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The Linkages between Corporate Social Performance and Research and Development: Evidence from Fortune Firms

Dhamotharan Dhanasekar

*Ph.D Research Scholar in Management, Department of Commerce and Financial Studies,
Bharathidasan University, Tiruchirappalli, Tamil Nadu*

Murugesan Selvam

*Dean, Faculty of Management, Professor and Head, Department of Commerce and Financial
Studies, Bharathidasan University, Tiruchirappalli, Tamil Nadu*

Palanisamy Bhuvaneshwari

*Guest Lecturer in Commerce, Department of Commerce, Government Arts and Science
College (Women), Orathanadu, Tanjore, Tamil Nadu*

Sankarkumar Amirdhavasani

*Ph.D Research Scholar in Commerce, Department of Commerce and Financial Studies,
Bharathidasan University, Tiruchirappalli, Tamil Nadu*

Abstract

The main objective of this paper was to investigate the relationship between Corporate Social Performance (CSP) and Research and Development (R&D) of Fortune top ranking companies of India. The study found the normality of Corporate Social Performance and Research and Development. In addition, this study found that there was significant relationship between CSP and R & D. This study would contribute to the literature on corporate social performance, especially on studies that explore the determinants of CSP ratings.

Keywords: Corporate Social Performance, Corporate Financial Performance, Research and Development

JEL Code: M14, O16, O3

1. INTRODUCTION

1.1 Corporate Social Performance (CSP)

The Corporate Social Performance is acceptable to all firms because the environmental issues are important matters of interest to several stakeholders such as customers, investors, non-governmental organizations and the Government (Freeman; 1984). According to Wood (1991), the Corporate Social Performance (CSP) is a multidimensional construct that explains how the firms meet their economic, ethical and legal responsibilities to different stakeholder groups, such as employees, customers, suppliers, the natural environment and local communities. Corporate Social Performance (CSP) is the measurable outcome of practising corporate social responsibility (CSR). CSP is defined as 'a construct that emphasises a company's responsibilities to multiple stakeholders such as employees, customers and the community at large and this is in addition to its traditional responsibilities to economic shareholders (Turban and Greening; 1997). According to Wartick and Cochran (1985), this multidimensional construct incorporates the interaction between the principles of social responsibility, the process of social responsiveness and the policies and programs designed by corporations to address different social issues. CSP occurs across a wide range of industries, with significantly different characteristics, histories and performance in different CSP domains (Waddock and Graves; 1997). Though a precise definition for CSP has not been well agreed upon in the literature, CSP is generally portrayed as a broad construct, comprising many social issues and management of stakeholders (Clarkson, 1995; Hillman & Keim, 2001; Swanson, 1995; Wood, 1991).

1.2 Process of Corporate Social Performance

The process of corporate social responsiveness is the second dimension of CSP, that represents characteristic boundary spanning behaviors of businesses. These processes, connecting the principles of social responsibility and behavioral outcomes, include (i) Environmental Assessment, which is about gathering and assessing information about the external environment; (ii) Stakeholder

Management, which focuses on managing the organization's relationships with relevant persons, groups, and organizations and (iii) Issues Management, concerned about tracking and developing responses to social issues that may affect the company (**Donna J. Wood; 2010**).

1.3 Research and Development

There are different methods of evaluating R & D performance and each method is a reflection of the complexity of R& D activities and the differences that exist among technologies and products. It is important that almost every aspect of organizations and their management is determined by the cost, quality and time bases of the new 'hypercompetitive' environment (**Cooper, 1995; D'Aveni, 1995**). The style of management is also determined by technological developments. Traditional accounting measures of organizational performance have already been outdated (**Johnson and Kaplan, 1987; Bruns, 1992; Otley, 1994**). The Research and Development should play several roles for the development of firms. Besides, Research and Development basically is to increase the levels of firms' performance, every year and on a regular basis.

1.4 Fortune Reputation Index

The Fortune Reputation Index is an annual list, compiled and published by Fortune magazine, that ranks 500 largest corporations of the United States on the basis of total revenue. The Fortune Reputation Index is more than sixty years old. This reputation index list includes publicly held companies, along with privately held companies for which revenues are publicly available. Every year, Fortune also publishes companion "Fortune 50" lists of the 50 largest commercial banks (ranked by assets), utilities (ranked by assets), life insurance companies (ranked by assets), retailers (ranked by gross revenues) and transportation companies (ranked by revenues). Fortune magazine changed its methodology in 1994 to include service companies. With the change came 291 new entrants to the famous list, including three in the Top 10 (www.fortuneindia.com). The FRI Composite Score (FRI) was used in this study, for measuring the Corporate Social Performance of sample companies, as suggested by **Dawn Patricia Miller, (2016)**.

2. REVIEW OF LITERATURE

An attempt has been made in this section, to review the earlier research works, undertaken in the area of Corporate Social Performance and Research and Development, to understand the relationship, methodology adopted by researchers and findings of earlier studies.

Bernadette M. et al., (2001) investigated the positive association between Corporate Social Performance and Corporate Financial Performance. This association was found by examining how change in CSP was related to the changes in financial accounting measures. **Gary Simpson Theodor Kohers (2002)** adopted the empirical analysis of sample companies from the banking industry. The study also supported the hypothesis that the link between social and financial performance was positive. **Douglas A. Schuler and Margaret Cording, (2006)** investigated the roles of control variables, moderating the relationship between Corporate Social Performance and Corporate Financial Performance. Separate measures for positive (strengths) social actions, and for negative (concerns) social actions, were suggested. This study supports positive relationship between CSP and CFP. **Clyde Eirikur Hull and Sandra Rothenberg (2008)** examined the positive relationship between Corporate Social Performance and Corporate Financial Performance, with the support of research and innovation. **Robert C. Padgett and Jose I. Galan (2010)** found that Research and Development intensity has impact on Corporate Social Responsibility. **Selvam et al., (2016)** developed the subjective model, with nine determinants/dimensions, including corporate governance performance and social performance. It found that these nine dimensions or determinants could not be used interchangeably since they represent different aspects of firm performance and different stakeholders of firms have different demands that need to be managed independently. **Dhanasekar et al., (2020a)** found that there was positive impact of Corporate Social Performance on Financial Performance and Research and Development of sample firms. **Dhanasekar et al., (2020b)** found that there was positive relationship between Corporate Social Performance and Corporate Financial Performance in private banks of India.

Many studies offered different perspectives of relationship between Corporate Social Performance and Firm Performance and Research and Development, and earlier studies also explained the

relationship between CSP and R&D. In this context, the present study of Corporate Social Performance and Research and Development, in respect of sample firms listed by Fortune Reputation Index would be significant.

3. RESEARCH METHODOLOGY

3.1 Statement of the Problem

Corporate Social Performance and Research and Development were identified as an appropriate subject of research study as it is an emerging issue. Now a days, all the major companies in India are spending considerable money, mainly to establish and uphold a proper rapport with their stakeholders, both inside and outside the company. Corporates have moved on from the traditional assumption that the business of business is to make profits and they now concentrate on Research and Development also. In the modern world, the business success depends not only on quality and price of products, convenience etc., but also on variables like ethical business practices, strong organizational culture, community engagement, the environmental concern etc. Hence, the need to find the relationship between Corporate Social Performance and Research and Development in Indian firms on a periodical basis.

3.2 Need of the Study

Corporate Social Performance is an important part of a company's operations, that seeks knowledge to develop, design and enhance the products, services, technologies or processes of firms. For creating new and innovative products, the role of research and development is essential but the relationship between CSP and Research and Development connects various parts of a company's strategy and business plan. This study fulfils the gap in terms of measurement of corporate social performance and its impact on research and development. This study would be useful to the executives of firms for planning their social activities to the society. This study also proposes to identify an appropriate variable (R&D), to measure corporate social performance of firms.

3.3 Objectives of the Study

The main objectives of the study were to analyse the normality and the linkages between Corporate Social Performance and Research and Development in Fortune Reputation Index Top 10 companies.

3.4 Hypotheses of the Study

The following Hypotheses were tested in the study

NH1 - There is no normality of Corporate Social Performance and Research and Development in Fortune Reputation Index Top 10 companies.

NH2 - There is no relationship between Corporate Social Performance and Research and Development in Fortune Reputation Index Top 10 companies.

3.5 Methodology of the Study

a) Sample Selection

The main purpose of this study was to find the relationship between Corporate Social Performance and Research and Development in the top companies listed at Fortune Reputation Index. There are 500 companies listed by Fortune Reputation Index. As stated earlier, these companies are ranked based on their revenues. For the purpose of this study, top 10 Indian companies from Fortune Reputation Index, were selected. Hence this study covered 10 sample companies as follows: 1) Indian Oil Corporation Ltd; 2) Reliance Industries Ltd; 3) Oil and Natural Gas Corporation Ltd; 4) State Bank of India Ltd; 5) Tata Motors Ltd; 6) Bharat Petroleum Corporation Ltd; 7) Hindustan Petroleum Corporation Ltd; 8) Rajesh exports Ltd; 9) Tata Steel Ltd, and 10) Coal India Ltd.

b) Sources of the Data

The study mainly depended on secondary data. The Corporate Social Performance was measured by using fortune reputation index (www.fortuneindia.com). Hence the data of CSP were collected from Fortune Reputation Index while the financial performance variables (namely ROA and Size) and research and development were collected from PROWESS Database and respective company annual reports. The other relevant data for this study were collected from various books, journals, magazines and website, etc.

c) Period of the Study

The present study covered a period of five years from 2014 to 2019.

d) Variables of the Study

In order to measure the corporate social performance, one main variable namely, Fortune Reputation Score (FRI) was used as the independent variable (Dawn Patricia Miller; 2016) while innovation was used to measure R & D as the dependent variable. Two control variables, namely, ROA and SIZE were also used to measure R&D (Pasquale Ruggiero and Sebastiano Cupertino; 2018)

e) Tools Used for the Analysis

- ❖ Descriptive Statistics (for analyzing the normality of CSP and R&D)
- ❖ Correlation (for find out the relationship of CSP and R&D)

4. RESULT AND DISCUSSION

4.1 Analysis of Descriptive Statistics of Corporate Social Performance and Research and Development for Fortune Reputation Index Top 10 Companies

The results of Descriptive Statistics, for Fortune Reputation Index Top 10 companies, during the study period from 2014 to 2019, are shown in **Table-1**. The independent variable, namely, Fortune Reputation Index (FRI) was used to measure the corporate social performance while control variables like ROA and Size, to measure corporate financial performance and R and D (Innovation) was used as the dependent variable in this study. The highest mean value of CSP (FRI) was recorded at 19.40, by Rajesh Exports Ltd and the lowest value of CSP, was registered at 1.60, by Indian Oil Corporation Ltd. The highest mean value of financial performance variable namely, ROA, was recorded at 60.334 for Coal India Ltd and the lowest at 0.396, for State Bank of India. The variable of Research and Development (Innovation) recorded the highest mean value, at 6.4, for Tata Motors and while the lowest mean value of R & D (Innovation) was registered, at 1.141, for Coal India Ltd during the study period. The highest median value was recorded for the variable of CSP (FRI), at 15 in the case of Coal India Ltd and the lowest median value of CSP was registered by Indian Oil Corporations Ltd, at 2.000. The financial performance variable, namely, ROA, achieved the highest median value for Coal India Ltd, at 55.140 and the same variable recorded the lowest median value, at 0.45, for State Bank of India. The highest median value of Research and Development (innovation) was at 5.9, for Tata Motors. The Coal India recorded the lowest median value at 1.120. The highest standard deviation value of Corporate Social Performance (FRI) was registered by Rajesh Exports Ltd, at the value of 19.578 and the lowest standard deviation value of CSP was at 1.000, for Tata Motors Ltd during the study period. The highest value of standard deviation was registered by ROA (the variable of financial performance), at 11.738 while the lowest standard deviation value of CFP variable, namely size was recorded at 0.071. The value of standard deviation for R & D (Innovation) was at 0.954 and the lowest value of R & D was recorded at 0.116. The above analysis of mean, median and standard deviation proved the fact that there were positive and significant levels for all the sample variables. The positive and significant level helps to understand the normal distribution of data, for the sample variables, during the study period.

According to analysis of skewness, the highest value of CSP was registered at 0.948, in the case of Rajesh Exports Ltd and the lowest skewness value of CSP was at 0.0, for Tata Motors Ltd. The financial performance variable, namely, Size was recorded, at 1.498, by Tata Motors and the lowest value was recorded by Indian Oil Corporation Ltd (ROA was at 0.024). The positive skewness value of R & D (Innovation) was registered at 1.124, for Reliance Industries Ltd while the lowest skewness value of R & D was at 0.156, for Indian Oil Corporation Ltd. The statistical measure of kurtosis was used to describe the distribution of data of sample variables. The analysis indicated that all the kurtosis values of sample variables (like CSP and R & D) were positive. The values of Jarque-Bera clearly revealed the fact that all the sample variables of Corporate Social Performance (FRI) and Research and Development (Innovation) were normally distributed. According to the overall analysis of **Table-1**, data for all sample variables were normally distributed during the study period. Therefore, the Null Hypothesis – (NH1), **there is no normality of Corporate Social Performance and Research and Development Fortune Reputation Index Top 10 Companies**, was not accepted.

4.2 The Analysis of Linkage between Corporate Social Performance and Research and Development for Fortune Reputation Index Top 10 Companies

One of the main objectives of this study was also to find out the relationship between Corporate Social Performance and Research and Development of Fortune Reputation Index Top 10 Companies. The results of correlation analysis, for Corporate Social Performance and Research and Development, during the study period from 2014 to 2019, are displayed in **Table-2**. The analysis of correlation revealed that there was positive correlation between Corporate Social Performance (Fortune Reputation Score) and Research and Development (Innovation) for Indian Oil Corporation Ltd at 0.449. In the case of Reliance Industries Ltd, the correlation analysis revealed that there was positive correlation between CSP and R & D, with the value of 0.675. Regarding Oil and Natural Gas Corporation Ltd, the relationship between CSP and R & D was negative at -0.981. There was negative association between CSP and Research and Development, for the State Bank of India, with the value of -0.578 during the study period. In respect of Tata Motors Ltd, the CSP and Research and Development were positively correlated with the value of 0.24. The negative correlation between CSP and R&D was recorded for Bharat Petroleum Corporation Ltd, at -0.113. For Hindustan Petroleum Corporation Ltd, positive association was recorded between CSP and Research and Development, with the correlation value of 0.142. The negative linkage between CSP and R&D was registered for Rajesh Exports Ltd (-0.029). One of the sample companies, namely, Tata Steel Ltd achieved positive association between CSP and Research and Development, at 0.483, during study period from 2014 to 2019. Another sample company, namely, Coal India reported negative linkage between Corporate Social Performance and Research and Development, with the negative value of -0.606. The overall analysis of correlation indicated that the values, for all sample variables recorded both positive values and negative values. Positive correlation was registered by sample companies like Indian Oil Corporation Ltd, Reliance industries Ltd, Tata Motors Ltd, Hindustan Petroleum Corporation Ltd and Tata Steel Ltd during the study period from 2014 to 2019. Other companies like Oil and Natural Gas Corporation Ltd, State Bank of India, Bharat Petroleum Corporation Ltd, Rajesh Exports Ltd and Coal India Ltd received negative correlation values during the study period. Therefore, the Null Hypothesis – (NH₀), **there is no relationship between Corporate Social Performance and Research and Development for Fortune Reputation Index Top 10 companies**, was partially rejected and partially accepted.

5. LIMITATIONS OF THE STUDY

This study suffered from the following limitations.

- * The Fortune Reputation Index Score was the only index, used to measure the CSP of sample firms.
- * The study considered only 10 top companies of India during the study period of five years from 2014 to 2019.
- * All the limitations, associated with statistical tools used in the study, would apply to this study also.

6. CONCLUSION OF THE STUDY

Generally, good companies may get ranking at Fortune 500 Reputation Index. But it needs to improve their innovative and social performance. There were few sample companies which reported positive relationship while few recorded negative relationship. This study found that there were companies, that have yet to frame ecological strategy and make arrangements for the supply of regular and accurate environmental information about its products and services to the stakeholders. The Research and Development would help the companies to improve their competitive edge and enhance their performance. It is found that there was close connection between Corporate Social Performance and Research and Development in Fortune 500 Top 10 Companies too in India. The Coal India Ltd reported negative connection between Corporate Social Performance and Research and Development and hence it needs to improve its research and development performance. This study also revealed that the interaction between Corporate Social Performance and Research and Development significantly did affect business units' innovation and performance. Corporate Social Performance and Research and Development as a strategy by the companies, was not enough and its reporting to

the stockholders was not equally significant. This study also examined how Corporate Social Performance and Research and Development were related to changes in financial performance of firms. The dimension of CSP was completely possible by using the comprehensive measure of CSP, as developed by Ruff et al. (2001). The investigation of relationship between CSP and research and development, with the help of financial performance, over a wide range of industries, is a new approach. Fortune 500 rating system provides a new measure of CSP that represents multi-dimensions of CSP as well as a consistent measure of these dimensions over time. However, the Corporate Social Performance requires further examination of Research and Development, with a large sample size, over wide a range of industries.

Table-1: Analysis of Normality for Fortune Reputation Index Top 10 companies of Corporate Social Performance and Research and Development during the study period from 2014 to 2019

Variables		Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera
1. Indian Oil Corporation Ltd									
CSP	FRI	1.60	2	2	1	0.547	-0.408	1.166	0.839
Innovation	R&D	2.369	2.419	2.895	1.933	0.391	0.156	1.668	0.389
CFP	ROA	4.958	4.910	7.800	2.180	2.468	0.024	1.360	0.560
	SIZE	6.119	6.555	6.575	4.346	0.991	-1.499	3.249	1.887
2. Reliance Industries Ltd									
CSP	FRI	2.4	2	3	2	0.547	0.408	1.166	0.839
Innovation	R & D	2.458	2.414	2.808	2.287	0.206	1.124	2.767	1.065
CFP	ROA	6.092	6.110	6.410	5.770	0.248	-0.038	1.788	0.306
	SIZE	6.038	6.568	6.620	4.840	0.798	-0.719	1.829	0.716
3. Oil and Natural Gas Corporation Ltd									
CSP	FRI	6.6	7	8	3	2.073	-1.286	2.969	1.379
Innovation	R&D	3.046	2.946	3.467	2.928	0.235	1.490	3.236	1.861
CFP	ROA	5.196	5.8	9.72	0.89	3.262	0.074	2.124	0.164
	SIZE	5.572	6.226	6.247	2.929	1.477	-1.499	3.249	1.887
4. State bank of India Ltd									
CSP	FRI	4.2	4	6	3	1.095	0.867	2.729	0.642
Innovation	R&D	2.360	2.348	2.527	2.241	0.116	0.415	1.807	0.440
CFP	ROA	0.396	0.45	0.680	-0.21	0.358	-1.106	2.738	1.033
	SIZE	6.641	6.991	7.185	5.527	0.682	-0.982	2.410	0.877
5. Tata Motors Ltd									
CSP	FRI	4	4	5	3	1	0.0	1.25	0.638
Innovation	R&D	6.4	5.9	7.5	5.9	0.728	0.738	1.865	0.722
CFP	ROA	-2.986	-1.75	0.660	-9.51	4.095	-0.836	2.288	0.688
	SIZE	6.054	5.730	7.412	5.695	0.759	1.498	3.247	1.883
6. Bharat Petroleum Corporation									
CSP	FRI	5	5	6	3	1.224	-0.912	2.500	0.746
Innovation	R&D	2.128	2.085	2.529	1.763	0.279	0.200	2.238	0.154
CFP	ROA	8.118	8.240	9.730	5.840	1.652	-0.319	1.651	0.463
	SIZE	6.162	6.205	6.219	5.976	0.104	-1.488	3.235	1.857
7. Hindustan Petroleum Corporation Ltd									
CSP	FRI	5.6	6	6	4	0.894	-1.5	3.250	1.888
Innovation	R&D	1.731	1.702	1.845	1.568	0.116	-0.274	1.773	0.376
CFP	ROA	4.904	5.390	7.690	2.250	2.038	0.055	2.020	0.202
	SIZE	6.272	6.163	6.711	6.155	0.245	1.495	3.244	1.876
8. Rajesh Exports Ltd									
CSP	FRI	19.40	8	51.0	5	19.578	0.948	2.302	0.851
Innovation	R&D	2.256	2.527	2.913	0.612	0.954	-1.239	2.894	1.283
CFP	ROA	2.20	2.150	2.750	1.820	0.354	0.647	2.272	0.45
	SIZE	5.389	5.385	5.470	5.273	0.084	-0.265	1.677	0.422
9. Tata Steel Ltd									
CSP	FRI	9	9	11	8	1.224	0.912	2.500	0.746
Innovation	R&D	2.528	2.560	2.775	2.290	0.207	-0.053	1.424	0.519
CFP	ROA	3.848	3.520	6.010	0.860	2.090	-0.332	1.846	0.369
	SIZE	5.874	5.902	5.913	5.746	0.071	-1.459	3.195	1.784
10. Coal India Ltd									
CSP	FRI	13.2	15	16	9	3.420	-0.398	1.254	0.767
Innovation	R&D	1.141	1.120	1.693	0.796	0.350	0.719	2.289	0.536
CFP	ROA	60.334	55.140	73.940	49.760	11.738	0.333	1.224	0.749

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SIZE	5.339	5.296	5.541	5.269	0.114	1.380	3.083	1.590
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Sources: Data collected from www.fortuneindia.com, Computed from E-views – 7

Note: CSP- Corporate Social Performance, CFP- Corporate Financial Performance, FRI – Fortune Reputation Index, ROA - Return on Assets, SIZE- Size of the Company and R & D - Research and Development

Table -2: Results of Correlation between Corporate Social Performance and Research and Development of Fortune Reputation Index Top 10 companies during the Study period from 2014 to 2019

Variables		CSP	Innovation	CFP	
		FRI	R&D	ROA	SIZE
1. Indian Oil Corporation Ltd					
CSP	FRI	1	0.449	-0.141	-0.410
Innovation	R&D	0.449	1	-0.199	-0.746
CFP	ROA	-0.141	-0.199	1	-0.472
	SIZE	-0.410	-0.746	-0.472	1
2. Reliance industries Ltd					
CSP	FRI	1	0.675	-0.338	-0.944
Innovation	R&D	0.675	1	-0.747	-0.852
CFP	ROA	-0.338	-0.747	1	0.53
	SIZE	-0.944	-0.852	0.53	1
3. Oil and Natural Gas Corporation Ltd					
CSP	FRI	1	-0.981	-0.12	0.973
Innovation	R&D	-0.981	1	0.123	-0.999
CFP	ROA	-0.12	0.123	1	-0.107
	SIZE	0.973	-0.999	0.107	1
4. State Bank of India Ltd					
CSP	FRI	1	-0.578	0.314	0.052
Innovation	R&D	-0.578	1	-0.944	-0.731
CFP	ROA	0.314	-0.944	1	0.896
	SIZE	0.052	-0.731	0.896	1
5. Tata Motors Ltd					
CSP	FRI	1	0.24	0.521	0.551
Innovation	R&D	0.24	1	-0.003	-0.402
CFP	ROA	0.521	-0.003	1	0.171
	SIZE	0.551	-0.402	0.171	1
6. Bharat Petroleum Corporation Ltd					
CSP	FRI	1	-0.113	0.762	-0.502
Innovation	R&D	-0.113	1	-0.379	-0.776
CFP	ROA	0.762	-0.379	1	-0.092
	SIZE	-0.502	-0.776	-0.092	1
7. Hindustan Petroleum Corporation Ltd					
CSP	FRI	1	0.142	0.728	0.22
Innovation	R&D	0.142	1	-0.237	-0.802
CFP	ROA	0.728	-0.237	1	0.742
	SIZE	0.22	-0.802	0.742	1
8. Rajesh Exports Ltd					
CSP	FRI	1	-0.029	-0.755	-0.335
Innovation	R&D	-0.029	1	0.332	0.018
CFP	ROA	-0.755	0.332	1	0.625
	SIZE	-0.335	0.018	0.625	1
9. Tata Steel Ltd					
CSP	FRI	1	0.483	-0.52	0.081

Innovation	R&D	0.483	1	0.002	-0.655
CFP	ROA	-0.52	0.002	1	-0.005
	SIZE	0.081	-0.655	-0.005	1
10. Coal India Ltd					
CSP	FRI	1	-0.606	-0.199	-0.417
Innovation	R&D	-0.606	1	-0.508	0.894
CFP	ROA	-0.199	-0.508	1	-0.646
	SIZE	-0.417	0.894	-0.646	1

Sources: Data collected from www.fortuneindia.com, Computed from E-views – 7

Note: CSP- Corporate Social Performance, CFP- Corporate Financial Performance, FRI – Fortune Reputation Index, ROA - Return on Assets, SIZE- Size of the Company and R & D - Research and Development

7) REFERENCES

1. **Bernadette M., Ruf Krishnamurty., Muralidhar Robert M., Brown Jay J., Janney Karen Paul (2001).** “An Empirical Investigation of the Relationship Between Change in Corporate Social Performance and Financial Performance: A Stakeholder Theory Perspective”. *Journal of Business Ethics*, 32(2), 143–156.
2. **Clarkson, M. B. E. (1995).** “A Stakeholder Framework for Analyzing and Evaluating Corporate Social Performance”. *Academy of Management Review*, 20(1), 92–117.
3. **Clyde Eirikur Hull and Sandra Rothenberg, (2008).** “Firm Performance: The Interactions of Corporate Social Performance with Innovation and Industry Differentiation”, *Strategic Management Journal*, 29 (7), 781-789.
4. **Cooper, R. G., (1993).** “Winning at New Products: Accelerating the Process from Idea to Launch”, 2nd edition, Reading, MA, Addison-Wesley Publishing Company.
5. **D’Aveni, R., (1995).** “Hypercompetitive Rivalries: Competing in Highly Dynamic Environments”, New York, NY, The Free Press.
6. **Dawn Patricia Miller, (2016).** “The Relationship between Corporate Social Performance and Financial Performance”, PhD Dissertations (unpublished), Walden University, Minnesota, USA.
7. **Dhamotharan Dhanasekar, Murugesan Selvam and Vadivel Thanikachalam. (2019).** “Correlation between Corporate Social Performance and Corporate Financial Performance: Evidence from Indian Companies”. *International Journal of Basic and Applied Research*, 9 (2), 472-490.
8. **Dhanasekar, D., Selvam, M., Raja, M., and Gayathri, J., (2020a).** “The Mediating Effect of Research and Development and Financial Resource on Corporate Social Performance in Asian Countries Companies”. *International Journal of Advanced Science and Technology*, 29(4s), 1428 - 1437.
9. **Dhanasekar Dhamotharan, Murugesan Selvam, Marxia Oli Sigo, Ramasamy. V., (2020b).** “Relationship Between Corporate Social Performance and Financial Performance of Private Sector Banks in India”, *International Journal of Psychosocial Rehabilitation*, 24(6), 9152-9164.
10. **Dhanasekar, D., Selvam, M., Amrutha, P., (2019).** “Relationship between Corporate Social Performance, Corporate Financial Performance and Financial Risk in Indian Firms”, *International Journal of Recent Technology and Engineering*, 8 (3S3), 121-128.
11. **Donna J. Wood (1991).** “Corporate Social Performance Revisited”. *Academy of Management*, 16(4), 691-718.
12. **Freeman, R.E. (1984).** “Strategic Management: A Stakeholder Approach”. *Business and Economic*, Pitman.
13. **Hillman, A. J., & Keim, G. D. (2001).** “Shareholder Value, Stakeholder Management, and Social Issues: What’s the bottom line?” *Strategic Management Journal*, 22(2), 125–139.
14. **Johnson H. T. and Kaplan, R. S., (1987).** “Relevance Lost: The Rise and Fall of Management Accounting”, Boston, MA, Harvard Business School Press.
15. **Douglas A. Schuler and Margaret Cording, (2006).** “A Corporate Social Performance-Corporate Financial Performance Behavioral Model for Consumers”, *The Academy of Management Review*, 31(3), 540-558.

16. **Murugesan Selvam, Jayapal Gayathri, Vinayagamoorthi Vasanth, Kasilingam Lingaraja and Sigo Marxiaoli, (2016).** "Determinants of Firm Performance: A Subjective Model", *International Journal of Social Science Studies*, 4 (7), 90-100.
17. **Otley, D., (1994).** "Management control in contemporary organizations: towards a wider framework", *Management Accounting Research*, 5(3&4), 289-299.
18. **Pasquale Ruggiero and Sebastiano Cupertino, (2018).** "CSR Strategic Approach, Financial Resources and Corporate Social Performance: The Mediating Effect of Innovation", *Sustainability*, 2-22.
19. **Robert C. Padgett and Jose I. Galan (2010).** "The Effect of R&D Intensity on Corporate Social Responsibility", *Journal of Business Ethics*, 93, 407-418
20. **Ruff B.M., Muralidhar K., Brown R.M., Janney J.J. and Paul K. (2001).** "An Empirical Investigation of the Relationship Between Change in corporate Social Performance and Financial Performance: A Stakeholder Theory Perspective", *Journal of Business Ethics*, 32.
21. **Swanson, D. (1995).** "Addressing a Theoretical Problem by Reorienting the Corporate Social Performance Model". *Academy of Management Review*, 20, 43-64.
22. **Turban, D.B., and Greening, D.W., (1997).** "Corporate Social Performance and Organizational Attractiveness to Prospective Employees". *Academy of Management Journal*, 40 (3), 658-672.
23. **Gary Simpson and Theodor Kohers, (2002).** "The Link Between Corporate Social and Financial Performance: Evidence from the Banking Industry", *Journal of Business Ethics*, 35, 97-109.
24. **Waddock, S. A., and Graves, S. B. (1997).** "Social Issues in Management: Theory and Research in Corporate Social Performance". *Journal of Management*, 17(2), 383-406.
25. **Wartick, S., and Cochran, P. (1985).** "The Evolution of the Corporate Social Performance Model". *Academy of Management Review*, 10(4), 758-769.
26. **Wood, D.J., (2010).** "Measuring Corporate Social Performance: A Review". *International Journal of Management Review*. 12 (1), 50-84.