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An Integration of share earnings into Strategic Philanthropy

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Abstract
The purpose of this study examines the critical changes of strategic philanthropy prevailing in the US industry in the post-recession period between 2008-2011 specific to the selected information technology firms with regards to the notion that share earnings does not have any relationship with strategic philanthropy. The study measured the impact of strategic philanthropy behavior on profitability measures: Earnings per share (EPS) and price earnings ratio (P/E). This study also aims to measure Net income as a model of strategic philanthropy in the selected firms.
The research uses 471 subsidiaries companies that were operating in the four years under study to obtain the secondary data. IBM SPSS version 21 is used to analyze the data obtained from the secondary source through Simple and Multiple Regression Analysis and ANOVA tests to determine the relationship among these variables on strategic philanthropy as discretionary management tool.
. The research reveal that strategic philanthropy does not have negative impact on the measurement of EPS and PE as the main dependable variables used in the analysis. Based on the research findings, managerial implications and directions for future research are discussed.

Keywords: Earnings per share (EPS Price earnings ratio (P/E) strategic philanthropy integration

1. Introduction

1.1 *Research Backgrounds and Motives*

Strategic philanthropy as a new wave has not become so common in contemporary business world. Barnes (2005) mentioned that this new wave of corporate philanthropy has its own ideological foundations that date to 2002. The study of the subject then took a full swing until the recession where the expectation for its trend dwindled. Figuratively and on the highest level, it is like a nuclear family without a fund to support the family in an ongoing process in the acquisition of their basic need such as food, shelter and clothing and the potential danger it can caused.

1.2 *Statement of the problem*

A problem might be defined as the issue that exists in the literature, theory, or practice that leads to a need for the study (Creswell, 1994). Stout researchers and intellectually gifted scholars have examined and brought fresh perspectives into the adaptation of philanthropy as corporate tool to strengthen their tentacles to the society within which they operate. However, Academic researchers have stated last few years have been very rough on U.S corporations and their charitable giving programs has decline since 2005.Then came the onset of recession in 2008 a year during which corporate profits shrank and stock prices plunged expecting philanthropic action to either reduce drastically or not even adopted at all by the corporations.
Therefore, there remains a gap in the research to assess the situation of philanthropy aftermath of recession to study whether the same trend continues with the great awakening of the financial loss of the corporations.

1.3 *Purpose of the study*

There is a school of thought that believes that strategic philanthropy model negatively impacts the corporate performance in terms of share earnings especially in the recession. The purpose of this study examines the critical changes of strategic philanthropy in the selected corporations in the information technology industry in the United States after post recession between 2008-2011 as far as this school of thought is concerned. Researchers measure this impact using: EPS and PE as dependent variables and net Income as independent variab.

1.4 Research Questions and Hypothesis

The research hypothesis is therefore framed as:

H: Adaptation of strategic philanthropy negatively impacts performance of the firm in share earnings in the recession.

1.5 *Organization of the study and Research procedures*

this study is organized into five chapters. Chapter I is introduction. Chapter II provides review of relevant literatures, Chapter III provides an explanation of the methodology and the data collection procedure utilized for this study. Chapter IV, outline the results of the data collection and analysis. Chapter V, the final chapter, presents a summary of all the findings, the discussions of these findings, the authors' objective conclusions and rational recommendations for future research purposes.

1.6 *Significance of the study*

This study measures performance by the use of internal and external financial metrics which is not synonymous with other studies.

It also aims to contribute to academic literature and bridge the knowledge gap on strategic philanthropy which can be very resourceful to future studies in terms of organization and the level of academic citation for future research purposes**.**

1.7 *Limitations and Delimitations*

This study examines the relationship between strategic philanthropy and firm's performance in the recession period in the United States of America. For the purpose of generalization of the study, the profit seeking firms in high – tech industries in the U.S are selected. The study uses only secondary data for analysis in this case.

2. Literature Review

2.1. *The theoretical framework and empirical studies*

Theoretical framework and conceptualization on strategic philanthropy

Strategic philanthropy are potentially more closely related to CSR(corporate social responsibility) Strategies than many other indicators because they are not closely related to operational aspects of a company's management, and are often planned and implemented at very senior levels within donor companies.

In concept, strategic philanthropy was not initially mentioned in corporate financial performance. It is very evident that strategic philanthropy is sometimes difficult to measure because it's not usually assumed to be financial. That makes this piece of academic research a very vital and significant and expected to add a very unique contribution to academic literature. However, in order to use a common unit of measurement procedure, how much must be donated to improve profitability and to what extent and to which organisation. It is very obvious that the measurement procedure must be objective and quantifiable in financial terms. Besides, does the recipient of the philanthropy has to be profit making or non-profit enterprise and on what was the selection criteria for the organization. Since the recipient is not obligated to a compulsory repayment, the selection method has been severely criticized as biased made to serve the selfish and colloquial interest of the top level management. Hasenfeld and Gidron (2005) [5]. Found out that a first step in formulating a more comprehensive theoretical framework to study multipurpose hybrid organizations is to recognize that they deliberately incorporate a mix of organization; features from volunteer-run associations, social movements and non-profits service organizations.

Riecken and Yavas (2005) [6]. Has been one prominent advocate of this view of strategic philanthropy. They said that it is very obvious that why Americans money do not go unprotected by the various legislative instrument. The legal framework has seek to the enactment of certain laws to spike the enthusiasm of donors for a just course. Cetain mandatory audit by independent auditors are necessary to boost public confidence. The recent atrocity and unscrupulous act of some profit seeking firms led to the enactment of sarbenes-Oxley act (2002) which also tries to streamline the activities of non-profit organizations. The legal framework has not only restricted the approach of corporate doing but has also created a room for benefit and more clear and unselfish way to recoup corporate philanthropy. Hillman and Keim, (2001) [7]. Similarly, asserted that an international corporate giving program may provide some value to shareholders in the form of tax deductions. Gardberg and Fombrun (2006) [8]. Also mentioned that, in the United States firms can deduct philanthropic contributions, up to 5 percent of profits. During the 1980s, the Japanese Ministry of Trade and Industry offered Japanese firms tax incentives for charitable donations overseas. In 2000, the U.K government altered its tax laws to encourage greater U.S style corporate and individual philanthropy. These have made it somewhat simple for corporations to careless about the specificity of the sector for their strategic philanthropy irrespective of the geographical distance and location. Ghemawat (2001) studied that the amount of trade that takes place between countries 5000 miles apart is only 20% of the amount that would be predicted to take place if the same countries were 1,000 miles apart. Furthermore, Walsh, Weber and Margolis (2003) [11].

Mentioned that more than other university departments, business schools have come to rely on business philanthropists and corporations for support. The AACSB (advance collegiate schools of Business) provides a list of more than 1.6 billion dollars' worth of donations to business schools in the united States since 1984 (with exception of the university of Toronto, all of the universities are in the united States.)

Contrarily, Edward and Shleifer (2001) [12]. brought a fresh perspective of charitable contribution in the form of time and examined that perhaps the greatest contributions to the non-profits come from the millions of volunteers, who donate non-deductible time rather than the possibly deductible money, and who account for nearly forty percent of the non-profits' labor input. The tax story thus does not appear to be at the heart of the matter. In applying strategic philanthropy to nonprofit firms, Pauly (1987) carefully distinguished non-profit firms and classified this thought that there are three major differences in the institutional constraints facing a not-for-profit firm, as compared to the neoclassical for-profit firm. First, not-for-profit firms must look to donations for initial equity capital; they do not have the power to obtain capital in return for the promise of a share of the residual income of the firm. Second, not-for-profit firms are not permitted to pay out as cash dividends any revenues in excess of production costs and cost of debt; residual returns are not alienable. Legal rules even inhibit the ability of managers of the firm to add profits to their salaries ex post. Third, not-for-profit firms cannot be sold or liquidated for proceeds to be paid to a set of individual owners. Vermeer, Raghunandan and forgione (2009) re-iterated that these acts have led to the enactment of Nonprofit Integrity Act (NIA 2004) of California which require that with effect from January 2005,non-profit organizations with gross revenues of $2 million or more prepare financial statements that are in accordance with GAAP and also audited by an independent public accountant. In addition, the Nonprofit

Itegrity Act (NIA 2004) requires organization to establish independent audit committee which will be responsible for hiring and compensating the independent auditor. Bois, etal (2009) contrasted the objectives where in profit seeking, shareholders all share the objective of profit maximization, the different stakeholders in the Not for profit organization do not have such an overarching objective. According to Das (2009) [15]. Most of the philanthropic acts flow from profit to another profit or educational institution with the neglects of the non-profit sector. Private non -profits accounted for approximately sixty percent of hospital facilities and seventy percent of hospital beds in the United States in the year 2000. Seaman (2004) expanded this thought and examined that the dearth of competitive analysis in the non-profit arts is, in fact, rarely even noticed. Many of the organizations in the non-profit sector receive little or no philanthropic from the counterparts on the profit and they experiencing growing frustrations about funds management to run their operations. Foster and Bradach (2005) examined that eager to reduce their dependence on fund-raising, more and more nonprofits are launching earned-income ventures-with disappointing results. Letts, Ryan and Grossman (1997), in 1995 alone, foundations invested more than $10 billion in programs dealing with for example, poverty, homelessness, the environment, education and the arts. Even as these large sums of money are put to work, however, many people in the non-profit field are reporting a growing frustration that their programs' goals, although valuable and praise worthy, are not being achieved. Many social programs begin with high hopes and great promise, only to end up with limited impact and uncertain prospects. According to Dess and Robinson, (1984). It is apparent organizational performance is complex and multidimensional phenomenon regardless of the framework chosen to conceptualize it.

3. Research Methodology

3.1 *Research Design and Approach*

First, a quantitative approach to the subject using statistical tool IBM SPSS version 21 to confirm and validate the findings from the data collected from secondary source clearly and unambiguously**.**

3.2 *Sampling*

the key reason for being concerned with sampling is that of validity—the extent to which the interpretations of the results of the study follow from the study itself and the extent to which results may be generalized to other situations with other people (Shavelson, 1988). To accomplish the tasks associated with data collection, primary and secondary sources data collection. Methods were used.

An initial selection of fortune 500 companies operating in the information technology industry in the United States were selected. Out of these, the financial data was pulled out from the individual company's website and Edgar /SEC database for the four year period (2008-2011) for 59 companies having 471 subsidiaries included in their consolidated statements of operations.

3.3 *Assumptions*

The main criteria that were used for the inclusion of a firm in a study are:

1. All firms included in the sample must be in operation for the four year between 2008-2011
2. All firms must be listed on US securities Exchange commission and their statements of operation available.
3. All firms must be operating in the US market.
4. All firms must be in Technology industry.

The research sample was subdivided into two: Group 1 consist of firms using the strategic philanthropy in achieving its' firm's objectives which were found to be 54 out of 59 firms and group 2 were those that did not adopt the strategy in achieving its firm's objectives which were found to be 5 out of 59 firms selected.

3.4 *Research Instrumentation*

To determine and measure successful impact of strategic philanthropy as a discretionary senior level management tool, a number of dependent and independent variables were selected and examined to determine their influence.. Strategic philanthropy (SPP) was the main and key variable measured in relation to dependent and independent variables. Dependant variables associated with this study are:, EPS, -Earning per share and P/E.-Price Earnings Ratio. Independent variables were associated with this research are gross Net Income (NI).

Some of the statistical tools that were utilized in the data analysis include but will not be limited to: Simple and Multiple Regression Analysis to evaluate the numeric data; Factor Analysis was used to analyze the relationship between the variables. Factor analysis was also used to examine the relationship between elements that make up a particular variable. Reliability tests, including mean, median, standard deviation, were performed on data that was collected to determine data reliability and usefulness.

3.5 *Data Collection Procedure*

Brammer, Pavelin and porter (2008) stated that firm-level strategic philanthropic activities is reported in the Annual Report of each company. So the financial data of each firm would primarily be the major source of information for the study. Financial data was obtained from US Securities and Exchange Commission (SEC)/Edgar Electronic database on corporate filling. Corporate filling information is reported on form 10K.Some companies had similar financial information posted in their website which also serves as alternative information source. For the dependence variables, performance was best measured by accounting measures of EPS and P/E. Also for the independence variables, strategic philanthropy measures is in relation to Net Income(NI) expressed as percentage of sales volume as reported on the audited financial statement of the selected firms.

3.6 *Validity*

"The validity of a measurement instrument is the extent to which the instrument measures what it is supposed to measure. To ensure internal validity, accounting measures are used to measure performance and the variables predicting performance. External validity was ensured by choosing firms in the fortune 500 companies in the information technology company for the study. This makes it easier for generalization of results.

4. Results of Study

4.1 *Data Analysis and Statistical Analysis Tool*

IBM SPSS version 21 was used to analyze the data collected to provide various information needed for the study. The rationale for using the IBM SPSS version 21 was for the sake of avoiding complex statistical analysis and provides easy to understand design methodology and analysis using the most current version of the software. Preliminary data analysis revealed the following descriptive statistics for the 59 firms selected in the sample in the information Technology industry in the adaptation of strategic philanthropy during the recession.

Table 1

Statistics		EPS	PE	SPP
N	Valid	59	59	59
	Missing	0	0	0
Mean		.50571	29.46093	12.69105
Median		.43000	.00700	3.25000

The first and initial analysis indicates a positive overall performance for the four year period of 2008-2011 in terms of external measures. All main performance indicators of, earnings per share recorded positive mean values of. 505. P/E ratio and strategic philanthropy were however high with a mean of 29.461 and 12.691

Table 2

Statistics		SPP	NI
N	Valid	59	59
	Missing	0	0
Mean		12.69105	.30897
Median		3.25000	.03000

The second initial data analysis of firms selected in the sample in the information Technology industry indicates a positive overall performance for the four year period of 2008-2011 in terms of internal measures. The independent variable as performance measures compared with strategic philanthropy recorded a positive variables for, Net income with positive mean values of. 308 respectively.

However, according to (Tabachnick, & Fidell) although normality of the variables is not always required for analysis; the solution is usually quite a bit better if variables have normal distribution. It follows that if variables are not the same, some of the variables will be too peak or skewed positively or negatively and this will affect the solution. A normal distribution for Table 1 and Table 2 will provide a better view in appearance. Tabachnick and Fidell (2007) examined that Normality of distribution can be improved by eliminating outliers found in the data using the Trim Mean, where 5 % of highest and least extreme values were eliminated from calculation of the means.

Table 3: Descriptive Statistics with Logarithmic Transformation of Variables (Z score) and Trim mean

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Zscore(EPS)	59	-5.35306	1.60719	.0000000	1.00000000	-2.548	.311	13.306	.613
Zscore(PE)	59	-3.59270	4.88704	.0000000	1.00000000	2.515	.311	16.237	.613
Zscore(SPP)	59	-.42820	6.17140	.0000000	1.00000000	4.688	.311	25.988	.613
Zscore(NI)	59	-.47956	7.52924	.0000000	1.00000000	7.612	.311	58.289	.613
Valid N (listwise)	59								

Table 4: Correlations among Variables (Z scores)

		EPS	PE	SPP	NI
EPS	Pearson Correlation	1	-.038	.168	-.113
	Sig. (2-tailed)		.773	.205	.392
	N	59	59	59	59
PE	Pearson Correlation	-.038	1	-.096	-.020
	Sig. (2-tailed)	.773		.467	.878
	N	59	59	59	59
SPP	Pearson Correlation	.168	-.096	1	.061
	Sig. (2-tailed)	.205	.467		.647
	N	59	59	59	59
NI	Pearson Correlation	-.113	-.020	.061	1
	Sig. (2-tailed)	.392	.878	.647	
	N	59	59	59	59

Hypothesis testing For the purpose of this research the hypothesis is stated simply as: H: Adaptation of strategic philanthropy negatively impacts performance of the firm in share earnings in the recession.

Table 5: H: Adaptation of strategic philanthropy negatively impacts performance of the firm in share earnings in the recession. (T-Test for EPS Group Mean)

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Zscore(EPS)	59	-5.35306	1.60719	.0000000	1.00000000
Valid N (list wise)	59				

The descriptive statistics in Table 5 is as a result of IBM SPSS version 21 calculation of the minimum value, maximum value, sample mean and standard deviation for the selected sample when looking for mean difference in Earning per Share (EPS) as a dependant variable in this analysis.

Table 6: Group Statistics

	SPP	N	Mean	Std. Deviation	Std. Error Mean
Zscore(EPS)	>= 0.2m	54	-.0286359	1.01643837	.13831974
	< 0.2m	5	.3092673	.82472705	.36882915

Group statistics is the result of IBM SPSS version 21 calculation of sample size, sample mean, standard deviation and standard error mean when testing for mean difference in EPS with Strategic philanthropy as the main variable. 59 firms constitute the sample of which 54 firms in some way used strategic philanthropy during recession forming group 1 (with a cut off amount equal or greater than $0.2million) and only 5 firms forming (group 0) did not adapt the strategic philanthropy as a new wave.

Table 7: *Independent Samples Test*

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Zscore (EPS)	Equal variances assumed	.003	.960	-.720	57	.475	-.33790313	.46941351	-1.27788747	.60208122
	Equal variances not assumed			-.858	5.197	.429	-.33790313	.39391280	-1.33907876	.66327251

The *t* test value in the Table 5 continued with equal variances assumed as -.720; this falls in the left hand rejection region for any commonly used α, and the p value is. 475

The p value of. 475 implies that, the difference between the two means is not statistically significantly different from zero at the 5% level of significance. There is an estimated change of -.337% (SE =. 469%). However, there is insufficient evidence (p =. 772) to suggest that Strategic philanthropy does impact firms performance negatively. One can conclude that the mean of the Strategic philanthropy group is lesser than the mean of the non-strategic philanthropic group. However, positive difference in mean between the two groups is statistically insignificant. Based on a confidence level of 95% and a confidence interval of [-1.277, 602] one can say that strategic philanthropy does not impact firm performance in the recession negatively. The hypothesis is then rejected Adaptation of strategic philanthropy negatively impacts performance of the firm in share earnings in the recession.

Table 8: Hypothesis Testing for H: Adaptation of strategic philanthropy has negative impact on performance of the firm in the recession (T-Test for PE Group Mean).

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Zscore(PE)	59	-3.59270	4.88704	.0000000	1.00000000
Valid N (listwise)	59				

The descriptive statistics in Table 8 is as a result of IBM SPSS version 21 calculation of the minimum value, maximum value, sample mean and standard deviation for the whole sample when looking for mean difference in price earning as an external dependant variable in this analysis

Table 9: Group Statistics

	SPP	N	Mean	Std. Deviation	Std. Error Mean
Zscore(PE)	>= 0.2m	54	-.0228651	1.03139445	.14035501
	< 0.2m	5	.2469429	.56718928	.25365476

Group statistics is the result of IBM SPSS version 21 calculation of sample size, sample mean, standard deviation and standard error mean when testing for mean difference in PE with Strategic philanthropy as the main variable. 59 firms constitute the sample of which 54 firms in some way used strategic philanthropy during recession forming group 1 (with a cut off amount equal or greater than $0.2million) and only 5 forming (group 0) did not adapt the strategic philanthropy as a new wave.

Table 10: *Independent Samples Test*

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Zscore (PE)	Equal variances assumed	.063	.803	-.574	57	.568	-.26980802	.47018618	-1.21133961	.67172357
	Equal variances not assumed			-.931	6.776	.384	-.26980802	.28989699	-.95991692	.42030087

The t test value in the Table 8 continued with equal variances assumed as -.574; this falls in the left hand rejection region for any commonly used α, and the p value is. 568

The p value of. 568 implies that, the difference between the two means is not statistically significantly different from zero at the 5% level of significance. There is an estimated change of -.269% (SE =. 470%). However, there is insufficient evidence (p =. 568) to suggest that Strategic philanthropy does impact firms performance negatively. One can conclude that the mean of the Strategic philanthropy group is lesser than the mean of the non-strategic philanthropic group. However, positive difference in mean between the two groups is statistically insignificant. Based on a confidence level of 95% and a confidence interval of [-1.211, 671] one can say that Strategic philanthropy does not have negative impact on firm's performance in the recession. Hypothesis is then rejected H: Adaptation of strategic philanthropy negatively impacts performance of the firm in share earnings in the recession is rejected

5. Conclusion and Recommendations

The key findings of this study reveals that in the information technology industry, there is no enough evidence to support the hypothesis that adaptation of strategic philanthropy negatively impact performance in the quantitative measure. The overall result shows some significant trend though statistically insignificant but practically significant but not to generalize for the industry.

Table 11: Summary Table for Results of Hypothesis Testing

Hypothesis	Statistical Technique	Result
Adaptation of strategic philanthropy negatively impacts performance of the firm in share earnings in the recession.	Multiple regression	rejected

This study will make significant contribution to literature because it uses combination of statistical tools for quantitative approach.

5.1 *Recommendation for further study*

this study has contributed immensely to literature by examining the essence of strategic philanthropy in the information Technology industry for the sample selected. Further research in un-explored areas will be beneficial to literature. Studies on improvement on reporting metrics and tracking and focus on accountability and strategy, measurement and the creation of a new philanthropy strategy for the companies in the strategic focus areas are key areas that will be beneficial to literature and to prospective investors in the future.

Secondly, future research should focus not only on firms that utilize the strategic philanthropy, but also on firms that have

particularly not sterilize the new wave with dynamic leadership. This is because many firms in Europe and Asia are now adopting a hybrid model of a strategic philanthropy, whose measurement from the global reporting perspective are not straight forward.

6. References

1. Eccles RG. The performance Measurement Manifesto. *Harvard Business Review* 1991; 69(1):131-137.
2. Wiersma W. Research methods in education: An introduction (Sixth edition). *Boston: Allyn and Bacon*, 1995, 404.
3. Varadarajan PR. From the Editor: Reflections on Research and publishing. Journal of marketing. 1996; 60(4):3-6.
4. Locke LF, Spirduso WW, Silverman SJ. Proposals that work: A guide for planning dissertations and grant proposals (2nd Ed.). *Newbury Park, CA: Sage*, 1987, 5.
5. Hasenfeld Y, Gidron B. Understanding Multi-purpose Hybrid Voluntary Organizasations: The contributions of Theories on Civil Society, Social Movements and Non-profits organizations. Journal of Civil Society. 2005; 1(2):97-112.
6. Riecken G, Yavas U. The attitudes of Donors and Non-Donors to the March of Dimes Charity in the United States: A Case study in Non-profit Marketing. International Journal of Management. 2005; 22(4):572-581.
7. Hillman AJ, Keim GD. Shareholder Value, Stakeholder Management, And Social Issues: What's the Bottom line? Strategic management Journal. 2001; 22(2):125-139.
8. GardBerg NA. Fombrun CJ. Corporate Citizenship: creating Intangible Assets Across Institutional Environments. *Academy of management Review* 2006; 31(2):329-346.
9. Kaplan RS, Norton DP..Using the balanced scorecard as a strategic management system. *Harvard Business Review*, 1996; 75-85.
10. Arthur, W, B. (1996).Increasing Returns and the Two Worlds of Business.*Harvard Business Review,* 74(4), 100-109.
11. Walsh JP, Weber K, Margolis JD. Social Issues and Management: Our Lost Cause Found. Journal of Management. 2003; 29(6):859-881.
12. Glaeser EL, Shleifer A. Not-for-profit Entrepreneurs. *Journal of Public Economics,* 2001; 81:99-115.
13. Smus TR. Philanthropy as a strategy of value based management. *Economic and Environmental studies* 2011; 11(2):189-205.
14. Berman G, Brooks R, Murphy J. Funding the Non-profit Welfare Sector: Explaining changing funding sources 1*960-1999. Economic papers* 2006; 25(1):83-99.
15. Das D. Factor Analysis of Financial and Operational Performance Measures of Non-profit Hospitals. Journal of health care finance. 2009; 36(2):13-23.