

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

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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 multiple 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 measures in terms of 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.

Keywords: Business Characteristics, Marketing Mix, Performance

Introduction

Purified drinking water manufacturing 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.

Purified Drinking Water Manufacturing businesses (PDWM) 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. However, some were not registered legally (Myawaddy News, July 22, 2016). Recently, FDA has shut down 13 unregistered drinking water brands in Yangon.

Purified drinking water market is growing significantly in the local market; however, some existing brands disappeared without knowing because they cannot survive in the world of rapidly changing customer's attitude and behavior. It is not sure that the most important factors

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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 PDWM 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 are not yet well aware 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. Thus, in this market, it is not obvious that which marketing mix will lead to success and sustainable competitive advantage. 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. In purified drinking water market in Myanmar, the hidden issue is that which marketing mix element is influence on the performance by the growth of sales, profit and number of employees. In this study, the effect of marketing mix on performance of PDWM businesses is analyzed for some beneficiaries such as potential PDWM businesses and other interesting parties to purified drinking water market in Myanmar.

Objectives of the Study

The main purpose of this study is to examine whether the marketing mix practices of PDWM businesses can support business firms to increase their performance. The specific objectives of the study are:

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

Method of the Study

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 for 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 PDWM businesses in Yangon by conducting interviews with structured questionnaires. Secondary data are obtained from profile and reports of selected PDWM 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 PDWM 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).

Conceptual Framework of the Study

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 clothes exporting businesses.

The first model adapted by this study is developed by Lilin, Muhammad, & Younes, (2013), and this model presents the factors influencing marketing mix, and the effect of marketing mix on performance of Chinese owned businesses running in Jordan.

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

The third model adapted in this study is model developed by Erdil and Ozdemir (2016). In this 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 Turkey. It also analysed the relationship between marketing mix and export performance.

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 (1).



Figure 1 Conceptual Model of the Study

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 PDWM businesses in Yangon. 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 market (Raiz, 2011).

Analysis and Results

The main purpose of the study is to analyze the relationship between marketing mix and performance of PDWM. To explore this relationship, the study also intends to identify the business characteristics, and marketing mix practices that influence the perform of PDWM businesses in Yangon. The descriptive statistics and the dummy variable regression analysis were conducted to analyze the relationship between business characteristics and marketing mix. Then, analysis on the relationship between marketing mix and performance is performed by multiple regression analysis.

Profile of PDWM Businesses

The profile of PDWM 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.

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.

In the analysis of performance, the highest per cent of businesses have increase in performance concerning sales revenues, sales volume and number of employees. However, the highest per cent of businesses are unchanged in profit.

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 (1) prescribed the profile of the PDWM businesses in Yangon in terms of the ownership form of businesses, firm's age, size of businesses, and performance of businesses.

Table 1 Profile of PDWM Businesses

Sr. No.	Demographic Factors	Number of Businesses	Percent (%)
1	Total Number of Businesses	84	10
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 (Revised Private Industrial Enterprise Law,2011)		
	Small (10-50)	68	81.00
	Medium (50-100)	8	9.50
	Large (>100)	8	9.50
5	Performance of Business S		
	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)

Marketing Mix of PDWM Businesses

The analysis on marketing mix of PDWM 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 (2).

Table 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 (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 PDWM 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 PDWM businesses do not take 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.

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 (3).

Table 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 (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 setting prices based on

offering something different, based on different customer groups or different target market segments and based on customization.

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).

Table 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
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), 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 PDWM businesses rarely use the Internet in business functions.

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 PDWM businesses can be examined with mean values shown in Table (5).

Table 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 (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 of the rest items. This is because most of the businesses believe that practicing promotion functions especially advertising is related to low quality of water.

Table (6) shows the practices of surveyed businesses for reach of the marketing mix elements with the overall mean values of each variable.

Table 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 (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.

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.

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 the effect of firm's size on marketing mix.

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

$$\begin{aligned} \text{Product} &= 3.007 + 0.814 (\text{large}) + 0.439 (\text{medium}) \\ \text{SE} &: (0.039) \quad (0.120) \quad (0.120) \\ t &: (77.161)*** \quad (6.780)*** \quad (3.658)*** \end{aligned}$$

*, **, ***: 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.

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:

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

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:

$$\begin{aligned} \text{Place} &= 3.162 + 0.575 (\text{large}) + 0.031 (\text{medium}) \\ \text{SE} &: (0.062) \quad (0.192) \quad (0.192) \\ t &: (50.896)^{***} \quad (3.003)^{***} \quad (0.164) \end{aligned}$$

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:

$$\begin{aligned} \text{Promotion} &= 2.513 + 1.137 (\text{large}) + 0.687 (\text{medium}) \\ \text{SE} &: (0.044) \quad (0.136) \quad (0.136) \\ t &: (57.133)^{***} \quad (8.384)^{***} \quad (5.065)^{***} \end{aligned}$$

Analysis on Effect of Ownership Form of Business on Marketing Mix

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:

$$\begin{aligned} \text{Product} &= 3.086 + 0.591 (\text{company}) + 0.100 (\text{partnership}) \\ \text{SE} &: (0.047) \quad (0.203) \quad (0.134) \\ t &: (65.332)^{***} \quad (2.910)^{***} \quad (0.746) \end{aligned}$$

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.

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:

$$\begin{aligned} \text{Price} &= 2.895 + 0.325 (\text{company}) - 0.005 (\text{partnership}) \\ \text{SE} &: (0.054) \quad (0.232) \quad (0.153) \\ t &: (53.585)^{***} \quad (1.399) \quad (-0.033) \end{aligned}$$

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:

$$\begin{aligned} \text{Place} &= 3.221 + 0.194 (\text{company}) - 0.087 (\text{partnership}) \\ \text{SE} &: (0.064) \quad (0.276) \quad (0.182) \\ t &: (50.131)^{***} \quad (0.701) \quad (-0.480) \end{aligned}$$

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:

$$\begin{aligned} \text{Promotion} &= 2.626 + 0.649 (\text{company}) + 0.254 (\text{partnership}) \\ \text{SE} &: (0.060) \quad (0.257) \quad (0.169) \\ t &: (43.972)^{***} \quad (2.528)^{**} \quad (1.506) \end{aligned}$$

Consequently, the ownership form of PDWM businesses in Yangon is relating to their marketing mix practices is **partially accepted**.

Analysis on Effect of Firm's Age on Marketing Mix

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 PDWM businesses in Yangon by using approach of measuring their practices with mean values can be seen as:

$$\begin{aligned} \text{Product} &= 3.038 + 0.154 (\text{long term}) + 0.170 (\text{medium term}) \\ \text{SE} &: (0.066) \quad (0.106) \quad (0.109) \\ t &: (45.921)^{***} \quad (1.446) \quad (1.555) \end{aligned}$$

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.

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:

$$\begin{aligned} \text{Price} &= 2.844 + 0.069 (\text{long term}) + 0.175 (\text{medium term}) \\ \text{SE} &: (0.073) \quad (0.118) \quad (0.121) \\ t &: (38.817)^{***} \quad (0.585) \quad (1.443) \end{aligned}$$

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:

$$\begin{aligned} \text{Place} &= 3.147 + 0.122 (\text{long term}) + 0.145 (\text{medium term}) \\ \text{SE} &: (0.087) \quad (0.140) \quad (0.144) \\ \text{t} &: (36.201)^{***} \quad (0.877) \quad (1.011) \end{aligned}$$

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:

$$\begin{aligned} \text{Promotion} &= 2.553 + 0.243 (\text{long term}) + 0.247 (\text{medium term}) \\ \text{SE} &: (0.083) \quad (0.133) \quad (0.136) \\ \text{t} &: (30.915)^{***} \quad (1.833)^* \quad (1.814)^* \end{aligned}$$

Consequently, there is a relationship between firm’s age and marketing mix practices in PDWM businesses in Yangon is fractionally accepted.

Analysis on Effect of Marketing Mix on Firm’s Performance

This analysis intends to test the relationship between 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. In this study, multiple linear regression analysis is conducted to test the relationship between marketing mix and the difference in performance of this year and of last year. The results for the effect of marketing mix on sales revenue are shown in Table (11).

Table 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 (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. R² (proportion of the variance in the dependent variable accounted by model) is 0.548 and adjusted R² 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 PDWM 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 PDWM businesses in Yangon, effective and efficient distribution practices and manipulating pricing decision will lead to increasing the growth of sales revenue. Consequently, there is an effect of marketing mix practices on performance by sales revenue” can be **partially accepted**.

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. The results are shown in Table (12).

Table 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 (12), R (the correlation between the observed value and the predicted value of dependent variable) is 0.638. Thus the growth levels of sales volume reported by respondents and the levels predicted for them by independent variables are correlated. R2

(proportion of the variance in the dependent variable accounted by model) is 0.407 and adjusted R² 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 15 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 PDWM 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 PDWM businesses in Yangon, effective and efficient distribution practices will lead to increasing the growth of sales revenue. Consequently, there is an effect of marketing mix practices on performance by sales volume is **partly accepted**.

PDWM 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. The results for the effect of marketing mix on number of employees are shown in Table (13).

Table 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

As shown in Table (13), R (the correlation between the observed value and the predicted value of dependent variable) is 0.664. Thus the growth levels of number of employees reported by respondents and the levels predicted for them by independent variables are correlated. R² (proportion of the variance in the dependent variable accounted by model) is 0.441 and adjusted R² 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 PDWM 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 PDWM businesses.

To increase the growth rate of number of employees, place variable is a necessarily. 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 PDWM businesses in Yangon, effective and efficient distribution practices will lead to increase the growth of number of employees. **Consequently**, performance measured with growth by number of employees is relating to marketing mix practices **is fractionally accepted**.

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 snot 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 PDWM businesses, the firm performance should be measured with changes in profit during recent one year. The results for the effect of marketing mix on profit are shown in Table (14).

Table 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 (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 PDWM 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 PDWM businesses in Yangon, effective and efficient distribution practices will lead to increasing the growth of profit. Thus, performance measured with profit is relating to marketing mix practices is **partially accepted**.

Conclusion

The study extracted significant research findings that have emerged from the analysis of research data on businesses' characteristics, marketing mix and performance of PDWM businesses in Yangon. 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 of not too support the performance of PDWM businesses in Yangon. Moreover, businesses that pay high attention to promotion have the lowest performance improvement while the improvement of the performance of businesses that committed in place activities is the highest.

Suggestions and Recommendations

Based on the findings of the analysis, PDWM businesses should try to introduce new product based on taste, smell, nutritious ingredient, purifying technology, etc, to increase their performance. In acquiring outsource, 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.

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. 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.

In addition, businesses should carefully recruit and train sale persons and retain talented sale persons and incentive program should be added to their pay. They should take the advantages of information technology 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.

Based on the results of the finding, 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, PDWM 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.

In conclusion, PDWM 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 business 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.

Needs for Further Studies

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 PDWM 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. To provide more new knowledge, effect on other performance areas such as competitive performance and strategic performance should also be considered.

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