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Measuring the Relationship among the Advertisement Expenditure, Sales Revenue and Profit on Steel Industries and Banking Industries in Bangladesh

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Abstract
This research paper is aims to identify the relationship among advertisement expenditure, sales revenue and profit. We are select four steel companies and five banking companies .We found that there are positive, liner & cyclical relationship among the variables such represent the increasing advertising expenditure leads to increasing sales and profit and vice versa. It is also noted that increased net profit leads to next year more advertising expenditure which generate more revenue and net profit of next year.

Introduction: Marketing promotion strategy integrates the organization's communication initiatives, combining advertising, personal selling, sales promotion, interactive/internal marketing, direct marketing, and public relation to communicate with buyers and others who influence purchasing decision. (David W. Cravens, 2009) So sales of new product is depends on aggressive promotion strategy of the company and existing product sales not only depends on promotion but also ex experience & brand image. Promotion plays an essential role in achieving impressive growth and financial performance for Louis Vutton, the largest and most profitable luxury brand in the world. (The Vutton Machine, 2004) Advertisement is most significant, extensively used, non personal communication and expensive marketing promotion tool. We enjoy various advantages of using advertising to communicate with buyers are the low cost per exposure, the variety of media (newspaper, magazine, television, radio, internet, direct mail and outdoor advertising), control of exposure, consistent message content (can be adjustable on objective) and opportunity for creative business design. (David W. Cravens, 2009) We observed that most of the companies of our country are showing the advertisement expenditure in their financial statement and only few companies are disclose business promotion expenditure which are not countable due to insufficient data for testing hypothesis and none of the data are not available on others tools. So we evaluate how advertising expenditure are influence to sales revenue and net profit after tax of the company.

Literature Review

Relationship between Advertising Expenditure and Sales Revenue:

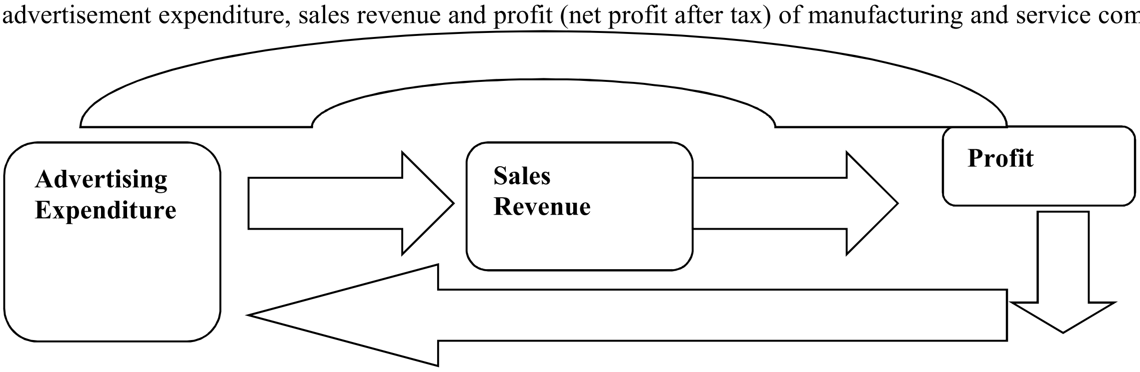
Advertising is any paid form of non personal presentation and promotion of ideas and goods or services by an identified sponsor. (D.Bennett, 1995) Through advertising is used to establish a basic awareness of the product or service in the mind of the potential customer and to build up knowledge about it. (D.P.Morden, 1991) Additionally, Advertising does not inform the public that a product exists but promotes its benefits, it also persuades, induces people to like, prefer and buy a product to others (Young C.E., 2005)

Sales revenue is the total amount of money that the firm gets from the sale of all its goods and services in a given period of time. This is usually six months or a year if a firm produced only one product or service, the sales revenue will be the price of the product multiplied by the number of products sold. In the case of more than one product or service the revenue from each needs to be added together (wood, 1996).

Advertising have a positive relationship with demand of product or service. (Verdon, 1968). It is also positive relationship with sales by co-integration method. (Leong, 1996). In the same way, Variables of advertising and sales are not only integrated of same order but these are co- integrated with each other. It is also found that the causal relationship between advertising expenditure and sales effects in both directions. (Lee, 1996). Additionally, advertising expenses caused sales but sales do not simultaneous cause advertising expenditure from Granger causality test. (Leach, 1996). On other factors are remain control (company size, sales growth etc) a measurable relationship between advertising expenditure and sales. (Kamber, 2002). So, advertisement has influenced on sales, through its relative effectiveness was not the same for all the categories of firms (small, medium and large scale firm). (Sundarsan, 2007) As a result it is also found that a large scale firm can better use their marketing promotion expenses due to their benefit of economies of scale and effectiveness of advertisement is varying on manufacturing and non –manufacturing sector. Consequently, it is the complex relationship between advertising expenditure and sales revenue. Advertising expenditure is crucial factor, not only one factor which determining sales revenue through increasing popularity of product or service. (Sharma, July,2009) So, maximum number of research were conducted on determined to measure the sales effect of advertising expenditure instead of settling on communication effect measure (John and Judy, 1996)

Relationship among Advertising Expenditure, Sales and Profit"
Increase in advertisement will increase the sales performance and when sales are increased then profits are also increased. (Dr. Ahsan Jia, jan 2015) Firm value, sales, profit, advertisement expenditure can all have feedback effects on one another. Only effective advertising can be generated sales profitably but all advertisements are not effective. Moreover, Effective advertisement can be reduced profit in short run because advertising budget is a direct expenditure against current revenue. There is an investor responses effects on advertising over and above its expected effect through revenue and profit sales increase. (Amit Joshi, 2009) Additionally, advertising has an effect on the rising sales of brand product categories and therefore increases the profit of the product. (Galbraith, 1976) There are two school of thought, as advertising increases profits and reduces consumer wellbeing by creating false product differentiation and barriers to entry and other focuses on the informative character of advertising, which makes markets more competitive and reduces profits by informing the customers about prices and quality . (Greunes, 2000)

Research Framework
From the literature review this paper will propose following model for measuring relationship among the advertisement expenditure, sales revenue and profit (net profit after tax) of manufacturing and service companies.



Generally, On other things as product quality, distribution strategy, customer satisfaction, competitors marketing mix, country's economical and political conditions etc are remain unaffected, increasing advertising expenditure leads to increasing sales revenue which ultimately increased profit. Current year increased profits leads to more advertising budget for the next year and vice versa. So it is cyclical relationship among advertising expenditure, sales revenue and profit as well as profit, advertising expenditure and sales. That's why, in this paper, advertising expenditure as independent variable to measure the effect of sales & profit.

We draw following Hypotheses for proving the relationship among advertising expenditure, sales revenue and profit.
Ho1: There is positive association between advertising expenditure and sales revenue.
Ha1: There is no positive association between advertisement Expenditure and sales revenue.
Ho2: There is positive association between advertising Expenditure and profit.
Ha2: There is no positive association between Advertising Expenditure and profit.

Research Methodology: This research paper is secondary data based and follows the causal research procedure. We examine the relationship among advertising expenditure, sales revenue and net profit after tax on product manufacturing and service firm in Bangladesh. We considered some selected companies under steel industry and banking industry which are listed in our stock exchange. We have been taken yearly profits, sales revenue and advertisement expenditure of 4 Steel Companies and 5 banking Companies. The name of the steel companies and banking companies are as follows:

Name of Steel Company	Financial Year
BSRM	2009-2015
SALAM	2011-2015
GPH	2011-2015
RSRM	2013-2015
Name of Banking Company	Financial Year
Prime Bank Limited	2005-2014
Shajalal Islami Bank	2005-2014
One Bank Limited	2004-2014
EXIM Bank Limited	2005-2014
IFIC Bank Limited	2008-2014

We collected the secondary data from annual report of respective companies. After that, the researcher put into data to (SPSS) Statistical package for social and management science software and analyzing the data by used simple liner regression model and correlation technique for testing the Hypotheses.

Test of Research Hypotheses:
There are two Hypotheses formulated in the earlier of this study will now be tested and the results fully discussed below. This research paper makes two regression equations on the bases of above Hypotheses.
The relationship between the two variables could be described as straight line equation.
Simple Liner Regression model for Y on X is given by :
$Y_i=\beta_0+\beta_1X_i+\varepsilon_i$ (i=1,…..,70) ---------------------- equation –(i)
Where, Y= Dependent Variable (Sales Revenue),
X= Independent variable (Advertisement Expenditure),
$\beta_{0=}$ Intercept ,
$\beta_{1=}$ Slope and
ε = Random Error.
$Y_i=\beta_0+\beta_1X_i+\varepsilon_i$ (i=1,…..,70) ---------------------- equation –(ii)
Where, Y= Dependent Variable (Net profit after tax),
X= Independent variable (Advertisement Expenditure).

Regression Analysis: Regression model is used, with a value of 0.05 (level of significance) that corresponds to a 95% confidence level. All tables presented in below which regarding SPSS output:

Model Summary **ANOVA(b)**

Model 1	Sum of Square	df	Mean Square	F	Significance
Regression	1311740371334942000000		1311740371334942000000.	19.164	.000(a)

a Predictors: (Constant), Advertising Expenditure
b Dependent Variable: Sales Revenue

Coefficients (a)

Model 1	Un standardized Coefficients		Standardized Coefficients	t	Significance.
	B	Std. Error	Beta		
Constant	6011749248.640	1279082149.172		4.700	.000
Advertising Expenditure	42.412	9.688	.469	4.378	.000

a Dependent Variable: Sales Revenue

Model Summary **ANOVA(b)**

Model 2	Sum of Square	df	Mean Square	F	Significance
Regression	30832451320283050000.	1	30832451320283050000	97.466	.000(a)

a Predictors: (Constant), Advertising Expenditure
b Dependent Variable: Net Profit after tax

Coefficients (a)

Model 2	Un standardized Coefficients		Standardized Coefficients	t	Significance.
	B	Std. Error	Beta		
Constant	550772729.274	86954767.997		6.334	.000
Advertising Expenditure	6.502	.659	.767	9.872	.000

a Dependent Variable: Net Profit after tax

Discussion
The results of the Regression show that at the 5% level of significance, only the coefficients of the intercept and Advertising Expenditure are statistically significant. Additionally, the analysis of the T-Statistics (T-TEST) is the coefficient divided by its standard error which is estimated of standard deviation of the coefficient. The model is statistically significant given the Calculated F-value is 19.164 and 97.466 respectively which is greater than Table F-value 2.82 & level of significance P- value 000% is less than P value 0.05%. So, our proposed model is statistically fit and significant.

We found that from the regression analysis, calculated t-value is 4.378 and 9.872 respectively which is greater than table t value 2.00 & level of significance P value is 0.000% which is less than P value 0.05%. So our null hypotheses are accepted. So, this research is shows that advertising expenditure and sales revenue are positively associated. Moreover, advertising expenditure and net profit after tax are also positively associated. As a result, we use greater marketing communication tools as advertisement to increase our yearly sales revenue and net profit after tax. Marketer can use more advertising to communicate, pursue and remained the customer about their product, brand and company.

Correlations Analysis:

Pearson Correlation	Advertising Expenditure	Sales Revenue	Net Profit After Tax
Advertising Expenditure	1	.469	.767
Sales Revenue	.469	1	.449
Net Profit After Tax	.767	.449	1

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

Discussion

The correlation coefficient r measures the strength and direction of a linear relationship between two variables. The value of r is always between +1 and –1. A statistically significant correlation indicated by the probability value of less than 0.05. It represents that the probability of obtaining such a correlation coefficient by chance is less than 5 times out of 100. We found from the correlations that advertising expenditure and net profit after tax are highly correlated (r=0.767 at P0.000%) , it means that more advertising expenditure directs to more net profit after tax not only one increase the expenditure. Advertising expenditure and sales revenue are also standard positively correlated (r= 0.469 at P0.000%), it indicates that more advertising can influence the customer for more buying on advertise brand. Moreover, Sales revenue and net profit are also standard positively (r=0.449 at P0.000%) correlated, it is also represents increasing sales revenue generate the more net profit.

Conclusions

This paper revels that there are positive, significant, liner relationship among advertising expenditure, sales revenue and net profit after tax. It has to examine the individual relationship between advertising expenditure verses sales revenue and advertising expenditure verses net profit after tax by regression analysis**.** So we found the positive & liner association among the variables. It has to also examine types & level of relationship among the variables by the Pearson Correlation test. That's why we also found that there are positive relationships among each and every variable. Finally, the research paper revels that advertisement expenditure, sales revenue and net profit after tax, all are positively correlated with each other. As a result, the relationship is direct, liner and cyclical as well as the model has feedback effect with one another as increasing advertising expenditure leads to increasing sales revenue and net profit after tax.

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Descriptive Statistics

		Advertising Expenditure	Sales Revenue	Net Profit after tax
N	Valid	70	70	70
Mean		83.7405	95633.3720	1095.2787
Median		53.9830	5445.2996	882.4247
Std. Deviation		102.8046	9298798382.23175	870978923.10390
Variance		10568789921601980.00000	86467651353395800000.00000	758604284491229000.00000
Skewness		3.430	1.726	.979
Std. Error of Skewness		.287	.287	.287
Kurtosis		17.300	2.450	.425
Std. Error of Kurtosis		.566	.566	.566
Minimum		193380.00	855158645.00	95433353.00
Maximum		693388322.00	38571105303.00	3662183069.00

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