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A STUDY OF CORPORATE SOCIAL RESPONSIBILITY AND ITS DETERMINANTS

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Abstract

The relationship between Corporate Social Responsibility (CSR) and Corporate Financial Performance (CFP) or, simply put, Profitability, has been a subject of investigation for some time now. However, there are very few studies that explore the impact of different financial variables of a company on the types of CSR it undertakes, especially, in the case of developing nations like India. The present study focuses on the impact of company specific financial variables on the type of CSR undertaken by the companies using data of top 100 listed on the Bombay Stock Exchange (BSE). The data of financial variables is secondary data from Prowess database (of CMIE). It has been collected for a period of 2 years (2014-15 & 2021-22). The relationship was empirically examined using the method of fractional regression. Empirical results indicate that net profitability impacts the CSR regarding community involvement and diverse areas of CSR. However, no such relationship exists between NP and CSR in the field of environment and workplace.

Keywords: Corporate Social Responsibility, Corporate Financial Performance, Net Profitability, Fractional Regression

1. INTRODUCTION

Corporate Social Responsibility (CSR) is an attempt to make a business model socially accountable. It is thus the responsibility of enterprises for their impact on society (European Commission, 2011) and also how companies manage the business processes to produce an overall positive impact on society (Baker, 2004). Corporate philanthropy may be considered to be the seed of CSR, but today it takes in its fold concepts like "triple bottom line, corporate citizenship, philanthropy, strategic philanthropy, shared value, corporate sustainability and business responsibility" (Singh & Verma, 2014). This leads to multifarious definitions exploring its vastness and inconclusive nature, (Horrigan, 2010) and hence there cannot be one widely accepted definition of CSR (Crowther & Aras, 2008). According to Mintzberg (1983) CSR manifests in

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four different forms. The foremost form is the most noble and 'pure' form wherein the firms do not expect anything in return from the society for the welfare work done by them. The second form entails some kind of anticipation of 'payback' on the part of the corporate. The third form presents itself as a kind of 'sound investment theory' and CSR activities of the firms see 'rewards' from the market. The fourth form of CSR occurs when the firms do CSR activities voluntarily in order to avoid it being mandated by the government and thus being forced. Hence, it can be safely said that only the first form of CSR is ethical.

With corporate India picking up pace, it is imperative that environmental and societal welfare policies be integrated by the companies in their objectives so as to create shared value (Krishnan, 2012). India was the first country to make CSR statutory through Section 135 of the New Companies Act, 2013. Following criteria has been laid down for companies to undertake CSR mandatorily:

- A company's net worth should be Rs. 500 crs. or more.
- A company's annual turnover should be Rs. 1000 crs. or more.
- A company's annual net profit should be Rs. 5 crs. or more.

The Companies meeting anyone of the aforementioned criteria are required to spend 2% of their three-year average annual net profit on CSR activities. It follows a comply-or-explain policy. In this paper the research question that we attempt to answer is: What determines a particular kind of CSR activity by companies?

It is very important that this question be answered. It is necessary to get an insight about what kind of CSR activity is done by maximum companies and also to find out the motivation behind the different types of CSR activities undertaken. It would help provide a clarity as to why some kind of CSR activity may be preferred over another by corporates.

Using a dataset of 100 companies for 2 years (2014-15 and 2021-22) we attempt to answer the above-mentioned research question. Using the technique of fractional regression, the results of empirical analysis reveal that there does exist, a positive and significant relationship between (NP) net profitability (a proxy for profitability) of a company and its CSR in the areas of community involvement and other diverse types of CSR but not in the case of environment and workplace. The rest of the paper is designed as follows: section 2 gives a review of literature. A description of the database and methodology forms section 3. Section 4 reports the empirical results and their analysis and finally concluding remarks form section 5.

2. REVIEW OF LITERATURE

CSR activities of any company have indeed come a long way from when it was a lot less structured and more inclined towards a company's cover up for any activities which might attract criticism. Although CSR started gaining focus around the 1950's it can be safely said that the seeds of social responsibility were planted around the mid 1800's, at the time of the Industrial Revolution. The view that business houses are duty bound not just towards shareholders but also towards stakeholders is very old. (Carroll and Shabana, 2010). Carroll (2008) points out that during this time welfare activities were taken up aplenty in a bid to raise the productivity of workers, however, whether these were taken up for social or purely business motives could not be demarcated. Robert Hay and Ed Gray (1974) describe this period as the period where management of social responsibility was done with the view of profit maximization. This proved to be the foundation stone on which the growth of CSR was to be fabricated in the 1950's.

In the 1950s, Howard Bowen, often referred to as the father of Corporate Social Responsibility was perhaps the first to provide a formal definition of CSR. To quote him CSR comprises of "the obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society" (Bowen, 1953). Soon after Drucker (1954) defined CSR saying that "it has to consider whether the action is likely to promote the public good, to advance the basic beliefs of our society, to contribute to its stability, strength and harmony". Yet another important contribution to CSR during this period was provided by Heald (1957) who defined CSR as the "recognition on the part of management of an obligation to the society it serves not only for maximum economic performance but for humane and constructive social policies as well". It is more than evident here that the definitions of the 1950's accord a great deal of emphasis to the manager's role in undertaking social responsibilities. However, this period was characterized by more words and less deeds (Carroll, 2008).

During the period of 1960s, the advent of the 1960's brought about a concentrated effort to define CSR more accurately. One of the more eminent writers during this time was Keith Davis. He defined CSR as the "businessmen's decisions and actions taken for reasons at least partially beyond the firm's direct economic or technical interest" (Davis, 1960). It was Davis who laid down the Iron Law of Responsibility which stated that the societal engagement of businessmen needed to be in line with their social capacity and capabilities. Another distinguished writer of this period was William C. Frederick (1960, 1978, 1998). He believed it to be the responsibility of businessmen to supervise the working of an economic system which would deliver the expectations of the people. This in turn meant that the means of production of an economy had to be utilized in such a manner that production and distribution would augment overall socio-economic welfare (Frederick, 1960). Joseph W. McGuire (1963) another prominent thinker during this period stated that apart from economic and legal obligations corporations also had responsibilities towards the society which went much beyond these commitments. Clarence Walton (1967) also made an important contribution to the concept of CSR. According to him social responsibility took cognizance of the interconnection between the corporation and society and that such relationships had to be kept in mind by the managers of the corporation while following their objectives (Walton, 1967). Despite the vital addition to literature on CSR, the 1960'sstill saw less action as compared to words (McGuire 1963).

In the 1970s, the Social Responsibilities of Business: Company and Community, 1900-1960 authored by Morrell Heald (1970) heralded the 1970's. His views were similar to the ideas presented in the 1960's (Carroll, 1999). Soon after Harold Johnson (1971) presented his definitions and viewpoint on CSR. In his book he coins the term 'Conventional Wisdom' which states that "a socially responsible firm is one whose managerial staff balances a multiplicity of interests. Instead of striving only for larger profits for its stockholders, a responsible enterprise also takes into account employees, suppliers, dealers, local communities, and the nation". Meanwhile during this time, a very significant contribution was made to CSR by the Committee of Economic Development in its 1971 publication Social Responsibilities of Business Corporations (Carroll, 2008). The CED put forth a 'three concentric circle' approach with the innermost circle comprising of just dispensing of the basic economic functions, the intermediate circle denotes the carrying out of these functions while being sensitized towards altering social patterns. The outermost circle talks about businesses being involved proactively in upgrading the social environment. Some other significant contributions during the 1970s were by George Steiner, Richard Eels, Clarence Walton and Keith Davis also revisited his discussion of CSR. Another name which needs an absolute mention here is S. Prakash Sethi who defines CSR as "bringing corporate behaviour up to a level where it is congruent with the prevailing social norms, values, and expectations of performance" (Sethi, 1975). He also distinguishes between 'Social Responsibility', 'Social Obligation' and 'Social Responsiveness' (Carroll, 2008). Archie B. Carroll in 1979 explained total social responsibilities by dividing it into 4 categories: Economic, Legal, Ethical & Discretionary (Carroll, 1979).

Economic responsibility is the foremost responsibility of a business towards the society. It is the responsibility to produce goods and services which the society demands. Although profit motive was the "primary incentive of entrepreneurship" but that soon changed to maximum profits and has remained unchanged (Carroll, 1991). All other responsibilities of a firm are dependent on this responsibility.

Legal Responsibility implies that businesses have to function within the purview of laws and regulations, and they need meet the legal requirements. Ethical responsibilities are those which may not be laid down specifically but are nevertheless expected to be followed by the business units. Discretionary responsibilities are relative in nature and are left to the discretion of the businesses. However, it is expected that these be undertaken by the Corporates in order to promote societal welfare (Carroll, 1979).

These were later illustrated as a 'pyramid of CSR', the base of the pyramid being economic responsibility (Carroll, 1991). The 1970's brought to light the significance of a managerial approach to CSR.

The 1980's saw an advent of different concepts of CSR viz., corporate social responsiveness, business ethics, stakeholder theory and the likes (Carroll, 2008). Thomas M. Jones defined CSR in 1980 as "the notion that corporations have an obligation to constituent groups in society other than stockholders and beyond that prescribed by law and union contract, indicating that a stake may go beyond mere ownership". Further in 1981 Frank Tuzzolino and Barry Armandi sought to formulate an assessment mechanism of CSR similar to Maslow's need hierarchy theory (1954). They proposed that just like humans had needs to be fulfilled, similarly organizations had certain norms which needed to be met (Carroll, 2008). 1983 saw Archie B. Carroll revisiting CSR with the view that there were four parameters of CSR viz., economic, legal, ethical and voluntary or philanthropic. (Carroll, 1983). The 1980's also saw the prominent stakeholder theory by R. Edward Freeman taking shape which stressed that the financial performance of a company was further augmented by its CSR activities. It was published in his book in 1984. Apart from this Peter F.Drucker again in 1984 came up with a new description, saying that the idea behind social responsibility was to turn a social problem into economic opportunity and changing it further into well-paying jobs and ultimately creating wealth (Drucker, 1984). In 1987 Edwin M. Epstein came up with the concept of "corporate social policy process" in a bid to connect corporate social responsiveness and business ethics.

1991 saw Donna J. Wood's contribution to the corporate social performance model and her major contribution was her stress on performance and results (Carroll, 2008). Carroll also went back to his four-dimensional definition of CSR with the view that the fourth dimension included within it 'corporate citizenship.' A graphical representation of the CSR pyramid was also provided (Carroll, 1999). At the base of the pyramid come the economic responsibilities, which if not delivered properly are unable to make a base for the other responsibilities to be met. Next come the legal responsibilities According to Carroll, the CSR firm should aim for profit while keeping the law and ethics in mind and hence be a model corporate citizen. The next layer comprises of ethical responsibilities. These can be considered to go hand in hand with legal responsibilities. These include the morals which the society expects corporates to follow, and these should not be compromised in order to meet the profit motive of firms. The topmost layer is that of philanthropic responsibilities which are discretionary or voluntary in nature. These responsibilities are those which a society does not expect but desires that the corporate houses fulfil as they increase societal welfare (Carroll, 1991).

In 1994 the concept of Triple Bottom Line by John Elkington came to the fore. It was devised as a means to measure corporate performance. It focuses on planet (environmental performance), people (social performance) and profit (economic performance). Its relevance is undeniable in that it depicts that when profits are earned in tandem with promotion of welfare of the people and planet, sustainability ensues. Michael Hopkins in 1998 said "Corporate social responsibility is concerned with treating the stakeholders of the firm ethically or in a socially responsible manner. Stakeholders exist both within a firm and outside. Consequently, behaving socially responsibly will increase the human development of stakeholders both within and outside the corporation" (Hopkins, 1998). Archie. B. Carroll in his paper Corporate social responsibility: Evolution of a definitional construct (1999) summarizes, and rightly so, the evolution of CSR till the end of the 20th century by saying that as the new millennium should focus more on measurement techniques and also on theoretical expansion.

The beginning of the 21st century saw the European Commission defining CSR as "a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis."

At around the same time drawing motivation from Carroll's four-dimensional definition of CSR, Geoffrey P. Lantos in 2001 offered three types of CSR (Rahman,2011). These are:

- Ethical CSR: talks about morally correct behaviour on the part of the firms which goes above and beyond its economic functions. It is a firm's responsibility to avoid causing any harm to anyone.
- Altruistic CSR: refers to a firm's philanthropic activities irrelevant of the fact whether these are beneficial to the business or not.
- Strategic CSR: is nothing but 'philanthropy with profit motives' where social welfare is undertaken with the motive of promoting financial wellness of the firm.

Further on in 2007 The World Business Council for Sustainable Development defined CSR as "continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families, as well as of the local community and society at large"

In 2011 the European Commission defined CSR as "A process to integrate social, environmental, ethical, human rights and consumer concerns into business operations and core strategy in close corporation with the stakeholders."

The significance of CSR in this era of industrialization is undisputable. For societal welfare to go hand in hand with economic progress corporations have to go that extra mile in terms of their ethical and moral duties. Scholars and thinkers are reviewing and reanalyzing the different permutations and combinations which will work best for the society as well as the firms. It is only fitting that CSR is being made mandatory in many countries with India being the first to set this example. With a very vigilant society and an observant government the business houses need to meet their social objectives.

Milton Friedman, in his shareholder theory (1970) argued as to why companies needed to fulfill social responsibility. This view point was refuted by R.E Freeman in the form of the stakeholder theory which was first propounded in 1984. Hence to understand the evolution of CSR, an understanding of the shareholder theory and the stakeholder theory are a must.

2.1 The Stakeholder Theory Versus the Share Holder Theory:

A question often times asked is whether the rightful corporate goal should be to maximize shareholder wealth or to create value addition for the stake holders (Shin- Min How et al., 2019).

The shareholder theory was developed by Friedman (1970) and it states that the ultimate objective of the corporates should be to increase the shareholder's wealth. In Friedman's words, "What does it mean to say that 'business' has responsibilities? Only people have responsibilities." According to him a corporate employee has his prime responsibility towards the employers and to do as they wish, which, mostly, is to make profits. Having said that, he stressed that it was important to achieve this objective within the confines of law.

A major argument to this viewpoint was given in the form of the stake holder approach (Bosch-Badia et al., 2013). The stake holder theory was first propounded by R.E. Freeman in his seminal work Strategic Management: A Stakeholder Approach (1984). What the stakeholder wishes from the corporates is that apart from the profit motive, his environmental and social needs are met. Defining the concept of stakeholder, he provided an explanation of the kinds of responsibilities that a company had to fulfil and why the companies should strive to fulfil the same. A variety of definitions have been put forth to define stakeholders. Freeman defines a stake holder as 'any group or individual who can affect or is affected by the achievement of the organization's objectives' (Freeman, 1984). Inherent in the stakeholder theory are morals and ethics. "The ends of cooperative activity and the means of achieving these ends are critically examined in stake-holder theory in a way that they are not in many theories of strategic management" (Phillips et al, 2003).

The stakeholder theory has evolved over the period having been subject to many interpretations and applications (Gilbert and Rasche, 2008). Not only this, several authors have also come up with multiple classifications of the types of stakeholders (Miles, 2017). Among others are, Freeman and Reed's (1983) 'wide' and 'narrow' stakeholders' classification, Mahoney (1994) with his 'primary' and 'secondary' stakeholders' classification, Savage et al. (1991) with his 'active/passive' classification, and many others. Driscoll and Starik (2004), distinguished between the stakeholders on the basis of proximity or, physical nearness of the stakeholders to the firm. Some examples of high proximity stakeholders are employees, managers and some examples of low proximity stakeholders are consumers, local community, etc (Schons and Steinmeier, 2015).

It is important to differentiate between Responsive CSR and Strategic CSR. The former refers to giving back to the society, while the latter means that the corporates identify the problem areas and try to deal with them as a part of their CSR.

3. DATABASE AND METHODOLOGY

The following section talks about data collection and methodology used in this paper.

3.1 Variables and Data Collection:

Bombay Stock Exchange (BSE) is the oldest stock exchange in India as well as in Asia. The S&P BSE 100 has been designed to measure the performance of the largest and most liquid Indian companies within the S&P BSE Large Mid Cap and it is calculated in Rupees. This study uses the data of top 100 companies listed on the Bombay Stock Exchange (BSE) to study the impact of company specific variables on the type of CSR activities done by these companies (please refer to Appendix A, Table 9 for a list of the names of the companies). The two time periods under study are 2014-15 and 2021-22, the year 2014 being the one when CSR was mandated in India and the year 2022 being the current most year.

Data on CSR has been collected using content analysis from the annual reports and Business Responsibility Reports of the concerned firms (available on the company websites). Most studies in the past have used these reports to derive CSR data [Abbott & Monsen (1979)]. Data of company specific financial variables have been collected from Prowess, Centre for Monitoring Indian Economy (CMIE) electronic database. Appendix A, Table 10 gives a detailed description of the data sources of all the variables.

3.2 Measurement of CSR:

For answering the aforementioned research question impact of different company variables on four different types of CSR activities will be evaluated. Thus, we attempt to find out the effect of a company's net profits (NP), size, age, risk, and capital intensity on its CSR activities. The four types of CSR activities are: Community Involvement, Environmental Contribution, Workplace, and Diverse.

In other words, it seeks to find out which factors are more responsible for a particular kind of CSR activity to be undertaken by corporate houses. So, on the right-hand side we have the company variables as independent variables and on the left-hand side, in the form of dependent variable, we have the type of CSR activity undertaken by the companies.

The four broad categories of CSR activities are: community involvement, environmental contribution, workplace and diverse. All the four categories are further divided into eight subheads each giving a total of 32 items under consideration. For instance, community involvement consists of aspects like, contribution towards: educational institutions, healthcare, promotion of art, culture, and sports etc. Environmental contribution includes, recycling of pollutants and wastes, power saving/energy conservation and the likes. Workplace takes in its purview spending for the welfare of employees, frequent training/development programs for employees etc. Last but not the least, the head, diverse, comprises welfare activities for SC/ST and disabled persons, different training programs for the empowerment of youth, better customer service/customer guidance/after sale service etc. Appendix A, Table 11, gives an outline of all the subheads included in these four categories of CSR.

In this paper we follow the methodology given by Maqbool & Zameer, (2017) (MZ here after). This methodology has been extensively used in literature [Abbott & Monsen, (1979); Centre for Corporate Research and Training, (2003); Confederation of Indian Industry, (2002); Rashid & Ibrahim, (2002); Maqbool & Zameer, (2018), etc.]

Following MZ (2018), a CSR index was constructed for each of the BSE 100 companies. Each company was assigned a score of 0 or 1 (depending on whether there was any CSR spend in that particular category). This was done for all the 8 items in all the four categories. Content Analysis of the companies' annual reports and business responsibility reports was done to assign these ratings. Then formulae for constructing the 'CSR index' for the years under study are as follows:

$$CSR\ INDEX_{i,2015} = \frac{\sum_{j=1}^{8} d_{ij,t}}{8}$$

$$CSR\ INDEX_{i,2022} = \frac{\sum_{j=1}^{8} d_{ij,t}}{8}$$

We denote companies by i, which ranges from 1 to 100. The CSR items, adopted by the companies are denoted by j. There are separate index numbers for all four heads of all companies, for the two time periods under study.

An example will help to bring out the construction of the CSR Index more clearly, Company A partakes in 5 CSR activities out of 8 in the category ‘community involvement’, in 2014-15. The CSR index for this category, for this year, for this company, comes to 0.625.

Similarly, an index is derived for all categories, for all companies, in BSE 100. Thus, the CSR Index has a range: CSR index~ [0,1]

3.3 Measurement of Profitability and Other Variables:

The firm specific variables used in this study are NP, size, age, risk and capital intensity. The study used total assets for measuring size, [Wahba and Elsayed (2015)]. Firm age is derived by subtracting the period from the inception date to the year of analysis [Elsayed & Wahba (2013)]. Similarly, financial leverage is employed as a proxy for risk [Waddock & Graves (1997)]. It indicates managements’ risk tolerance. It is measured by the ratio of total debt to total equity. Capital intensity is indicated by the ratio of fixed assets to total assets. The log form of NP and Size have been used in the empirical estimation.

4. EMPIRICAL MODEL AND RESULTS

The following section talks about Fractional Regression Model and analytical results.

4.1 Fractional Regression Model:

The study attempts to examine the impact of firm specific variables on four different types of CSR activities done by them. The following is the general model for study: CSR Index= f (NP, SIZE, AGE, RISK, CI)

Since CSR index is the dependent variable and it is bounded within the range 0 to 1, both included, (i.e., CSR Index [0,1]), OLS gives biased estimates and so, for empirical analysis, fractional regression becomes the best choice. OLS regression is not suitable for modelling bounded interval-level variables as it may lead to inaccurate and, at times, even impossible predictions, such as those which lie outside the logical boundaries. Fractional regression proves to be technically superior when we have a quantitative variable that has continuous values, not categories, but is bounded both by upper and lower limits, which causes problems, when going for conventional modelling routines. Fractional Regression models are fitted by the method of Quasi Maximum Likelihood Estimation (QMLE) which is a more flexible and less restrictive version of Maximum Likelihood Estimation (MLE). The right-hand side function is usually the CDF of logistic distribution but, that is not used here. The only difference between fractional regression and logistic regression is that in the former we have a continuous variable with a scale instead of a categorical variable with ranks (Papke & Wooldridge, 1996).

4.2 Analysis and Results:

Appendix A, Table 1 and table 2 show the impact of a company's NP, size, age, risk, CI on its CSR activities in the field of community involvement (CSR_{COI}). The p-value of NP for the year 2014-15 is 0.01 which shows significance at 1% level, implying that there exists a relationship between NP and CSR regarding community involvement in this year. The variable size and capital intensity are also statistically significant. The year 2021-22 again shows NP and size as statistically significant. The variable capital intensity is not seen as a determinant in the year 2021-22. Together, the results point out that whether companies take up community related CSR activities or not is dependent on their profits and size to a great extent. It can be safely said that the bigger the company in size, the more is the CSR spends on community involvement and also the more a company earns in terms of profits the more community involved CSR it does. These results are in congruence with common logic and also in accordance with the government's legislation that companies earning more profit should spend on CSR.

Appendix A, Tables 3 and 4 show the impact of the independent variables on the environmental contribution of the companies. CSR_{EC} represents CSR expenditure done towards protecting the environment by the companies. The year 2014-15 sees the variables risk and CI as statistically significant, while the year 2021-22 sees the variables risk, size as well as age as important determinants of CSR towards the environment. One thing to note here is that risk, in both the years, has a negative relationship with CSR towards environment. Here, there is no relationship between NP and the dependant variable which signifies that a company's profitability has nothing to do with its CSR activities in this particular category. This is indicative of the fact that whether a company is making profits or not, it strives to spend towards areas such as rain water harvesting or energy consumption. Also, a reason for this can be that once these measures, like the establishment of sewage or effluent treatment plants or pits for rainwater harvesting or the setting up of solar panels has been done, they keep on giving the desirous results in the subsequent years, irrespective whether the NP of a company is increasing or not. As far as the variable Risk is concerned, it is a leverage ratio that shows how much a company's financing comes from debt or equity. A higher debt-to-equity ratio (or risk) means that more of a company's financing comes from debt rather than issuing shares of equity which signifies higher risk for the company. A negative relationship means that as risk increases, corporates reduce their CSR spends on environment.

Next, we study the impact of company variables on workplace related CSR. CSR_{WP} denotes CSR on workplace by the companies. Appendix A, Tables 5 and 6 show that in both the years, 2014-15 and 2021-22, it is only the variable size which is statistically positive and significant at 1%. This signifies that as the size of a company (measured here in terms of total assets) increases, its CSR spends on its employees also increases. These results point to the fact that money spent on the well-being of employees is not dependent upon profitability or any of the other factors, outlined here, other than size. A company spends on the welfare of their employees in order that the turnover may be less which not only leads to good reputation, but also to an increase in participation and productivity by the employees. It also means lesser expenditure on constant training of new employees. Companies are motivated by the need for employee retention, which is why they spend on their training and on providing them with a better and safer working environment, be it men or women. This is in accordance with the insider-outsider theory of employment and unemployment. This theory states that the 'insiders' (the people already employed by a firm), enjoy more "favourable employment opportunities" than the 'outsiders' (those who are not employed by the firm). This is because firms want to avoid the cost which is incurred when insiders are replaced by outsiders. This includes the turnover costs like that of hiring, firing or giving company specific training. This results in market power in the hands of insiders, which is then used by them to push the wages up. Even then, the firms do not bring in outsiders, which would prove costlier (Lindbeck & Snower, 1989). The same trend is visible in our study.

The last category of CSR activity under study consists of varied CSR activities which do not fall under any of the above categories. Appendix A, Table 7 and table 8 show the impact on CSR of diverse activities by company variables. CSR on diverse activities by companies is represented by CSR_{DI}. In the year 2014-15, diverse CSR activities by companies were determined by their size, while in the year 2021-22, it is seen that it is not only size, but NP also is statistically significant. This goes to show that whether a company is willing to spend on areas other than community or environment or workplace is determined by profitability as well as a host of other factors, which means that these kinds of expenditures do not come naturally to companies. These diverse expenditures which encompass areas like expenditure on setting up of orphanages or skill empowerment programs for youth are determined more by profits.

5. CONCLUSIONS

This study tries to deal with a part of CSR which has not been dealt in this manner before. The results that have come up give an insight into the working of the minds of the managers or the CSR committees of the companies. It shows which areas of CSR are considered by companies as priority and why. It also explains how the size of a company fairly dominates its CSR activities. As expected, the bigger a company the more it spends on various types of CSR activities. This study is also important from the point of view of policy implications. A negative and significant relationship between environmental CSR and the variable risk shows that as the risk (or debt-to-equity) ratio of a company increases, its CSR spend in this area reduces. Corporate houses need to understand that higher CSR spends by them, in such a visible and significant sector like environment, would lead to easy access to credit by companies, still the companies reduce their environmental CSR. Companies need to understand that spending on environmental CSR would have a two-pronged effect. Firstly, as pointed out earlier, their efforts would be visible to all stake holders and it would give a positive boost to their reputation. Secondly, this can be used as a tool with which they can market their products and increase their sales. Ultimately, in the long run, their risk factor would be reduced significantly as a result of these efforts.

An important aspect which needs to be kept in mind here is that we have tried to draw a comparison between the year 2014-15 (the year when CSR was mandated), and the year 2021-22 (which is the year post Covid). Our analysis reveals that as compared to the year 2015, dependence of CSR on profits is less in 2022. This signifies that companies realize that the pandemic has reversed progress on several issues pertaining to societal welfare and the corporates have tried broadening their CSR initiatives. Following this line of study, in an in-depth manner, can give the concerned authorities knowledge as to what motivates different types of CSR activities, which can then be used to redirect or regulate the flow of CSR expenditure in the desired direction to achieve a balanced and even growth.

APPENDIX A- TABLES

TABLE 1

Table No. 1: Fractional Regression Results of Community Involvement 2015				
Coefficients				
Variable	**Estimate**	**Std. Error**	**t value**	**Pr(>|t|)**
Intercept	-2.822237	0.732443	-3.853	0.000213***
NP	0.235874	0.089928	2.623	0.010172*
Size	0.323914	0.137722	2.352	0.020763*
Age	-0.001901	0.003735	-0.509	0.612055
Risk	-0.030516	0.071446	-0.427	0.670267
CI	1.215355	0.507291	2.396	0.018566*
Source: Authors' own calculation				
Notes: Significance codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1				

Null deviance: 25.444 on 99 degrees of freedom
Residual deviance: 21.233 on 94 degrees of freedom

TABLE 2

Table No. 2: Fractional Regression Results of Community Involvement 2022				
Coefficients				
Variable	**Estimate**	**Std. Error**	**t value**	**Pr(>|t|)**
Intercept	-3.49197	0.895398	-3.9	0.000181***
NP	0.284543	0.093338	3.049	0.002987**
Size	0.432317	0.16296	2.653	0.009369**
Age	0.00432	0.004094	1.055	0.29395
Risk	-0.05842	0.101536	-0.575	0.56642
CI	0.671431	0.548717	1.224	0.224147
Source: Authors' own calculation				
Notes: Significance codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1				

Null deviance: 28.587 on 99 degrees of freedom
Residual deviance: 22.444 on 94 degrees of freedom

TABLE 3

Table No. 3: Fractional Regression Results of Environmental Contribution 2015				
Coefficients				
Variable	Estimate	Std. Error	t value	Pr(>|t|)
Intercept	-0.068977	1.054945	-0.065	0.94801
NP	-0.005334	0.142553	-0.037	0.97023
Size	0.164163	0.204227	0.804	0.42353
Age	0.009614	0.006277	1.532	0.12899
Risk	-0.24799	0.088627	-2.798	0.00624**
CI	2.673407	0.85824	3.115	0.00244**
Source: Authors' own calculation				
Notes: Significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1				

Null deviance: 35.645 on 99 degrees of freedom
Residual deviance: 27.507 on 94 degrees of freedom

TABLE 4

Table No. 4: Fractional Regression Results of Environmental Contribution 2022				
Coefficients				
Variable	Estimate	Std. Error	t value	Pr(>|t|)
Intercept	1.758862	1.187265	1.481	0.1418
NP	-0.031042	0.14595	-0.213	0.832
Size	-0.063885	0.216324	-0.295	0.7684
Age	0.015336	0.006761	2.268	0.0256*
Risk	-0.251865	0.110816	-2.273	0.0253*
CI	1.96469	0.869975	2.258	0.0262*
Source: Authors' own calculation				
Notes: Significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1				

Null deviance: 21.549 on 99 degrees of freedom
Residual deviance: 17.503 on 94 degrees of freedom

TABLE 5

Table No. 5: Fractional Regression Results of Workplace 2015				
Coefficients				
Variable	**Estimate**	**Std. Error**	**t value**	**Pr(>|t|)**
Intercept	0.618057	1.17458	0.526	0.6
NP	-0.095853	0.18295	-0.524	0.6016
Size	0.532987	0.245682	2.169	0.0326*
Age	-0.002699	0.006037	-0.447	0.6558
Risk	-0.054006	0.119267	-0.453	0.6517
CI	-0.736676	0.780504	-0.944	0.3477
Source: Authors' own calculation				
Notes: Significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1				

Null deviance: 12.157 on 99 degrees of freedom
Residual deviance: 11.355 on 94 degrees of freedom

TABLE 6

Table No. 6: Fractional Regression Results of Workplace 2022				
Coefficients				
Variable	**Estimate**	**Std. Error**	**t value**	**Pr(>|t|)**
Intercept	0.458635	1.414129	0.324	0.7464
NP	-0.208426	0.221027	-0.943	0.3481
Size	0.705275	0.293122	2.406	0.0181*
Age	-0.004242	0.006169	-0.688	0.4933
Risk	-0.151816	0.151249	-1.004	0.3181
CI	-0.182191	0.863671	-0.211	0.8334
Source: Authors' own calculation				
Notes: Significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1				

Null deviance: 9.4179 on 99 degrees of freedom
Residual deviance: 8.7710 on 94 degrees of freedom

TABLE 7

Table No. 7: Fractional Regression Results of Diverse 2015				
Coefficients				
Variable	**Estimate**	**Std. Error**	**t value**	**Pr(>|t|)**
Intercept	-1.224799	0.582917	-2.101	0.0383*
NP	0.070694	0.070582	1.002	0.3191
Size	0.27947	0.110552	2.528	0.0131*
Age	0.005079	0.003097	1.64	0.1044
Risk	-0.023195	0.056907	-0.408	0.6845
CI	0.059976	0.403415	0.149	0.8821
Source: Authors' own calculation				
Notes: Significance codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1				

Null deviance: 14.326 on 99 degrees of freedom
Residual deviance: 12.678 on 94 degrees of freedom

TABLE 8

Table No. 8: Fractional Regression Results of Diverse 2022				
Coefficients				
Variable	**Estimate**	**Std. Error**	**t value**	**Pr(>|t|)**
Intercept	-1.32443	0.738612	-1.793	0.0762.
NP	0.182927	0.071094	2.573	0.0116*
Size	0.224294	0.134725	1.665	0.0993.
Age	0.003474	0.003415	1.017	0.3116
Risk	0.144485	0.098245	1.471	0.1447
CI	0.152958	0.455185	0.336	0.7376
Source: Authors' own calculation				
Notes: Significance codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1				

Null deviance: 16.595 on 99 degrees of freedom
Residual deviance: 13.888 on 94 degrees of freedom

Table 9: BSE 100 COMPANIES

Sl. No.	Company Name
1	ACC Ltd.
2	A U Small Finance Bank Ltd.
3	Adani Enterprises Ltd.
4	Adani Ports & Special Economic Zone Ltd.
5	Adani Total Gas Ltd.
6	Ambuja Cements Ltd.
7	Apollo Hospitals Enterprise Ltd.
8	Ashok Leyland Ltd.
9	Asian Paints Ltd.
10	Aurobindo Pharma Ltd.
11	Avenue Supermarts Ltd.
12	Axis Bank Ltd.
13	Bajaj Auto Ltd.
14	Bajaj Finance Ltd.
15	Bajaj FinServ Ltd.
16	Bajaj Holdings & Investments Ltd.
17	Bandhan Bank Ltd.
18	Bank Of Baroda
19	Bharat Electronics Ltd.
20	Bharat Forge Ltd.
21	Bharat Petroleum Corporation Ltd.
22	Bharti Airtel Ltd.
23	Britannia Industries Ltd.
24	Cholamandalam Investment & Finance Co. Ltd.
25	Cipla Ltd.
26	Coal India Ltd.
27	Colgate-Palmolive (India) Ltd.
28	Crompton Greaves Consumer Electricals Ltd.
29	D L F Ltd.
30	Dabur India Ltd.
31	Divi's Laboratories Ltd.
32	Dr. Reddy’s Laboratories Ltd.
33	Eicher Motors Ltd.
34	Federal Bank Ltd.
35	GAIL (India) Ltd.
36	Godrej Consumer Products Ltd.
37	Godrej Properties Ltd.
38	Grasim Industries Ltd.
39	HCL Technologies Ltd.
40	HDFC Bank Ltd.
41	H D F C Life Insurance Co. Ltd.

Sl. No.	Company Name
42	Havells India Ltd.
43	Hero MotoCorp Ltd.
44	Hindalco Industries Ltd.
45	Hindustan Petroleum Corporation Ltd.
46	Hindustan Unilever Ltd.
47	Housing Development Finance Corporation Ltd.
48	ICICI Bank Ltd.
49	I C I C I Lombard General Insurance Co. Ltd.
50	I C I C I Prudential Life Insurance Co. Ltd.
51	ITC Ltd.
52	Indian Oil Corporation Ltd.
53	Indian Railway Catering & Tourism Corporation Ltd.
54	Indus Towers Ltd.
55	IndusInd Bank Ltd.
56	Info Edge (India) Ltd.
57	Infosys Ltd.
58	Interglobe Aviation Ltd.
59	JSW Steel Ltd.
60	Jubilant Foodworks Ltd.
61	Kotak Mahindra Bank Ltd.
62	Larsen & Toubro Infotech Ltd.
63	Larsen & Toubro Ltd.
64	Lupin Ltd.
65	Mahindra & Mahindra Ltd.
66	Marico Ltd.
67	Maruti Suzuki India Ltd.
68	Max Financial Services Ltd.
69	Mphasis Ltd.
70	NTPC Ltd.
71	Nestle India Ltd.
72	Oil & Natural Gas Corporation Ltd.
73	P I Industries Ltd.
74	Page Industries Ltd.
75	Pidilite Industries Ltd.
76	Power Grid Corporation of India Ltd.
77	Reliance Industries Ltd.
78	S B I Cards & Payment Services Ltd.
79	S B I Life Insurance Co. Ltd.
80	S R F Ltd.
81	Shree Cement Ltd.
82	Shriram Transport Finance Co. Ltd.
83	Siemens Ltd.
84	State Bank Of India

Sl. No.	Company Name
85	Sun Pharmaceutical Industries Ltd.
86	Tata Consultancy Services Ltd.
87	Tata Consumer Products Ltd.
88	Tata Elexi
89	Tata Motors Ltd.
90	Tata Power Co. Ltd.
91	Tata Steel Ltd.
92	Tech Mahindra Ltd.
93	Titan Company Ltd.
94	Trent Ltd.
95	U P L Ltd.
96	Ultratech Cement Ltd.
97	Vedanta Ltd.
98	Voltas Ltd.
99	Wipro Ltd.
100	Zee Entertainment Enterprises Ltd.

Table 10: VARIABLES AND THEIR SOURCES

Variable	Data Source
CSR	1. National CSR portal
	2. Annual Reports & Business Responsibility Reports of companies
NP	Prowess Database- Found under the query trigger/Annual Financial statements/'Profitability Ratios'
Size (Total Assets)	Prowess Database- Found under 'Total Assets'
Firm Age (Year of incorporation- Year of study)	Prowess Database- Found under query trigger 'Company Address & Identity Indicators'
Risk (Total Debt: Total Equity ratio)	Prowers Database- 'Liquidity Ratios'
Capital Intensity (Fixed Assets: Total Assets Ratio)	Prowess database- Found under 'Total Assets'

TABLE 11: PARAMETERS FOR MEASURING COMPANY CSR

1. Community Involvement:	**2. Environmental Contribution:**
Opening up or contributing towards educational institutions.	Certified under ISO 14000 series.
Aid to flood/drought/disaster victims.	Going for land reclamation and afforestation.
Construction and maintenance of roads.	Installed effluent treatment plant.
Contribution for the promotion of art, culture, and sports.	Going for rain harvesting programmers.
Provision of drinking water facilities.	Recycling of pollutants and wastes.
Contributing towards healthcare.	Engaged in eco-friendly products/ process.
Construction of temples, community halls, parks, and so on.	Efficiency in paper using.
Promotion of rural income generation schemes.	Power saving/energy conservation
3. Workplace:	**4. Diverse:**
Providing better working environment to the employees.	Redress of grievance of workers/shareholders/employees.
Retirement fund benefit plans, i.e., gratuity, provident fund	No child labour in employment.
Proper safety measures for accident-prone activities.	Different training programs for empowerment of youth.
Frequent training/development programmes for employees.	Welfare activities for SC/ST/ and disabled persons.
Spending for the welfare of employees.	Providing agriculture guidance/schemes.
Providing medical facilities to employees.	Financial inclusion schemes.
Profit sharing/share ownership programmes for employees.	Setting of orphanage home.
Women Harassment at workplace.	Better customer service/customer guidance/after sale service

REFERENCES

Abbott, W. F., & Monsen, R. J. (1979). On the measurement of corporate social responsibility: Self-reported disclosures as a method of measuring corporate social involvement. Academy of management journal, 22(3), 501-515.

Abdul, Z., & Ibrahim, S. (2002). Executive and management attitudes towards corporate social responsibility in Malaysia. *Corporate Governance: The international journal of business in society*.

Aras, G., & Crowther, D. (2008). Governance and sustainability. *Management Decision*.

Aupperle, K., Hatfield, J. D., & Carroll, A. B. (1983, August). Instrument Development and Application in Corporate Social Responsibility. In *Academy of Management Proceedings* (Vol. 1983, No. 1, pp. 369-373). Briarcliff Manor, NY 10510: Academy of Management.

Baker, M. (2004). Definitions of corporate social responsibility-What is CSR. *The World Business Council for Sustainable Development (WBCSD)*.

Bosch-Badia, M. T., Montllor-Serrats, J., & Tarrazon, M. A. (2013). Corporate social responsibility from Friedman to Porter and Kramer.

Bowen, H. R. (1953). Social Responsibility of the Businessman. New York: Harper and Row.

Carroll, A. B. (1979). A three-dimensional conceptual model of corporate performance. *Academy of management review*, *4*(4), 497-505.

Carroll, A. B. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business horizons*, *34*(4), 39-48.

Carroll, A. B. (2008). A history of corporate social responsibility: Concepts and practices. *The Oxford handbook of corporate social responsibility*, 19-46.

Carroll, A. B., & Shabana, K. M. (2010). The business case for corporate social responsibility: A review of concepts, research and practice. International journal of management reviews, 12(1), 85-105.

Carroll, Archie. (1999). '*Corporate Social Responsibility: Evolution of a Definitional Construct.*' Business and Society.

Commission of the European Communities 2002, Corporate Social Responsibility, Main Issue, Brussels.

Driscoll, C., & Starik, M. (2004). The primordial stakeholder: Advancing the conceptual consideration of stakeholder status for the natural environment. *Journal of business ethics*, *49*(1), 55-73.

Drucker, P. F. (1984). The new meaning of corporate social responsibility. California Management Review, 26, 53-63.

Drucker, P.F. (1954). *The Practice of Management*, Collins, New York. USA.

Elsayed, K., & Wahba, H. (2013). Reinvestigating the relationship between ownership structure and inventory management: A corporate governance perspective. *International Journal of Production Economics*, *143*(1), 207-218.

Epstein, E. M. (1987). The corporate social policy process: Beyond business ethics, corporate social responsibility, and corporate social responsiveness. California Management Review, 29, 99-114.

Frederick, W. C. (1978). *From CSR, to CSRg: The maturing of busifiessand-society thought*. Working Paper No. 279, Graduate School of Business, University of Pittsburgh.

Frederick, W. C. (1998). Conceptual foundations of business: A book that made a difference. In *Education, Leadership and Business Ethics* (pp. 61-73). Springer, Dordrecht.

Frederick, W.C. (1960). The Growing Concern over Business Responsibility. *California Management review*, 2, 54-61.

Freeman, R. E. (1984). Strategic management: A stakeholder approach. Boston: Pitman.

Freeman, R. E., & Reed, D. L. (1983). Stockholders and stakeholders: A new perspective on corporate governance. *California management review*, *25*(3), 88-106.

Friedman, M. (1970). The Social Responsibility of Business is to Increase its Profits.

Gilbert, D. U., & Rasche, A. (2008). Opportunities and problems of standardized ethics initiatives–a stakeholder theory perspective. *Journal of business ethics*, *82*(3), 755-773.

Hay, Robert. and Ed Gray, “Social Responsibilities of Business Managers,” Academy of Management Journal, Vol. 17, No. 1 (1974), pp. 133–144.

Heald, M. (1957). Management’s Responsibility to Society: The Growth of an Idea. *Business History Review*, 31, 375-84.

Hopkins, M 1998 The Planetary Bargain: Corporate Social Responsibility Comes of Age, Macmillan, London.

Horrigan, B. (2010). *Corporate social responsibility in the 21st century: Debates, models and practices across government, law and business*. Edward Elgar Publishing.

How, S. M., Lee, C. G., & Brown, D. M. (2019). Shareholder theory versus stakeholder theory in explaining financial soundness. *International Advances in Economic Research*, *25*(1), 133-135.

Johnson, Harold L. (1971). Business in Contemporary Society: Framework and Issues. Belmont, Calif.: Wadsworth Publishing Co., Inc.

Jones, T. M. (1980, Spring). Corporate social responsibility revisited, redefined. California management Review, 59-67.

Krishnan, N. (2012). Does Institutional Ownership Affect Corporate Social Performance-A Study Of Select BSE Listed Companies. *DYPDBM International Business Management Research Journal*, (12), 68.

Lindbeck, A., & Snower, D. J. (1989). The insider-outsider theory of employment and unemployment. *MIT Press Books*, *1*.

Mahoney, J. (1994). FOCUS: Stakeholder responsibilities: Turning the ethical tables. *Business Ethics: A European Review*, *3*(4), 212-218.

Maqbool, S., & Zameer, M. N. (2018). Corporate social responsibility and financial performance: An empirical analysis of Indian banks. *Future Business Journal*, *4*(1), 84-93.

McGuire, J. W. (1963). Business and society. New York: McGraw-Hill.

Miles, S. (2017). Stakeholder theory classification: A theoretical and empirical evaluation of definitions. *Journal of Business Ethics*, *142*(3), 437-459.

Mintzberg, H. (1983). The Case for Corporate Social Responsibility. *Journal of Business Strategy*, 4(2), 3-15.

Papke, L. E., & Wooldridge, J. M. (1996). Econometric methods for fractional response variables with an application to 401 (k) plan participation rates. *Journal of applied econometrics*, *11*(6), 619-632.

Phillips, R., Freeman, R. E., & Wicks, A. C. (2003). What stakeholder theory is not. *Business ethics quarterly*, 479-502.

Plan, A. (2011). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. *European Commission*.

Rahman, S. (2011). Evaluation of definitions: ten dimensions of corporate social responsibility. *World Review of Business Research*, *1*(1), 166-176.

Savage, G. T., Nix, T. W., Whitehead, C. J., & Blair, J. D. (1991). Strategies for assessing and managing organizational stakeholders. *Academy of management perspectives*, *5*(2), 61-75.

Schons, L., & Steinmeier, M. (2016). Walk the talk? How symbolic and substantive CSR actions affect firm performance depending on stakeholder proximity. *Corporate social responsibility and environmental management*, *23*(6), 358-372.

Sethi, S. P. (1975, Spring). Dimensions of corporate social performance: An analytic framework. California Management Review, 17, 58-64.

Singh, A., & Verma, P. (2014). From philanthropy to mandatory CSR: A journey towards mandatory corporate social responsibility in India. *International Journal of Business and Management Invention, ISSN (Online)*, 2319-8028.

Tuzzolino, F., & Armandi, B. R. (1981). A need-hierarchy framework for assessing corporate social responsibility. Academy of Management Review, 6, 21-28.

Waddock, S. A., & Graves, S. B. (1997). The corporate social performance–financial performance link. Strategic management journal, 18(4), 303-319.

Walton, C. C. (1967). Corporate social responsibilities. Belmont, CA: Wadsworth.

Wood, D. J. (1991). Corporate social performance revisited. Academy of Management Review, 16, 691-718.

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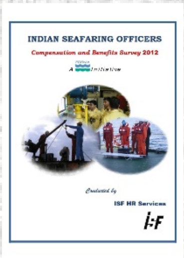

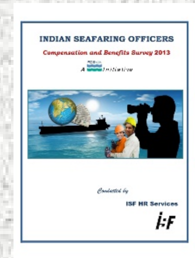

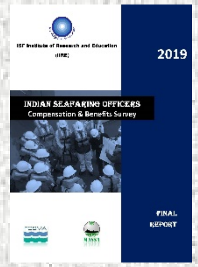

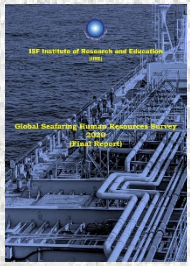

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This unique exercise, which is perhaps the first of its kind in the maritime sector was carried out for the first time in 2017. It has been initiated and supported by the dynamic industry associations FOSMA and MASSA. Twenty-Seven Shipping Companies with around 70000 seafarers on roaster and twenty-two Maritime Institutes conducting Pre-Sea, Post-Sea (COC) and various Modular Courses participated in the survey.

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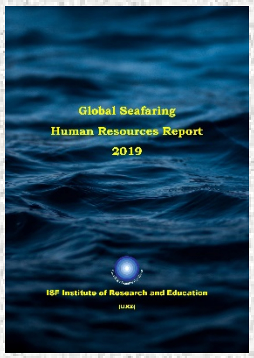
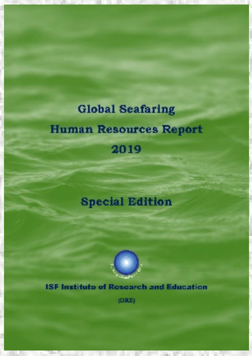
Global Seafaring Human Resources Survey





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