Impact of Marketing Expenditure on Sales and Profitability of Listed Manufacturing Companies in Nepal[1]

Khusboo Agrahari, Dipendra Karki and Ram Bahadur Rai

Instructors at Department of Management, Koshi Saint James College, Itahari

email: *khusbu.basnet@koshistjames.edu.np,*

dipendrakarki.np@gmail.com,

rambdrai.itb@gmail.com

Abstract

Marketing expenses are important corporate operations that have an impact on lead generation and revenue in an organization. In today's business environment, it is essential to know how marketing expenditures affect a company's performance. Based on this viewpoint, the primary goal of this study was to determine whether marketing expenditures had an impact on companies' performance. The study examined the impact of marketing expenditures on sales and profitability of listed manufacturing companies in Nepal. This study is based on secondary data collected from six listed manufacturing companies for six years, from 2016/17 to 2021/22. A descriptive statistic, correlation analysis, and simple linear and non-linear regression methods were applied to analyze the data. The study concludes that there was a non-linear relationship of marketing expenditure with sales and profitability. It indicates that there was a certain level of marketing expenditure that maximizes sales and profitability. The company needs to analyze what amount of money, time, and effort are put into marketing expenditures. Companies face the danger of inducing a price orientation in the market if they employ promotions excessively. A balanced marketing budget is crucial to the company's prosperity. With this view, the marketing manager should provide an accurate annual marketing budget that maximizes sales and profitability for the company.

Keyword: linear and non-linear, marketing expenditure, profitability, sales

Introduction

Decision-makers in marketing are becoming more and more aware of the significance of maximizing shareholder benefit, which necessitates an assessment of the long-range effects of their activities on product-market reaction and shareholder engagement. Sales and marketing are two corporate operations that have an impact on lead generation and revenue in an organization. A payment made for a marketing-related investment or expense is referred to as a marketing expenditure. Companies spend in marketing across a variety of sectors, including market study, development of products, advertising, sales, and services. Businesses frequently set aside a specific

amount from their budgets for marketing expenses. It is difficult to handle marketing expenditures effectively. The ability to respond quickly and professionally to changing circumstances requires proper management of marketing expenditures. A comprehensive plan that seamlessly directs and results in firm performance is necessary to maintain the balance between marketing expenses and sales (Hart & Zingales, 2017; Poddar, Yadav & Mukharji, 2014). There was a relationship between marketing expenses and sales as well as profitability of business performance (Haryanto & Retnaningrum, 2020). In a similar vein, there was either a positive or negative association between marketing expenses and firm performance. According to Dekimpe & Hanssens 1995, advertising contributes to sales in both the short- and long-term. Marketing expenses are considered expenses, which has a short-term negative impact on profitability (Jedidi, Mela & Gupta, 1999).

Advertising is one of the most important media of communication influencing the companies' performance in more than one way. But its influential strategic importance could be suppressed by other factors which also try to receive equal attention at time of deciding any sales and profitability strategy (Abdullahi, 2015). The link between advertising and promotion spending increased and future earnings was stronger and more immediate during recessions. Decreases in advertising and promotion spending during recessions had a delayed relationship with future earnings (Graham, & Frankenberger, 2011). The level of advertising expenditure had a significant positive effect on the intangible value of the firm (Hsu, & Jang,

2008). In essence, analyzing outcomes serves to continuously improve marketing effectiveness. The first objective for a new business was frequent recognition of the brand. Companies can evaluate their efforts by calculating the change in target marketing awareness from the beginning to the completion of a strategy. Highly established businesses may wish to increase client retention and track the outcomes via loyalty analysis. Companies should frequently monitor sales prior to, during, and following a marketing effort if their goal is to generate immediate revenue.

The impact of marketing expenditure on sales and profitability of manufacturing companies in Nepal has been examined in this study. Money spent on marketing activities is not a burden; rather, it increases sales volume by creating attraction towards the product (Lerner, 2010). Main objective of this study is to show that there exists a noteworthy relationship between marketing expenses and profitability of the firm, as well as a remarkable relationship between turnover and marketing expenses of the firm. This study also aims to give an idea that marketing expenses make a positive contribution to firm profits. The use of advertising and other promotional techniques to highlight a brand or the goods and services it can provide may be the main focus of marketing expenditures. The company's marketing budget focuses on the company's objectives and the most effective means of achieving them (Cooper & Kleinschmidt, 1995). Spending money on marketing can help a company's name become more well-known and provide

doors for the company to become more profitable (Anholt, 2006).

Extended marketing strategies should include creating a brand and sales initiatives that are concentrated on communicating the company's unique selling point. Companies face the danger of inducing a price orientation in the market if they employ promotions excessively. A balanced marketing budget is crucial to the company's prosperity. A company without a strong marketing strategy may find itself owing money to the corporation and unable to cover costs (Lantos, 2001). It may revert to owing clients, in which case the company's reputation and financial standing may suffer greatly. The effect of marketing spending on return was also favorable and significant for certain time (Srinivasan, Pauwels, Risso, & Hanssens 2009).

Review of Literature

Haryanto and Retnaningrum (2020) stated that there was significant positive influence of marketing expenditure on net profit margin; but there was not any impact of marketing expenditure on return on assets (ROA). Likewise, the impact of marketing expenditure was positive and significant on return on investment (ROI) and return on equity (ROE). The study found that the marketing expenditure plays an important role on firm performance.

Manala and Atienza (2020) noted that there was a connection between advertising spending, income, and corporate profitability. According to the findings, advertising considerably and positively influenced company performance through revenue but not through net income. In the same way,

advertising can be a very effective strategy for businesses to increase their revenue and market share, but it does not always guarantee profit. However, to guarantee that high revenue generated from vigorous advertising effort converts into high profitability, further cost control techniques are required.

Buyukdag, Kaya and Kitapci (2019) agreed that marketing expenses significantly and favorably affect the variables for net profit and profit per share. Furthermore, there was a two-way link between these factors. While higher marketing costs result in higher net profits and earnings per share, higher net profits and earnings per share also contribute to higher marketing costs. Additionally, marketing expenses began to have a significant influence on net profit and earnings per share.

Shubita (2019) claimed that fluctuations in sales revenue could not be attributed to sales expenses. Sales expenditure fluctuations had a greater information content than sales expenditure levels in describing revenue from sales, indicating a substantial connection among sales expenditure variations and revenue from sales. Additionally, there was no discernible connection between sales revenue and sales expense levels, changes in sales expense, or both.

Chowdhury (2017) confirmed that there was a strong and positive correlation between advertising spending, sales volume, and net profit after tax. The study discovered a strong and positive correlation between the factors. Similarly, it demonstrated that the cost of advertising, volume of sales, and net profit after taxes

were all strongly associated with one another. As a result, the relationships were found to be linear, direct, and cyclic. In addition, the framework featured a loop of positive feedback whereby raising advertising spending raises revenue from sales and net profit after taxes.

Edeling and Fischer (2016) drew empirical conclusions about how marketing affected business value by integrating previous study data. The investigators explicitly performed a systematic review of earlier estimations regarding the flexibility of the stock market impact of marketing activities and assets related to marketing. However, the study found that advertising elasticities were lower in more concentrated industries and that marketing asset elasticities were higher during recession times. The study adopted only elasticities pertaining to the marketing-mix variable advertising in meta-analytic model.

McAlister, Srinivasan, Jindal and Cannella (2016) pointed out that there was a link between financial outcomes and marketing spending. Likewise, advertising expenditure and sales had positive link between them which has been consistently supported. The study illustrated that advertising affected firm's profitability. It also explained that advertising can extend the sales, thereby building firm value. It identifies differentiators and cost leaders on the basis of firms' reactions to a change in accounting regulations.

Konak (2015) asserted that there was no concave relationship between company performance and marketing expenses. However, spending on marketing and advertising was

acknowledged as a factor that had a short-term negative impact on profitability. On the other hand, it would add value in the long term. The research discovered that the dependent variables for ROA and ROE had a statistically significant positive relationship.

Agbeja, Oyedokun, Adelakun, Akinyemi and Daramola (2015) believed that there was a significant connection among marketing expenses and a company's profitability; and there was also a strong connection between turnover and marketing expenses. According to the report, a business maintained a system of advertising that was both successful and affordable, with a focus on hiring people of high caliber. In the same way, the advertising system ought to be managed by a system that promotes the standing of the business and its product(s).

Banerjee and Siddhanta (2015) emphasized that there was an interconnection between marketing, sales promotion, and profit in the sector; however, there was practically no evidence that there was a causal connection going in both directions. Instead, it appeared that advertisements had a long-term impact on revenue. However lengthy, the strategy of spending more money on advertising aids in the development of a company's image as well was a useful way to provide long-term benefits in terms of sales and loyalty to the brand.

Porto and Lima (2015) claimed that there was a nonlinear connection between the marketing strategy and each customer's level of buying, the amount of sales, and number of customers. The findings indicate that each of the variables

that are dependent are strongly impacted by the marketing strategy, particularly brand and pricing, in a nonlinear manner with good variable fits. Similarly, for the companies, their combined impact creates economies of size, and it encourages every customer to gradually buy a greater quantity of goods.

Sharma and Kapur (2014) showed both the long and short-run aspects of the relationship between sales and advertising spending. The study demonstrated how the size of the business affected the relationship between advertising spending and sales. These authors found that, in larger businesses, there was a reciprocal connection between advertising and sales; but in smaller businesses, long-term sales growth resulted in lower advertising spending. Likewise, they did not play a significant role in the total increase in advertising expenditures of the business.

Singh, Sharma and Mahendru (2011) stated that sales in businesses were what drive profit and advertising. The authors discovered that sales induced advertising, profits caused advertising, and profits also caused sales. However, the study demonstrated the relationship between profit sales and advertising in particular, demonstrating how the position of one year's sales impacted its previous year's profit as well as how advertisements impacted sales and profit over the previous years. The study also discovered that a company's sales were influenced by its past sales as well as by its own advertisements.

Joshi and Hanssens (2010) highlighted the enduring link between advertising spending and market capitalization. The authors contended that,

in addition to its indirect effects on sales revenue and profit response, advertising could also have a direct impact on valuation. In the same way, the study discovered a correlation between advertising spending and a firm's market value as well as an investor response effect of advertising spending beyond its anticipated effects through an increase in revenue and profit.

Ataman, Heerde and Mela (2010) claimed that there were the long-term consequences of advertising on sales and pricing elasticity. The study observed the effect of marketing investment over a long period of time. On the other hand, eliminating for short-term sales spikes produced price reduction, and showed that all parts of the marketing mix revealed a positive short-term direct influence on sales, especially distribution and line length. Similar to base sales, the marketing mix also had indirect effects due to price response.

There had been a significant number of empirical studies examining the relationship between marketing expenses and corporate financial metrics. Financial metrics had usually included Tobin's Q, ROA, ROE, market-to-book ratio, and various sorts of profit can be ratios or numbers. It was determined that marketing expenses had a favorable effect on the market value of the company. Similarly, it was recommended that the amount spent on marketing activities had a very good impact on the companies' performance.

But it still raises the question: has increasing marketing expenditure always produced a positive result? What is the right level at which a company should

invest in marketing expenditures to increase sales and profitability? There is also the question: is the impact of marketing expenditure on sales and profitability always linear? To find out the answers to these questions, we conducted this study using the conventional least square method of regression analysis.

Method

This research examined the influence of marketing expenditure on firm performance in manufacturing companies in Nepal. This study was quantitative and based on a positivist philosophy of research. This section includes research design, population and sample, nature and sources of data, methods of data analysis, and an econometric model.

Research Design

A quantitative research design was applied since the data used in this study were purely quantitative. The objective of this research was to investigate the impact of marketing expenditure on firm performance, which could be obtained through statistical operations.

Population and Sample

The population of this study included all manufacturing companies in Nepal. The sample of this study was only six manufacturing companies, namely Bottlers Nepal (Balaju) Ltd., Himalayan Distillery Ltd., Nepal Lube Oil Ltd., Shivam Cement Ltd., Uniliver Nepal Ltd., and Bottlers Nepal (Tarai) Ltd., due to the non-listing of the other companies and so the unavailability of their data.

Nature and Sources of Data

This study was based on secondary data collected from six listed manufacturing companies for six years, from 2016/17 to 2021/22. The variables used in the study were gross profit margin (GPM), net profit margin (NPM), return on assets (ROA), return on equity (ROE), and marketing expenditure (ME). The data were secondary, and these data were gathered from the audited annual reports of the respective companies.

Method of Data Analysis

A descriptive statistic, correlation analysis, and simple linear and non-linear regression were applied to analyze the data.

Econometric Model

The econometric model applied in the study investigated the relationship between marketing expenditures and profitability. When suitable econometric tools are used, they determine the causal connection between the two variables that seem to run in opposite directions. For this purpose, the following models were applied.

$$GPM_{it} = a + b_1 ME_{it} + b2 ME^2_{it} + b_3 ME^3_{it} + e_{it} \dots\dots\dots\dots\dots 1$$

$$NPM_{it} = a + b_1 ME_{it} + b2 ME^2_{it} + b_3 ME^3_{it} + e_{it} \dots\dots\dots\dots\dots 2$$

$$ROA_{it} = a + b_1 ME_{it} + b2 ME^2_{it} + b_3 ME^3_{it} + e_{it} \dots\dots\dots\dots\dots 3$$

$$ROE_{it} = a + b_1 ME_{it} + b2 ME^2_{it} + b_3 ME^3_{it} + e_{it} \dots\dots\dots\dots\dots 4$$

Here,

GPM_{it} = Gross Profit Margin of Company i at t-time

NPM_{it} = Net Profit Margin of Company i at t-time

ROA_{it} = Return on Assets of Company i at t-time

ROE_{it} = Return on Equity of Company i at t-time

ME_{it} = Marketing Expenditure of Company i at t-time

Results and Discussion

This section provides systematic presentation and analysis of secondary data collected from six manufacturing companies in Nepal. The study used descriptive statistics, correlation analysis, and simple linear and non-linear regression models to measure the influence of marketing expenditure on firm performance. The study analyzed how marketing expenditure affects to sales, gross profit (GP), profit after tax (PAT), earning per share (EPS), gross profit margin (GPM), net profit margin (NPM), return on assets (ROA), and return on equity (ROE). Here is the data recapitulate recorded by listed manufacturing companies in the year 2016 to 2022. The purpose of this section is to provide an apparent and advisable understanding of the findings of the study.

Descriptive Statistics

The number of observations, minimum and maximum values, means, and standard deviations of the variables under investigation made up the descriptive statistics used in this study. Descriptive statistics offer data in a concise and comprehensible style, which is typically simpler to analyze and understand. Table 1 displays descriptive statistics for both dependent and independent variables over the course of the study.

Table 1

Descriptive Statistics of Study Variables

Variables	Minimum	Maximum	Mean	St. Dev.
Sales revenue	632	12495	5481	3324
Gross Profit	220	4074	1970	1074
Profit After Tax	-62	1542	631	462
Earnings Per Share	-32	1675	342	415
Gross Profit Margin	24	61	38	10
Net Profit Margin	-1	28	11	7
Return on Assets	-1	43	16	13
Return on Equity	-2	107	28	20
Marketing Expenditure	141	1697	639	433

Note. Author's calculation using SPSS 27

Table 1 shows that average sales revenue of the sample companies during the study period was 5481 million with maximum value of 12495 million, minimum value of 632 million and standard deviation was 3324 million. It indicated high degree of variation in data among the sample companies. The maximum value of gross profit was 4074 with minimum value of 220 million and standard deviation was 1074. The average value of gross profit was 1970. Likewise, profit after tax was 1542 million with maximum value, -62 million was minimum value, average value of profit after tax was 631 million and standard deviation was 462 million. In here, minimum value of profit after tax was negative because it was computed deducting deferred tax so the negative value was found. The average value of earning per share was 342 million with maximum value of 1675 million, minimum value of -32 million; and standard deviation was 415 million. The maximum value of gross profit margin was 61 percent with minimum value of 24 percent; it is 38 percent of average value and 10 percent of standard deviation. Similarly, maximum value of net profit margin was 28 percent with minimum value -1 percent, and average value and standard deviation 11 and 7 percent respectively. Here, average value of return on assets was 16 percent with maximum value of 43 percent, minimum value was -1 percent; and standard deviation was 13 percent. Likewise, return on equity was 107 percent with maximum value, and -2 percent was minimum value, average value and standard deviation was 28 and 20 percent respectively. In the above sample, average marketing expenditure was 639 million with maximum value of 1697 million, minimum value of 141 million and standard deviation was 433 million. This descriptive statistic of study variables indicated that there was high degree of variation in data among the sample companies.

Table 2

Correlation Matrix of Study Variables

Variables	Sales	GP	PAT	EPS	GPM	NPM	ROA	ROE	ME
Sales	1.00								
GP	.87**	1.00							
PAT	.61**	.84**	1.00						
EPS	0.05	0.19	.32*	1.00					
GPM	-.33*	0.08	.40*	0.24	1.00				
NPM	0.14	.45**	.78**	.37*	.78**	1.00			
ROA	-0.26	0.08	.43**	.40*	.85**	.76**	1.00		
ROE	-0.25	0.04	.39*	.60**	.77**	.77**	.90**	1.00	
ME	.75**	.54**	0.24	0.07	-.44**	-0.06	-.35*	-0.26	1.00

Note. ** correlation significant at 0.01 level and * correlation significant at 0.05 level

Table 2 shows the correlation between study variables. Marketing expenditure was an independent variable, and sales revenue (sales), gross profit (GP), profit after tax (PAT), earnings per share (EPS), gross profit margin (GPM), net profit margin (NPM), return on assets (ROA), and return on equity (ROE) were dependent variables. By analyzing the data, it was found that marketing expenditure had a negative relationship with GPM, NPM, ROA, and ROE and a positive relationship with sales, GP, PAT, and EPS. From the correlation table, it was found that marketing expenditure increased sales revenue, gross profit, profit after tax, and earnings per share for the companies.

Table 3

Regression of Sales Revenue on Marketing Expenditure

Model	Constant	ME	ME²	ME³	F-value	Adj. R²	SEE
Linear	1995	5.45(<0.001)	-	-	38(<0.001)	49.1	2371
Quadratic	138	12.24(0.001)	0.004(0.053)	-	21(<0.001)	53.1	2278
Cubic	-3408	32.40(0.001)	-0.032(0.013)	1.074E-5(0.028)	18.2(<0.001)	58.2	2149

Note. Figures in parentheses include p-values

Table 3 shows the relationship between sales and marketing expenditures (ME). The relationship was measured using linear, quadratic, and cubic regression models. All coefficients in the cubic model were statistically significant. The value of the adjusted R square of this model was the highest, and the value of the standard error of the estimate was the lowest. So, the best model was cubic. The relationship between sales and marketing expenditures is cubic or non-linear.

From this result, it was confirmed that there is a non-linear relationship between marketing expenditure and sales revenue for the sample companies. The increase in marketing expenditure, of course, increases sales, but only at a certain level; not at all levels or always. At a certain level, sales may also decline. The optimal level of marketing expenditure is that which maximizes sales. In the long term, when marketing expenditures are increased, sales should decrease over some interval. This result affirms the finding of Chowdhury (2017).

Table 4

Regression of Gross Profit on Marketing Expenditure

Model	Constant	ME	ME²	ME³	F-value	Adj.R²	SEE
Linear	1164	1.23(0.001)	-	-	12.54(0.001)	23.8	938
Quadratic	419	3.99(0.007)	-0.002(0.049)	-	8.89(<0.001)	29.9	899
Cubic	-1632	15.64(<0.001)	-0.018(<0.001)	6.209E-6(<0.001)	12.69(<0.001)	48.7	770

Note. Figures in parentheses include p-values.

Table 4 shows the relationship between gross profit (GP) and marketing expenditure (ME). All the coefficients of the linear model were significant. But the standard error was higher than in the cubic model. Likewise, the co-efficient (P-value) of the quadratic model was significant, but the standard error was higher than that of the cubic model. The above table shows that the relation between GP and ME was statistically significant in the cubic model, and the standard error was also low in this model compared to the linear and cubic models. The adjusted R square was also higher than other models, so the best model was the cubic model. The relationship between GP and ME is cubic or non-linear.

From this result, it was found that there is a non-linear relationship between gross profit and marketing expenditure for the sample companies. It indicates that there is a certain level of marketing expenditure that maximizes the gross profit of the companies. On the same hand, the increases in marketing expenditure increase gross profit up to a certain level; after that, the gross profit may also decline. It supports the diseconomies concept of economics.

Table 5

Regression of Profit after Tax on Marketing Expenditure

Model	Constant	ME	ME²	ME³	F-value	Adj.R²	SEE
Linear	528	0.16(0.364)	-	-	0.85(0.364)	-0.4	463
Quadratic	185	1.42(0.047)	-0.001(0.068)	-	2.23(0.123)	6.2	447
Cubic	-864	7.34(<0.001)	-0.009(<0.001)	3.176E-6(<0.001)	7.06(<0.001)	32.9	378

Note. Figures in parentheses include p-values.

Table 5 shows the relationship between profit after tax (PAT) and marketing expenditure (ME). All the coefficients of the linear model are not significant. Likewise, all the coefficients of quadratics are also not significant. But all coefficients in the cubic model were statistically significant. In the cubic model, the standard error was also low compared to other models, and the adjusted R square was also higher, so the best model was cubic. The relationship between PAT and ME was cubic or non-linear.

The result shows that the increase in marketing expenditure also increases profit after tax, but after a certain level, it may also decline. However, in the long term, when marketing expenditure is increased, profit after tax will decrease over some interval of time period.

Table 6

Regression of Earning Per Share on Marketing Expenditure

Model	Constant	ME	ME²	ME³	F-value	Adj.R²	SEE
Linear	377	-0.05(0.735)	-	-	0.12(0.735)	-2.4	420
Quadratic	386	-0.09(0.895)	2.011E-5(0.959)	-	0.06(0.944)	-5.4	426
Cubic	16	2.02(0.282)	-0.003(0.240)	1.121E-6(0.231)	0.53(0.662)	-3.9	423

Note. Figures in parentheses include p-values.

In Table 6, the relationship between earnings per share (EPS) and marketing expenditures (ME) is shown. All the coefficients of the models were insignificant. This result shows that there was no relationship between earnings per share (EPS) and marketing expenditure (ME) of the sample companies.

Table 7

Regression of Gross Profit Margin on Marketing Expenditure

Model	Constant	ME	ME²	ME³	F-value	Adj.R²	SEE
Linear	45	-0.01(0.002)	-	-	10.63(0.002)	20.6	9
Quadratic	43	-0.01(0.695)	-3.311E-6(0.682)	-	5.26(0.010)	18.8	9
Cubic	26	0.09(0.009)	0.000(0.003)	5.280E-8(0.004)	7.66(<0.001)	35.1	8

Note. Figures in parentheses include p-values.

In Table 7, the relationship between gross profit margin (GPM) and marketing expenditure (ME) is shown. The co-efficient of the linear model was significant, but the adjusted R square was low compared to the cubic model. Likewise, the coefficient of the quadratic model was insignificant. But all coefficients in the cubic model were statistically significant. Similarly, the adjusted R square of the cubic model was also higher than the linear and quadratic models. So, the best model was the cubic. The relationship between GPM and ME was cubic or non-linear.

From this result, it is confirmed that there was a non-linear relationship between the gross profit margin and marketing expenditure of the sample companies. It indicates that there is a definite level of marketing expenditure that maximizes the gross profit margin of the companies. The increases in marketing expenditure increase gross profit margin up to a certain level; after that, gross profit margin may also decline. It supports the diseconomies concept of economics.

Table 8

Regression of Net Profit Margin on Marketing Expenditure

Model	Constant	ME	ME²	ME³	F-value	Adj.R²	SEE
Linear	14	-0.01(0.101)	-	-	2.84(0.101)	4.7	7
Quadratic	10	0.01(0.363)	-9.180E-6(0.175)	-	2.42(0.104)	7.1	7
Cubic	-6	0.10(<0.001)	0.000(<0.001)	5.002E-8(0.001)	6.89(<0.001)	32.3	6

Note. Figures in parentheses include p-values.

Table 8 shows the relationship between net profit margin (NPM) and marketing expenditure (ME). The coefficient of the linear model was insignificant. Likewise, the coefficient of the quadratic model was also insignificant. But all the coefficients of the cubic model were statistically significant. In the same vein, the adjusted R square was also higher than the linear and quadratic models, so the best model was cubic. The relationship between NPM and ME was cubic or non-linear.

It indicates that there is a certain level of marketing expenditure that maximizes the net profit margin of the companies. The increases in marketing expenditure increase the net profit margin because marketing expenditure enhances the product image and attracts potential customers. So, it increases the net profit margin of the companies. But up to a certain level, it leads to an increase in net profit margin; after a certain level, it would decline. It supports the diseconomies concept of economics. This result contradicts with the finding of Haryanto and Retnaningrum (2020).

Table 9

Regression of Return on Assets on Marketing Expenditure

Model	Constant	ME	ME²	ME³	F-value	Adj.R²	SEE
Linear	25	-0.01(0.005)	-	-	9.04(0.005)	17.9	12
Quadratic	25	-0.02(0.367)	2.017E-6(0.853)	-	4.42(0.019)	15.6	12
Cubic	11	0.07(0.187)	0.000(0.091)	4.424E-8(0.082)	4.21(0.012)	20.6	11

Note. Figures in parentheses include p-values.

Table 9 shows the relationship between return on assets (ROA) and marketing expenditure (ME). The coefficient of the linear model was significant. But the coefficient of the

quadratic model was insignificant. Likewise, all the coefficients of the cubic model were also statistically insignificant. So, the best model was linear because the coefficient of linear model was significant.

The relationship between ROA and ME was linear.

The above results show that the co-efficients of the quadratic and cubic models were statistically insignificant. It indicates that if marketing expenditure is increased, return on assets is decreased, or vice versa. This result is in contrast with the conclusion of Konak (2015).

Table 10

Regression of Return on Equity on Marketing Expenditure

Model	Constant	ME	ME²	ME³	F-value	Adj.R²	SEE
Linear	38	-0.02(0.042)	-	-	4.46(0.042)	8.5	19
Quadratic	37	-0.01(0.677)	-1.752E-6(0.923)	-	2.17(0.129)	6	20
Cubic	11	0.134(0.112)	0.000(0.066)	7.810E-8(0.065)	2.77(0.057)	13	19

Note. Figures in parentheses include p-values.

In Table 10, the relationship between return on equity (ROE) and marketing expenditure (ME) is shown. The coefficient of the linear model was significant. On the other hand, the coefficients of quadratic and cubic models were statistically insignificant. So, the best model was linear, and the relationship between ROE and ME was linear.

The above results show that the co-efficients of the quadratic and cubic models were statistically insignificant. It shows that increasing marketing expenses result in a fall in return on equity or inversely.

All the above tables 3 to 10, show the regression relationship of dependent variables (Sales, Gross Profit (GP), Profit after Tax (PAT), Earnings per Share (EPS), Gross Profit Margin (GPM), Net Profit Margin (NPM), Return on Assets (ROA), and Return on Equity (ROE)) with independent variables (Marketing Expenditure). As a result, increase in marketing expenditure also increases sales and profitability, but only at a certain level.

After a certain level, sales and profitability may also decline. The optimal level of marketing expenditure maximizes sales and profitability. In the long term, when marketing expenditures are increased, sales and profitability should decrease over some interval. Companies face the danger of inducing a price orientation in the market if they employ promotions excessively. A balanced marketing budget is crucial to the company's prosperity. With this view, the marketing manager should provide an accurate annual marketing budget that maximizes sales and profitability for the firm. The data shows that promotional activities continue to account for a significant share of every industry, whether it be in manufacturing or commerce. Companies' biggest challenge is figuring out how to change the expenditure on marketing in accordance with the business cycle (Peers, Heerde, & Dekimped, 2017). Therefore, to estimate a company's sales prediction, a marketing manager should compute expected sales for the company, in the same vein, he

computes the impact of variables. Similarly, he also predicts the market share generated by marketing costs to be suffered. Likewise, a marketing manager should calculate the necessary sales volume at a specific price point and marketing spend level to fulfill desired goals.

Conclusion

This study has examined the impact of marketing expenditure on sales and profitability of six manufacturing companies in Nepal that were listed on NEPSE. In order to achieve this objective, descriptive statistics, correlation analysis, and simple linear and non-linear regression were applied for the analysis of the data. According to the results, the study concludes that there is a non-linear relationship between marketing expenditure on sales and profitability. It indicates that there is a certain level of marketing expenditure that maximizes sales and profits. Sales and profitability may start to drop after a certain level. This study has used the conventional least square method of regression analysis; however, results could have been improved by employing alternative regression techniques, such as the panel dynamic model, random effects approach, and generalized ways of movement. The study also has used multiple independent variable to measure exact and accurate impact of marketing expenditure on companies' performance. But it ought to be noted that potential data or market changes could weaken or strengthen the validity of the conclusions drawn from the analysis used in the current study. Additionally, due to time restrictions and data unavailability, not all of manufacturing companies could be included in the study. Due to restrictions on the availability of data, the study could not be expanded to include additional countries. Further research could be done based on the limitations of this study in an effort to overcome those limitations. Researchers may try to extend this study by comparing and contrasting the impact of marketing expenditure on sales and profitability of manufacturing companies across diverse companies in Nepal. Along the same lines, researchers can evaluate and compare its influence across various countries.

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