these methods are the most important methods in the near future. The Internet is an important direct marketing tool which can afford electronic services 24 hours a day, 7 days a week and 365 days a year and it is an effective way to market information to different market segments of consumers (Arnold et al., 1999).

In this study, using multi-distribution channels, channel member relationship based on network strategy, recruitments and trainings of all marketing and sales personnel, retaining high qualified salespersons, using electronic distribution channels and choosing effective and efficient transportation mode, providing proper delivery routes and maintaining contact with delivery drivers are comprised in place variable.

Almost all of these activities are applied in some extent by purified drinking water manufacturing businesses.

(d) Promotion

Promotion is the avenue by which businesses provide information about products, prices, and different delivery channels to a wide range of audiences. Promotion can provide an opportunity to companies to differentiate themselves at corporate and brand levels (Thwaites, Watkins, & Wright 1998). Tina (2000) has presented six major promotional tools that can be utilized by companies to enable them to communicate with different audiences. These promotional tools are advertising, personal selling, publicity and public relations, sales promotion, direct marketing, and sponsorship. Promotions such as price discounts and buying one get one free are also effective promotional tools for encouraging consumers to buy more.

In general, firms can use two types of communication channels. They are personal and non-personal communication channels. Personal communication channels involve two or more persons communicating directly with each other face to face, person to audience, on the telephone, or through e-mail. These channels derive their effectiveness through the opportunities for individualizing the presentation and feedback. Personal selling is the most expensive form of promotion (Adebisi & Babatunde, 2011). Companies that use more of personal selling are said to be adopting push strategy while those of advertising are using pull strategy. Personal selling has three distinctive qualities. They are personal confrontation (it involves an immediate and interactive relationship between two or more persons), cultivation (it permits all kinds of relationships to spring up, ranging from a matter-of-fact selling relationship to a deep personal friendship) and response (it makes the buyer feel under some obligation for having listened to the sales talk).

People in businesses have a central role to play in promoting products. Ennew and Watkins (1992) argue that that personnel selling is an integral component of any marketing mix, and is of critical importance because the essence of the delivery system is based on people. In the same context, Thwaites, Watkins, & Wright, (1998) views personal selling as an important element in the promotion which can contribute to a range of objectives such as gaining acceptance of new products by existing customers, attracting new customers for existing products, maintaining customers

loyalty, gathering market information, and facilitating future sales by provision of advice to prospects or influencers (Thwaites , Watkins, & Wright 1998).

Non personal channels include media, atmospheres, and events. Media consist of print media (newspapers, magazines, direct mail), broadcast media (radio, television), electronic media (audiotape, videotape, CD-ROM, DVD, Web page), and display media (billboards, signs, posters). Most non personal messages come through paid media. Direct marketing is defined as "an interactive marketing system of marketing which uses one or more media such as mail, fax, email, World Wide Web and other non-personal contact tools to communicate directly with or solicit a direct response from specific customers and prospects" (Tina, 2000).

Zeithaml and Bitner (2000) focus on what the company promises in its marketing communications. Customers' expectations are shaped by uncontrollable and company controlled factors. Uncontrollable factors are those variables that cannot be controlled by the company which can influence customer expectations about the company's services e.g., word-of-mouth communications and customers' experiences. Controllable variables are advertising, personal selling, and promises made by personnel.

Uncontrollable and controllable variables play a crucial role in shaping customers' expectations and perceptions about the company and its products (Zeithaml and Bitner 2000). In this study, advertising based on demand/supply condition, through mass media marketing, web/internet advertising, public relation by establishing relationship with influencing organizations, direct marketing, using sales forces, discounts, free sample, free of charge and paying competitive commission are combined to design the promotion variable. All or some of these activities are performed by purified drinking water manufacturing businesses in Yangon.

2.3 Empirical Studies of Marketing Mix and Performance

In global market, bottled water marketers emphasize close links with nature, name and bottle label, design and wording to launch their products internationally. Major transnational food companies such as Nestle, Pepsi and Coca-Cola have all moved into water. More than 2900 brands of bottled water are produced in over 115 countries and the majority of these emphasizes on some kind of link between product and place (John, 2006).

Consumers choose to drink bottled water for several reasons. In many cases, it is because the consumers think bottled water tastes better than tap water, which they think is a sign for better quality. Furthermore, consumers are very health conscious, so they perceive bottled water as safer and of better quality (Ferrier, 2001). The increasing usage of bottled water represents a change in ways of life, for example, the increasing urbanization deteriorates the quality of tap water, but at the same time, the increasing standard of living enables people to drive far and bring home heavy and expensive bottled water (Ferrier, 2001).

Dupont (2005) claimed that while bottled water purchases may be due to convenience, health concerns may also play a role. Rosemann (2005) pointed out that drinking water demand depends on household's income. According to Gonzalez (2005), in this study points out that choosing bottled water captured health related, purity, relaxing, refreshing, image, energizing, price and taste.

Anitha (2011) stated that the people's consumption of packaged water has increased considerably. To attract consumers, the companies producing packaged water give advertisements and have good distribution network for marketing the same. Ogbuji (2011) found that branding is one of the most intriguing marketing strategies used for the purpose of winning or overcoming competition; its efficacy is not in doubt.

Joanna (2011) concluded that bottled water was the primary source of drinking water for almost all households. Veidung (2011) presented that there is a relationship between bottled water's design and the consumers' perception of the quality of the water contained in the bottle as well as consumers' purchase intention. Although the entrepreneurship literature criticizes smaller firms as lacking in marketing abilities and different from larger firms, the findings of this study argue that in a modern world, in fact, there were similarities in practice across firm size. In terms of performance measurement, the results of the study show that smaller firms tend to rely primarily on financial indicators. Larger firms are more comprehensive in this task. Although both types of firm focus on financial indicators, smaller firms do not use other types of measures (especially competitive comparisons) to the same extent. Moreover, they also presented that the current business practices of both smaller and larger firms involve managing the marketing mix to attract customers. They also emphasize the development and management of personal relationships with individual customers and efforts to position the firm in a net of various market relationships.

With respect to the previous study on marketing strategy and performance, Nashwan & Abdullah (2015) revealed that all the marketing mix variables have an impact on the overall firm performance. In addition, the author also asserted that product homogeneity has moderating effects on firm performance. Moreover, Mamoun & Awwad (2003) revealed that the marketing strategy elements have a positive and significant effect on the companies' performance measured by financial and non-financial (marketplace and customer) criteria. The effect of the marketing strategy components was found to have varied according to the companies' performance criteria measured by financial and, non-financial (marketplace and customer based) criteria.

In addition, Yiming (2005) presented that long-term differentiation marketing strategy, R&D as a percentage of sales, and years in business are positively associated with a small firm's business performance in China.

Akinyele (2011) asserted that strategic marketing is a driver of organizational positioning in a dynamic environment, and that it helps to enhance the development of new product/service for existing markets. With respect to strategic marketing and its effect on business performance, Matti (2006) revealed that the effect of inside-out marketing capabilities on financial performance is the strongest, followed by innovation orientation, outside-in marketing capabilities and market orientation.

Effective marketing mix have greatly contributed towards improved business performance in different aspects of a firm such as the growth in sales volume, the level of the return on investment as well as maintenance of the goodwill. This implies that effective marketing mix strengthen the level of competitiveness and the market share.

Cravens & Piercy (2009) stated that the performance marketing is the contribution of the implementation of marketing strategies and the creation of value on corporate profits measured by sales, operating profit, and market share. According to Haghghinasab, Sattari, Ebrahimi and Roghanian (2013) cited by Ebitu (2016), performance can be measured based on growth, market share and profitability. Growth reflects performance trends in terms of sales and market share gains. Growth in sales and market share are important to a business to ensure long-term validity and resources availability.

Venkatraman (1990) argued that in strategy research, profitability (efficiency orientation) is the most common dimension of performance. In the same vein, Day

and Wensley (1988) argue that the most common indicators of marketing effectiveness and competitive advantage are market share and profitability. According to Laitinen (2002), performance can be defined as the ability of an object to produce results in a dimension determined a priori, relative to a target.

Profitability reflects an efficiency of current performance. Some marketing authors such as Hunt and Morgan (1995) have viewed profitability as the ultimate organizational outcome and it is commonly used in strategic marketing studies. Fahy, Graham, Cox, Beracs, & Jozsef (2000) sought to use relative profitability measures and to supplement them with additional market-based performance measures. Four performance criteria were used, two financial (profit and ROI) and two market-based measures (sales volume and market share).

Market performance can be measured by sales growth or market share. There has been much interest in the evaluation of company's performance from both academic and practitioners' perspectives (Dess and Robinson 1984). Both academic literature and perspectives of managers normally view a business as successful if it achieves sound financial performance and enhances its position in the marketplace.

The study focuses on profit, sales revenue, production volume and number of employee because they are widely recognized as the most important indicators of performance (Capon, Farley, and Hoenig, 1990 and Kaplan and Norton, 1996) and because of their relevance regardless of strategy level or strategy type.

Product and Performance

Kotler et al., (2003) sees a product as about quality, design, features, brand name and sizes which influences purchase. Mustapha, (2013) also assert that product is the physical appearance of the product, packaging, and labelling information, which can influence behaviour whether consumers notice a product in-store, examine it, and/or purchases it. However, in all circumstances a product's quality should be consistent with other elements of the marketing mix. Product influences have a significant impact on business performance (Gbolagade & Ouewale 2013). Similarly, prior researchers have clearly suggested that product influences have a significant impact on business performance (Owomoyela, Oyeniya, & Ola, 2013).

Price and Performance

Kotler et.al (2003) defines price as a cost of producing, delivering and promoting the product to be exchanged by the organization. Zeithaml (1988) is of the view that monetary cost is one of the factors that influence consumer's perception of a product's value. Price can be stated as the actual or total rated value of a product which is up for exchange. The price set for product or service plays a significant role in its marketability.

Pricing for products or services that are more commonly available and acceptable to the market is more elastic, meaning that unit sales go up or down more responsively in reaction to price changes. Factors that influence price elasticity are supply and demand, the availability of the product or service and of good substitutes, their respective prices, and the extent to which the product or service is desired.

Price component can be controlled by the entrepreneur. Although there could be a number of value propositions, businesses could find the greatest likelihood for business success by competing with high price, offering customers better value. As an alternative, an effective market-entry strategy for a new business venture might be pricing at the high end especially when the customer perceives the product or service to provide greater customer value. In some instances, a business owner might presume that their customers always purchase on the basis of lower price. Contrary to that belief, however, experience often shows that customers often pay significantly higher prices for better service, better quality, preferred brand or image, and customer convenience. In a study by Owomoyela et al, (2013) they establish significant relationship between price and business performance.

Place and Performance

McCarthy, Perreault and Cannon (2011) define place as any way that the customer can obtain a product or receive a service. They also defined distribution as another name for place. According to them, it is the third element of the marketing mix, and it encompasses all decisions and tools which relate to making products and services available to customers. Armstrong, Gary, & Kotler (2011) also define place or distribution as a set of interdependent organizations involved in the process of making a product available for use or consumption by consumers. Owomoyela et al. (2013) agreed that place has significant effect on business performance. Many

businesses effectively leverage the place component of the marketing mix through effective use of location variables.

Promotion and Performance

Promotion appears as an issue of how to create an optimal mix of marketing communication tools in order to get a product's message and brand from the producer to the consumer. Businesses that understand promotions as part of an integrated marketing campaign recognize the importance of this. Integrated marketing links public relations, advertising, direct marketing, and other marketing activities in a coordinated fashion. In the same vein, Zeithaml, Berry, & Parasuraman (1996) describes promotion as part of specific effort to encourage customers to tell others about their sundries. They also report that promotion appears as an issue of how to create an optimal mix of marketing communication tools in order to get a product's message and brand from the producer to the consumer. Kotler, et al (2003) discovers that promotions have become a critical factor in the product marketing mix which consists of the specific blend of advertising, personal selling, sales promotion, public relations and direct marketing tools that the company uses to pursue its advertising and marketing objective.

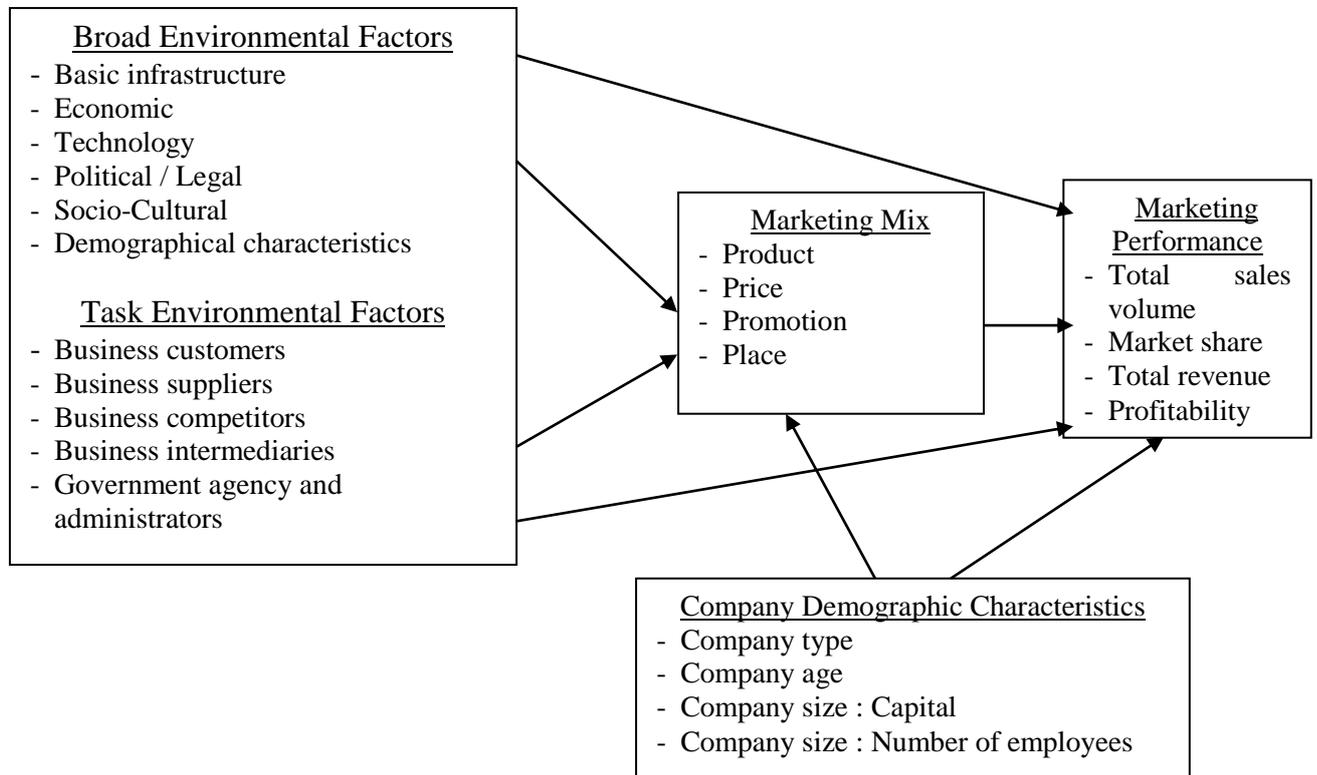
Ferle and Steven (2006) found that the effectiveness of product advertisement in television is still doubtful. Ailawadi & Bari (2006), found that the net impact of promotions is still negative. In another research, Gedenk and Scott (1999) reported that in-store price promotions are associated with negative purchase event feedback compared to non-promotion purchases.

2.4 Conceptual Models of Previous Researchers

This study's conceptual model comes out from review on some conceptual models developed by previous researchers. This study's conceptual model is adapted to three previous researchers' models which are closely related to basic assumptions of this study. The first model is not limited to a specific industry; its focus is on Chinese owned businesses running in Jordan. The second model is about the environment, marketing strategies including marketing mix strategies, and performance in property (real estate) industry. The third model emphasized on influencing factors, marketing mix and performance of cloths exporting businesses.

The first model adapted by this study is developed by Lilin, Muhammad, & Younes, (2013), and this model is shown in Figure (2.2).

Figure 2.2 Factors Influencing Marketing Mix and Its Effect on Performance



Source: Lilin, Muhammad, & Younes, (2013)

Figure (2.2) presents the factors influencing marketing mix, and the effect of marketing mix on performance of Chinese owned businesses running in Jordan. Since the first part of their research focus is to analyse the influence of host country's environmental factors on firms' marketing mix, they accounted not only for the effect of company's demographic factors but also the effect of broad environmental factors and task environment factors on marketing mix of home country's companies.

Since this study focuses only on Myanmar companies running in Yangon, the broad environmental factors such as political and legal, economic, social, technological factors and demographic factors of citizens are neglected in this study. Moreover, this study also excludes the effect of task environment factors such as customers' information; forces from suppliers, competitors, intermediaries and government agencies on marketing mix. The assumption of excluding these factors in

this study is that all the businesses analysed in this study are running in a specific industry so that all the broad and task environment factors are same for this industry's businesses. The marketing mix would be varied only with firms' characteristics. Thus, this study only emphasizes on the effect of incumbent businesses' characteristics such as type of ownership, firm's age, and firm's size on their marketing mix. Although the previous study considered the firm's size by both capital amount and by number of employees, this study considered only by number of employees due to difficulty of availability of financial data.

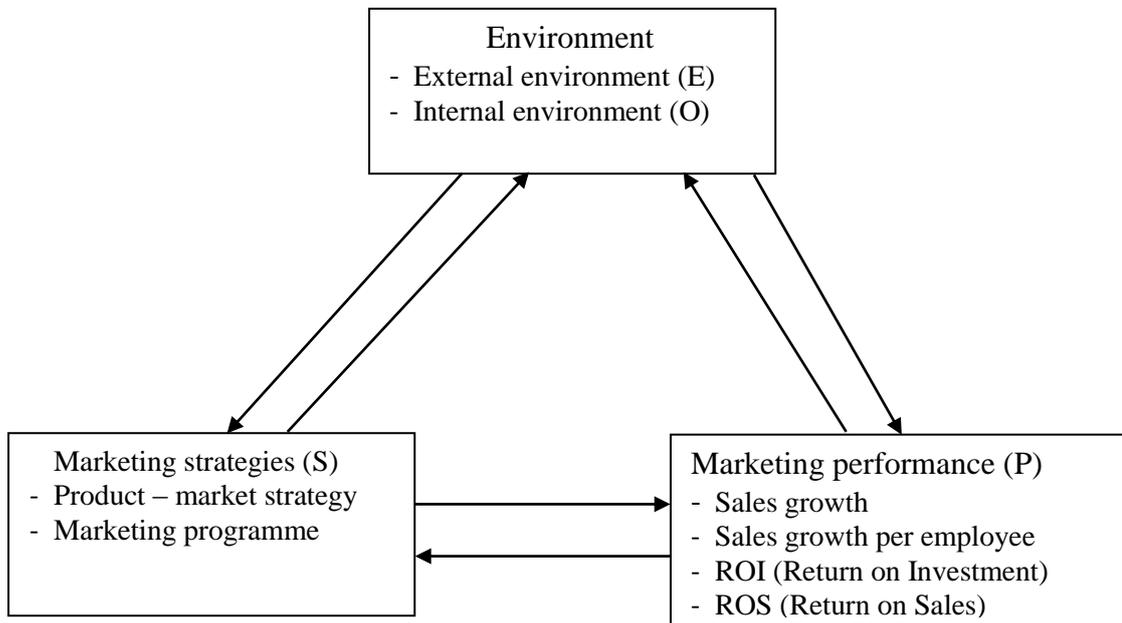
This previous research approached marketing mix with four elements such as product, price, place, and promotion. The same approach is adapted by this study. In this study, the marketing mix of purified drinking water manufacturing businesses is also assessed with four Ps (product, price, place/distribution, and promotion).

In this previous study, firm's performance is measured with four criteria such as sales volume, sales revenue, profitability, and market share. In Myanmar, the market share data of businesses running in various industries, especially in purified drinking water industry, is very difficult to be obtained, and even if it is available, the reliability and accuracy of data will be questionable. Instead of using the market share as a criterion to measure performance, in this study, firm's growth by increase in number of employees is taken into account. All other three criteria (sales volume, sales revenue, and profitability) are used as the criteria to measure the performance. However, instead of profitability, the data of increase in profit amount is used in this study.

Although the time horizon to assess the effect of marketing mix on performance is not mentioned clearly in this previous research, a relevant time horizon for this study is identified by concerning industry's current market factors. The time horizon to measure the effect of marketing mix on performance of purified drinking water manufacturing businesses in Myanmar should not be long because of the nature of product (consumable product), price sensitivity of most consumers, and relatively faster response from customers to marketing practices of businesses. Moreover, most marketers of purified drinking water inn Myanmar normally do not devote much time to wait the return form changing in marketing mix. They have to be flexible to change their marketing mix to respond to market. Thus, in this study, the time horizon to measure the effect of marketing mix on performance is one-year (during 2016 and 2017).

The second model considered in this study is the model developed by Chih (2003). This previous model is shown in Figure (2.3).

Figure 2.3 Conceptual Model of Organization-Environment-Strategy-Performance (OESP)



Source: Chih (2003)

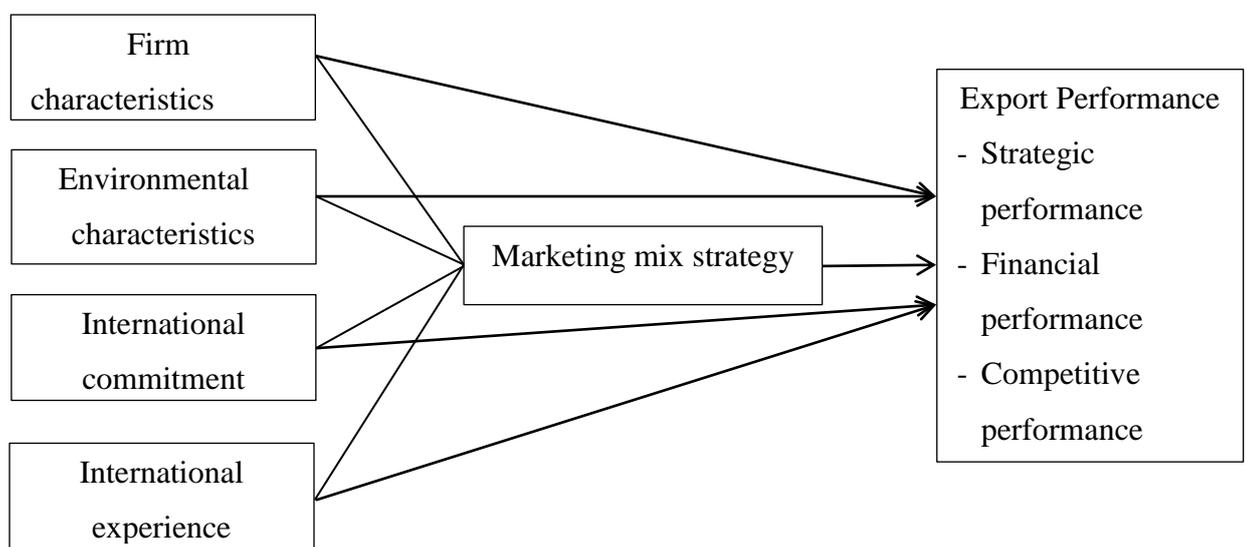
The model shown in Figure 2.3 pointed out those marketing strategies can be seen with two approaches: product-market strategy approach and marketing programme approach. Product-market approach is based on the product-market matrix developed by Ansoff (1957). In this matrix, there are four product-market strategies such as market penetration, market development, product development, and diversification strategies which can be seen as non-price competitive strategies.

This study's scope does not cover the area of product-market strategies practiced by purified drinking water manufacturing businesses. This study only focuses on the second approach of previous research: marketing programme approach. Marketers develop the marketing programme which consists of decisions on marketing mix activities such as product development, pricing, distribution and promotion practices. This study accounted for this second approach (marketing programme or marketing mix approach) of previous research.

In previous study as shown in Figure (2.3), the marketing strategies are relating to both external environment and internal environment factors of businesses. This previous research is limited to businesses running in the property market, and it assumed that the perception on environment will be varied with firms' capabilities. In this study, most respondent businesses are SMEs, thus their capabilities would not be largely different between each other. Significant difference would be seen only in firm's age and size. Moreover, the focus of this study is only on the effect of firm's characteristics on marketing mix, and the effect of marketing mix on performance. Thus, in this study, the effect of environment on marketing mix is excluded. However, the relationship between marketing mix and performance analysed in previous research is considered in this study. Although the performance is measured with sales growth, sales growth by employees, return on investment, and return on sales in previous research, this study accounted for more relevant measures such as sales revenue, sales volume, profitability and number of employees. Instead of return on sales and return on investment, profitability data is more available and also more reliable in Myanmar. Sales growth per employee is also not relevant to measure firm's performance in purified drinking water manufacturing businesses in Myanmar.

The third model adapted in this study is model developed by Erdil and Ozdemir (2016), and this previous research's conceptual model is shown in Figure (2.4).

Figure (2.4) Relationship between Marketing Mix Strategy and Drivers of Export Performance



Source: Erdil & Ozdemir (2016)

In this previous research; firm characteristics, environmental characteristics, international commitment and international experience are considered as factors influencing marketing mix and export performance of cloths exporting businesses in Turkish. It also analysed the relationship between marketing mix and export performance.

In this study, although the effect of firm's characteristics on marketing mix in purified drinking water manufacturing businesses is considered; the effect of environmental characteristics, international commitment and international experience on marketing mix is not accounted. This study only focuses on domestic businesses and only on domestic market, not on international businesses and international market. Thus, influences of such factors are neglected.

In previous research, performance is measured with strategic performance, financial performance, and competitive performance. Since these performance data are collected with Likert scale questions, this approach is not adapted in this study with intention for more validity and accuracy. In this study, the performance is measured with scale type (approximate quantity) data. Thus, in this study, the strategic performance and competitive performance are excluding.

2.5 Items to be Measured for Marketing Mix and Performance

The main sources of formulating the questions that are used for constructing the research questionnaire are the examination of conceptualizations and previous empirical studies, literature of marketing strategy formulation and companies' performance measurement that have been conducted in different business contexts. The most critical point in developing and designing a questionnaire is visiting and revisiting the research objectives where a good research questionnaire is one that accomplishes its objectives. Consequently, an operational definition for each variable was constructed as precisely as possible, which enabled the researcher to develop the questionnaire.

Questionnaire for marketing mix elements is developed mainly based on previous papers. Items for product element - range of product, product quality and new product development are recommended (Stanley & Eric, 2001). Customer service item is recommended by Matti (2006). Items such as after sales services, packaging and labeling are acquired from the previous study of Meghna & Fang (2012).

Concerning with the price element, items - cost based pricing and perceived value pricing are recommended by Matti (2006). Rugut (2012) recommends competition based pricing, differentiation based pricing and discrimination based pricing for price element.

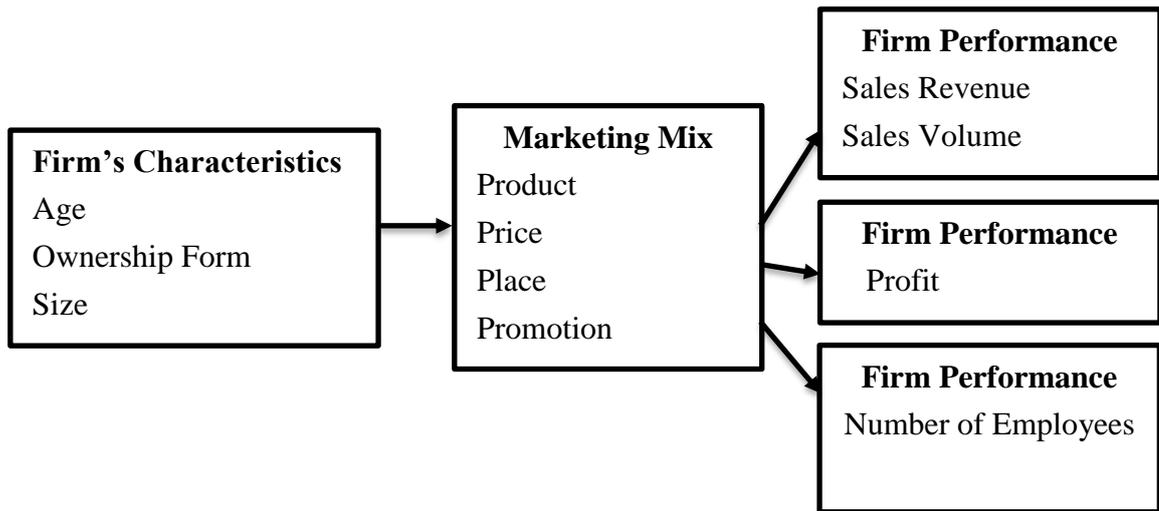
In case of place element, company sale force and intermediaries are recommended by Matti (2006). Meghna & Fang (2012) recommends multi-distribution channel, telemarketing distribution, using direct mail and using internet to be included in the place activities.

In concern with the promotion element, advertising, personal selling, publicity and public relations are recommended by Stanley & Eric (2001). In addition, sales promotion and direct marketing are recommended by Meghna & Fang (2012). In case of performance measurement, profit, sales revenue, sales volume and numbers of employee are recommended by Stanley & Eric (2001), Chih (2003) and Lilin, Muhammad, & Younes (2013). Thus this source is based, and the four items are applied to measure the performance relative to last financial year.

2.6 Conceptual Model of the Study

The conceptual model of this study is developed by concerning the factors mentioned above with theoretical aspects, and previous researchers' findings. The conceptual model of this study is depicted as shown in Figure (2.5).

Figure (2.5) Conceptual Model of the Study



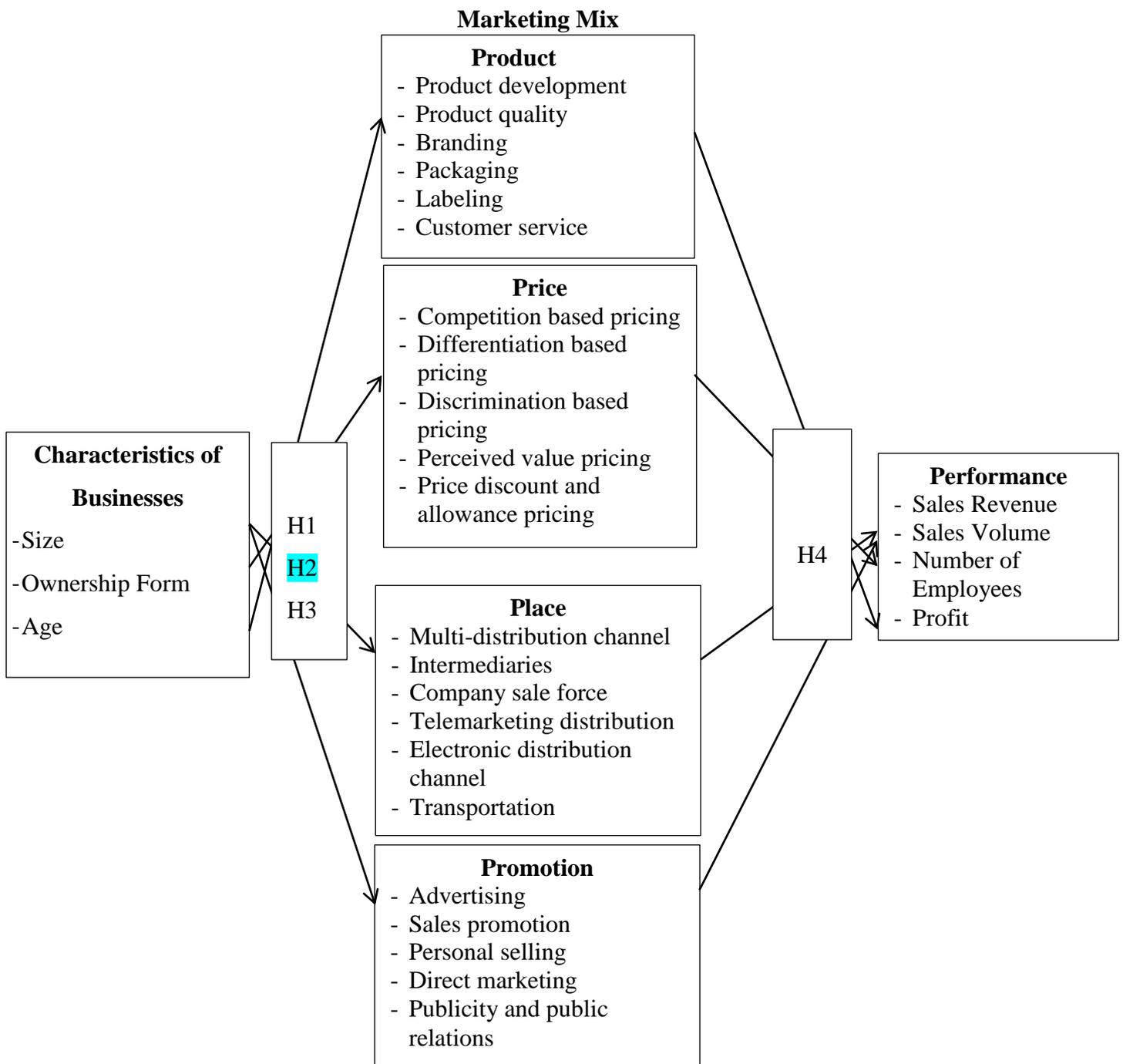
Source: Own Compilation

In this study, the two major assumptions are developed: the firm's characteristics such as firm's age, ownership form and firm's size are relating to marketing mix; and there is an effect of marketing mix on firm's performance in purified drinking water manufacturing businesses in Yangon. The concept adapted is that the marketing mix is a set of controllable practices (product, price, place and promotion) that business use to produce to produce the response they want from their target market (Raiz, 2011)

2.7 Analytical Framework of the Study

To prove the background concept of this study, the empirical tests are taken by using an analytical framework. The analytical framework is based on the above mentioned models of previous researchers and conceptual model. The analytical framework of this study is illustrated in Figure 2.6.

Figure (2.6) Analytical Framework of the Study



Source: Own Compilation

The analytical framework of this study consists of three main parts. They are business characteristics, marketing mix and performance. Business characteristics consist of size, ownership form and firm’s age. The elements of marketing mix are product, price, place and promotion. The measurements of performance are profit, sales revenue, sales volume and number of employees.

To analyse the marketing mix element (product), the factors considered as question items in questionnaire are product development, product quality, branding, packaging, labeling, warranty, and customer service. For second element of marketing mix (price) is analysed with the factors such as competition based pricing, differentiation based pricing, discrimination based pricing, perceived value pricing, and price discount and allowance pricing. The third element (place) is assessed with the factors such as multi-distribution channel, intermediaries, company sale force, telemarketing distribution, electronic distribution channel, and transportation. The fourth element of marketing mix is analysed with the factors such as advertising, sales promotion, personal selling, direct marketing, and publicity and public relations. In this study, the extent of manufacturers' commitment on each of the marketing mix elements is analysed. In the study, the relationships between firm's characteristics and marketing mix, and the effect of marketing mix on firm's performance are also analysed.

Chapter 3

Research Methodology

This chapter consists of six components such as sampling procedure, pilot study, reliability and validity test, research instruments, data collection and data analysis method, and testing assumptions of multiple linear regression method.

3.1 Sampling Procedure

According to the FDA statistics (August, 2016), total number of purified drinking water manufacturing businesses in Myanmar is (974). Among them (344) are located in Yangon. Specifically, these businesses are situated in (24) townships in Yangon region. This is the targeted population of the study.

To identify the sample size, the following formula of Yamane (1973) is applied:

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

In this formula, the sampling deviation (e) is 0.1 (90% of level of precision).

$$n = \frac{344}{1 + 344 (0.1)^2}$$

Thus, the sample size is 78.

Although the sample size is “78”, the study focuses on “84” businesses. Sample design employed in this study is simple random sampling.

The findings cannot generalize for all purified drinking water manufacturing of Myanmar. However, the selected area is the most purified drinking water manufacturing businesses populated area of Myanmar. Moreover, Yangon is well-known city where well-known branded purified drinking water manufacturing businesses are located. Moreover, there are relatively more opportunities (e.g., easy access to raw materials, population density, modern lifestyles and so on) are attractive in Yangon for purified drinking water manufacturing businesses.

3.2 Pilot Study

Pilot survey is conducted with two objectives: to modify the questionnaire and to set the hypotheses of this study. To complete and to validate the questionnaire, the pilot study is conducted during 2017 by making personal interviews with 15 owners / marketing managers who are responsible for designing marketing strategy. After pilot study, the questionnaire (first version) is modified by removing some question items which are ambiguous and unnecessary to be included in final version. The modifications made after pilot can be seen in Table (3.1).

Table (3.1) Question Items Removed After Pilot Study

Sr. No.	Variable	No. of Question Items Removed	No. of Question Items Left after Removing
1	Product	6	7
2	Price	2	8
3	Place	1	9
4	Promotion	4	10

Source: Survey Data (2017-2018)

As shown in Table (3.1), questions for all four variables are modified after the pilot study.

3.3 Reliability and Validity Test

The validity and reliability of research measures are crucial parts of any survey, which must be assessed and examined in order to make sure of the goodness of the measures used in the research. A reliable research instrument may not be necessarily valid.

The reliability is in need but it is not a sufficient condition for validity. The reason for this is that a reliable measure may be reliable but it can be measuring something else other than what it is originally designed to measure. This suggests that assessing the validity of a research instrument is more difficult than assessing its reliability. However, both validity and reliability are crucial aspects for measures that

are interconnected and overlap to some degree (Moser and Kalton 1971; Oppenheim 1992; Sekaran 2000; Churchill & Gilbert, 2001).

In this study, the questionnaire is developed by referring to the previous research papers. After the pilot study, the items with Likert type scale are tested for reliability by calculating the Cronbach's Alpha values. Such items are also tested for validity with factor analysis.

3.3.1 Reliability Test

For reliability of data collected from 84 respondents, the Cronbach's Alpha values are tested for all variables for which Likert type scale questions items are developed. The Cronbach's Alpha values of marketing mix and performance are shown in Table (3.2).

Table (3.2) Reliability of Data for Marketing Mix Elements

Sr. No.	Variables	Cronbach's Alpha	No. of Items
1	Product	0.837	7
2	Price	0.854	8
3	Place	0.925	9
4	Promotion	0.910	10
5	Performance	0.946	4

Source: Survey Data (2017-2018)

As shown in Table (3.2); Cronbach's Alpha values for product, price, place and promotion and performance are greater than 0.7¹. Thus, the reliability of data for these variables is acceptable.

In this study, the performance is measured with measurements (profit, sales revenue, sales volume and number of employees). Performance growth percent relative to last financial year is applied. The reliability test is also conducted for this measure. The Cronbach's Alpha value for this measure of four items is 0.946. Thus, the reliability is strong for this variable.

¹ The reliability coefficient of .70 or higher is considered "acceptable" in most social science research situations (Cohen R, Swerdlik M, 2010)

3.3.2 Validity Test

In this study, the question items' validity is also tested are also tested with factor analysis. As preliminary analysis, the R-matrix (correlation matrix) is checked. The top half of this matrix contains the Pearson correlation coefficient between all pairs of questions whereas the bottom half contains the one-tailed significance of these coefficients. First, the significance values are scanned for any variable for which the majority of values are greater than 0.05. Then, the correlation coefficients are scanned for any greater than 0.9. If any are found then check the determinant of the correlation matrix to avoid the problem of singularity in the data. The determinant should be greater than the necessary value of 0.00001. If the determinant value is greater than 0.00001, multicollinearity is not a problem for these data. If there is problem, it will be needed to eliminate variables causing the problem.

After preliminary analysis, the other important parts should be evaluated. These parts are Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity. The KMO statistic varies between 0 and 1. A value of '0' indicates that the sum of partial correlations is large relative to the sum of correlations, indicating diffusion in the pattern of correlations. Thus, factor analysis is likely to be inappropriate. A value close to 1 indicates that patterns of correlations are relatively compact and so factor analysis should yield distinct and reliable factors. Kaiser (1974) recommends accepting values greater than 0.5 as acceptable. Values below this should lead to either collect more data or rethink which variables to include. For factor analysis to work, the test should be significant with value less than 0.05 from Bartlett's measure. If the significance value is less than 0.05, there are some relationships between variables and the R-matrix is not identity matrix. Thus, the factor analysis will work for the test.

Validity Test for Marketing Mix

There are 4 variables (marketing mix) which are assumed as factors influencing performance of purified drinking water manufacturing businesses. The factors (with Likert type scale) applied in this study to test their influence on performance of purified drinking water manufacturing businesses are product, price, place and promotion. The important indicators of factor analysis for these 4 variables are shown in Table (3.3).

Table (3.3) Validity of Data for Marketing Mix Elements

Sr. No.	Variables	Determinant	KMO	Significance
1	Product	0.069	0.825	.000
2	Price	0.041	0.844	.000
3	Place	0.001	0.852	.000
4	Promotion	0.002	0.855	.000
5	Performance	0.011	0.819	.000

Source: Survey Data (2017-2018)

This study assumes that marketing mix can influence the performance of purified drinking water manufacturing businesses in Yangon. The marketing mix (with Likert type scale) applied in this study to test their influence on performance of purified drinking water manufacturing businesses are product, price, place and promotion.

The data for the profile of purified drinking water manufacturing businesses and marketing managers or owners of these businesses are not collected with Likert type scale. The profile is in category type. The data are converted into 1,2,3,4 and 5.

Product

According to the feedback from pilot survey with 15, the question item number (2) which is “our company develops products that have broad market appeal”, number (3) which is “our company achieves or maintains superior product quality”, number (4) which is “our company’s staff possess hygiene certificates”, number (7) which is “our company provides superior post-sale service quality”, number (10) which is “our company’s products are packed in hygienic condition” and number (11) which is “our company establishes bottle machines within purified drinking water plant compound for hygiene reason” are quite ambiguous for respondents, and many respondents cannot give answer for these items. Thus, these items are removed from questionnaire. The data collected for the rest seven items are tested for validity.

To identify the product variable, seven items are applied. The five point Likert-type scale is exploited, too. The data collected for seven items are tested for reliability and validity.

The results of factor analysis for product variable are shown in Table (3.4).

Table (3.4) Factor Loadings of Product Variable

Items loaded	Loadings
1. Offers a broad product line. (0.3, 0.6, 1, 20 litres)	0.61
2. Introduces new product development as a strategic tool for growth and continuation of business.	0.82
3. Provides service for our company's product.(home delivery, no bottle deposit for 20 litres container, keep promise in concern with delivery)	0.60
4. Provides unique and attractive product packaging (crush, colour, design, shape, packaging size)	0.80
5. Provides package sizes which focus on customers' needs and wants based on R&D data.	0.82
6. Labels product in concern with open dating (expired date) (to describe product freshness), purifying technology, source of water (address).	0.62
7. Develops long-term relationships with key customers.	0.64
Eigenvalue	3.561
Determinant	0.069
Cronbach's alpha	0.837

Source: Survey Data (2017-2018)

From reliability analysis, the Cronbach's Alpha value is 0.837^2 which is greater than 0.7 (acceptable value for reliability). From validity test with factor analysis, the determinant is 0.069. This value is greater than 0.00001. Thus multicollinearity is not a problem for these data. Thus the patterns of correlation are relatively compact and the factor analysis yields distinct and reliable factors. Bartlett's test is highly significant ($p < 0.05$), and therefore factor analysis is appropriate. R-matrix is not the identity matrix. This means some relationships between the variables include in analysis (Field, 2005). The communality for all items is 1. After factor loadings, none of the items is deleted while retaining seven items with Eigenvalues greater than 1 and loading value above 0.5.

²George and Mallery (2003) provide the rules of thumb; “ $- > .9$ is excellent, $- > .8$ is good, $- > .7$ is acceptable, $- > .6$ is questionable, $- > .5$ is poor, and $- < 0.5$ is unacceptable” (p. 231).

Price

According to the feedback from pilot survey, the question item number (1) which is “setting prices on the basis of costs of producing plus a fixed margin for profit” and number (2) setting prices based on the competitive prices in the marketplace” are quite ambiguous for respondents, and many respondents cannot give answer for these items. Thus, these items are removed from questionnaire. The data collected for the rest eight items are tested for validity.

To identify the price variable, eight items are applied. Data are collected with five point Likert scale. In this study, these eight items are tested for validity and reliability.

The results of factor analysis for price variables are shown in Table (3.5).

Table (3.5) Factor Loadings of Price Variable

Items loaded	Loadings
1. Sets prices based on the offering something different (home delivery, no bottle deposit for 20 liters)	0.77
2. Sets price based on different customer groups or different target market segments.	0.78
3. Sets price based on customization. (shape, customer logo on product packing, size)	0.79
4. Sets price based on customers’ ability to pay. (affordability)	0.51
5. Sets a price based on competitors’ price to increase sales and market share.	0.67
6. Sets a price based on the customer’s perceived value compared to the competitors’ products.	0.73
7. Uses price promotions and discounts. (one buy one get, competitive sales commission to dealers)	0.64
8. Communicates pricing changes to our customers when required.	0.73
Eigenvalue	4.021
Determinant	0.041
Cronbach’s alpha	0.854

Source: Survey Data (2017-2018)

The Cronbach's Alpha value is 0.854 which is greater than 0.7 (acceptable value for reliability). From validity test with factor analysis, the determinant is 0.041. This value is greater than 0.00001. Thus multicollinearity is not a problem for these data. Thus the patterns of correlation are relatively compact and the factor analysis yields distinct and reliable factors. Bartlett's test is highly significant ($p < 0.05$), and therefore factor analysis is appropriate. R-matrix is not the identity matrix. This means some relationships between the variables include in analysis. The communalities for all items are 1. Thus the data are also strong. After factor loadings, not one item is deleted while retaining eight items with Eigenvalues greater than 1 and loading value above 0.5.

Place

According to the feedback from pilot survey, the question item number (10) which is "our company is better performance in product availability and accessibility, easy to carry and delivery lead time than competitors" is quite ambiguous for respondents, and many respondents cannot give answer for this item. Thus, this item is removed from questionnaire. The data collected for the rest nine items are tested for validity.

To identify the place variable, nine items are applied. Data are collected with five point Likert scale. In this study, these nine items are tested for validity and reliability.

The results of factor analysis for place variable are shown in Table (3.6).

Table (3.6) Factor Loadings of Place Variable

Items loaded	Loadings
1. Uses multi-distribution channels to deliver our product to different customer groups. (Not only direct distribution but also distribution through intermediaries such as retailers, wholesalers, dealers, business partners).	0.70
2. Efficiently and effectively manages relationships with channel members who are willing to commit to take delivery of large volumes on a continuing, long-term basis.	0.81
3. Carefully recruits and trains all marketing and sales personnel.	0.86

Items loaded	Loadings
4. Retains qualified salespersons who possess selling certificate, or well-trained or experience in selling purified drinking water.	0.70
5. Uses telemarketing to deliver our product	0.74
6. Uses electronic distribution channels such as the internet to deliver our product. (supermarket)	0.72
7. Chooses effective and efficient transportation mode to distribute our products. (right time and low costs)	0.90
8. Provides delivery routes which are properly planned and executed.	0.86
9. Arranges for delivery drivers to maintain contact with the main office during the day. (to control drivers and to fulfill the irregular order)	0.87
Eigenvalue	5.725
Determinant	0.001
Cronbach's alpha	0.925

Source: Survey Data (2017-2018)

The data collected for these nine items are tested for reliability and validity. From reliability analysis, the Cronbach's Alpha value is 0.925 which is greater than 0.7 (acceptable value for reliability). From validity test with factor analysis, the determinant is 0.001. This value is greater than 0.00001. Thus multicollinearity is not a problem for these data. Thus the patterns of correlation are relatively compact and the factor analysis yields distinct and reliable factors. Bartlett's test is highly significant ($p < 0.05$), and therefore factor analysis is appropriate. R-matrix is not the identity matrix. This means some relationships between the variables include in analysis. The communalities for all items is 1. Thus the data are also strong. After factor loadings, no item needs to be deleted. All the items are remained with Eigenvalues greater than 1 and loading value above 0.5.

Promotion

According to the feedback from pilot survey, the question item number (1) which is "our company achieves above industry average number of impressions through advertising" and number (5) which is "our company uses sales promotions

such as gifts, discounts, competition” are quite ambiguous for respondents, and many respondents cannot give answer for these items. Thus, these items are removed from questionnaire. The data collected for the rest ten items are tested for validity.

To identify the promotion variable, ten items are applied. The five point Likert-type scale is utilized. The data collected for these ten items are tested for reliability and validity.

The results of factor analysis for promotion variable are shown in Table (3.7).

Table (3.7) Factor Loadings of Promotion Variable

Items loaded	Loadings
1. Advertises or promotes products depending on situation (introduction stage and based on demand and supply)	0.78
2. Advertises or promotes to consumer is through mass media marketing (pamphlets, billboards, advertising in TV commercial, radio, printing materials such as journal and newspaper).	0.63
3. Uses Web/Internet advertising. (establish website or through Facebook)	0.78
4. Place great emphasis on building long term relationships with other organizations and institutions influencing buyers’ purchasing decisions.	0.73
5. Uses direct marketing methods such as telemarketing, direct mail for promoting our products and services	0.80
6. Uses sales force as the main source of promotion	0.70
7. Offers price discounts to such organizations (hospital, hotels, restaurants)	0.84
8. Offers free sample (give away) to customers (brand introduction)	0.79
9. Supplies purified water at no charge in case of public relation.	0.72
10. Pays competitive commissions to retailers, wholesalers, dealers and business partners who are willing to commit to take delivery of large volumes on a continuing, long-term basis.	0.71
Eigenvalue	5.622
Determinant	0.002
Cronbach’s alpha	0.910

Source: Survey Data (2017-2018)

The data collected for these ten items are tested for reliability and validity. From reliability analysis, the Cronbach's Alpha value is 0.910 which is greater than 0.7 (acceptable value for reliability). From validity test with factor analysis, the determinant is 0.002. This value is greater than 0.00001. Thus multicollinearity is not a problem for these data. Therefore, the patterns of correlation are relatively compact and the factor analysis yields distinct and reliable factors. Bartlett's test is highly significant ($p < 0.05$), and hence factor analysis is appropriate. R-matrix is not the identity matrix. This means some relationships between the variables exist in analysis. The communalities for all items are 1. Thus the data are also strong. After factor loadings, the none of items was deleted while retaining ten items with Eigenvalues greater than 1 and loading value above 0.5.

Performance

To identify the performance, four items are applied. Performance growth percent relative to last financial year is applied. The data collected for these four items are tested for reliability and validity.

The results of factor analysis for performance are shown in Table (3.8).

Table (3.8) Factor Loadings of Performance

Items loaded	Loadings
1. Sales Revenues achieved related to last financial year	.976
2. Sales Volume achieved related to last financial year	.946
3. Profit achieved related to last financial year	.922
4. Number of Employees related to last financial year	.873
Eigenvalue	3.459
Determinant	0.011
Cronbach's alpha	.946

Source: Survey Data (2017-2018)

The data collected for these two items are tested for reliability and validity. From reliability analysis, the Cronbach's Alpha value is 0.946 which is greater than 0.7 (acceptable value for reliability). From validity test with factor analysis, the determinant is 0.011. This value is greater than 0.00001. Thus multicollinearity is not

a problem for these data. Thus the patterns of correlation are relatively compact and the factor analysis yields distinct and reliable factors. Bartlett's test is highly significant ($p < 0.05$), and therefore factor analysis is appropriate. R-matrix is not the identity matrix. This means some relationships between the variables are inherent in analysis. The communalities for all items is 1. Thus the data are also strong. After factor loadings, no item is deleted. All the items are remained with eigenvalues greater than 1 and loading value above 0.5.

3.4 Research Instrument

As the survey instrument, the structured questionnaire is developed. The questionnaire includes four parts: part (I) is to investigate the marketing mix elements, part (II) is to evaluate the performance, part (III) is for profile of manufacturer or managers and part (IV) is for profile of purified drinking water manufacturing businesses.

Part (I) is to explore the extent of practicing marketing mix variables (product, price, place and promotion). The marketing strategy components are the four components of the marketing mix framework as the main variables used to formulate a marketing strategy in the purified drinking water manufacturing businesses. Part (II) is performance measurement which is concerned with investigating the main performance criteria (sales revenue, sales volume, number of employees and profit) that are being used by the purified drinking water manufacturing businesses in Yangon for evaluating performance. Most of the items of each variable are conceptually based on previous research papers. Part (III) reveals profile of manufacturers or managers with age, gender, working experiences and levels of education that are assessed. The final part, Part (IV) is for profile with ownership form, firm's age, and size of businesses by number of employees.

The first draft questionnaire is used in pilot survey. After pilot survey, for the first step, the questions complex and ambiguous for respondents are deleted. At the second step, the reliability and validity tests are conducted. Then, no item is removed for validity and reliability analysis.

3.4.1 Developing Question Items for Marketing Mix Variables

To collect data and to do analysis, question items for measuring marketing mix variables are operationalized. For this operationalization; theoretical aspects, items used in some empirical studies of previous researchers and some practical issues of Myanmar purified drinking water manufacturing businesses are considered.

Developing Question Items for Product Variable

The dimensions of a product variable were operationalized as:

1. Offering a comprehensive range of products
2. New product development
3. Customer service
4. Packaging
5. Labeling

A comprehensive range of product types or classes: the rationale for including this question is to investigate the extent to which the purified drinking water manufacturing businesses in Yangon use comprehensive product classes (package size) in their product offerings.

New product development: the aim of including new products development is to investigate the extent to which it is used in creating an integrated product offering strategy. Developing new products was operationalized by one item: introduces new product development as a strategic tool in the company's growth and continuation.

Customer service strategy: the aim of including customer service is to investigate the extent to which it has a role to play in developing an integrated product offering strategy. Customer service was operationalized by two items:

- a) Provides service for our company's product such as door to door system, allow 20 liter bottles with no deposit and exchange expired or defect product with new one, keep promise in concern with delivery)
- b) Develops long-term relationships with key customer.

Packaging: the aim of including packaging is to investigate the extent to which it has a role to play in developing an integrate product offering strategy. Packaging was operationalized by two items.

- a) Provides unique and attractive product packaging (crush, colour, design, shape, packaging size)

- b) Caters package sizes which focus on customers' needs and wants based on R&D data.

Labeling: the aim of including labeling is to investigate the extent to which it has a role to play in developing an integrate product offering strategy. Labeling was operationalized by only one item: our company's product is labeled in concern with open dating (expired date) (to describe product freshness), purifying technology, source of water, unit pricing (to state the product cost in standard measurement units), grade labeling (to rate the quality level), and percentage labeling (to show the percentage of each important ingredient).

Developing Question Items for Price Variable

The aim of the questions designed to measure price variable is to investigate what are the main pricing policies that the purified drinking water manufacturing businesses use when they formulate their price variable. The price variable was operationalized by eight key variables. The respondents of the purified drinking water manufacturing businesses in Yangon were asked; when they price their products they price them based on:

1. Set prices based on the offering something different.
2. Set prices based on group or segment.
3. Set prices based on customization.
4. Set prices based on customers' ability to pay.
5. Set prices based on competitors' price to increase sales and market share.
6. Set prices based on the customer's perceived value compared to the competition.
7. Use price promotions and discounts.
8. Communicate pricing changes to our customers when required

Developing Question Items for Place Variable

The questions used in operationalizing this variable were designed to reveal the distribution practices that the purified drinking water manufacturing businesses in Yangon use when they formulate their distribution strategies. Based on the literature review of distribution variable, it was operationalized by nine key variables.

1. Uses multi-distribution channels to deliver our product to different customer groups. (Not only direct distribution but also distribute through intermediaries

such as retailers, wholesalers, dealers, business partners). Intermediaries such as dealer, distributor, wholesalers and/or retailers

2. Efficiently and effectively manages relationships with channel members who are willing to commit to taking delivery of large volumes on a continuing, long term basis.
3. Carefully recruits and trains all marketing and sales personnel.
4. Retains qualified salespersons who possess selling certificate, are well-trained or have experience in selling purified drinking water.
5. Uses telemarketing to deliver our product.
6. Uses electronic distribution channels such as the internet to deliver our product.
7. Chooses effective and efficient transportation mode to distribute our products. (right time and low costs).
8. Provides delivery routes which are properly planned and executed.
9. Arranges for delivery drivers to maintain contact with the main office during the day (to control drivers and to fulfill the irregular order).

Developing Question Items for Promotion Variable

The aim of the questions was to investigate the components of promotion variable that the purified drinking water manufacturing businesses in Yangon use when they formulate their promotion practices. The promotion practices were measured through asking the respondents about the components of their promotion practices when they promote their products.

Consequently, the promotion variable was operationalized by ten key variables:

1. Advertises or promotes products depending on situation (introduction stage and based on demand and supply).
2. Advertises or promotes to consumer is through mass media marketing (pamphlets, billboards, advertising in TV commercial, radio, printing materials such as journal and newspaper).
3. Uses Web/Internet advertising (Establish website or through Facebook).
4. Places great emphasis on building long term relationships with other organizations and institutions influencing buyers' purchasing decisions.
5. Uses direct marketing methods such as telemarketing, direct mail for promoting our products and services.

6. Uses sales force as the main source of promotion.
7. Offers price discounts to such organizations (hospitals, hotels, and restaurants).
8. Offers free sample (give away) to our customer (brand introduction).
9. Supplies purified water at no charge in case of public relation.
10. Pays competitive commissions to retailers, wholesalers, dealers and business partners who are willing to commit taking delivery of large volumes on a continuing, long-term basis.

3.4.2 Developing Question Items for Performance Variables

In operationalizing business performance, this research has conducted in-depth interviews among purified drinking water manufacturing businesses in the Yangon market. During those interviews, the managers described sales revenue, sales volume, number of employees and profit as the most common performance measurement criteria which they use for evaluating their performance. These performance criteria are not only consistent with the literature but also accounting for the practices of purified drinking water manufacturing businesses in Yangon environment.

Consequently, the business performance variable was operationalized by four items. The respondents were asked to indicate the level of performance. The items used in the questionnaire were:

1. Profit achieved relative to last financial year.
2. Sales Revenue achieved relative to last financial year.
3. Sales Volume achieved compared to last financial year.
4. Number of employees relative to last financial year.

The performance data are collected with the measurement of percentage (increase, decrease, or stable) by comparing with last year because most interviewee-manufacturers of in-depth interview said that most respondents will be highly hesitate to give absolute data for their financial performance.

3.5 Data Collection and Data Analysis Methods

Although the questionnaire is structured, data are collected with long personal interview. The data needed are very comprehensive and complex. Thus the interviewer needs to explain parts of questionnaire in detail. Interviewers asked for special appointments to get data from respondents. Data are collected during December, 2017 and January, 2018. Personal interviews are conducted with key

figures in the purified drinking water manufacturing businesses in Yangon in order to gain their acceptance, access and co-operation for conducting the fieldwork phase. Using personal contacts and interrelationships with the research population or sample and, making early contacts with potential respondents have been supported by a number of writers (Hussey and Hussey 1997; Malhotra and Birks 2000; Easterby, Thorpe, Richard, Lowe & Andy 2002). Interviews are conducted with owners / managers in the purified drinking water manufacturing businesses.

A pre-notification phone call is made with each manager to arrange a meeting with him at a certain time. Most of the questionnaires are hand delivered, and the researcher's address cards are introduced and exchanged with managers' business cards to give the survey more professionalism.

For data analysis, descriptive statistics methods are applied to show the frequency tables and mean values as necessary. The factor analysis is also applied for validity test. Multiple linear regression analysis is conducted for major findings of this study. Dummy variable regression analysis is also conducted for nominal variables.

3.6 Assumptions of Multiple Linear Regressions

To practice the multiple linear regression method, the necessary assumptions of this method must be tested. When running a multiple regression, there are some assumptions to check data in order for analysis to be reliable and valid.

Assumption 1 is “the relationship between the independent variables and dependent variable is linear”. The first assumption of Multiple Regression is that the relationship between independent variables and dependent variable can be characterized by a straight line. This assumption can be tested by looking at the distribution of residuals. This can be tested by reviewing the normal probability plot.

Assumption 2 is that “there is no multicollinearity in data”. This assumption is to test that the independent variables are not too highly correlated. This can be done in two ways. First, in the correlations table, correlations of more than 0.8 may be problematic. If this happens, it is needed to consider removing one or more of independent variables. Second, it can be conducted to more formally check that independent variables are not too highly correlated. For the assumption to be met (no multicollinearity in independent variables), VIFs scores to be well below 10, and tolerance scores to be above 0.2 (Keith, 2006; Shieh, 2010).

Assumption 3 is that “the values of the residuals are independent”. Durbin-Watson statistic in model summary box of SPSS output can be checked. This test is used to check the residuals are independent or uncorrelated. This statistic can vary from 0 to 4. For this assumption to be met, this value should be close to 2. Values below 1 and above 3 are caused for concern and may render analysis invalid.

Assumption 4 is that “the variance of the residuals is constant”. This assumption (assumption of homoscedasticity) is the one that variation in the residuals (or amount of error in the model) is similar at each point of the model. The scatter plot should like a random array of dots. If the graph looks like a funnel shape, then it is likely that this assumption has been violated.

Assumption 5 is that “the values of the residuals are normally distributed”. This assumption can be tested by looking at the P-P plot for the model. The closer the dots lie to the diagonal line, the closer to normal the residuals are distributed.

Assumption 6 is that “there are no influential cases biasing the model”. This assumption can be tested by going back to data file and looking at the Cook’s distance values. Any values over 1 are likely to be significant outliers which may place undue influence on the model, and should therefore be removed and analysis will be rerun.

All these assumptions are tested when making the multiple regression analysis in this study. The results are explained in Chapter (4).

3.7 Dummy Variables and Interactions in Regression Analysis

In regression analysis, the dependent variables are frequently influenced not only by ratio scale variables but also by variables that are essentially qualitative or nominal scale. Since such variables usually indicate the presence or absence of a ‘quality’ or an attribute, they are essentially nominal scale variables.

The study demonstrates the correct use of nominal and ordinal scaled variables in regression analysis by means of so-called ‘dummy variables’. In regression analysis, the independent variables (i.e. the variables that explain/predict the outcome variable) have to be interval or ratio scaled. These two types of variables have values on a fixed scale with equal distances. Ratio scaled variables have fixed intervals too, but on top they contain a meaningful and absolute zero point, such as *age*: everybody’s life starts at 0 (years). In social sciences, interval/ratio scaled variables are probably outnumbered by nominal and ordinal scaled variables. Nominal variables have values as well but they serve only to distinguish between categories. In ordinal

variables, the values are not as unordered as in nominal variables: their values express a hierarchy. Because nominal and ordinal scaled variables have no nicely defined scales with fixed intervals, they are not well-suited as predictor (X) variables in regression models. To include them in these models their categories have to be transformed into so-called 'dummy' variables first.

A dummy variable recodes the categories of a categorical variable using the numeric values 0 and 1. Where appropriate, the value of 0 is assigned to the absence of a characteristic and the value 1 is assigned to the presence of the characteristic. Dummy variables are essentially a device to classify data into mutually exclusive categories.

Dummy variables can be incorporated in regression models just as easily as quantitative variables. As a matter of fact, a regression model may contain regressors that are all exclusively dummy, or qualitative, in nature. To identify the effect of nominal scales variable on firm's performance, dummy variables regression method is used. Nominal scale variables consist of size, ownership form, and firm's age. The results of dummy variable regression are explained in Chapter (4).

Chapter 4

Analysis on Relationship between Marketing Mix and Performance of Purified Drinking Water Manufacturing Businesses in Yangon

This chapter is an analysis chapter which intends to present the findings from analysis on marketing mix practices, effect of business characteristics (age, size, and ownership form) on manufacturers' commitment to marketing mix, and the relationship between marketing mix and performance measured by sales revenue, sales volume, profit and firm's growth by number of employees. In this chapter, before starting the analysis on such points, the profile of surveyed businesses is introduced.

Since primary data are collected with structured questionnaire and the open discussion is also conducted immediately after filling the structured questionnaire, not only quantitative data but also qualitative findings are presented in this chapter. The qualitative findings focus on barriers to practice marketing mix, and marketing strategies they are practicing accompanying with marketing mix activities.

4.1 Profile of Purified Drinking Water Manufacturing Businesses

The profile of purified drinking water manufacturing businesses consists of ownership form of businesses, firm's age and number of employees. In the analysis of ownership form of business, (83%) are sole proprietorships, (12%) are partnerships and (5%) are private companies. The highest percent is sole proprietorship in which most of the businesses are small and medium businesses and only a few are large businesses. This is because most of the businesses are family businesses as only a considerable amount of initial capital is needed for the establishment of a purified water production business and the priority is the delivery of the products in time of need to the present of the consumers. In this case, the family businesses in the quarter can distribute to the homes of consumers in time rather than the large businesses.

The number of private companies is the lowest per cent of all the purified water production businesses. All of these businesses aimed at the distribution of their products in the whole country. These businesses need to focus on the publicity of their brand and they have to establish a strong and wide distribution network. The public companies and the joint venture businesses are hardly found in the purified water production business world. There are two reasons for this: the first one is the less development of capital market in Myanmar and the second one is the joint venture is not necessary in the purified water production businesses because only very simple technology is utilized for the production. Joint venture business is only used in Myanmar for the sake of technology help. The public companies are rarely found in Myanmar not only in the purified water production businesses but also in other businesses.

In the analysis of firms' age, 45 % of all the businesses have less than five years of firms' age, 26% of all the businesses have five to ten years of firms' age and 29% of all the businesses have more than ten years of firm's age. Among them, the businesses which have less than five years of firms' age are the highest percent. There are two causes for this: the first one is the level of health consciousness become higher among the public i.e. the market grows quickly and the second one is there is easy entry for the purified water production business as the initial investment amount is affordable for the public.

In the analysis of performance, the highest per cent of businesses are increase in performance concerning sales revenues, sales volume and number of employees. However, the highest per cent of businesses are unchanged in profit. This is because, most of the businesses are not well controlled in both of marketing costs and operating costs. In addition, labour turnover rate is high especially in hot season while most of the businesses are needed to produce more in the hot season. To meet this need, employees are recruited with high pay rate. Moreover, wages for overtime (night shift) are also high in the hot season.-

According to the Revised Private Industrial Enterprise Law (2011) and SME law for classifications for small, medium and large enterprises, number of employees 10 to 50 are classified as small businesses, 50 to 100 are medium businesses and above 100 are large businesses. Therefore, in this study, the small business is the highest percentage. This situation is concerned with the situation in which 83 % of the

businesses are sole proprietorship. Almost all of these businesses have only 10-50 employees because most of the businesses are only family businesses.

Table (4.1) Profile of Purified Drinking Water Manufacturing Businesses

Sr. No.	Demographic Factors	Number of Businesses	Percent (%)
1	Total Number of Businesses	84	100
2	Ownership Form of Business		
	Sole Proprietorship	70	83.33
	Partnership	10	11.91
	Private Company	4	4.76
3	Firm's Age (Year)		
	< 5	38	45.24
	5-10	22	26.19
	>10	24	28.57
4	Size of Business by No. of Employees		
	Small (10-50)	68	81.00
	Medium (50-100)	8	9.50
	Large (>100)	8	9.50
5	Performance of Business		
	Sales Revenue (Increase)	51	60.72
	Sales Revenue (Unchanged)	26	30.95
	Sale Revenue (Decrease)	7	8.33
	Sale Volume (Increase)	51	60.72
	Sales Volume (Unchanged)	26	30.95
	Sales Volume (Decreased)	7	8.33
	No. of Employees (Increase)	77	91.67
	No. of Employees (Unchanged)	5	5.95
	No. of Employees (Decrease)	2	2.38
	Profit (Increase)	28	33.33
	Profit (Unchanged)	48	57.14
	Profit (Decrease)	8	9.53

Source: Survey Data (2017-2018)

According to the Food and Drug Administration, there are (84) purified drinking water manufacturing businesses located in (24) townships, Yangon. Most of the businesses are sole proprietorship. Only few of the businesses are partnership and company. Most of the businesses are located in Thanlyin and Mingalardon townships. The second most is Hlaing township, the third most is North Dagon township.

According to the respondents, Thanlyin township is the best water source among the townships in Yangon. This point relates to the number of businesses established in Thanlyin township.

Among the downtown townships, Hlaing township is the best water source. Because of the crowded housings and high land price, existing businesses located in Hlaing township cannot extend their businesses and new businesses cannot establish in this township. Transportation is readily accessible in Hlaing township, however, traffic congestion is a main problem in product distribution for all businesses including Purified drinking water manufacturing businesses in Hlaing township. Excluding Thanlyin and Hlaing townships, Mingalardon and North Dagon townships have the better water source than any other townships.

4.2 Barriers to Practice Marketing Mix

In this study, not only personal interview with structured questionnaire but also the open discussions for probing the barriers to practice the marketing mix activities are conducted. From the open discussion, the barriers to practice of marketing mix activities can be presented.

Concerning the barriers to implement product activities, getting FDA Certificate is not advantageous for businesses because many businesses which do not possess FDA Certificate are well competed in the market especially in the price. Most of the consumers mainly focus on packaging rather than purity of the water because there no easy access to the tester of the water quality in the market.

In the case of the barriers to implement pricing activities, although some of the consumers do not consider price as the important factor, most of the consumers consider price as the important factor. Most of the businesses focus on cost and regional competitors' price in pricing decision. They rarely take into consideration of the other pricing factors because they believe that these factors are not important.

In the analysis of the barriers to implement place activities, most of the consumers favour convenience more than quality and price of the product because of the nature of the product. Thus, consumers are not brand loyal in product shortage condition especially in hot season.

Regarding the barriers to implement promotion activities, most of the purified drinking water manufacturing businesses are not interested in promotion. They believe that the main reason for practicing promotion functions is poor quality of the

product. Therefore, most of these businesses are hesitate to practice promotion functions.

4.3 Marketing Mix of Purified Drinking Water Manufacturing Businesses

The analysis on marketing mix of purified drinking water manufacturing businesses is conducted by using survey data. In this study, marketing mix is approached with four elements such as product, price, place, and promotion. The practices of surveyed businesses for their products can be seen with the mean value data shown in Table (4.2).

Table (4.2) Practices on Product

Sr. No.	Items	Mean
1	Offers a broad product line. (0.3, 0.6, 1, 20 litres)	3.29
2	Introduces new product development	2.95
3	Provides service for the company's product	3.24
4	Provides unique and attractive product packaging	2.89
5	Provides package sizes which focus on customers' needs and wants based on R&D data.	2.95
6	Labels product in concern with open dating, purifying technology, source of water.	3.30
7	Develops long-term relationships with key customers.	3.26
	Overall Mean	3.13

Source: Survey Data (2017-2018)

As shown in Table (4.2), the product variable mean score of respondents is fairly high (greater than 3). It can be concluded that they show strength in performing product activities. However, according to the results of each item, it is found that they indicate weakness in introducing new product development as a strategic tool, being unique and attractive product packaging and focusing on customers' needs and wants based on R & D data for product package size. The reason for this is that most of the purified drinking water manufacturing businesses do not introduce new product as a strategic tool in their growth and continuation. This relates to the fact that the nature of product quality is standardized. Moreover, most of the purified drinking water

manufacturing businesses do not interest in product packaging. Almost all of the businesses are the same in package size. In addition, the types and the shapes of most products are also similar.

In survey, open discussion with respondent is also conducted after filling the questionnaire. In this open discussion, the marketing strategies they are conducting for product is asked. Form this open discussion, it is found that they are practicing both broad product line strategy and narrow product line strategy. Most businesses are producing more than one item of product. Their products are 0.3 litre, 0.6 litre, 1 litre, 5 litres and 20 litres contained bottles. However, some businesses produce only 20 litres contained bottles.

The initial investments of the businesses which are applying broad product line strategy are far larger than the businesses which are applying narrow product line strategy. The machinery for producing 0.3 litre, 0.5 litre, 1 litre and 5 litres bottles is different from the machinery which is utilized to produce 20 litres contained bottles. If the employer of the facility which is producing 0.3 litre, 0.5 litre, 1 litre and 5 litres bottles wants to produce 20 litres contained bottles, he must purchase the different machinery for producing 20 litres bottles. Generally, the businesses which are applying broad product line strategy receive more sales revenue than the narrow product line strategy. They can provide more choices to consumers as well as to distributors. Distributors prefer the manufacturers who are practicing broad product line strategy because they would like to provide more choices to various customers.

Compared to the former one, the businesses which are utilizing narrow product line strategy do not cost an arm and a leg as they need fewer initial investment and they can concentrate on their business more as they have one product line. As they have the exact and sole target market, they can meet the sustainable fulfillment of the needs and wants of the customers. However, they can confront the constraints by the time the customers are willing to purchase the other product lines as they produce only 20 litres bottles. As 20 litre bottle producers do not sell their bottles, they have to deal with the bottle-pawned problems. The businesses which are producing 0.3 litre, 0.5 litre, 1 litre and 5 litres bottles cannot come across such ownership form of problems as they sell the shells accompanied by the purified drinking water.

At the second step, the analysis on marketing mix focuses on practices of businesses on prices of their products. The pricing practices of surveyed businesses can be assessed with the mean values shown in Table (4.3).

Table (4.3) Pricing Practices

Sr. No.	Items	Mean
1	Sets prices based on the offering something different	2.86
2	Sets price based on different customer groups	2.81
3	Sets price based on customization.	2.52
4	Sets price based on customers' ability to pay.	3.00
5	Sets a price based on competitors' price	3.11
6	Sets a price based on the customer's perceived value	3.07
7	Uses price promotions and discounts.	2.93
8	Communicates pricing changes	2.96
	Overall Mean	2.91

Source: Survey Data (2017-2018)

As shown in Table (4.3), the price variable mean score of respondents is not high (about 3). It can be concluded that the businesses indicate weakness in performing pricing activities. In pricing their products, they mainly based on competitors' price, customer's perceived value compared to the competitors' products and also based on customers' ability to pay. According to the results of each item, it is found that they usually do not practice in setting prices based on offering something different, based on different customer groups or different target market segments and based on customization.

As mentioned above, in open discussion section, the marketing strategies relating to pricing are discussed with respondents. It is found that manufacturers are practicing two types of pricing strategies: market penetration pricing strategy and market skimming pricing strategy.

Market penetration pricing strategy will provide only a little amount of profit from each customer and which is meant to sell a large quantity. The target market is the townships with dense population but most of them living in such townships as South Dagon, North Dagon, East Dagon and Hlaing Thar Yar are impoverished. This

pricing strategy is applied by the businesses with no brand or the businesses which are not very eager to be a well-known brand among the public. One exception is that some of the businesses sell their products to the restaurants and high way expresses just with price nearly same as the production costs so as to become a famous brand among the consumers.

Market skimming strategy is applied for the branded products or by the businesses which are striving to become a brand of the customer's choice. Market skimming strategy is utilized by the businesses which are interested in the connection between the quality of a product and its price. In other words, the strategy is based on the ideology the better the product's quality is, the higher the price is. The result of setting high price leads to the removal of the consumers' doubts about the quality of the products.

On the other hand, some big businesses manufacture family brand products. In other words, these businesses produce two or three products of the same quality. Among these products, they carefully implement one product to become a common brand among the consumers and set the price higher than the other brands. The other brands are used as the competitive products in the market and their prices used to be as low as the rivals. These businesses apply both the market penetration pricing strategy and the market skimming pricing strategy.

Sometimes, some businesses do not strive to produce a new brand in the market. Instead, they acquire an already brand which is facing challenges to survive in the market and continue to manufacture the products with the same name.

The third part of analysis on marketing mix is analysis on practices of businesses for distribution (place). The level of commitment of businesses to place practices can be seen with mean values shown in Table (4.4).

Table (4.4) Practices for Place

Sr. No.	Items	Mean
1	Uses multi-distribution channels	3.43
2	Build Channel members relationships	3.51
3	Carefully recruits and trains all marketing and sales personnel.	3.17
4	Retains qualified salespersons	3.08
5	Uses telemarketing to deliver our product	3.48

Sr. No.	Items	Mean
6	Uses electronic distribution channels such as the internet to deliver our product.	2.41
7	Chooses effective and efficient transportation modes	3.36
8	Provides delivery routes which are properly planned and executed.	3.32
9	Arranges for delivery drivers to maintain contact with the main office during the day.	3.23
	Overall Mean	3.22

Source: Survey Data (2017-2018)

As shown in Table (4.4), the place variable mean score of respondents is fairly high (greater than 3). It can be concluded that they show strength in performing place activities. However, according to the results of each item, it is found that they indicate weaknesses in using electronic distribution channels such as the internet to deliver their product. This is because most of the purified drinking water manufacturing businesses rarely use the Internet in case of business functions.

In open discussion with respondents, the marketing strategies for distribution of businesses are discussed. Businesses use both single and multi-channel strategies to deliver their products. Some businesses utilized single channel strategy and others followed multi-channel strategy. The difference of applied place strategies depends on the target market, the size, the labour forces, and financial strength of the production, etc.

Most businesses which are applying single channel strategy aim at the markets which are near to the location of the businesses as their target markets. The expression "single channel" in this context means "direct channel which sells the products to the consumers directly" or also "zero level channel" without the intermediaries between the producers and the consumers. That single channel strategy is mainly applied by the 20 liters contained bottle production businesses. In the distribution of single channel strategy-applied businesses, some businesses target family households as consumers and some businesses aim at the organizations and enterprises. When a business targets the organizations and enterprises, the design of the bottles and their consuming of the purified drinking water are connected. In other words, the

enterprises and organizations usually utilize the water coolers. As a result, the businesses come to produce the purified drinking water bottles with no tap. Whether a bottle has a tap or not is connected with the quality of the purified drinking water. The reason for this is that not only the empty bottle but also the tap is also rinsed before it is refilled again. The thick slime, moss, dust and dirt are usually found inside the tap. It needs to be carefully cleaned because most of the complaints about the quality of water are concerned with the tap.

The businesses which are applying multi-channel strategy usually aim at more than one target market. Their target markets are the townships, the organizations, the government offices and departments, and towns from near and far.

In analyzing the connection between the size of the businesses and place variable, the medium and large enterprises usually produce more than one product line and usually apply multi-channel strategy. The small enterprises usually produce only one product line (20 liters bottles) and usually apply single channel strategy. Only a few small enterprises produce more than one product line and apply multi-channel strategy.

In analyzing the connectivity between the appointment of workforces and place variable, the businesses which can maintain the continuity of the labour forces and can appoint the workforces as much as necessary apply direct channel strategy (single channel strategy). The businesses which cannot maintain the continuity of the labour forces and cannot appoint the workforces as much as necessary rely on the intermediaries to distribute their products. Therefore, these businesses distribute in person only in a few parts of the target market. These businesses are practicing multi-channel strategy as they not only distribute in person but also distribute with intermediaries deal.

In analyzing the connection between the financial strength and place activities, the businesses which have sound financial strength without many target markets need not depend upon the intermediary's deals. They can distribute to the consumers directly. As they have sound financial strength, they can hire the necessary workforces and enable to purchase necessary truck cars for the delivery of the products. They can maintain the sustainable quality of the products and need not pay for the intermediary commission fees. On the other hand, the constraints they are encountering are the costs for repairing the cars, the continuity of the workforces and the punctual delivery of the products to the consumers. Moreover, it is the multi-

channel strategy that they should apply if they want to distribute a lot of target markets because the dealers can get more economy of scales and economy of scopes than the producers and it can lead to the punctuality of the product delivery to the consumers. The choice of the effective and efficient dealers is crucial for the betterment of the distribution.

As the average price of a purified drinking water bottle is 200-500 kyats, most of the producers apply intensive distribution. The applied distribution is intensive distribution because the quality of the water remains the same although there are the differences of the brand, the different technologies of producing purified drinking water, and the various designs of the bottles. However, some purified drinking water producers are very eager to have a famous brand among the public. They focus on making promotion and invest a considerable amount of budget to enhance the reputation of the brand. They usually set the premium price on the standardized products. As the brands vary, the price setting will vary. Such enterprises usually prefer selective distribution to intensive distribution for choosing their dealers. They usually have standards as much as they can for the choice of their dealers.

Some businesses strive to have a well-known brand by means of maintaining the sound quality of the products. To maintain the sustainable success, they used to choose the dealers carefully and systematically. If the dealers store their products near the dirty canals or somewhere in an unsanitary place, the employer will not choose them. Therefore, it can be assumed that their strategy is neither a fully selective strategy nor a fully intensive strategy.

Some businesses are meant not to sell their products to other businesses or other households but to distribute only to their partner businesses since their establishment. For instance, the transportation enterprises such as the express cars come to produce the purified drinking water accompanied with their transportation services. It is meant not to enhance the market share or to promote the sale volumes but to save the expenses. There is a new culture of giveaway by the express. That is giving the purified drinking bottles free to their customers with the same express brand on it. As a result, the express employers come to produce the purified drinking bottles with their express brand name by themselves. This plan is cheaper for them than to purchase the other branded purified drinking water bottles. If there are the remainder bottles after giving to the express cars, these remainders are sold to the other enterprises and the consumers. As the targeted objective is to meet the needs of

the express car customers, this ownership form of distribution may be assumed as the exclusive distribution.

The open discussion also covers the seasonal fluctuation in demand of this market. Not all but most of the productions confront a challenge that is the stock shortage during the summer which is the greatest demanded moment. During the other seasons, there is usual delivery with no stock shortage. The stock shortage problem occurs in summer, and it is found that there are various modes of dealing with this problem they are facing.

In general, there are two main ways of solving that problem. The first one is recording the standardized number of customers in times of most demand and strives to meet the needs of those customers without enhancing the market. The customers in the limited records are the loyal and long-lasting consumers even though there are new brand productions. They still remain as the faithful customers even though the new rival productions have the persuasive cheap price. As a matter of fact, trying to meet the needs of the consumers in summer bestows the businesses the less demand in times of other seasons. In the other seasons, the demand is less than that of summer and the machinery cannot run at full capacity in that time because of the less demand. As a result, it is hard to achieve the economy of scale and the production cost for a unit increase because the price cannot set high in time of less demand.

These businesses not only do not seek new customers in other seasons which are the time of less demand but also do not accept the new orders of the new customers in summer. Therefore, the loyalty of the present customers plays a central role in the decision-making process of maintaining the sustainable success of that ownership form of businesses.

The second way to solve the problem is giving persuasive promotions such as sale or giving the empty bottles to get new customers so as to reach the standard sale volume in moments of less demand. Moreover, new customers are accepted even in times of highest demand. To maintain the punctual and sufficient delivery of the supply to all customers, some businesses subcontracted the other brands with less demand to include as a part in their delivery system. The agreements such as the brand on the purified drinking water bottles produced by the business that is subcontracted must be the subcontracted business's brand and the pay for it is negotiated and decided. In other words, the brand "A" will be in the market if the business with the brand "A" subcontracted the business with the brand "B". This type

of solution will work all the year round. However, it can be assumed that it is not ethical as there is no transparency for the customers.

Although the business which is subcontracted is not a famous brand among the customers, the act of subcontract is acceptable if the quality of their product is valid. If the quality of the product does not live up to the standard, the act of subcontract is just misconduct.

The final part of analysis on marketing mix elements is the part of analysing the practices on using promotion tools. The practices for promotion of purified drinking water manufacturing businesses can be examined with mean values shown in Table (4.5).

Table (4.5) Promotion Practices

Sr. No.	Items	Mean
1	Advertises depending on situation	2.77
2	Advertises through mass media marketing	2.68
3	Uses Web/Internet advertising.	2.37
4	Building long term relationships with influencing organizations	2.77
5	Uses direct marketing methods	2.74
6	Uses sales force as the main source of promotion	3.16
7	Offers price discounts	2.61
8	Offers free sample (give away)	2.45
9	Supplies purified water at no charge	2.41
10	Pays competitive commissions	2.92
	Overall Mean	2.69

Source: Survey Data (2017-2018)

As shown in Table (4.5), the promotion variable score of respondents is at moderate level with mean score 2.69. It can be concluded that the businesses indicate weakness in performing promotion activities. According to the results of each item, it is found that they show strength in using sales force as the main source of promotion and paying competitive commissions to retailers, wholesalers, dealers and business partners who are willing to commit taking delivery of large volumes on a continuing,

long-term basis. However, they indicate weakness in performing all the rest items. This is because most of the businesses believe that practicing promotion functions especially advertising is related to low quality of water.

In the open discussion section, the marketing strategies relating to promotion of purified drinking water manufacturing businesses are discussed. It is found that they are practicing two strategies: pull strategy and push strategy. It is also found that they are also conducting other two strategies: above the line and below the line promotion strategies. Pull strategy is the promotion strategy which is intended for the customers to ask and purchase from the seller. Push strategy is the promotion strategy which is intended for the distributors to make persuasive approaches to the customers.

A push and pull strategy refers to the way information and products move between consumers and a manufacturer. This approach refers to the flow of the promotional efforts used to sell goods or a service.

In a push strategy, suppliers push their goods towards the consumers, and in a pull strategy, consumers pull information or products that are suitable for their needs. A pull strategy is defined as a promotion strategy which focuses on consumers more than a member of a marketing channel in order to facilitate the flow of goods or service from a manufacturer to end-users (consumers). Conversely, a push strategy is defined as a promotion strategy focused on marketing intermediaries (Wholesalers and retailers) rather than on end-users in order to facilitate the flow of goods or service from a manufacturer to consumers.

The findings about the push and pull strategy are that the pull strategy is applied by the businesses which follow direct marketing channel or single channel level or zero level channel while the push strategy is utilized by the businesses which follow multi-level channel strategy as the pull strategy is aimed at the marketing intermediaries.

In applying the pull strategy, it is advertised via the billboards, TVs, pamphlets, and vinyl. The advertisements are also spread by word of mouth and Facebook. The push strategy is carried out by means of sales visits. The sale accountants make sale visits to the retailers to ask them to stock their products.

They are also doing above the line strategy. Above the line strategy refers to those traditional marketing channels that strive to reach a mass audience with messages that reinforce a brand, communicate general product information or inspire an emotional response. Below the line activities, by comparison, traditional direct

marketing efforts – they aspire to establish targeted relationships between markets and individual consumers.

In analyzing the above the line and below the line strategies of the purified drinking water productions in Yangon, the large enterprises utilize the TVs, Radio, Print advertising, outdoor advertising and yellow pages for above the line strategy while the small enterprises apply advertising for this strategy. The main activities are telemarketing, distribution of pamphlets, banners, placards, stickers, sales promotion, and placing brochures at the point of sales.

Table (4.6) shows the practices of surveyed businesses for reach of the marketing mix elements with the overall mean values of each variable.

Table (4.6) Marketing Mix

Sr. No	Items	Mean
1	Product	3.13
2	Pricing	2.91
3	Place	3.22
4	Promotion	2.69

Source: Survey Data (2017-2018)

According to table (4.6), overall mean value for place variable is more than the other three marketing mix variables such as product, price and promotion. It seems that businesses give more favour in practicing place activities. However, just evaluating these mean values is not enough to make conclusion on businesses' priority on marketing mix practices. Thus, in this step, it is also analysed how marketing mix practices are dominating in purified drinking water manufacturing businesses in Yangon.

4.4 Dominant Marketing Mix Practices in Purified Drinking Water Manufacturing Businesses

To identify the dominant marketing mix practices, mean values are used in this study. The highest mean value among the four marketing mix elements is assumed as dominant element.

According to the survey data, marketing mix practices for product is dominating in 30 firms out of 84 firms (36%), marketing mix practices for price is dominating in 9 firms (10%), marketing mix practices for place is dominating in 35 firms (42%), and marketing mix practices for promotion is dominating in 10 firms (12%). The levels of dominating in this industry can be seen with mean values shown in Table (4.7).

Table (4.7) Dominant Marketing Mix in Businesses

Sr. No	Marketing Mix	Product dominant (30)	Price dominant (9)	Place dominant (35)	Promotion dominant (10)
		Mean	Mean	Mean	Mean
	Product	3.36	2.92	2.99	2.91
	Price	2.88	3.46	2.84	2.61
	Place	3.08	2.83	3.54	2.57
	Promotion	2.81	2.70	2.45	3.03
	Marketing Mix Proportion	28:24:25:23	24:29:24:23	25:24:30:21	26:24:23:27

Source: Survey Data (2017-2018)

The businesses, in which product practices are dominating, are keen on extending the broad product line and they put great effort to implement this. Moreover, these businesses are very sensitive to their quality assurance. These businesses usually put great effort to attain the FDA quality certificates and other ownership form of quality assurance certificates. They used to test the quality of water every day. Based on the situation of water, some businesses use RO (reverse osmosis) and some businesses utilize the other types of systems in order to maintain the nutrition in the water.

These businesses can assure the quality of the water and they also take pride in this fact. They assumed that their sustainable success is the consequence of their maintaining the quality of water. They used to build communication with the consumers through the special designed labels to deliver the messages that their products have the valid quality assurance. However, it is found that these businesses

are reluctant to make a promotion after the introduction stage. At the introduction stage, they tried for public awareness on brand with the support of promotion. Moreover, it is found that they set the premium price compared to the products of other brands which have the normal quality. They have the better awareness of the customer's opinion or image on the relationship between the price and the quality. Although they pay relatively more attention to product practices, there is still a lack in doing for distinctiveness in packaging as they think that unique and attractive packaging is not important. It can be said that this assumption is not 100 % right because the most valuable purified water brand includes the expensive, eye-catching, unique and attractive packaging on top of quality water. In like manner, it is found that the “designer water” brand can earn the premium price because of its innovative, unique and attractive designs. Thus, quality oriented businesses should pay more attention to packaging.

The businesses in which price practices are dominating are considering two points. These points are customers' perceived value compared to competitors' product and pre-communicating about price changes. It is found that the businesses are weak in the other things concerned with the price. It is found that pricing based on customization is an unusual thing they have not practiced much.

The businesses in which place practices are dominating make use of the effective and efficient transportation modes in order to deliver the products to the consumers directly with reasonable cost and they also utilize the telemarketing for distribution. For instance, bicycles, trishaws, cycles, push carts and trolley-trucks are used for the distribution of the products in the quarter. Yangon is suitable for these kinds of distribution for the sake of cheap and easy delivery because there are a lot of traffic jams and narrow lanes. However, it is found that the salespeople are assigned with no systematic standard of recruitment and they are also very weak in retaining the qualified salespeople in the workplace. On the other hand, it is found that they can build an efficient and effective channel member relationship with the dealers, distributors, wholesalers and retailers.

The businesses in which promotion practices are dominating utilize the advertising in times of demand fall and in moments of brand introduction. Most of the businesses advertise with vinyls through dealers and they also advertise by distributing the pamphlets in the quarters. However, it is found that they did not practise the mode of advertising through mass media marketing.

Generally, the businesses that practise the product dominantly are focusing on labelling, home delivery, no bottle deposit service and also trying to have a broad product line but they do not pay attention to new product development and new styles of packaging. They practice discrimination in pricing by setting various prices for different customers and different target market segments. They take into account the customers' ability to pay, the competitors' price and the customers' perceived value compared to competitors' product. However, they do not customize the size and packaging of the bottles and they do not want to consider it in price setting even if they have to customize it.

The businesses that pay much attention to pricing do not spend for promotion, place, and product. To reduce price, they control costs in all these three areas by delivering products with freelance delivery people by paying lower commission, doing promotion with the effort of these delivery people, producing sub-standard quality products. They neglect the practice of advertising through mass media marketing and advertising through internet websites and social media.

The businesses emphasizing on place practices try to establish the efficient and effective channel member relationship. However, they are weak in establishing the recruitment system carefully and fail to train the assigned salespeople. They are weak in retaining qualified salespeople. They are also weak in setting the delivery routes in a systematic way. They also fail to assign the delivery drivers to maintain contact.

Businesses favouring place practices distribute through the multi-distribution channels either in person or via intermediaries. In this case, some businesses assign the family members of the efficient staff as dealers with the intention of raising the switch cost. This can help to retain the efficient employees by establishing the strong relationship with their family members. It is actually a win-win situation because it does not need to provide the competitive commission on top of achieving the reliable and accountable dealers and all the dealers' family members can earn the income from the dealers' perspective. In some businesses, it is discerned that the installation plan is established for the dealers in that the dealers are provided with the loan money for the dealers' outlet rent charges and the equipment used for the product delivery. Although the efficient and effective channel member relationship of these businesses is strong they are weak in establishing the recruitment system because they rely mainly on the intermediaries, dealers, wholesalers and retailers.

It is found that businesses who favour promotion practices focus on the home delivery, free bottle deposit, the inclusion of the product-informative things on the label, maintaining the quality of the product, keeping promise in concern with delivery and the allowance of interest-free credit. However, it is found that they are not very keen on packaging-related practices and new product development. Their prioritized things are the customers' ability to pay, competitors' price and consumers' perceived value compared to competitors' product. However, they are weak in setting the varied price based on the service provision and based on the customization, and communicating the change of price to the consumers. They should consider these weaknesses for the sake of the long term benefits especially on the point of communicating the change of price to the consumers.

Lack of communication for price change would not be the problem in some businesses while it is a problem in many businesses. Although the price setting is not a problematic case for the businesses that have the loyal customers, it is surely a worth considering case for the businesses whose customers select this brand because of cheap price. Those types of customers are sensitive to the price. Therefore, the amount of the changed price and the time of price change must be informed to the customers, especially distributors, exactly. It is also worth informing the reasons of price change until the consumers accept it. If not, the customers will switch to other brands because of the persuasive pricing of other businesses.

It is also found that, in some markets, direct marketing is the only way to establish the relationship with the final consumers. In this case, salespeople are reliable not only for the direct distribution but also for the establishment of relationship with dealers, distributors, wholesalers and retailers. In addition to this, they are also the chief source to attain the information concerning the market and to find out new customers. Therefore, the businesses should put the great effort on establishing the better recruitment system, training the assigned salespeople and retaining qualified salespeople. Moreover, they should also try to enhance the use of internet technology i.e. they should strive to accept the orders via e-mail and the salespeople should be provided with the portable devices that can use the Internet to distribute effectively and efficiently by building a strong communication between manufacturers, salespeople, and customers.

While some businesses relying on sale forces for promotion, some are choosing other alternative. In this alternative; dealers, distributors wholesalers and

retailers are provided with the competitive commission which is higher than the amount paid by the other businesses. This is such a good practice that it can help to cooperate with the efficient dealers for a long time. Moreover, some businesses also strive to establish the public relationship because they would like to establish long term relationship with stakeholders who can influence the buyers' purchase decisions. Although these businesses pay relatively more favour to promotion practices, they still overlook some practices to be focused. These weaknesses are that they rarely advertise via Facebook or websites, they fail to give free samples at the brand introduction stage, to build public relations by sponsoring water to the households in the vicinity of their factories.

In the analysis of marketing mix proportion, the businesses which practice for place as the top priority focus on the product practices as a second priority which is followed by the price and promotion practices. Businesses which are focusing most on place practices are implementing the three things: distributing products through multi-distribution channels, establishing the effective and efficient channel member relationship and using the effective and efficient transportation modes. They put less focus on the things such as the use of internet technology for distribution, making plan to do contract with delivery people and retaining the efficient in-house salespeople.

The businesses which are focusing most on promotion try to establish the long term relationship with the customers as the first priority by providing the services such as the exchange of new bottle if it is examined that the level of water is low or if the seal of the bottle is detached or if it is examined there is sediment in the water. The second priority of these businesses is paying attention to place practices by providing home delivery service, exemption of bottle deposit for the placement of products in shops or at homes. This service is especially concerned with 20 litre bottle manufacturing.

Free bottle deposit is an effective way of retaining the customers when there is strong competition among the businesses. This service can cost businesses dearly. Businesses need to spend costs for bottles of three groups. The first group of bottles are put in factories to be ready to sell, the second group of bottles will be placed on the delivery vehicles and the third group of bottles will be in the homes and outlets of customers. When the free deposit bottles are damaged, the charges go to the employer and the employer must allow employees to replace old bottles with the new ones. The

maximum life time of a bottle is one year and its lifespan is based on the maintenance of the handler. There are two types of bottles: the blue bottle and the white bottle in which the white ones are cheap and durable and their counterparts are expensive and easily worn out. However, most customers prefer the blue to the white. Moreover, the employer usually loses the free deposit bottles when some customers migrate from their original homes or when some intermediaries abolish or migrate their outlets without the knowledge of the employer.

As the third priority, these businesses try to extend the product line. In the purified water manufacturing industry, 20 litre bottles are produced first which is followed by the manufacturing of 1 litre bottles and 0.6 litre and 0.3 litre bottles are produced even at the last stage. Some businesses produce the 20 litre bottles chiefly and 1 litre, 0.6 litre and 0.3 litre bottles are produced only when they have the orders. However, these businesses do not concentrate on the packaging in terms of size, shape, and colour. Moreover, the businesses that practice the promotion most set the price equally for different customers and for different target market segments because they do not take into account the customers' ability to pay and perceived value compared to the competitors' product. They should reconsider this point. If their competitor considers this point, they will be knocked out.

As they concentrate on the promotion most and the place least, it can be concluded that these businesses focus on the short-term benefits rather than the long-term benefits. They use advertising in time of product introduction stage and in moments in which the supply is higher than the demand. As the advertising is done in accordance with the situation, it can be said that it is good for the businesses. They also use of telemarketing and direct mails. In these cases, telemarketing is mainly used for promotion. Moreover, the price discounts are offered to the well-known hotels and restaurants with the contract system with the intention of publicizing their brand. They also provide higher amount of competitive commission to dealers or distributors and they mainly focus on using the effort of sale forces by means of personal selling.

The businesses which considered the pricing is the first priority to practice pay much attention to their competitors' price. The businesses which are not differentiated distinctively set the price the same as their competitors. The businesses which are significantly differentiated the product usually set the price higher than their competitors. Their second priority would be place because they usually concern their

distributors to give the information about pricing. In time of price rise, they persuasively explain the reasons of price rise until customers accept it and they usually inform about price decrease to their distributors in time in order to give chance to them to store the products. The third priority of these businesses is promotion by offering discounts when necessary. Providing the price promotion and discounts is very suitable when the businesses have no loyal customers or in the rainy or cold season. Only when the price promotion and discounts are offered, the businesses can maintain the economies of scale to run full capacity (for fixed cost sharing).

In purified drinking water market, there are significant number of customers who think of quality first when they come to choose the purified drinking water. However, their trust on specific brands will be resulted from effective communication of giving attractive message about reliability and quality of these brands. If they cannot have the brand that they preferred in time of need where they want, their purchase decision will be largely based on product availability (place). If they can get same quality brands with high availability, they will consider the price. Thus, businesses who consider the product practices as first priority will pay attention secondly to place (availability and market coverage), and thirdly to price. Although they need to practice effective promotion practices for brand building, particularly at the introduction stage, they will withdraw their promotion activities form market at the other stages such as growth, early maturity and late maturity stages.

4.5 Descriptive Analysis on Firm's Characteristics and Marketing Mix

In this study, according to the interview data, among the characteristics of purified drinking water manufacturing businesses, three types of characteristics are recommended. This is because these characteristics are suitable in analyzing the influence on marketing mix of purified drinking water manufacturing businesses. In the analysis of marketing mix, three situations are specialized and studied. These are (1) sizes of business, (2) ownership form of business, and (3) firm's age.

4.5.1 Size of Business and Marketing Mix

In the cases of size of business, three types of businesses are categorized and studied. They are small size, medium size and large size businesses. To compare the overall mean values of small, medium and large businesses, mean values of each size of businesses are shown in the following tables. Mean values of each size of businesses point out the mean differences between them. Table (4.8) summarizes the mean values of marketing mix for small, medium and large businesses.

Table (4.8) Marketing Mix Based on Size of Businesses

Sr. No.	Marketing Mix	Small (68)	Medium (8)	Large (8)
		Mean	Mean	Mean
1	Product	3.01	3.45	3.82
2	Price	2.82	3.05	3.56
3	Place	3.16	3.19	3.74
4	Promotion	2.51	3.20	3.65
5	Marketing Mix Proportion	26:24:28:22	27:23:25:25	26:24:25:25

Source: Survey Data (2017-2018)

The marketing mix proportion of large sized businesses is 26:24:25:25. It is found that generally, these businesses focus on the product, the price, the place and the promotion equally. The marketing mix proportion of medium sized businesses is 27:23:25:25. It is found that these businesses mainly focus on the product but slightly focus on the price. The marketing mix proportion of small sized businesses is 26:24:28:22. These businesses mainly focus on the place but slightly focus on the promotion.

4.5.2 Ownership Form and Marketing Mix

To compare the proportions of practices in marketing mix by ownership form, overall mean values of marketing mix practices of sole proprietorships, partnerships and companies are summarized in Table (4.9).

Table (4.9) Marketing Mix Based on Ownership Form of Businesses

Sr. No	Marketing Mix	Sole Proprietorship (70)	Partnership (10)	Company (4)
		Mean	Mean	Mean
1	Product	3.09	3.19	3.68
2	Price	2.89	2.89	3.22
3	Place	3.22	3.13	3.42
4	Promotion	2.60	2.88	3.28
5	Marketing Mix Proportion	26:25:27:22	26:24:26:24	27:24:25:24

Source: Survey Data (2017-2018)

Purified drinking water manufacturing businesses with ownership form of private limited company emphasize much on product practices. It is relatively more important for them to follow the guidelines of FDA and also must have the approval from FDA. Most of such businesses are also running legally with licenses. When the information about the product is publicized to the public, they used to highlight the point that the brand is officially certified by the FDA. Since there are many informal businesses – the businesses that are not certified by FDA and the businesses that do not use systematic water purifying processes, labelling process is very important for registered businesses to build brand image with differentiation, and to protect from imitation their brand names by uncertified businesses. Besides they pay most favour to product quality and design, they also pay relatively more attention to place, price, and promotion by comparing with businesses of other ownership forms.

Since they are running as officially registered companies, they have to try for economies of scale by covering sufficient market coverage. Thus, they have appointed employees not only for production but also for distribution. Moreover, they must rely also on intermediaries such as dealers, wholesalers, retailers, and businesses which need purified drinking water bottles to sell their major products accompanying purified drinking water bottles. Thus, place practices secondly followed to product practices. They normally practice promotion just for public awareness on brand at the introduction stage, and they are not striving for price competitiveness.

According to the proportions of practices in marketing mix of businesses established with sole proprietorship and partnership forms, they pay first priority to place practices. However, they follow the different approach from the approach of private companies to distribution (place). Most of them do not hire employees for delivery. They can distribute drinking water bottles to their end users (households) by giving commission to freelance delivery people. They also do not need to establish the delivering facilities (e.g., delivery vans). Since they are targeting to households nearby their factories, the freelance delivery people can use other low cost vehicles such as trollies, carts and so on. Some businesses ask for deposits from such delivery people, some do not. The price is normally fixed for all customers. They pay less attention to product by quality and also by packaging. Although they have to be registered to run their businesses legally, they do not have passion to follow FDA guidelines with continuous and regular practices. They may pay attention to these guidelines at the time of checking by FDA.

From detail analysis on price practices of businesses of all forms of ownership, although businesses with ownership form of private company usually set the price differently on different customers for different segments, most of the businesses in all sole proprietorship and partnership forms set their price based on the competitors' price. However, there are differences in some pricing factors among them. In businesses with ownership form of company, although the transportation cost is the same, the price distributed to the regions which have affluent socioeconomic condition is higher than the price distributed to the regions which have the socioeconomic condition is low. In other words, the companies took into account the ability to pay the customers in case of price setting. Perceived value compared to competitors' price is considered by both sole proprietorships and the companies. Consumers have low perceived value for the products which are distributed in the market having no certifications from FDA.

In the detail analysis of distribution practices, partnership businesses and companies consider the efficiency and effectiveness in selecting delivery modes and planning to set the delivery rates. The products are distributed through the multi distribution channels especially by the partnership businesses. In companies, sale people are recruited carefully and they are also well-trained to meet the needs of the workplace. The companies used to plan to have instant contact with customers all the time.

In the detail analysis of promotion practices, it is found that all the businesses use two practices of promotion. The first one is using the sale forces or personal selling for promotion. The second one is building long-term relationship with key stakeholders who influence buyers' purchasing decisions. The sole proprietorship and partnership businesses usually provide the competitive commissions to the dealers. The companies utilize the method of advertising depending on the situation and they normally use advertising through mass media.

4.5.3 Firm's Age and Marketing Mix

In the analysis of firms' age, the businesses are categorized into three groups: younger aged group (less than five year), medium aged group (between five and ten year) and older aged group (more than ten year).

To compare the proportions of practices to marketing mix in these three groups, mean values of marketing mix practices by firm's age are shown in Table (4.9).

Table (4.10) Marketing Mix Based on Age of Businesses

Sr. No.	Marketing Mix	Younger Group (38)	Medium-Aged Group (22)	Older Group (24)
		Mean	Mean	Mean
1	Product	3.04	3.21	3.19
2	Price	2.84	3.02	2.91
3	Place	3.15	3.29	3.27
4	Promotion	2.55	2.80	2.80
5	Marketing Mix Proportion	26:25:27:22	26:24:27:23	26:24:27:23

Source: Survey Data (2017-2018)

The marketing mix proportion of the younger businesses is 26:25:27:22. These businesses mainly focus on place and these businesses concentrate on the promotion least. The marketing mix proportion of the medium-aged businesses is 26:24:27:23. These businesses mainly focus on place and these businesses concentrate on the

promotion least. However, it is found that the amount of concentration on the promotion is greater than the businesses with short term firm's age. The marketing mix proportion of the older businesses is 26:24:27:23. This proportion is the same as the marketing mix proportion of medium-aged businesses. These businesses mainly focus on place and these businesses concentrate on the promotion least.

In the analysis of product, the younger businesses usually focus on broad product line (with different sizes and different packaging form) and labelling functions but they are weak in practices for unique and attractive packaging. They perceived the packaging innovation activities as not value added activities.

The medium-aged businesses usually focus on labelling and establishing long term relationship with customers. However, they are weak at new product development. The new product development of water can be conducted by considering colour, taste, ingredients and water technology. Most of medium-aged businesses are very conventional and they are not imaginative to create new product development idea.

The older businesses have established the broad product line by providing products with different sizes, and different packaging forms. These businesses offer the services such as home delivery and exemption from deposit. These businesses also strive to establish long term relationship with key customers. The size of packages is the same as the size of competitors because the use of varied sizes needs to order the ready-made standardized bottles and customizing the bottle sizes can cost the businesses dearly. If businesses do not want to pay the additional charges, they have to invest in building the bottle producing facilities for that only larger companies are capable.

In the analysis of price, the younger businesses take into account the competitor's price and the customers' perceived value compared to competitors' product. They do not consider in advance how to set the price. They evaluate their competitors' prices, and they try to set same price by adjusting only costs of production, distribution, and promotion.

Although medium-aged businesses take into account the competitor's price and the customers' perceived value compared to competitors' product, they also conduct the price promotions and discount pricing.

The older businesses usually take into account the customers' ability to pay and the competitors' price. In these businesses, the external environment has an effect

on their strategies. During this decade, businesses are running in the dynamic environment where adaptation to the external environment plays a key role for the sustainable success of the businesses. As these businesses can adapt to the external environment, they can maintain their success for a long time.

In the analysis of place, the younger businesses focus on establishing strong relationship with intermediaries and using telemarketing to distribute their products. It can be said that in practicing of place, the younger businesses are practicing similar to medium-aged businesses but both of these businesses have practices different from the practices of older ones.

The older businesses usually try to utilize the multi-channel and try to focus on establishing strong relationship with the channel members. As these businesses usually rely on the intermediaries, they do not emphasize on retaining the qualified salesperson.

In the analysis of promotion, the younger businesses use of the sale forces for promotion by means of personal selling. In addition, these businesses also provide the competitive commissions to dealers, retailers and wholesalers for promotion. It is found that the Internet, Facebook and websites are hardly used for promotion. Although younger businesses and medium-aged businesses provide the competitive commissions to intermediaries, the older businesses are trying to attract intermediaries and end users through mass media marketing. They are penetrating into broad market.

4.6 Analysis on Effect of Firm's Characteristics on Marketing Mix

In this study, the effect of characteristics of businesses on marketing mix is analyzed. The data type for variables of characteristics of businesses is nominal type. For this case, linear regression analysis is not appropriate. Thus, dummy variable regression is applied. Marketing mix practices are dependent variables and the characteristics of businesses are independent variables. Since the four elements of marketing mix are approached, the effect of characteristics of businesses on each of these four is analyzed.

4.6.1 Analysis on Effect of Firm's Size on Marketing Mix

In this analysis, two approaches are used: approach of using mean value data and approach of using ratio data to measure marketing mix variables (dependent

variables). This analysis intends to test hypothesis 1 as shown in Chapter (1) relating to effect of firm's size on marketing mix.

Testing Hypothesis (1): There is an effect of firm's size on marketing mix practices of purified drinking water manufacturing businesses in Yangon.

In this study, the dummy variable regression is applied to test the effect of sizes of businesses on marketing mix variables. Each element of marketing mix is the dependent variable and the sizes of businesses are independent variables. Marketing mix variables consist of product, price, place and promotion. Since the four variables of marketing mix are approached, the effects of sizes of businesses on each of these four variables are analyzed.

The result from analysis on the effect of size of business on product variable by mean values is:

Product =	3.007	+0.814 (large)	+ 0.439 (medium)
SE :	(0.039)	(0.120)	(0.120)
t :	(77.161)***	(6.780)***	(3.658)***

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

As these regression results show that product mean value of small businesses is 3.007, the coefficient of large businesses is significant at 1% level and it can be said that there is effect of size of being large on the product variable. The mean value of product variable of large businesses is 0.814 higher than small businesses. The coefficient of medium businesses is significant at 1% level and it can be said that there is effect of size of medium on the product variable. The mean value of product variable of medium businesses is 0.439 higher than small businesses. Therefore, the overall conclusion is that statistically the product mean values of small, medium and large businesses are not about the same. Thus, there is significant effect of sizes of businesses on firm's product variable. Small sized businesses only focus on FDA quality certificate while medium and large sized businesses focus not only FDA quality certificate but also product design, packaging, broad product lines and new product development. These medium and large sized businesses focus broad market

target and they are strength in financial condition while small sized businesses normally focus on target markets which are near to their plants.

The result from analysis on the effect of size of business on product variable by marketing mix proportion ratio is:

$$\begin{array}{rcl}
 \text{Product} = & 26.176 & -0.176 \text{ (large)} \quad + 0.199 \text{ (medium)} \\
 \text{SE :} & (0.243) & (0.750) \quad (0.750) \\
 \text{t :} & (107.637)^{***} & (- 0.235) \quad (0.265)
 \end{array}$$

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

These regression results show small sized businesses perform 26.18% for product variable. It can be said that statistically the level of emphasis (ratio) on product variable is about the same among small, medium and large size of businesses.

In this analysis, the effect of sizes of businesses on price variable is also examined. The result from analysis on the effect of size of business on price approached with mean value is:

$$\begin{array}{rcl}
 \text{Price} = & 2.817 & +0.747 \text{ (large)} \quad + 0.231 \text{ (medium)} \\
 \text{SE :} & (0.048) & (0.149) \quad (0.149) \\
 \text{t :} & (58.449)^{***} & (5.029)^{***} \quad (1.553)
 \end{array}$$

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

According to these regression results, the price mean value of small businesses is 2.817. The coefficient of large businesses is significant at 1% level. Therefore, the overall conclusion is that statistically the price mean values of small and large businesses are not about the same. Thus, there is significant effect of sizes of businesses on firm's price practices. Most of the large businesses focus on numerous target markets so they need to manipulate their pricing activities to meet the needs of these different target markets.

The result from analysis on the effect of size of business on price variable by marketing mix proportion ratio is:

Price =	24.529	-0.529 (large)	-0.904 (medium)
SE :	(0.255)	(0.787)	(0.787)
t :	(96.105)***	(- 0.673)	(-1.150)

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

According to these regression results, small sized businesses perform 24.53% for price variable. The overall conclusion is that statistically the level of emphasis (ratio) on the price variable is about the same among small, medium and large size of businesses.

In this analysis, the effect of size of business on place variable is also examined. The result from analysis on effect of size of business on place practices which are approached with mean value is:

Place =	3.162	+0.575 (large)	+ 0.031 (medium)
SE :	(0.062)	(0.192)	(0.192)
t :	(50.896)***	(3.003)***	(0.164)

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

Concerning these regression results, the place mean value of small businesses is 3.162. The coefficient of large businesses is significant at 1% level. Therefore, the overall conclusion is that statistically the place mean values of small and large businesses are not about the same. It can be concluded that there is significant effect of sizes of businesses on firm's place practices. Most of the small businesses focus on direct distribution while most of the large businesses focus on not only direct distribution but also indirect distribution by using wholesalers and retailers as intermediaries. Besides most of the small businesses distribute their product through freelance person by paying commission, most of the large businesses trained and retained talented sales person to distribute their product.

The result from analysis on the effect of size of business on place practices by marketing mix proportion ratio is:

Place =	27.397	-2.147 (large)	-2.647 (medium)
SE :	(0.409)	(1.259)	(1.259)
t :	(67.062)***	(- 1.705)*	(-2.102)**

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

In according with these regression results, the coefficient of large size is significant at 10% level. The coefficient of medium size is significant at 5% level. It can be said that there are effects of sizes of large and medium on the place variable. Small sized businesses perform 27.4% for place variable. Therefore, the overall conclusion is that statistically the level of emphasis (ratio) on the place variable is not about the same. Thus, there is significant effect of sizes of businesses on firms' place variable. The major strength of small businesses is their economy way of distribution method and door to door service. They are weak in branding. So, they put more effort and increase their level of emphasis on place variable which is their favourite element among marketing mix variables.

In this analysis, the effect of sizes of businesses on promotion variable is also examined. The result from analysis on the effect of size of business on promotion evaluated with mean value is:

Promotion =	2.513	+1.137 (large)	+ 0.687 (medium)
SE :	(0.044)	(0.136)	(0.136)
t :	(57.133)***	(8.384)***	(5.065)***

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

Regarding these regression results, the promotion mean value of small businesses is 2.513. The coefficient of large and medium businesses is significant at 1% level. Thus there is significant effect of sizes of businesses on firm's promotion practices. Medium and large businesses normally focus numerous target markets and often nation-wide target markets. So, these medium and large businesses are practicing more on promotion activities to build their brand through mass media marketing. Small and medium businesses only use pamphlets and vinyl to promote their product and build their brand through word-of-mouth of their customers.

Result of analysis on effect of size of business on promotion variable approached with marketing mix proportion ratio is:

Promotion =	21.941	+2.684 (large)	+2.934 (medium)
SE :	(0.355)	(1.094)	(1.094)
t :	(61.790)***	(2.452)**	(2.681)***

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

The coefficient of large size is significant at 5% level. The coefficient of medium size is significant at 1% level. It can be said that there are effect of sizes of large and medium on the promotion variable. Small sized businesses perform 21.94% for promotion variable. Therefore, the overall conclusion is that statistically the level of emphasis (ratio) on the promotion variable is not about the same. So, there is significant effect of sizes of businesses on firms' promotion variable. This is because most of the medium and large businesses try to build their brands and they have strength in financial resources to perform promotion activities such as national advertising. Moreover, their target markets are widespread while the targets of small businesses are narrow.

By concerning the results as shown above, **the hypothesis (1)** "There is an effect of firm's size on marketing mix practices of purified drinking water manufacturing businesses in Yangon" can be accepted.

4.6.2 Analysis on Effect of Ownership Form of Business on Marketing Mix

In this analysis, two approaches are used: approach of using mean value data and approach of using ratio data to measure marketing mix variables (dependent variables). This analysis intends to test hypothesis 2 as described in Chapter (1) relating to effect of ownership form on marketing mix.

Testing Hypothesis (2): The ownership form of purified drinking water manufacturing businesses in Yangon is relating to their marketing mix practices.

In this test, each element of marketing mix is the dependent variable and the ownership forms of businesses are independent variables. Since the four elements of marketing mix are approached, the effects of ownership form of businesses on each of

these four elements are analyzed. The three ownership forms of businesses such as company, partnership and sole proprietorship are accounted for this analysis.

Result from analysis on effect of ownership form of businesses on product practices measured with mean value is:

Product =	3.086	+0.591 (company)	+ 0.100 (partnership)
SE :	(0.047)	(0.203)	(0.134)
t :	(65.332)***	(2.910)***	(0.746)

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

The coefficient of company businesses is significant at 1% level and it can be said that there is effect of type of company on the product variable. The product mean value of sole proprietorship is 3.086. Since the product mean values of sole proprietorship, partnership and company businesses are not the same. Thus, there is significant effect of ownership forms of businesses on firm's product practices.

Result from analysis on effect of ownership form of businesses on product variable approached by marketing mix proportion ratio is:

Product =	26.1	+0.9 (company)	+0.3 (partnership)
SE :	(0.239)	(1.026)	(0.675)
t :	(109.404)***	(0.877)	(0.445)

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

As these regression results show, sole proprietorships perform 26.1% for product variable. Therefore, the overall conclusion is that statistically the level of emphasis (ratio) on the product variable is about the same among sole proprietorships, partnerships and companies. The reason is similar to the sizes of businesses that all purified drinking water manufacturing businesses in this study pass the FDA standards and water is related to health issue. These businesses try to upgrade the water quality as much as they can. Moreover, they do the same manner especially in customer service and customer relationship.

In this analysis, the effect of ownership form of businesses on price variable is also examined. The result from analysis on the effect of for the effect of ownership form of business on price variable approached with mean value is:

Price =	2.895	+0.325 (company)	-0.005 (partnership)
SE :	(0.054)	(0.232)	(0.153)
t :	(53.585)***	(1.399)	(-0.033)

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

As these regression results show, the price mean value of sole proprietorship is 2.895. Since it is found that statistically the price mean values of sole proprietorship, partnership and company businesses are nearly the same.

Result from analysis on the effect of ownership form of businesses on price variable approached with marketing mix proportion ratio is:

Price =	24.5	-0.750 (company)	-0.600 (partnership)
SE :	(0.252)	(1.086)	(0.714)
t :	(97.076)***	(-0.691)	(-0.841)

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

As these regression results show, sole proprietorships perform 24.5% for price variable. The overall conclusion is that statistically the level of emphasis (ratio) on the price variable is about the same. The reason is that most of the businesses set their price based on competitors' price and their target market price. Other factors in pricing are rarely considered.

In this analysis, the effect of ownership form of businesses on place variable is also examined. Result from analysis on effect of ownership form of businesses on place variable approached with mean value is:

Place =	3.221	+0.194 (company)	-0.087 (partnership)
SE :	(0.064)	(0.276)	(0.182)
t :	(50.131)***	(0.701)	(-0.480)

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

As these regression results show, the place mean value of sole proprietorship is 3.221. It is found that statistically the place mean values of sole proprietorship, partnership and company businesses are nearly the same.

Result from analysis on effect of ownership form of businesses on place variable approached with marketing mix proportion ratio is:

Place =	27.214	-1.714 (company)	-1.614 (partnership)
SE :	(0.412)	(1.773)	(1.166)
t :	(66.029)***	(-0.967)	(-1.385)

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

As these regression results show, sole proprietorships perform 27.21% for place variable. The overall conclusion is that statistically the level of emphasis (ratio) on the place variable is about the same. This is because the common practices of all businesses are utilizing the efficient and effective channels, and establishing channel member relationship.

In this analysis, the effect of ownership form of businesses on promotion variable is also examined. The result for the effect of ownership form of businesses on promotion variable approached with mean value is:

Promotion =	2.626	+0.649 (company)	+0.254 (partnership)
SE :	(0.060)	(0.257)	(0.169)
t :	(43.972)***	(2.528)**	(1.506)

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

As these regression results show, the promotion mean value of sole proprietorship is 2.626. The coefficient of company businesses is significant at 5% level and it can be said that there is effect of company businesses on the promotion variable. It is found that statistically the promotion mean-values of sole proprietorship, partnership and company businesses are not about the same, it can be concluded that there is significant effect of ownership form of businesses on firm's promotion variable.

Result from analysis on effect of ownership form of businesses on promotion practices approached with the marketing mix proportion ratio is:

$$\begin{array}{rcl}
 \text{Promotion} = & 22.143 & + 1.857(\text{company}) & + 2.057 (\text{partnership}) \\
 \text{SE :} & (0.364) & (1.564) & (1.029) \\
 \text{t :} & (60.876)^{***} & (1.187) & (2.000)^{**}
 \end{array}$$

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

As these regression results show, sole proprietorships perform 22.14% for place variable. The coefficient of partnership businesses is significant at 5% level. It can be said that there is an effect of partnership businesses on the promotion variable. Therefore, the overall conclusion is that statistically the level of emphasis (ratio) on the promotion variable is about the same between sole proprietorship and company and is not about the same between sole proprietorship and partnership. Thus, there is partially significant effect of ownership form of businesses on firms' promotion variable. This is because partnership businesses utilize the method of advertising depending on situation and advertising through mass media marketing while sole proprietorship businesses are weak in these activities. Consequently, **the hypothesis (2)** "The ownership form of purified drinking water manufacturing businesses in Yangon is relating to their marketing mix practices" is **partially accepted**.

4.6.3 Analysis on Effect of Firm's Age on Marketing Mix

In this analysis, two approaches are used: approach of using mean value data and approach of using ratio data to measure marketing mix variables (dependent variables). This analysis intends to test hypothesis 3 as described in Chapter (1) relating to effect of firm's age on marketing mix.

Testing Hypothesis (3): There is a relationship between firm's age and marketing mix practices in purified drinking water manufacturing businesses in Yangon.

In this study, the effect of firm's age on marketing mix is also examined. Each element of marketing mix is the dependent variable and the firm's age is independent variables. Since the four elements of marketing mix are approached, the effects of

firm's age on each of these four elements are analyzed. At first, the effect of firm's age on product variable is analyzed.

The effect of firm's age on the product variable of purified drinking water manufacturing businesses in Yangon by using approach of measuring their practices with mean values can be seen as:

Product=	3.038	+0.154 (long term)	+0.170 (medium term)
SE :	(0.066)	(0.106)	(0.109)
t :	(45.921)***	(1.446)	(1.555)

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

Depending on these regression results shown, the product mean value of businesses (less than five operating years) is 3.038. It is found that statistically the product mean value of businesses which have long term and medium term firm's age are nearly the same.

Result from analysis on effect of firm's age on product practices approached with marketing mix proportion ratio is:

Product =	26.263	-0.055(long-term)	-0.263 (medium-term)
SE :	(0.325)	(0.523)	(0.537)
t :	(80.783)***	(-0.105)	(-0.490)

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

As these regression results show, the businesses which have short term firm's age perform 26.26% for product variable. It is found that statistically the levels of emphasis (ratio) on the product variable are nearly the same. This is because most of the businesses are very conventional and they are not very imaginative to create new product development ideas.

In this analysis, the effect of firm's age on price variable is also examined. The results for the effect of firm's age on price variable approached with mean value are:

Price =	2.844	+0.069 (long term)	+0.175 (medium term)
SE :	(0.073)	(0.118)	(0.121)
t :	(38.817)***	(0.585)	(1.443)

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

Concerned with these regression results shown, the price mean value of businesses (less than five operating years) is 2.844. It is found that statistically the price mean values of younger, medium-aged, and older businesses are nearly the same.

Result from analysis on effect of firm's age on pricing practices approached with marketing mix proportion ratio is:

Price =	24.632	-0.757(long-term)	-0.086 (medium-term)
SE :	(0.341)	(0.547)	(0.562)
t :	(72.334)***	(-1.382)	(-0.153)

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

As these regression results show, the businesses which have short term firm's age perform 24.63% for price variable. It is found that statistically the levels of emphasis (ratio) on price practices of businesses with various age levels are nearly the same. This is because most of the businesses take into account the same practices such as competitors' price and customers' perceived value. On the other hand, they do not consider in advance how to set the price when the customers ask for the label that they like in place of their original label. However, this kind of request is very rare.

In this analysis, the effect of firm's age on place variable is also examined. The results for the effect of firm's age on place variable approached with mean value are:

Place =	3.147	+0.122 (long term)	+0.145 (medium term)
SE :	(0.087)	(0.140)	(0.144)
t :	(36.201)***	(0.877)	(1.011)

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

As these regression results show, the place mean value of businesses (less than five operating years) is 3.147. It is found that statistically the place mean values of businesses with various age levels are nearly the same.

Result from analysis on effect of firm's age on place variable approached with marketing mix proportion ratio is:

Place =	27.132	-0.382(long-term)	-0.313 (medium-term)
SE :	(0.568)	(0.913)	(0.938)
t :	(47.789)***	(-0.418)	(-0.334)

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

As these regression results show, the businesses which have short term firm's age perform 27.13% for place variable. It is found that statistically the levels of emphasis (ratio) on the place practices of businesses with various age levels are nearly the same. This is because most of the businesses take into account the same practices such as establishing efficient and effective channel member relationship, using telemarketing to distribute their products. However, they do not consider internet technology in their place variable.

In this analysis, the effect of firm's age on promotion variable is also examined. The results for the effect of firm's age on promotion variable approached with mean value is:

Promotion=	2.553	+0.243 (long term)	+0.247 (medium term)
SE :	(0.083)	(0.133)	(0.136)
t :	(30.915)***	(1.833)*	(1.814)*

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

As these regression results show, the promotion mean value of businesses (less than five operating years) is 2.553. The coefficient of businesses which have long term firm's age is significant at 10% level and it can be said that there is effect of firm's age (long term) on the promotion variable. The coefficient of medium term operated businesses is also significant at 10% level and it can be said that there is effect of firm's age (medium term) on the promotion variable. Since it is found that statistically the promotion mean-values of younger, medium-aged, and older businesses are not about the same, it can be concluded that there is significant effect of term of firm's age on firm's promotion practices.

Result from analysis on effect of firm's age on promotion variable approached with marketing mix proportion ratio is:

Promotion=	22.053	+ 0.864 (long-term)	+0.675(medium-term)
SE :	(0.505)	(0.811)	(0.834)
t :	(43.693)***	(1.065)	(0.809)

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

As these regression results show, the businesses which have short term firm's age perform 22.05% for promotion variable. The overall conclusion is that statistically the level of emphasis (ratio) on the promotion variable is about the same. This is because most of the businesses make use of the sale forces for promotion by means of personal selling. In addition, these businesses also provide the competitive commissions to dealers, retailers and wholesalers for promotion. It is found that the Internet, Facebook and websites are hardly used for promotion. Consequently, the **hypothesis (3)** "There is a relationship between firm's age and marketing mix practices in purified drinking water manufacturing businesses in Yangon" is fractionally accepted.

4.7 Analysis on Effect of Marketing Mix on Firm's Performance

This analysis intends to test the hypothesis (4) as shown in Chapter (1) relating to marketing mix and firm performance. Firm performance is measured with four criteria such as changes in sales revenue, sales volume, profit and firm's growth by number of employees during recent one year.

Testing Hypothesis (4): There is an effect of marketing mix practices of purified drinking water manufacturing businesses in Yangon on their performance.

In this study, multiple linear regression statistics is applied to test this hypothesis. Performance is the dependent variable and the marketing mix variables are independent variables.

As mentioned in Chapter (3), there are six assumptions of multiple linear regression analysis. The first assumption of Multiple Regression is that the relationship between independent variables and dependent variable can be characterized by a straight line. In this analysis, this assumption is tested by reviewing

the normal probability plot. According to the output for normal probability plot, the relationship between marketing mix variables and performance can be characterized by a straight line (See Appendix of Regression Output).

Assumption 2 is that “there is no multicollinearity in data”. This assumption is to test that the independent variables are not too highly correlated. For the assumption to be met (no multicollinearity in independent variables), VIFs scores needed to be well below 10, and tolerance scores to be above 0.2. All these criteria are covered in this analysis.

Assumption 3 is that “the values of the residuals are independent”. Durbin-Watson statistics can be checked. In this analysis, this value is close to 2. Thus, the assumption-3 is met.

Assumption 4 is that “the variance of the residuals is constant”. This assumption (assumption of homoscedasticity) is the assumption that variation in the residuals (or amount of error in the model) is similar at each point of the model. In this analysis, the scatter plot is not in funnel shape. Thus, this assumption is also met.

Assumption 5 is that “the values of the residuals are normally distributed”. This assumption can be tested by probability plot. The closer the dots lie to the diagonal line, the closer to normal the residuals are distributed. In this analysis, residuals are normally distributed (See Appendix of Regression Output).

Assumption 6 is that “there are no influential cases biasing the model”. This assumption can be tested by looking at the Cook’s distance values. All values are not over 1. Thus, this assumption is met.

Since all the assumptions are met, the test is continued to analyze the relationship between marketing mix and performance. In this analysis, since the performance is measured with four criteria, the hypothesis (4) is tested by developing sub-hypotheses such as hypothesis (4-a), hypothesis (4-b), hypothesis (4-c), and hypothesis (4-d) as shown in Chapter 1.

Testing Hypothesis (4-a): There is an effect of marketing mix practices on performance by sales revenue.

In this study, multiple linear regression analysis is conducted to test the relationship between marketing mix and the difference in sales revenue of this year and of last year. The results for the effect of marketing mix on sales revenue are shown in Table (4.11).

Table (4.11) Effect of Marketing Mix on Sales Revenue

Independent Variables	Beta	Sig.	t	tolerance	VIF
Product	-.343	.920	-.100	.488	2.049
Price	5.356*	.088	1.725	.489	2.043
Place	15.284***	.000	6.383	.590	1.695
Promotion	1.590	.557	.589	.494	2.024
R					.740
R Square					.548
Adjusted R Square					.525
Durbin-Watson					2.033
F (P<0.05)					23.965

Source: Survey Data (2017-2018)

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

As shown in Table (4.11), R (the correlation between the observed value and the predicted value of dependent variable) is 0.740. Thus the growth levels of sales revenue reported by respondents and the levels predicted for them by independent variables are correlated. R^2 (proportion of the variance in the dependent variable accounted by model) is 0.548 and adjusted R^2 is 0.525. Thus the model has accounted for 52.5% of the variance in the dependent variable.

It is also found that the relationship between place variable and sales revenue is positively significant at 95% confidence interval. Moreover, price variable is also marginally correlated with $p = 0.088$. The data finding analyzed also shows that taking all other independent variables at zero, a unit increase in place activities will lead to a 15.284 units increase in effect on sales revenue growth. In addition, a unit increase in price activities will lead to a 5.356 units increase in effect on sales revenue growth while taking all other independent variables at zero. However, the relationship between product and promotion variables and sales revenue is not significant. This is because the health awareness concerned with purified drinking water is not very high among the public of Myanmar and product quality is standardized in the eyes of average customers. Moreover, the historical effect is still strong on minds of Myanmar people when they make buying decision on drinking water. They usually choose a few pioneer brands and they are normally low brand loyalty concerning new coming brands.

There is no autocorrelation in sample because the Durbin Watson value is 2.033 (nearly 2). All VIFs (variance inflation factor) of independent variables are less

than 10. Thus there is no problem of multicollinearity (correlation between independent variables). According to the results from the survey, it can be concluded that there is an effect of place and price variable on sales revenue of purified drinking water manufacturing businesses.

To increase sales revenue, place and price variable should be emphasized. All the other marketing mix variables such as product and promotion variables are not too supportive to the growth of sales revenue. Thus, in purified drinking water manufacturing businesses in Yangon, effective and efficient distribution practices and manipulating pricing decision will lead to increasing the growth of sales revenue. Consequently, **the hypothesis (4-a)** “there is an effect of marketing mix practices on performance by sales revenue” can be **partially accepted**.

Testing Hypothesis (4-b): There is an effect of marketing mix practices on performance by sales volume.

In any type of businesses, performance should not be assessed only with sales revenue because businesses would practice increasing price due to various reasons, and if so, growth in sales revenue is not the result from increasing demand of customers or increasing the number of customers. Thus, in this analysis, performance is also measured with sales volume.

In this study, multiple linear regression analysis is conducted to test the relationship between marketing mix and the growth rate of sales volume. The results for the effect of marketing mix on sales volume are shown in Table (4.12).

Table (4.12) Effect of Marketing Mix on Sales Volume

Independent Variables	Beta	Sig.	t	tolerance	VIF
Product	-.620	.877	-.156	.488	2.049
Price	5.332	.145	1.472	.489	2.043
Place	13.724***	.000	4.912	.590	1.695
Promotion	-1.137	.719	-.361	.494	2.024
R					.638
R Square					.407
Adjusted R Square					.377
Durbin-Watson					2.120
F (P<0.05)					13.552

Source: Survey Data (2017-2018)

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

As shown in Table (4.12), R (the correlation between the observed value and the predicted value of dependent variable) is 0.638. Thus the growth levels of sales revenue reported by respondents and the levels predicted for them by independent variables are correlated. R^2 (proportion of the variance in the dependent variable accounted by model) is 0.407 and adjusted R^2 is 0.377. Thus the model has accounted for 37.7% of the variance in the dependent variable.

It is also found that the relationship between place variable and sales volume is positively significant at 95% confidence interval. The data finding analyzed also shows that taking all other independent variables at zero, a unit increase in place activities will lead to a 13.724 units increase in effect on sales volume growth. However, the relationship between product, price and promotion variables and sales volume is not significant. This is concerned with customers' ability to pay, willingness to pay and perceived value compared to competitors' product. In addition, there is no handy measurable machine for the public to test the sanitation of the water; the consumers bought only cheap drinking water due to the thought of the same quality with cheaper price compared to the branded drinking water.

There is no autocorrelation in sample because the Durbin Watson value is 2.120 (nearly 2). All VIFs (variance inflation factor) of independent variables are less than 10. Thus there is no problem of multicollinearity (correlation between independent variables). According to the results from the survey, it can be concluded that there is an effect of place variable on sales volume of purified drinking water manufacturing businesses.

To increase the growth rate of sales volume, place variable is necessary. All other marketing mix variables such as product, price and promotion variables are not too supportive to the growth of sales revenue. Thus, in purified drinking water manufacturing businesses in Yangon, effective and efficient distribution practices will lead to increasing the growth of sales revenue. Consequently, **the hypothesis (4-b)** "There is an effect of marketing mix practices on performance by sales volume" is **partly accepted**.

Testing Hypothesis (4-c): Performance measured with growth by number of employees is relating to marketing mix practices.

Purified drinking water manufacturing businesses become largely rely on strength of workforce when they gained success in market. If a brand is highly

accepted in market, manufacturers must be conscious on product availability, market coverage, and reliable delivery service. Thus, in this industry, firm performance should be measured also with growth in number of employees.

In this study, multiple linear regression analysis is conducted to test the relationship between marketing mix and the growth rate of number of employees. The results for the effect of marketing mix on number of employees are shown in Table (4.13).

Table (4.13) Effect of Marketing Mix on Number of employees

Independent Variables	Beta	Sig.	t	tolerance	VIF
Product	2.983	.464	.737	.488	2.049
Price	5.794	.119	1.576	.489	2.043
Place	13.635***	.000	4.807	.590	1.695
Promotion	-3.948	.220	-1.235	.494	2.024
R					.664
R Square					.441
Adjusted R Square					.412
Durbin-Watson					1.496
F (P<0.05)					15.559

Source: Survey Data (2017-2018)

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level revenue reported by respondents and the levels predicted for them by independent variables are correlated. R^2 (proportion of the variance in the dependent variable accounted by model) is 0.441 and adjusted R^2 is 0.412. Thus the model has accounted for 41.2% of the variance in the dependent variable.

It is also found that the relationship between place variable and growth of number of employees is positively significant at 95% confidence interval. The data finding analyzed also shows that taking all other independent variables at zero, a unit increase in place activities will lead to a 13.635 units increase in effect on number of employees' growth. However, the relationship between product, price and promotion variables and number of employees' growth is not significant. The reasons relate with the nature of product. Although purified drinking water manufacturing businesses are not service producing businesses, this type of businesses must also provide accompanying service to customers such as door to door service. To achieve competitive advantage, most of these businesses are more emphasis on customer service. So, employees are much more needed than ever before.

There is no autocorrelation in sample because the Durbin Watson value is 1.496 (nearly 2). All VIFs (variance inflation factor) of independent variables are less than 10. Hence, there is no problem of multicollinearity (correlation between independent variables). According to the results from the survey, it can be concluded that there is an effect of place variable on growth of number of employees of purified drinking water manufacturing businesses.

To increase the growth rate of number of employees, place variable is a necessity. All other marketing mix variables such as product price and promotion variables are not too supportive to the growth of number of employees. Thus, in purified drinking water manufacturing businesses in Yangon, effective and efficient distribution practices will lead to increase the growth of number of employees. **Consequently, the hypothesis (4-c) “Performance measured with growth by number of employees is relating to marketing mix practices” is fractionally accepted.**

Testing Hypothesis (4-d): Performance measured with profit is relating to marketing mix practices.

Although the type of product focused in this study is commodity type or consumable product type, profit should not be neglected to evaluate the performance of business. There are businesses that are gaining profit by emphasizing on narrow market scope and price competition, and not emphasizing on product quality and facilities and human resources for distribution. At the other side, other businesses are gaining profit by emphasizing on product quality, distribution network, and promotion. Thus, to analyse the effect of marketing mix on performance of purified drinking water manufacturing businesses, the firm performance should be measured with changes in profit during recent one year.

In this study, multiple linear regression analysis is conducted to test the relationship between marketing mix and the growth rate of profit. The results for the effect of marketing mix on profit are shown in Table (4.14).

Table (4.14) Effect of Marketing Mix on Profit

Independent Variables	Beta	Sig.	t	tolerance	VIF
Product	-4.942	.225	-1.222	.488	2.049
Price	2.337	.526	.636	.489	2.043
Place	16.556***	.000	5.846	.590	1.695
Promotion	.461	.885	.145	.494	2.024
R					.634
R Square					.402
Adjusted R Square					.372
Durbin-Watson					2.008
F (P<0.05)					13.282

Source: Survey Data (2017-2018)

*, **, ***: Indicate statistical significance at the 10% level, 5% level and 1% level

As shown in Table (4.14), R (the correlation between the observed value and the predicted value of dependent variable) is 0.634. Thus the growth levels of profitability reported by respondents and the levels predicted for them by independent variables are correlated. R^2 (proportion of the variance in the dependent variable accounted by model) is 0.402 and adjusted R^2 is 0.372. Thus the model has accounted for 37.2% of the variance in the dependent variable.

It is also found that the relationship between place variable and profitability is positively significant at 95% confidence interval. The data finding analyzed also shows that taking all other independent variables at zero, a unit increase in place activities will lead to a 16.556 units increase in effect on profit growth. However, the relationship between product, price and promotion variables and profit growth is not significant. This is because inherent reason of buying purified drinking water may be convenience. Thus, the place factor or availability at place where the buyers want the product to use may be important for growing profit of businesses.

There is no autocorrelation in sample because the Durbin Watson value is 2.008 (nearly 2). All VIFs (variance inflation factor) of independent variables are less than 10. Thus there is no problem of multicollinearity (correlation between independent variables). According to the results from the survey, it can be concluded that there is an effect of place variable on profit of purified drinking water manufacturing businesses.

To increase the growth rate of profit, place variable is necessary. All other marketing mix variables such as product, price and promotion variables are not too supportive to the growth of profit. Thus, in purified drinking water manufacturing businesses in Yangon, effective and efficient distribution practices will lead to increasing the growth of profit.

Thus, **the hypothesis (4-d)** “Performance measured with profit is relating to marketing mix practices” is **partially accepted**.

Chapter 5

Conclusion

This chapter extracted significant research findings that have emerged from the analysis of research data on businesses' characteristics, marketing mix and performance of purified drinking water manufacturing businesses in Yangon. Some discussions relating to each of these research findings are also presented in this very first part of the chapter.

The second part of the chapter is shown with suggestions and recommendations which are made by adding the knowledge from general observation on this market, and in-depth interview with some selected manufacturers to the research findings.

Any research should uncover the hidden issues of focused industry, and should give new knowledge to solve the problems or for further improvement in this industry. Since this study intends to give new knowledge to solve some problems of existing businesses running in purified drinking water industry, both business implications and policy implications are suggested in the third part of this chapter.

The final part of this chapter is for enclosing the areas which could be touched in further studies. Thus, some limitations of this study are enclosed in this final part.

5.1 Findings and Discussions

There are (344) purified drinking water manufacturing businesses in Yangon according to the FDA (2016). Among these “344” businesses, “84” businesses are selected as surveyed firms for this study.

Major findings consist of the results from analysis on marketing mix, relationship between businesses' characteristics and marketing mix, and effect of marketing mix on performance of purified drinking water manufacturing businesses.

From the analysis on dominant practices of marketing mix, it is found that product and place marketing mix elements are dominating in most of the purified drinking water manufacturing businesses. Small businesses normally focus on target

markets that are proximity to their plants. Thus, these businesses can reduce their delivery cost and they can also save money by reducing promotion expenses. **Product variable is the most emphasized variable of medium and large sized businesses.** They normally focus on numerous target markets which are both of near and far away from their plants. Thus, these businesses cannot well control their cost because they have to spend relatively larger amount of money for delivery. They rely on their product quality to attract customers. To communicate their product's distinct attributes, they also need to spend promotion budget.

Purified drinking water manufacturing businesses are fairly committed in practices on product. However, according to the results of each item, it is found that they show weaknesses in introducing new product development as a strategic tool, being unique and attractive product packaging and focusing on customers' needs and wants based on research and development data for product package size. The reason for this is that most of the purified drinking water manufacturing businesses do not introduce new product as a strategic tool in their growth and continuation. This relates to the fact that the nature of product quality is standardized in the eyes of average customers.

From survey results, it is found that most respondents are not giving priority to pricing practices. The price-setting is mainly based on competitors' price, customer's perceived value compared to the competitors' products and also based on customers' ability to pay. In most businesses, it is also found that there is also a lack of commitment in practicing different promotion tools. They rely on using sales force as the main source of promotion and the other way is paying competitive commissions to retailers, wholesalers, dealers and business partners who are willing to do delivery of large volumes on a continuing, long-term basis. It can be said that most of the businesses are more favoured in practicing place activities. This can be related with the nature of product and perception of customers.

From analysis on the relationship between firm's characteristics and marketing mix, it is found that there is no significantly effect of sizes of businesses on marketing practices for product and price. Form general observation, it can be inferred that larger manufacturing businesses are practicing more for product quality, and smaller businesses are emphasizing on price. Larger firms can spend more budget in distribution and promotion and smaller firms do not have intention to spend budget in distribution and promotion. Thus, in this study, from analysis on survey data, it can

be concluded that the firm's size can influence on practices on place and promotion. Although larger businesses cannot handle delivery to send the product right time to their customers, they can make effort to build their brands and they are also stronger in financial resources to perform promotion activities such as national advertising. Moreover, their target markets are wide spread while the targets of small businesses are narrow.

From analysis on effect of firm's characteristics on marketing mix, it is also found that the firm's ownership form and firm's age are relating to practices on promotion although it is not relating to firm's practices on product, price and place/distribution. Partnership businesses are strong to utilize the method of advertising through mass media marketing while sole proprietorship businesses are weak in these activities.

Concerning the age of businesses, the older businesses have already positioned their brands in market, and they already gained market acceptance. For the new entrants and younger firms, it is difficult to get public awareness on their brands unless relying on promotion tools. Thus, firm's age is relating with promotion practices. However, there is no effect of firm's age on other marketing mix elements: product, price and place. Businesses with any age cannot manage the price because the price is decided by customers and also by competing manufacturers. The nature of product is a limit the manufacturers (both older and younger ones) to practice significant innovation in product; and distribution is also not related to firm's age. Although the approaches are different, both older and younger businesses are giving same level of effort to place practices.

In the case of firm's performance, in general, performance of businesses which emphasizes more on place element of marketing mix are the highest which are followed by the businesses that are emphasizing price and product elements and the lowest performers are businesses in which promotion activities are dominating. However, these findings should be reviewed by taking into consideration of other influencing factors.

According to product life cycle, younger businesses, both smaller and larger, are normally at the introduction state. Hence, they should practice more on promotion activities. However, older businesses are at the growth stage of product life cycle because these businesses remain in the market for a long time and have well

established their brand. So, they should not more on promotion activities to build their brand.

Concerning sized of businesses, it is impossible for small sized businesses to expand their target market due to financial weaknesses. So these businesses only focus the nearby target market. Maintaining the relationship with existing customers is rather enough for small businesses. Regarding medium sized businesses, it is necessary to practice more on promotion activities for building their brands and protecting their market share because they focus on numerous target markets and face attack of their competitors.

Moreover, customers' needs and wants, health awareness, willingness to pay, ability to pay, etc, should also be taken into consideration in designing promotion practices. If customers have health awareness, willingness to pay and ability to pay, businesses should promote their products through mass media marketing. If the customers will not like that, the businesses should not spend more budgets on promotion activities because these customers are very low brand loyalty. Unless customers have ability to pay in spite of having health awareness, businesses can reduce their cost by applying economy way of promotion (such as pamphlet, vinyl, telemarketing, etc.) and distribution, there by setting price matched with customers' ability to pay.

According to the above mentioned facts, it seems unreasonable to assume that promotion dominant practicing businesses are low performer businesses. Factors such as product life cycle, customers' health awareness, willingness to pay, ability to pay, brand loyal condition, customers' needs and wants, financial condition and firms' characteristics are influencing the relationship between promotion practices and performance. Similarly, any other dominant practicing businesses (product dominant, price dominant and place dominant) should design their marketing mix practices by taking into consideration the above mentioned influencing factors. As a result, purified drinking water manufacturing businesses can increase their performance more than before.

From analysis on effect of marketing mix on performance by sales revenue, sales volume, profit and number of employees, it is found that only distribution (place) practices of purified drinking water manufacturing businesses will lead to good performance measured with all aspects. In this industry, businesses with any age and any size are emphasizing much on practices for distribution (place). While larger

businesses with old age have been establishing well organized distribution facilities and networks, smaller and young businesses are penetrating into market areas by using economy way of distribution. These market areas – outskirts areas of Yangon – are not attractive to larger old businesses because of consumers’ inability to pay, and their low awareness on quality of water, and very low brand loyalty.

Smaller and young manufacturing businesses are gaining economies of scale by tactfully practicing delivery techniques which are fitted to their capacity and also to the willingness and ability of their customers. These businesses outsourced the distribution function to freelance delivery persons by giving fees for delivery service. The delivery persons will try harder to sell out the products than the delivery employees hired by larger businesses. Their income is tied with the units sold out. Thus, they try hard for strong relationship with customers by providing flawless delivery by time, by availability and also by extra service. In this study, it is obviously found that the commitment of businesses in distribution practices will lead to increase in sales revenue and sales volume, profit, and also firm’s growth by number of employees.

In purified drinking water manufacturing businesses in Yangon, smaller young businesses are penetrating into their targeted markets with price competitiveness. To protect market share, larger old businesses are creating new brands to be launched into markets with low prices. These pricing practices are also relating to performance by sales volume. The pricing practices will not lead to sales revenue, profit and firm’s growth by adding more employees. These practices will lead only to sales volume (units sold out).

As conclusion, in purified drinking water manufacturing industry of Yangon, manufacturers can gain success if they can practice distribution techniques which are favoured by their strengths as well as these techniques can overcome their weaknesses. Moreover, for survival in market or to retain the market share, they also need to change their pricing practices to be in line with their operation capacity and also with the level of customers’ willingness to pay.

5.2 Suggestions and Recommendations

Based on the findings of the analysis, most of the purified drinking water manufacturing businesses do not introduce new product, through innovation or improvements, as a strategic tool in their growth and continuation. This relates to the

fact that the nature of product quality is standardized. However, these businesses should try to introduce new product based on taste, smell, nutritious ingredient, purifying technology, etc, to increase their performance. Moreover, some businesses outsource to acquire purified water to fulfill the demand in the hot season. In that case, businesses should follow the systematic procedure to do contract/agreement with outsource suppliers in an ethical manner. This means that outsource suppliers must possess the FDA permission.

It is also found that most of the businesses are not interested in product packaging. Almost all of the businesses are producing their products with the same in package size. In addition, the types and the shapes of most products are also similar. To broaden the interest and commitment of public in purified drinking water, businesses should redesign their packaging based on color, size, pattern and recycle materials.

Most of the businesses usually do not practice in setting prices by concerning offering something different, by concerning different customer groups or different target market segments and by concerning customization. To maintain and improve their current existence, they should pay attention to these activities in designing price. For business to business marketers, customization should be emphasized because today businesses give more favour to expressing their identity. In addition, the changes of business environment should also be considered in setting price and maintaining quality standards and this fact is very important. In this competitive era, the businesses are running in the dynamic environment that adaptation to the external environment plays a key role for the sustainable success of the businesses. As these businesses can adapt to the external environment, they can maintain their success for a long time. If the FDA's intervention becomes strong enough to move out all sub-standard quality manufacturers, and citizens' health awareness and their per capita income increased, well-established and quality oriented manufacturers can gain sustainable sales growth as well as sustainable profitability.

As some businesses usually rely on the intermediaries, they rarely retain the qualified sale person. This is wrong behaviour because sale persons are the sources to get up to date market information and they have product knowledge. Therefore, businesses should carefully recruit and train sale persons and retain talented sale persons but incentive program should be added to their pay.

It is also found that they indicate weaknesses in using electronic distribution channels such as the internet to deliver their product. This is because most of the purified drinking water manufacturing businesses rarely use internet in case of business functions. Today era is information technology era. Hence, they should take the advantages of such external opportunities as having the potential to expand new geographic markets and trying to enter into large local market by using internet technology such as email, web site, and social media – Facebook. Internet based distribution can reduce numerous intermediaries and can contact directly with consumers. Moreover, businesses in Yangon should detect their transportation approach to overcome the traffic jam in an effective and efficient manner.

Most of the businesses are weak in promotion activities because of the perception of practicing promotion functions especially advertising is related to cost. These businesses should change their attitudes because the reasons for advertising are more than one such as to inform, to educate, to persuade, to influence and to remind. Advertising assists in selling by drawing attention to the characteristics of a product which will appeal to the buying motives of customers in the target segment of the market.

Based on the results of findings from regression analysis, place activity is important to increase the performance. High performance businesses are establishing channel member relationship, telemarketing, distributing through multi-channel, careful recruit and training sale persons, choosing efficient transportation mode and managing optimum delivery systems. All other marketing mix variables such as product, price and promotion variables are not too supported to the performance of purified drinking water manufacturing businesses in Yangon. Moreover, businesses that pay highly attention to promotion have the lowest performance improvement while the improvement of the performance of businesses that committed in place activities is the highest.

In fact, the most influential factor for customers' choice of brand is availability in time though some customers take into account the product as their priority. Therefore, the purified drinking water businesses should put the place as their first priority, the price as the second priority and they should play the promotion and product strategies by looking after the changes of business environment and changes in needs of customers. However, purified drinking water manufacturing businesses require different unique marketing mix proportion based on their size and experience

because findings from results show that size and age are influencing factors on marketing mix practices.

The study also points out general implications for the future. Consuming unlicensed drinking water could carry health risks: fungus and bacteria in this drinking water can pose health hazards, such as diarrhea and worms, as well as other bad consequences depending on the harmful chemicals in the unhygienic water. Unregistered brands will not guarantee hygiene; they might even use tap water. However, many people who are living in countryside; where most households are poor households; do not pay attention to hygiene when they are buying purified drinking water. They are not conscious on health problems which would be resulted from disqualified water. They pay more attention to convenience to buy and low price; rather to brand image, FDA recommendation on product, and hygiene. They just pay a little attention to cleanliness of bottles (containers) in their eyesight.

On the other side, setting-up a small-scale purification factory is fairly simple and can even be done in a residential house or a compound, and their production capacity is not too low: they can produce about fifty to a hundred 20-liter bottles per day. These factories had proliferated in recent years. Although FDA instructs registered businesses to put FDA approved stamp on the bottle if they passed FDA recommendation, it is still difficult for FDA to inspect all new brands coming on to the market. Even if FDA found unhygienic brands, the enforcing a ban on these brands will also be difficult. It is easy to change the unlicensed brand names after FDA announces that these brands are unhygienic.

Many small water-purifying facilities are built in the compound of regular houses. They do not observe the rules of hygiene. Some operations are situated in the open air, sometimes even near grazing cattle or sewage run-off. Although FDA works with municipal authorities to check, test, and issue recommendations and local authorities are taking responsibilities for granting licenses and implementing a ban and shutdown of facilities, many unlicensed brands are still alive in industry due to many weaknesses in getting quick information about such brands, intermittent inspection and follow-up procedures. There are normally no further checks carried out since to enforce the order to ban unlicensed brands.

Not all of the purified drinking water manufacturing businesses passed FDA recommendation. In the market, both FDA passed businesses and FDA failed businesses are in competition. In this case, some of the businesses which got FDA

recommendation are less competitive. To get FDA recommendation and maintain this condition, businesses incur high cost. As a result, these FDA passed businesses are less competitive in pricing condition. On the other hand, most of the purified drinking water consumers neglected whether or not their chosen brands have FDA recommendation. They assume the purity of purified drinking water is concerned with the newness of purified drinking water container. Thus, some of the businesses are trying to replace the new containers with the old containers rather than trying to get FDA recommendation. Therefore, some of the businesses which got FDA recommendation feel dilemma to maintain FDA standards.

Concerning the registered enterprises of manufacturing purified water, it is necessary to continuously examine the quality of the water. In the other side, actions need to be taken to the illegal enterprises of manufacturing purified water. If not so, besides the currently registered enterprises (business), the new comers of manufacturing purified water will become less eager to be registered. The reason is that the businesses that have been registered do not gain particular outcomes. Consequently, the long-term of purified water world, it would be an unpleasant matter.

Regarding business implications for the future, purified drinking water is used not only to drink but also to cook, and even to wash dishes and vegetables. Moreover, purified drinking water is also used for medical purposes. While the role of purified drinking water is significant in daily lives, to control the quality of purified drinking water, only large businesses possess internal laboratory with sophisticated quality control devise. Most of the small businesses control their water quality with test paper to identify the water colour. Most of the businesses do not consider as important in product packaging to be recycle and green purpose. Similarly, most of the consumers do not take into account this fact as important.

Purified drinking water manufacturing businesses distribute their purified drinking water within their townships and surrounding townships can take more competitive advantage on price attractiveness. Most of the businesses set price for their product based on competitors' price, market price and average price. Although they are relying on market penetration strategy, market skimming strategy is utilized by the businesses which are interested in the connection between the quality of a product and its price. In other words, the strategy is based on the ideology that the better the product's quality is, the higher the price is. The result of setting high price

leads to the removal of the consumers' doubts about the quality of the products. Market penetration pricing strategy is applied by the businesses with no authorized brands or the businesses which are not very eager to be well-known brands among the public.

In the analysis of the relationship between distribution and labour turnover, purified drinking water is seasonal product so the demand is higher in hot season than in rainy and cold season. The hot season demands are three times the rainy and cold season demand. In the rainy and cold season, some businesses provide financial support to their dealers to continue their relationship. The most popular criteria among the businesses to choose dealers are sales strength, credit and financial condition, reputation, clean working condition, being resident and convenient with businesses' regular transportation route. However, these barriers to good margin can be solved if businesses delegate the delivery and finding customer responsibilities to freelance delivery persons.

Water is essential for human life, and the time needed for water is impossible to postpone. As a result, right time distribution is the first priority of consumers in selecting brands. In the past, large businesses can keep nationwide market coverage but now local small businesses are more favorable because of any time availability and convenience to buy especially in hot season. Most of the customers rarely switch from one supplier to another supplier for price. The main reason for switching from one supplier to another supplier is insufficient distribution to fulfill the customers' demand.

At the other side, some businesses can build relationship with reliable dealers: they search dealers among their existing reliable employees or employees' family. Some of the successful businesses treat their employees as their dealers. This means that employees are paid based on fixed salary plus commission. This is because demand of the product is seasonal. Labour turnover rate will be high in hot season if the businesses practice fixed salary system.

Moreover, it is easy for intermediaries to switch to competitors if businesses are unable to distribute their products at the right time they need. To solve this distribution problem, businesses need to retain their employees especially in hot season. If the target market is in downtown and the businesses distribute their product directly to their final consumers, employees need to lift the 20 liters container to the higher layers of the buildings. In this case, businesses allow fixed price for product to

their labour and their labour charge higher price from their customers for the higher layer within the price range defined by their businesses owners.

In the hot season, the capacity of some of the businesses is not enough to fulfill the high demand. To solve this problem, they usually practice outsourcing. To strengthen the relationship between businesses and their dealers, the main point is to pay high profit margin to the dealers. Generally, most of the businesses said that fifty percent of the profit is allocated between their dealers and labour, and the rest fifty percent is allocated to the owners.

To search the dealers, most of the large businesses mainly rely on personal selling. Salespeople are at the best position to know about potential intermediaries. They are often able to pick up information about likely intermediaries. They have lined up prospective intermediaries. Promotion also concerns with collateral for 20 liters container. Some of the purified drinking water manufacturing businesses insist on collateral for their containers. Generally, most of the businesses charge fifty percent of containers' value as collateral. In markets, most of the dealers prefer manufacturers who do not charge collateral for containers and who use nearly new containers.

Some of the alcohol, soft drink, and also gasoline businesses used purified drinking water as promotional materials. These manufacturing businesses used one buy one get promotion program. As a result, beverage dealers do not buy purified drinking water. Purified drinking water manufacturers should approach to such businesses, not to dealers.

Promotional tools would be supportive for getting public awareness on new brand if manufacturers would like to build brand image in market. However, promotion tools would not be necessary for local manufacturers who would like to take advantage on customers' preferences on place utility and price competitiveness.

In conclusion, purified drinking water manufacturing businesses can generally be grouped into two: group of businesses with core values of brand prestige, quality position in market, and targeting not only to consumer market but also to industrial market (businesses such as hotels, travelling, restaurants, gasoline stations, and so on) and group of businesses with objectives to penetrate niche markets, to practice cost-focus strategy, and just to get return on investment at satisfactory level, and with no intentions to upgrade production capacity and to expand market. Since their mission, strategies, core values, and objectives are quite different from each other, they need to

choose relevant marketing mix tactics, especially place and price tactics, to be supportive to their mission and objectives.

5.3 Needs for Further Studies

This study assesses the relationship between business characteristics and marketing mix, and the relationship between marketing mix and firm performance of purified drinking water manufacturing businesses in Yangon. The analyses are conducted based on the data collected in 2017. Some business characteristics which may influence on marketing mix are not included in this study. This study only analyzes the effects of firm size, ownership form and age on marketing mix and excludes the effects of other characteristics. Thus, further researchers can extend this research by counting the other firm's characteristics such as the capital structure, innovativeness, research and development facilities as influencing factors on marketing mix in purified drinking water manufacturing businesses not only in Yangon.

This study is limited to focus only on Yangon area. Since the need of purified water is increasing in other areas including the rural areas and number of establishment of small-scale facilities in such areas, further research can be done to include the situations of such areas.

Although the marketing mix elements included in this study seems to be enough to analyse the cases of manufacturing sector, other extended elements should also be considered in the future. Purified drinking water businesses would not be seen as purely manufacturing businesses in future because this type of business must also provide accompanying service to customers. Moreover, other three extended marketing mix elements such as process, people, and physical evidence become critical in purified drinking water manufacturing businesses. To convince customers with price and product; people (employees) must have product knowledge and high health awareness relating to water, the production and delivering processes must also be managed for controlling hygiene quality, and the physical evidence of all facilities must also be publicized. Thus further studies should add these three elements to the four elements of this study.

In this study, the effect of marketing mix is analysed on firm's performance. To provide more new knowledge to both existing manufacturers and potential new entrants, effect on other performance areas such as competitive performance and

strategic performance should also be considered. Moreover, the financial performance is approached with incomplete quantitative measures. In this study, performance data are collected by asking the approximate percentage of increase or decrease in sales revenue, sales volume, profit and number of employees comparing the performance of last year. For more validity and accuracy in results, absolute value data for such performance criteria should be collected in further studies.

References

- Adebisi, S. A., & Babatunde, B. O. (2011). *Strategic Influence of Promotional Mix on Organization Sale Turnover in the Face of Strong Competitors Product Strategy and Corporate Success*. Retrieved from [http:// www.google.com](http://www.google.com).
- Ailawadi, K. L., & Bari, A. (2006). Promotion profitability for a retailer. *Journal of Marketing Research*, 13, 518-535.
- Akinyele, S. (2011). Strategic Marketing and Firms Performance: A Study of Nigerian Oil and Gas Industry. *Global Journal of Management and Business Research*, 10 (6),60-77.
- Anitha, R. (2011). A study on customer preference toward packaged water in Karur city. *Self Journal of Social Science*, 2(5),9-13.
- Ansoff (1957). Strategies for Diversification. , *Harvard Business Review*, 35(5), 113 - 124.
- Armstrong, J., Gary, L., & Kotler, P. (2011). *Marketing* (10th ed.). Boston: Pearson Education.
- Arnold, Danny, R., Hoffman, D. K., McComick, & James. (1989). "Service Pricing: A Differentiation Premium Approach". *Journal of Services marketing*, 3(3), 25-33.
- Arnold, P., Wheeler, B., Abernathy, & Bates, R. (1999). "Shopping For Value: Insurance Distribution In The Information Age", Society of Chartered Property and Casualty Underwriters. *CPCU Journal*, 52.(3), 140-152.
- Baker, M. (2000). *Marketing Strategy and Management* (3rd ed.). Macmillan Business.
- Berman, B. (1996). *Marketing channels*.United States: John Wiley & Sons.) Retrieved from Pro Quest Central Database.
- Berry, Lenoard, L., Yadav, & Manijit. (1996). Capture and Communicate Value In The Pricing of Services". *Sloan Management Review*, Summer, 40-51.
- Boone, L. (2007). *Marketing*. Beijing: Posts & Telecom Press:44.
- Borden, N. H. (1984). The concept of marketing mix, *Journal of Advertising Research*, 1 (9): 2-7.
- Cannon, Hugh, M., Morgan, & Fred, W. (1990). A Strategic Pricing Framework. *The Journal of Services Marketing*,4(2) (Spring), 19-30.
- Capon, N., Farley, J., & Hoenig, S. (1990). Determinants of financial performance: a meta-analysis. *Management Science*, 36(10), 1143–1159.

- Carson, David, Gilmore, Audrey, Cummins, Darryl. (1998). Price Setting in SMEs: Some Empirical Findings. *Journal of Product & Brand Management*, 7(1), 74-86.
- Chih, W. W. (2003). *An Empirical Study of Marketing Environment, Strategy and Performance in the Property Market*. Retrieved from Pro Quest Central Database.
- Churchill, J., & Gilbert, A. (2001). *Basic Marketing Research* (4th ed.). The Dryden Press.
- Cravens, W., & Piercy, F. (2009). *Strategic Marketing*, (9th ed.). Singapore: McGraw Hill/ Irwin.
- Czinkota, Michael, Ronkainen, & Ika. (2002). *International Marketing*, South-Western, Thomson Learning Corp.
- Day, G., & Wensley, R. (1988). Assessing advantage: A framework for diagnosing competitive superiority. *Journal of Marketing*, 52 (2), 1-20.
- Dess, G., & Robinson, R. (1984). Measuring Organizational Performance in the Absence of Objective Measures: the Case of the Privately-Held Firm and Conglomerate Business Unit. *Strategic Management Journal*, 5(3), 265- 273.
- Devlin, J. F. (1995). Technology and Innovation In Retail Banking Distribution. *International Journal of Bank Marketing*, 13(4), 19-25.
- Dupont., D. P. (2005). Tapping into Consumers' Perceptions of Drinking Water Quality in Canada: Capturing Customer Demand to Assist in Better Management of Water Resources", *Canadian Water Resources Journal*, 30(1), 11-20.
- Easingwood, C., & Storey, C. (1996). The Value of Multi-Channel Distribution Systems in The Financial Services Sector, *The Service Industries Journal*, 16(2), 223-241.
- Easterby, S., Thorpe, Richard, Lowe, & Andy. (2002). *Management Research* (2nd ed.). Sage Publications.
- Ebitu, E. T. (2016). Marketing strategies and the performance of small and medium Enterprises in Akwa Ibom State, Nigeria. *British Journal of Marketing Studies*. 4(5), 51-62.
- Ennew, C., & Watkins, T. (1992). Marketing Strategy and the Marketing Mix in Financial Services, *Perspectives on Marketing Management*, 2, 199-222.

- Erdil, T. S., & Ozdemir, O. (2016, October 28-30). The determinants of relationship between marketing mix strategy and drivers of export performance in foreign market: An application on Turkish clothing industry. *Procedia-Social and Behavioral Science*, 235(12th International Strategic Management Conference, ISMC), 546-556.
- Fahy, J., Graham, H., Cox, T., Beracs, B., & Jozsef. (2000). "The Development and Impact of Marketing Capabilities in Central Europe", *Journal of International Business Studies*, 31(1), 63-81.
- Ferle, C., & Steven, M. (2006). Product placement: How brands appear on television. *Journal of Advertising*, 35 (4), 65-86.
- Ferrell, O., & Hartline, M. (2002). *Marketing Strategy* (4th ed.). Thomson, South-Western, United States of America.
- Ferrier, C. (2001). Purified drinking water: understanding a social phenomenon, . *Journal of the Human Environment*, 30 (2), 118-119.
- Field, A. (2005). *Discovering statistics using SPSS* (2nd ed.). London: Sage.
- Friars, E. M., Gregor, W. T., & Reid, L. M. (1985). Distribution: The New Competitive Weapon. *The Bankers Magazine*, 168.(3), 45-52.
- Gbolagade, A., & Ouwale. (2013). Impact of Marketing Strategy on Business Performance A Study of Selected Small and Medium Enterprises (Smes) In Oluyole Local Government, Ibadan, Nigeria. *IOSR Journal of Business and Management (IOSR-JBM) e-ISSN:2319-7668*, 11(4), 59-66.
- Gedenk, K., & Scott, N. (1999). The role of retail promotion in determining future brand loyalty: It's effect on purchase event feedback. *Journal of Retailing*, 75 (4), 99- 433.
- Goi, C. L. (2009). A Review of Marketing Mix: 4Ps or More? *International Journal of Marketing Studies*, 1(1), 25-37.
- Gonzalez, L. M. (2005). The Impact of Ad Background Color on Brand Personality and Brand Preferences, *Business Administration Honors Program at California State University*.
- Howcroft, B., & Lavis, J. C. (1989). "Pricing In Retail Banking". *International Journal of Bank Marketing*, 7.(1), 3-7.
- Hunt, S., & Morgan, R. (1995). The comparative advantage theory of competition. *Journal of Marketin.*, 59(2),1–15.
- Hussey, J., & Hussey, R. (1997). *"Business Research: A practical Guide for Undergraduate and Postgraduate Students*. MACMILLAN PRESS LTD.

- Joanna, G. (2011). *Small Water Enterprises: A Cross-Sectional Study of Purified Drinking Water Consumption in the Yucatan Peninsula*.
- John, C. (2006). The Taste of Paradise: Selling Fiji and FIJI Water, *Asia Pacific Viewpoint*, 47(3), 342–350.
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39, 31-36.
- Kaplan, R., & Norton, D. (1996). *The Balanced Scorecard*. Boston,: Harvard Business School Press.
- Kasper, H., Helsdingen, N. V., & Vries, J. W. (1999). “Services Marketing Management”. *An International Perspective*.
- Keith, T. (2006). *Multiple regression beyond*. PEARSON Allyn & Bacon.
- Kotler, P. (2000). *Marketing Management*. The Millennium ed, (10th ed.). Prentice Hall International, Inc.
- Kotler, P. (2006). *A Framework for Marketing Management*. Beijing: Peking University Press. .
- Kotler, P., & Amstrong, G. (2006). *Principles of marketing* (11th ed.). New York: Pearson International.
- Kotler, P., Ang, S., Leong, S., & Tan, C. (2003). *Marketing management: An Asian perspective*. Singapore: Pearson Education Asia.
- Laitinen, E. (2002). A Dynamic Performance Measurement System; Evidence from Small Finnish Technology Companies,. *Scandinavian Journal of Management*, 18, 65-99.
- Levitt, T. (1981). Marketing Intangabile Products and Product and Product Intangibles. *Harvard Business Review*, 59(3), 94-102.
- Levitt, T. (1983). *Marketing Imagination*, (The Free Press, ed.). London: Collier Macmillan.
- Lilin, H., Muhammad, A., & Younes, M. (2013). Factors Influencing the Formulation of Effective Marketing Strategies of Chinese Businesses Operating in Jordan/ *International Journal of Business and Social Science*. 4 (2).
- Malhotra, N. K., & Birks, D. F. (2000). *Marketing Research: An Applied Approach* , *Financial Times*, (European ed.). Prentice Hall.
- Mamoun, N., & Awwad, A. (2003). *An Integrated Approach To Marketing Strategy Formulation and Implementation*. (Doctoral thesis ed.). University of Huddersfield.

- Marn, M., & Rosiello, R. (1992, Sept–Oct.). Managing price, gaining profit. *Harvard Business Review*, 84–94.
- Matti, J. (2006). *Strategic Marketing and Its Effect on Business Performance: Moderating Effect of Country-specific Factors*. Retrieved from <http://www.google.com>.
- McCharty, J. E., Perreault, W. D., & Cannon, J. P. (2011). *Basic Marketing: A Global-Managerial Approach*, (18th ed.). New York: McGraw Hill/ Irwin.
- McDonald, M. (2002). *Marketing Plans: How to Prepare them, How to Use Them*, (5th ed.). Butterworth-Heinemann.
- Meghna, J., & Fang, H. (2012). Identifying the Essential Factors in the Marketing Mix Design (The case of Personal Protective Equipment). *Centre for Entrepreneurship, University of Oslo*.
- Miles, R., & Snow, C. (1978). *Organizational Strategy, Structure, and Process*. McGraw-Hill: New York. Retrieved from <http://www.google.com>.
- Mitra, K., & Capella, L. (1997). "Strategic Pricing Differentiation in Services: A Reexamination", *The journal of Services Marketing*, 11(5), 329-343.
- Moser, C., & Kalton, G. (1971). *"Survey Methods In Social Investigation"*, (2nd ed.). Dartmouth.
- Mustapha, B. (2013). *Marketing Management: an Introductory Approach*. Kaduna, Nigeria: Skisoft publishing Co.
- Nagle, T., Hogan, J., & Zale, J. (2000). *The Strategy and Tactics of Pricing* (5th ed.). Prentice Hall.
- Nashwan, M., & Abdullah, S. (2015). How does marketing strategy influence firm performance? Implementation of marketing strategy for firm success. *International Journal of Innovation and Economic Development*, 1(3), 7-15.
- Ogbuji, C. N. (2011). An Empirical Study of the Impact of Branding on Consumer Choice for Regulated Purified drinking water in Southeast, Nigeria,. *International Journal of Business and Management*, 6(6).
- Olson, E. (1999). Bottled Water: Pure Drink or Pure Hype? *Natural Resources Defense Council*.
- Oppenheim, A. N. (1992). *"Questionnaire Design, Interviewing and Attitude Measurement"*, (New ed.). CONTINUUM.

- Owomoyela, S., Oyeniya, K., & Ola, O. (2013). Investigating the impact of marketing mix elements on consumer loyalty: An empirical study on Nigerian Breweries Plc. *Interdisciplinary Journal Of Contemporary Research In Business*, 4 (11), 485–496.
- Peter, P., & Donnelly, J. (2007). *Marketing management: Knowledge and skills* (8th ed.). New York: McGraw-Hill.
- Porter, M. (1996). What is strategy? *Harvard Business Review*, 74(6), 61–78.
- Pruskus, V. (2015). Politinė rinkodara komunikacijos kontekste: samprata. *funkcijos ir priemonės*, 23(2), 149-158.
- Purnomo, Ende, Vanapalli, & Mugele. (2008). Glass transition and aging in dense suspensions of thermo sensitive microgel particles. *Physical review letters*, 101(23), 238-301.
- Rad, H. S., & Akbari, Z. (2014). The Role of Brand and Advertising in Marketing Mix (A Review of Marketing Mix). *Interdisciplinary journal of contemporary research in business*, 6(7), 114-127.
- Raiz, W. (2011). Marketing Mix, Not Branding. *Asian Journal of Business and Management Sciences*, 1(11), 43-52.
- Rosemann, N. (2005). *Drinking Water Crisis in Pakistan and the Issue of Bottled Water the Case of Nestlé's 'Pure Life'*, Retrieved April 2005, from <http://www.alliancesud.ch/en/policy/water/downloads/nestlepakistan.Pdf>.
- Rugut, J. M. (2012). *Marketing Strategies Adopted by Small and Medium Enterprises in Nairobi Central Business District*. School of Business, University of Nairobi. Retrieved from Pro Quest Central Database.
- Sekaran, U. (2000). *Research Methods For Business*, (3rd ed.). John Wiley & Sons, Inc.
- Sereikienė, & Abromaitytė, L. (2013). Žiniasklaidos rinkodara. *Vadovėlis. Klaipėda*.
- Shieh, G. (2010). On the misconception of multicollinearity in detection of moderating effects: Multicollinearity is not always detrimental. *Multivariate Behavioral Research*, 45, 483-507.
- Shumrak, H. M. (1996). Matching Distribution Systems To Markets Spells Success. *Best's Review*, 97 (3), 65-67.
- Singh, M. (2012, Sep-Oct). Marketing Mix of 4P'S for Competitive Advantage. *IOSR Journal of Business and Management (IOSRJBM)*, 3(6).
- Skrivanek, S. (2009). *The Use of Dummy Variables in Regression Analysis*. Retrieved from <http://www.moresteam.com>.

- Stanley, F., & Eric. (2001). Marketing's Contribution to the Implementation of Business Strategy: An Empirical Analysis. *Strategic Management Journal*, 22, 1055-1067.
- Thwaites, D., Watkins, T., & Wright, M. (1998). *Marketing Financial Services*, (2nd ed.). Butterworth-Heinemann.
- Tina, H. (2000). *Financial Services Marketing*, Pearson Education Limited.
- Tung, W., Capella, L. M., & Tat, P. K. (1997). Service Pricing: A Multi-Step Synthetic Approach. *The Journal of Service Marketing*, 11(1), 53-65.
- Veidung, A. (2011). *An Analysis of a Purified drinking water's Design, Source and Brand and its Influence on Perceived Quality and Purchase Intention*. Retrieved from [http:// www.google.com](http://www.google.com).
- Venkatraman, N. (1990). Performance Implications Of Strategic Coalignment: A Methodological Perspective, . *The Journal of Management Studies*, 27 (1), 19-41.
- Vignali, C. (2001). McDonald's: think global, act local - the marketing mix, *British Food Journal*, 103(2), 97 – 111.
- Yamane, T. (1973). *Statistics: An Introductory Analysis*, (2nd ed.). New York: Harper and Row.
- Yiming, T. (2005). Marketing Strategy And Business Performance: Marketing Issues in Asia. *The Case Of Small Firms In China, ANZMAC 2005 Conference*.
- Zeithaml, V. A. (1988). Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence. *Journal of Marketing*, 52, 2-22.
- Zeithaml, V.A., Berry, L.L., & Parasuraman, A. (1996). The Behavioural Consequences of Service Quality, *Journal of Marketing*, 60 (April), 31-46.
- Zeithaml, V. A., & Bitner, M. J. (2000). *Services Marketing: Integrating Customer Focus Across the Firm*, (2nd ed.). Irwin McGraw-Hill.

APPENDIX A

Questionnaire

Yangon University of Economics Department of Commerce Research Questionnaire

(Analysis on Relationship between Marketing Mix and Performance of Purified Drinking Water Manufacturing Businesses in Yangon)

This survey only concerned with Doctor of Philosophy (PhD) conferred by Yangon University of Economics. Please kindly answer the following questions. The result of this study contributes the improvement of Purified Drinking Water Industry in Myanmar. Thanks to give your precious time.

I. Marketing Mix Questionnaire

Please use the following scales to indicate the importance your firm (or business unit) currently places on each marketing practice. The scale ranges from 1 to 5. One (1) stands for “Strongly Disagree” and five (5) stands for “Strongly Agree”.

Scales (1) Strongly Disagree (2) Disagree (3) Neither Agree nor Disagree (4) Agree (5) Strongly Agree

Product	1	2	3	4	5
1. Offers a broad product line. (0.3, 0.6, 1, 20 litres)					
2. Introduces new product development as a strategic tool for growth and continuation of business.					
3. Provides service for our company’s product.(home delivery, no bottle deposit for 20litres container, keep promise in concern with delivery)					
4. Provides unique and attractive product packaging (crush, colour, design, shape, packaging size)					
5. Provides package sizes which focus on customers’ needs and wants based on R&D data.					
6. Labels product in concern with open dating (expire date) (to describe product freshness), purifying technology, source of water (address).					
7. Develops long-term relationships with key customers.					
Price	1	2	3	4	5
1. Sets prices based on the offering something different (home delivery, no bottle deposit for 20 liters)					
2. Sets price based on different customer groups or different target market segments.					

3. Sets price based on customization. (shape, customer logo on product packing, size)					
4. Sets price based on customers' ability to pay. (affordability)					
5. Sets a price based on competitors' price to increase sales and market share.					
6. Sets a price based on the customer's perceived value compared to the competitors' products.					
7. Uses price promotions and discounts.					
8. Communicates pricing changes to our customers when required.					
Place	1	2	3	4	5
1. Uses multi-distribution channels to deliver our product to different customer groups. (Not only direct distribution but also distribute through intermediaries such as retailers, wholesalers, dealers, business partners).					
2. Efficiently and effectively manages relationships with channel members who are willing to commit to taking delivery of large volumes on a continuing, long-term basis.					
3. Carefully recruits and trains of all marketing and sales personnel.					
4. Retains qualified sales persons who possess selling certificate, or well-trained or experience in selling purified drinking water.					
5. Uses telemarketing to deliver our product					
6. Uses electronic distribution channels such as the internet to deliver our product. (super market)					
7. Chooses effective and efficient transportation mode to distributive our products. (right time and low costs)					
8. Provides delivery routes which are properly planned and executed.					
9. Arranges for delivery drivers to maintain contact with the main office during the day. (to control drivers and to fulfill the irregular order)					
Promotion	1	2	3	4	5
1. Advertises or promotes products depend on situation (introduction stage and based on demand and supply)					
2. Advertises or promotes to consumer is through mass media marketing (pamphlet, billboards, advertising in TV commercial, radio, printing materials such as journal and newspaper).					

3. Uses Web/Internet advertising. (establish website or through Facebook)					
4. Place great emphasis on building long term relationships with other organizations and institutions influencing buyers' purchasing decisions.					
5. Uses direct marketing methods such as telemarketing, direct mail for promoting our products and services					
6. Uses sales force as the main source of promotion					
7. Offers discounts especially in the rainy and cold season.					
8. Offers free sample (give away) to our customer (brand introduction)					
9. Supplies of purified water at no charge in case of public relation.					
10. Pays competitive commissions to retailers, wholesalers, dealers and business partners who are willing to commit taking delivery of large volumes on a continuing, long-term basis.					

II. Business Performance Questionnaire

By comparing the performance of last year, please tick at relevant place in the following table.

Sr. No.	Performance	Increase	Decrease	Unchanged
1.	Sales revenue (Kyats)			
2.	Sales volume (Gallons of Water)			
3.	Number of employees			
4.	Profit			

Please describe your firm's performance in following Table with **approximate percentage change** during this year and last year (base year is 2016):

If performance is increased, please insert percentage (%) with (+) sign,

If performance is decreased, please insert percentage (%) with (-) sign

If performance is unchanged, please insert "0"

Sr. No.	Performance	% Change
1.	Sales revenue	
2.	Sales volume	
3.	Numbers of employee	
4.	Profit	

*** If you have any other marketing activities that are not included in this questionnaire, please note down them.

III. Firm Characteristics

1. Where is your company/business located?

2. What kind of business does your company belong to?

- | | |
|--|---|
| <input type="checkbox"/> Sole Proprietorship | <input type="checkbox"/> Partnership |
| <input type="checkbox"/> Private Company | <input type="checkbox"/> Public Company |
| <input type="checkbox"/> Joint Venture | <input type="checkbox"/> Others |

3. Number of years that the company operated.

- | | |
|-------------------------------------|-------------------------------------|
| <input type="checkbox"/> < 5 years | <input type="checkbox"/> 5-10 years |
| <input type="checkbox"/> > 10 years | |

4. How many employees are employed in your company/ business?

- | | |
|--------------------------------|---------------------------------|
| <input type="checkbox"/> 10-50 | <input type="checkbox"/> 50-100 |
| <input type="checkbox"/> > 100 | <input type="checkbox"/> Others |

APPENDIX B

Product

Reliability Statistics

Cronbach's Alpha	N of Items
.837	7

Validity (Factor Analysis)

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.825
Bartlett's Test of Sphericity Approx. Chi-Square	212.884
	df
	21
	Sig.
	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.561	50.870	50.870	3.561	50.870	50.870
2	.966	13.800	64.670			
3	.798	11.401	76.072			
4	.616	8.803	84.874			
5	.444	6.340	91.214			
6	.352	5.031	96.246			
7	.263	3.754	100.000			

Extraction Method: Principal Component Analysis

Component Matrix^a

Product	Component
	1
4	.841
5	.818
2	.815
7	.637
6	.620
1	.611
3	.596

Extraction Method: Principal Component Analysis.

a. 1 components extracted

Price

Reliability Statistics

Cronbach's Alpha	N of Items
.854	8

Validity (Factor Analysis)

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.844
Bartlett's Test of Sphericity Approx. Chi-Square	254.83
	df
	28
	Sig.
	.000

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.021	50.268	50.268	4.021	50.268	50.268
2	.956	11.950	62.218			
3	.760	9.497	71.715			
4	.649	8.107	79.822			
5	.578	7.222	87.043			
6	.461	5.765	92.808			
7	.337	4.212	97.020			
8	.238	2.980	100.000			

Extraction Method: Principal Component Analysis

Component Matrix^a

Price	Component
	1
3	.793
2	.780
1	.773
6	.733
8	.728
5	.667
7	.642
4	.511

Extraction Method: Principal Component Analysis.

a.1 components extracted

Place

Reliability Statistics

Cronbach's Alpha	N of Items
.925	9

Validity (Factor Analysis)

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.852	
Bartlett's Test of Sphericity Approx. Chi-Square	577.378	
	df	36
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.725	63.608	63.608	5.725	63.608	63.608
2	.923	10.259	73.866			
3	.621	6.902	80.769			
4	.488	5.417	86.186			
5	.436	4.844	91.030			
6	.373	4.143	95.173			
7	.188	2.093	97.266			
8	.159	1.762	99.028			
9	.087	.972	100.000			

Extraction Method: Principal Component Analysis

Component Matrix^a

Place	Component
	1
7	.897
9	.870
8	.857
3	.857
2	.808
5	.742
6	.715
4	.704
1	.695

Extraction Method: Principal Component Analysis.

a. 1 components extracted

Promotion

Reliability Statistics

Cronbach's Alpha	N of Items
.910	10

Validity (Factor Analysis)

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.855
Bartlett's Test of Sphericity Approx. Chi-Square	491.464
	df
	45
	Sig.
	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.622	56.220	56.220	5.622	56.220	56.220
2	.952	9.516	65.737			
3	.829	8.292	74.029			
4	.608	6.085	80.113			
5	.522	5.224	85.338			
6	.457	4.570	89.907			
7	.350	3.503	93.411			
8	.300	2.999	96.410			
9	.237	2.366	98.776			
10	.122	1.224	100.000			

Extraction Method: Principal Component Analysis

Component Matrix^a

Promotion	Component
	1
7	.839
5	.797
8	.785
3	.784
1	.782
4	.733
9	.719
10	.712
6	.698
2	.626

Extraction Method: Principal Component Analysis.

a. 1 components extracted

Performance

Reliability Statistics

Cronbach's Alpha	N of Items
.946	4

Validity (Factor Analysis)

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.819
Bartlett's Test of Sphericity Approx. Chi-Square	365.998
	df
	6
	Sig.
	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.459	86.469	86.469	3.459	86.469	86.469
2	.326	8.139	94.608			
3	.153	3.823	98.432			
4	.063	1.568	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix^a

	Component
	1
Sales Revenues	.976
Sales Volume	.946
Profit	.922
Employee	.873

Extraction Method: Principal Component Analysis.

a. 1 components extracted

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.635 ^a	.403	.388	.32135

a. Predictors: (Constant), dummy medium, dummy large

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.652	2	2.826	27.365	.000 ^b
	Residual	8.365	81	.103		
	Total	14.016	83			

a. Dependent Variable: product mean

b. Predictors: (Constant), dummy medium, dummy large

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.007	.039		77.161	.000
	dummy large	.814	.120	.585	6.780	.000
	dummy medium	.439	.120	.316	3.658	.000

a. Dependent Variable: product mean

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.042 ^a	.002	-.023	2.00542

a. Predictors: (Constant), dummy medium, dummy large

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.564	2	.282	.070	.932 ^b
	Residual	325.757	81	4.022		
	Total	326.321	83			

a. Dependent Variable: product mean ratio

b. Predictors: (Constant), dummy medium, dummy large

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	26.176	.243		107.637	.000
	dummy large	-.176	.750	-.026	-.235	.814
	dummy medium	.199	.750	.030	.265	.792

a. Dependent Variable: product mean ratio

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.495 ^a	.245	.227	.39740

a. Predictors: (Constant), dummy medium, dummy large

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.161	2	2.081	13.175	.000 ^b
	Residual	12.792	81	.158		
	Total	16.954	83			

a. Dependent Variable: price mean

b. Predictors: (Constant), dummy medium, dummy large

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.817	.048		58.449	.000
	dummy large	.747	.149	.488	5.029	.000
	dummy medium	.231	.149	.151	1.553	.124

a. Dependent Variable: price mean

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.140 ^a	.020	-.004	2.10472

a. Predictors: (Constant), dummy medium, dummy large

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.220	2	3.610	.815	.446 ^b
	Residual	358.816	81	4.430		
	Total	366.036	83			

a. Dependent Variable: price mean ratio

b. Predictors: (Constant), dummy medium, dummy large

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	24.529	.255		96.105	.000
	dummy large	-.529	.787	-.074	-.673	.503
	dummy medium	-.904	.787	-.127	-1.150	.254

a. Dependent Variable: price mean ratio

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.317 ^a	.100	.078	.51237

a. Predictors: (Constant), dummy medium, dummy large

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.374	2	1.187	4.521	.014 ^b
	Residual	21.264	81	.263		
	Total	23.638	83			

a. Dependent Variable: place mean

b. Predictors: (Constant), dummy medium, dummy large

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.162	.062		50.896	.000
	dummy large	.575	.192	.318	3.003	.004
	dummy medium	.031	.192	.017	.164	.870

a. Dependent Variable: place mean

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.275 ^a	.076	.053	3.36885

a. Predictors: (Constant), dummy medium, dummy large

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75.423	2	37.711	3.323	.041 ^b
	Residual	919.279	81	11.349		
	Total	994.702	83			

a. Dependent Variable: place mean ratio

b. Predictors: (Constant), dummy medium, dummy large

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	27.397	.409		67.062	.000
	dummy large	-2.147	1.259	-.183	-1.705	.092
	dummy medium	-2.647	1.259	-.226	-2.102	.039

a. Dependent Variable: place mean ratio

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.722 ^a	.521	.509	.36274

a. Predictors: (Constant), dummy medium, dummy large

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.578	2	5.789	43.994	.000 ^b
	Residual	10.658	81	.132		
	Total	22.236	83			

a. Dependent Variable: promotion mean

b. Predictors: (Constant), dummy medium, dummy large

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.513	.044		57.133	.000
	dummy large	1.137	.136	.649	8.384	.000
	dummy medium	.687	.136	.392	5.065	.000

a. Dependent Variable: promotion mean

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.359 ^a	.129	.107	2.92818

a. Predictors: (Constant), dummy medium, dummy large

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	102.438	2	51.219	5.974	.004 ^b
	Residual	694.515	81	8.574		
	Total	796.952	83			

a. Dependent Variable: promotion mean ratio

b. Predictors: (Constant), dummy medium, dummy large

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	21.941	.355		61.790	.000
	dummy large	2.684	1.094	.256	2.452	.016
	dummy medium	2.934	1.094	.280	2.681	.009

a. Dependent Variable: promotion mean ratio

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.312 ^a	.097	.075	.39524

a. Predictors: (Constant), dummy partnership, dummy company

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.363	2	.682	4.363	.016 ^b
	Residual	12.653	81	.156		
	Total	14.016	83			

a. Dependent Variable: product mean

b. Predictors: (Constant), dummy partnership, dummy company

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.086	.047		65.332	.000
	dummy company	.591	.203	.308	2.910	.005
	dummy partnership	.100	.134	.079	.746	.458

a. Dependent Variable: product mean

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.105 ^a	.011	-.013	1.99598

a. Predictors: (Constant), dummy partnership, dummy company

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.621	2	1.811	.455	.636 ^b
	Residual	322.700	81	3.984		
	Total	326.321	83			

a. Dependent Variable: product mean ratio

b. Predictors: (Constant), dummy partnership, dummy company

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	26.100	.239		109.404	.000
	dummy company	.900	1.026	.097	.877	.383
	dummy partnership	.300	.675	.049	.445	.658

a. Dependent Variable: product mean ratio

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.154 ^a	.024	.000	.45201

a. Predictors: (Constant), dummy partnership, dummy company

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.404	2	.202	.989	.376 ^b
	Residual	16.550	81	.204		
	Total	16.954	83			

a. Dependent Variable: price mean

b. Predictors: (Constant), dummy partnership, dummy company

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.895	.054		53.585	.000
	dummy company	.325	.232	.154	1.399	.166
	dummy partnership	-.005	.153	-.004	-.033	.974

a. Dependent Variable: price mean

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.116 ^a	.013	-.011	2.11155

a. Predictors: (Constant), dummy partnership, dummy company

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.886	2	2.443	.548	.580 ^b
	Residual	361.150	81	4.459		
	Total	366.036	83			

a. Dependent Variable: price mean ratio

b. Predictors: (Constant), dummy partnership, dummy company

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	24.500	.252		97.076	.000
	dummy company	-.750	1.086	-.077	-.691	.492
	dummy partnership	-.600	.714	-.093	-.841	.403

a. Dependent Variable: price mean ratio

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.098 ^a	.010	-.015	.53762

a. Predictors: (Constant), dummy partnership, dummy company

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.226	2	.113	.391	.677 ^b
	Residual	23.412	81	.289		
	Total	23.638	83			

a. Dependent Variable: place mean

b. Predictors: (Constant), dummy partnership, dummy company

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.221	.064		50.131	.000
	<u>dummy company</u>	.194	.276	.078	.701	.485
	dummy partnership	-.087	.182	-.053	-.480	.632

a. Dependent Variable: place mean

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.178 ^a	.032	.008	3.44836

a. Predictors: (Constant), dummy partnership, dummy company

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	31.517	2	15.758	1.325	.271 ^b
	Residual	963.186	81	11.891		
	Total	994.702	83			

a. Dependent Variable: place mean ratio

b. Predictors: (Constant), dummy partnership, dummy company

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	27.214	.412		66.029	.000
	<u>dummy company</u>	-1.714	1.773	-.106	-.967	.336
	dummy partnership	-1.614	1.166	-.152	-1.385	.170

a. Dependent Variable: place mean ratio

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.301 ^a	.091	.068	.49960

a. Predictors: (Constant), dummy partnership, dummy company

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.018	2	1.009	4.043	.021 ^b
	Residual	20.217	81	.250		
	Total	22.236	83			

a. Dependent Variable: promotion mean

b. Predictors: (Constant), dummy partnership, dummy company

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.626	.060		43.972	.000
	dummy company	.649	.257	.269	2.528	.013
	dummy partnership	.254	.169	.160	1.506	.136

a. Dependent Variable: promotion mean

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.242 ^a	.059	.035	3.04325

a. Predictors: (Constant), dummy partnership, dummy company

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	46.781	2	23.390	2.526	.086 ^b
	Residual	750.171	81	9.261		
	Total	796.952	83			

a. Dependent Variable: promotion mean ratio

b. Predictors: (Constant), dummy partnership, dummy company

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	22.143	.364		60.876	.000
	dummy company	1.857	1.564	.128	1.187	.239
	dummy partnership	2.057	1.029	.216	2.000	.049

a. Dependent Variable: promotion mean ratio

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.197 ^a	.039	.015	.40781

a. Predictors: (Constant), dummy medium term, dummy long term

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.545	2	.273	1.640	.200 ^b
	Residual	13.471	81	.166		
	Total	14.016	83			

a. Dependent Variable: product mean

b. Predictors: (Constant), dummy medium term, dummy long term

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
		1	(Constant)	3.038		
	dummy long term	.154	.106	.170	1.446	.152
	dummy medium term	.170	.109	.183	1.555	.124

a. Dependent Variable: product mean

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.055 ^a	.003	-.022	2.00409

a. Predictors: (Constant), dummy medium term, dummy long term

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.995	2	.497	.124	.884 ^b
	Residual	325.327	81	4.016		
	Total	326.321	83			

a. Dependent Variable: product mean ratio

b. Predictors: (Constant), dummy medium term, dummy long term

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
		1	(Constant)	26.263		
	dummy long term	-.055	.523	-.013	-.105	.917
	dummy medium term	-.263	.537	-.059	-.490	.625

a. Dependent Variable: product mean ratio

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.158 ^a	.025	.001	.45172

a. Predictors: (Constant), dummy medium term, dummy long term

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.425	2	.213	1.042	.357 ^b
	Residual	16.528	81	.204		
	Total	16.954	83			

a. Dependent Variable: price mean

b. Predictors: (Constant), dummy medium term, dummy long term

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.844	.073		38.817	.000
	dummy long term	.069	.118	.069	.585	.560
	dummy medium term	.175	.121	.171	1.443	.153

a. Dependent Variable: price mean

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.158 ^a	.025	.001	2.09915

a. Predictors: (Constant), dummy medium term, dummy long term

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.114	2	4.557	1.034	.360 ^b
	Residual	356.922	81	4.406		
	Total	366.036	83			

a. Dependent Variable: price mean ratio

b. Predictors: (Constant), dummy medium term, dummy long term

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	24.632	.341		72.334	.000
	dummy long term	-.757	.547	-.164	-1.382	.171
	dummy medium term	-.086	.562	-.018	-.153	.879

a. Dependent Variable: price mean ratio

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.126 ^a	.016	-.008	.53590

a. Predictors: (Constant), dummy medium term, dummy long term

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.376	2	.188	.654	.523 ^b
	Residual	23.262	81	.287		
	Total	23.638	83			

a. Dependent Variable: place mean

b. Predictors: (Constant), dummy medium term, dummy long term

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.147	.087		36.201	.000
	dummy long term	.122	.140	.104	.877	.383
	dummy medium term	.145	.144	.120	1.011	.315

a. Dependent Variable: place mean

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.051 ^a	.003	-.022	3.49976

a. Predictors: (Constant), dummy medium term, dummy long term

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.588	2	1.294	.106	.900 ^b
	Residual	992.115	81	12.248		
	Total	994.702	83			

a. Dependent Variable: place mean ratio

b. Predictors: (Constant), dummy medium term, dummy long term

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	27.132	.568		47.789	.000
	dummy long term	-.382	.913	-.050	-.418	.677
	dummy medium term	-.313	.938	-.040	-.334	.739

a. Dependent Variable: place mean ratio

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.237 ^a	.056	.033	.50898

a. Predictors: (Constant), dummy medium term, dummy long term

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.251	2	.626	2.415	.096 ^b
	Residual	20.984	81	.259		
	Total	22.236	83			

a. Dependent Variable: promotion mean

b. Predictors: (Constant), dummy medium term, dummy long term

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.553	.083		30.915	.000
	dummy long term	.243	.133	.214	1.833	.071
	dummy medium term	.247	.136	.211	1.814	.073

a. Dependent Variable: promotion mean

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.127 ^a	.016	-.008	3.11129

a. Predictors: (Constant), dummy medium term, dummy long term

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.861	2	6.430	.664	.517 ^b
	Residual	784.092	81	9.680		
	Total	796.952	83			

a. Dependent Variable: promotion mean ratio

b. Predictors: (Constant), dummy medium term, dummy long term

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	22.053	.505		43.693	.000
	dummy long term	.864	.811	.127	1.065	.290
	dummy medium term	.675	.834	.096	.809	.421

a. Dependent Variable: promotion mean ratio

REGRESSION

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.740 ^a	.548	.525	8.94177	2.033

a. Predictors: (Constant), promotion mean, place mean, price mean, product mean

b. Dependent Variable: SALES REVENUES GROWTH

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7664.486	4	1916.121	23.965	.000 ^b
	Residual	6316.466	79	79.955		
	Total	13980.952	83			

a. Dependent Variable: SALES REVENUES GROWTH

b. Predictors: (Constant), promotion mean, place mean, price mean, product mean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	42.475	8.294		5.121	.000		
	product mean	-.343	3.419	-.011	-.100	.920	.488	2.049
	price mean	5.356	3.104	.187	1.725	.088	.489	2.043
	place mean	15.284	2.394	.628	6.383	.000	.590	1.695
	promotion mean	1.590	2.698	.063	.589	.557	.494	2.024

a. Dependent Variable: SALES REVENUES GROWTH

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.638 ^a	.407	.377	10.43357	2.120

a. Predictors: (Constant), promotion mean, place mean, price mean, product mean

b. Dependent Variable: SALES VOLUME GROWTH

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5901.005	4	1475.251	13.552	.000 ^b
	Residual	8599.887	79	108.859		
	Total	14500.893	83			

a. Dependent Variable: SALES VOLUME GROWTH

b. Predictors: (Constant), promotion mean, place mean, price mean, product mean

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	55.823	9.678		5.768	.000		
product mean	-.620	3.989	-.019	-.156	.877	.488	2.049
price mean	5.332	3.622	.182	1.472	.145	.489	2.043
place mean	13.724	2.794	.554	4.912	.000	.590	1.695
promotion mean	-1.137	3.148	-.045	-.361	.719	.494	2.024

a. Dependent Variable: SALES VOLUME GROWTH

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.664 ^a	.441	.412	10.59204	1.496

a. Predictors: (Constant), promotion mean, place mean, price mean, product mean

b. Dependent Variable: EMPLOYEE GROWTH

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6982.131	4	1745.533	15.559	.000 ^b
	Residual	8863.107	79	112.191		
	Total	15845.238	83			

a. Dependent Variable: EMPLOYEE GROWTH

b. Predictors: (Constant), promotion mean, place mean, price mean, product mean

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	67.421	9.824		6.863	.000	
	product mean	2.983	4.050	.089	.737	.464	.488
	price mean	5.794	3.677	.190	1.576	.119	.489
	place mean	13.635	2.836	.527	4.807	.000	.590
	promotion mean	-3.948	3.196	-.148	-1.235	.220	.494

a. Dependent Variable: EMPLOYEE GROWTH

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.634 ^a	.402	.372	10.57683	2.008

a. Predictors: (Constant), promotion mean, place mean, price mean, product mean

b. Dependent Variable: PROFIT GROWTH

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5943.281	4	1485.820	13.282	.000 ^b
	Residual	8837.672	79	111.869		
	Total	14780.952	83			

a. Dependent Variable: PROFIT GROWTH

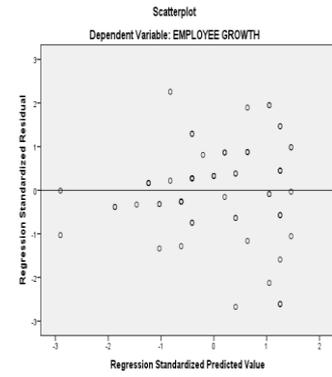
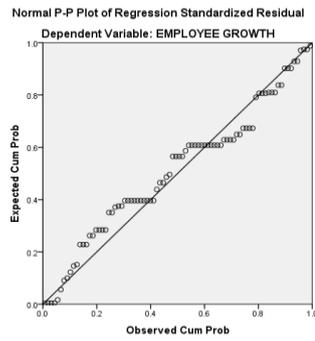
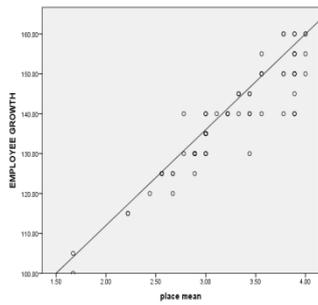
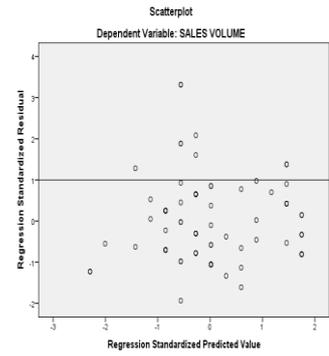
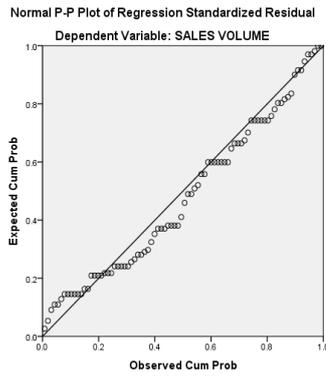
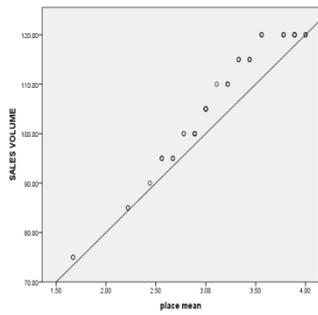
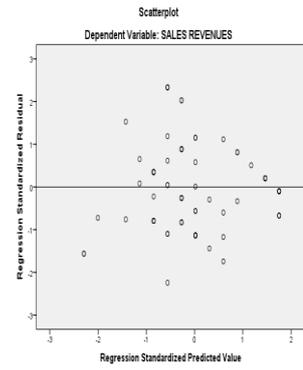
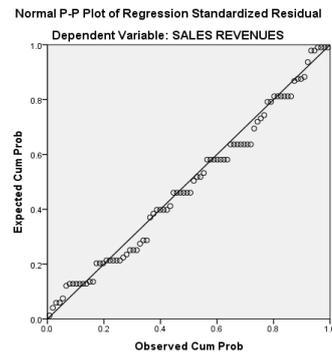
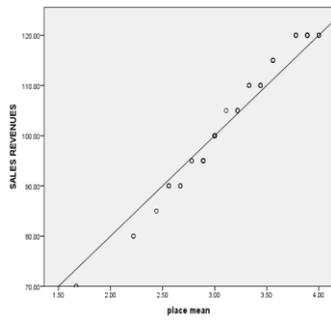
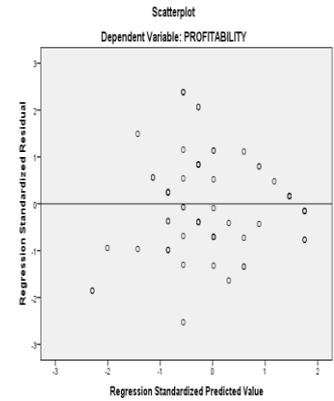
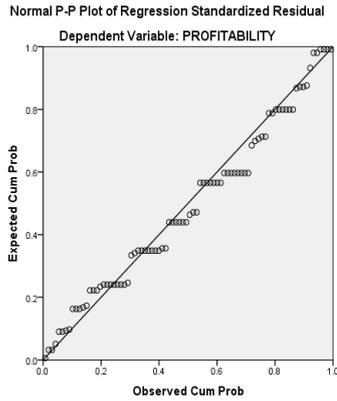
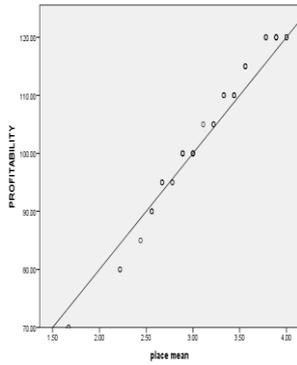
b. Predictors: (Constant), promotion mean, place mean, price mean, product mean

Coefficients^a

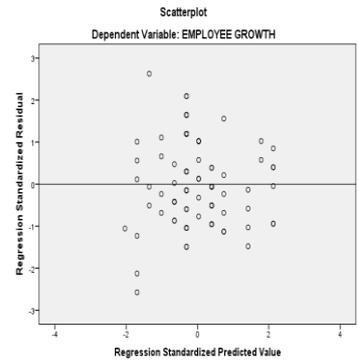
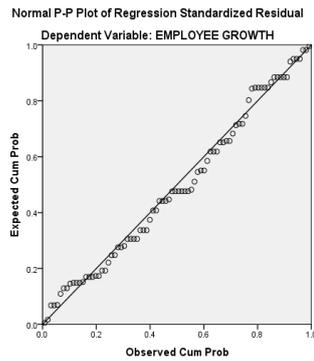
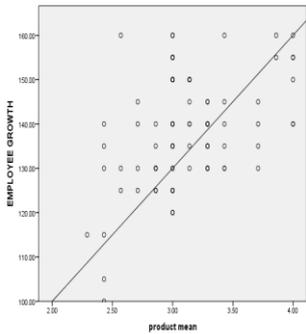
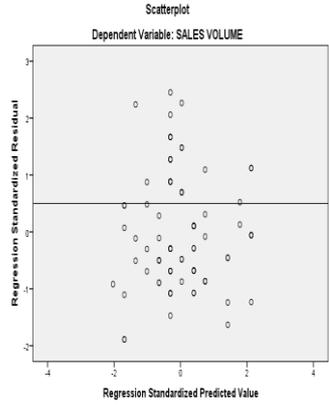
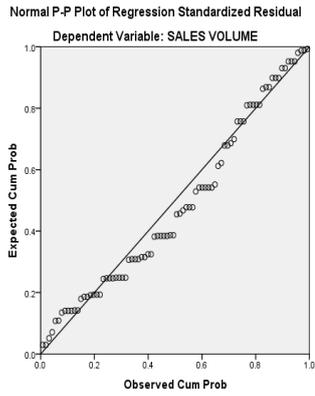
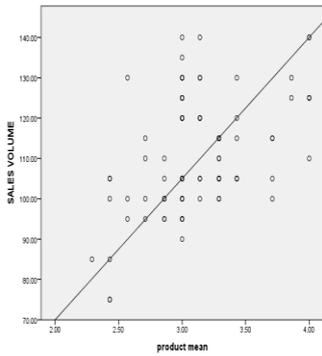
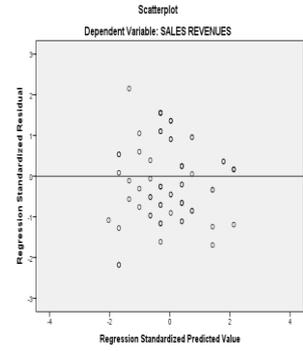
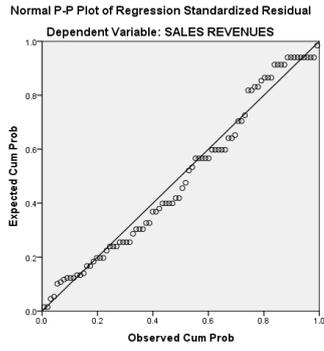
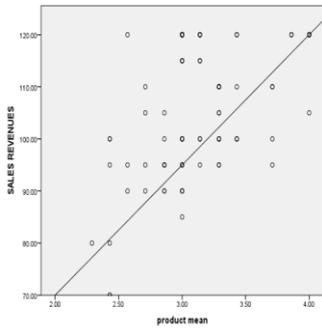
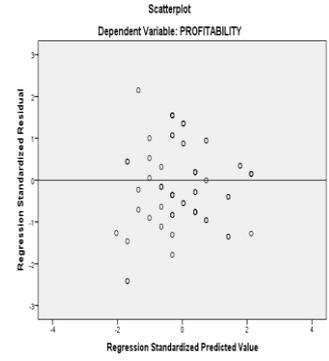
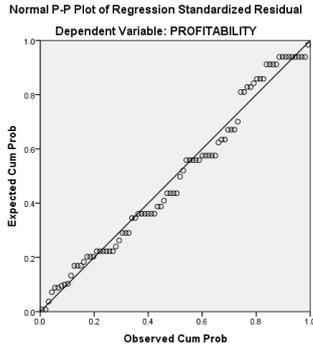
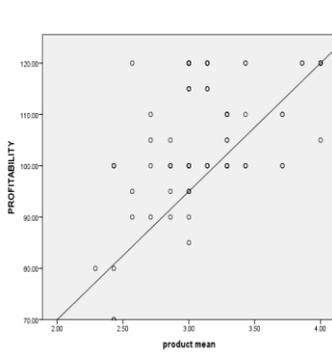
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	63.621	9.810		6.485	.000		
	product mean	-4.942	4.044	-.152	-1.222	.225	.488	2.049
	price mean	2.337	3.672	.079	.636	.526	.489	2.043
	place mean	16.556	2.832	.662	5.846	.000	.590	1.695
	promotion mean	.461	3.191	.018	.145	.885	.494	2.024

a. Dependent Variable: PROFIT GROWTH

Assumptions for Place



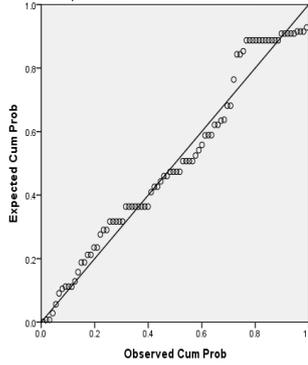
Assumptions for Product



Assumptions for Price

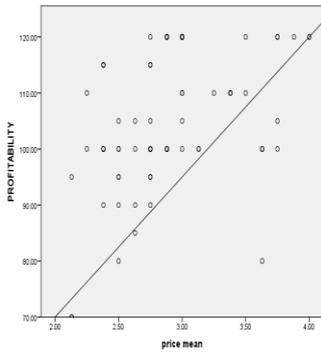
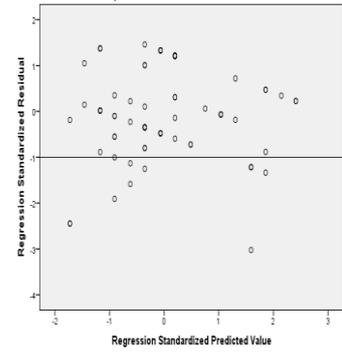
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: PROFITABILITY



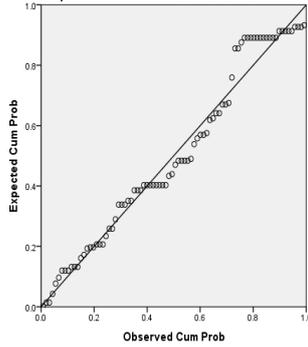
Scatterplot

Dependent Variable: PROFITABILITY



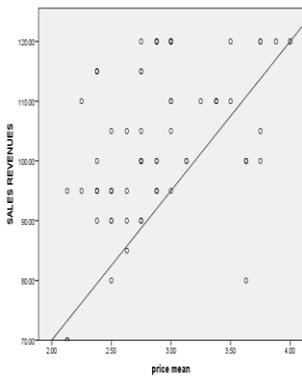
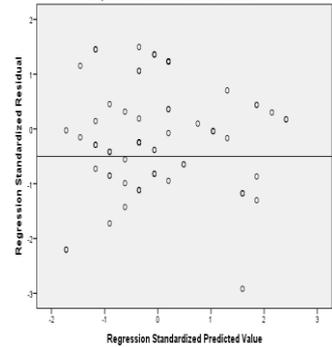
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: SALES REVENUES



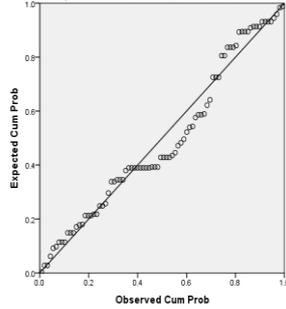
Scatterplot

Dependent Variable: SALES REVENUES



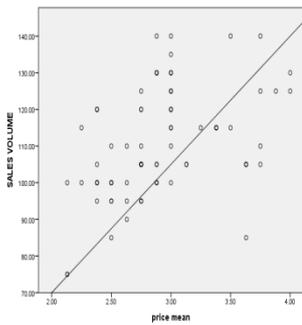
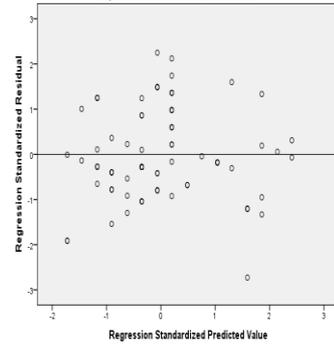
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: SALES VOLUME



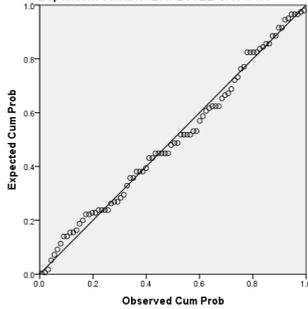
Scatterplot

Dependent Variable: SALES VOLUME



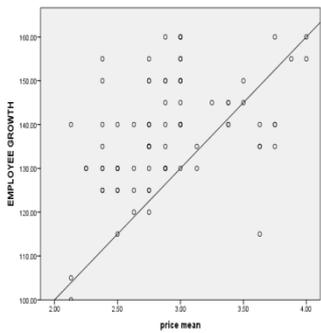
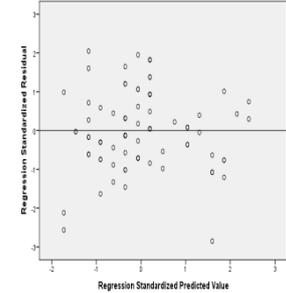
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: EMPLOYEE GROWTH



Scatterplot

Dependent Variable: EMPLOYEE GROWTH



Assumptions for Promotion

