THE IMPACT OF CORPORATE SOCIAL RESPONSIBILITY ON MARKET VALUE OF QUOTED CONGLOMERATES IN NIGERIA

BY

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BEING A THESIS SUBMITTED TO THE POST GRADUATE SCHOOL, AHMADU BELLO UNIVERSITY, ZARIA, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF SCIENCE IN ACCOUNTING AND FINANCE

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DECLARATION

I hereby declare that this thesis titled “The Impact of Corporate Social Responsibility on market value of quoted Conglomerates in Nigeria”, is a product of my research work. To the best of my knowledge and belief, this work has never been submitted to any institution for an award of a degree or certificate of whatever kind. All borrowed materials are duly and properly acknowledged. I take the sole responsibility for any errors contained therein.

Oba V.C

CERTIFICATION

This thesis entitled 'The Impact of Corporate Social Responsibility on Market Value of quoted conglomerates in Nigeria", by Oba Victor Chiedu meets the requirements governing the award of the degree of Master of Science in Accounting and Finance of Ahmadu Bello University, and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

This research work is dedicated to my mother, Mrs. F. I. Oba who despite her meager resources propelled me for this decent academic venture.

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I wish to express my boundless gratitude to God for His provision, presence and protection over me through this phase of my academic career. I recognize that without God's mercy and divine favour, I am nothing and can do nothing.

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ABSTRACT

The purpose of this study is to investigate the causal relation between corporate social responsibility and market value. This study uses a multiple regression model for the purpose of explaining the impact of corporate social responsibility on market value of quoted conglomerates in Nigeria for the period 2001 to 2006. The model employs Community Social Responsibility, Human Resource Management, Charitable Contribution and firm size as explanatory variables in order to predict market value as represented by Tobin's Equity Q. The study reveals that the explanatory variables have significant aggregate impact on market value. This result offers evidence on the utility of the model in explaining the CSR – market value relationship in quoted conglomerates in Nigeria. The study establishes an insignificant relationship between community social responsibility, Human resource management and market value. On the other hand, charitable contributions have been found to have a negative impact on market value of quoted conglomerates while firm size has been found to play a significant role in the CSR-market value relationship. On the basis of the findings of the study it has been recommended that businesses carry out social responsibilities reflective of their corporate size and capability. Finally, the study recognizes the limitation of the model of this study in providing an understanding of whether or not socially responsible firms outperform the socially reprehensible ones and precisely how much a firm should spend on CSR. It therefore calls for caution in the extrapolation of the findings of the

study and encourages further research on the possible CSR- Financial performance relationship in Nigeria.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the study

In an ideal society, companies cannot ignore the environment and major coalition members with which they interact. This is because the raison d'etre for their existence-the accumulation of capital is only possible through the existence of their societies which otherwise constitute their markets (Hopkins, 2004).

In this way, corporate social responsibility is the inherent obligation of each business entity to account for the way its activities impact on the economic, social and environmental dimensions of its environs and to ensure that this impact generates equitable and sustainable benefits-and no harm-to all stakeholders involved (De Regil, 2003).The stakeholders represent the various interest groups of society where the company operates. They comprise of workers, consumers, and indigenous groups all with a legitimate right to demand socially responsible and right corporate behaviour. The stakeholders include all the members belonging to the corporation's social environs, which contribute to or are encumbered by the corporation's activity. Corporate social responsibility (CSR) is thus concerned with treating the stakeholders of the firm ethically or in a responsible manner (Hopkins, 2004). 'Ethically' or 'responsibly' means treating stakeholders in a manner deemed acceptable in civilized societies. Stakeholders exist both within a firm and outside. Even the

natural environment is a stakeholder (Carrol and Buchholz, 1999). The wider aim of social responsibility is to create higher standards of living while preserving the profitability of the corporation (Stakeholder Alliance, 2002).

The social responsibility of business was not widely considered to be a significant problem from the time of Adam Smith to the period of the great depression. However, increasingly since the 1960s, social responsibility has become an important issue not only for businesses but in the theory and practice of law, accounting and economics (De Regil, 2003). Accounting theory and practice are not left behind in these developments.

Corporate social responsibility (CSR) has been a growing dimension in accounting theory and practice since the 70s. The accounting profession has been involved in the struggle to ensure that social responsibility expenditures are accounted for and adequately disclosed in the annual reports/financial statements.

Spicer (1978) observes that CSR is concerned with the provision of information about a firm's performance of the social contract. However, the development of a system of accounts for social responsibility has been met with difficulties. First, is the indefinite and imprecise theory of the social role of a business entity in modern times and second, is the lack of any objective criteria for social measurement that will enable the evaluation of performance. Nevertheless trends suggest that businesses are aware of a social responsibility and some are ready and able to provide information on social performance.

There is therefore, a perceived social contract between organizations and society. This presumed social contract gives firms a platform for determining their social constituencies, what these constituencies expect of their respective corporate inhabitants and how to initiate corporate social objectives to meet these expectations.

In many ways, CSR emerges as counterculture to the long established vision of private and free enterprise (Alvaro, 2003). Free enterprise was supposed to be very private, to not have to answer to anyone about its business practices and conducts and not to be accountable to society except for fiscal matters. The only original accountability of the business was to its private shareholders or institutional investors in the financial markets. Nevertheless, the increasingly adverse impact of corporations on aspects of social life and on the environment has been the catalyst in the advancement of a diversity of stakeholders demanding accountability about the impact of corporate activities on the life of the society. Thus, the corporation cannot ignore the society in which it operates.

A recent phenomenon is the introduction of legislations/codes of conduct to ensure that businesses undertake social activities. These include codes of conduct and standards like the Global Reporting Initiative (GRI), the Global Sullivan Principles (1999), Global Compact (2002), AA1000/AA1000s of 1999, the social venture network standards, and the ISO26000 have been initiated after much demands by civil rights and environmental activist groups.

The field of CSR has grown exponentially in the last decade. In today's competitive environment CSR represents a high profile notion that has strategic importance to many companies (Xueming and Bhattacharya, 2006). The poverty of a nation's citizens, political unrest, exhaustion of natural resources, can have destructive effects for a corporation. A firm cannot healthily operate while neglecting its environment. This has thus entrenched CSR as a corporate dictate.

Friedman (1970) observes that the sole objective of the firm should be to maximize shareholders' wealth and thus an organization striving to attain this objective is already acting in the best interest of the society at large. Moreso, companies may be poorly equipped to address some of the social or environmental problems. But from another perspective, no matter how poorly equipped, companies may still be best positioned to ameliorate the problems. An increasing number of shareholders, analysts, regulators, labour unions, employees, communities, organizations are asking companies to be accountable for these CSR issues (Tsoutsoura, 2004). Certainly, adopting the CSR principles involves costs. Since being socially responsible involves costs, it should appropriately generate benefits in order to be a sustainable business practice. A corporation should not continue a policy that constantly generates negative cash flows (Tsoutsoura, 2004).Therefore being socially responsible should have bottom line benefits in order to be sustainable.

This study seeks to contribute to the meager literature on CSR in developing countries by providing a Nigerian perspective of CSR. Nigeria

makes an interesting case to explore the practice and benefits of CSR for many reasons. Nigeria is the most populous black country and is very rich in natural resources and oil reserves. However, the presence of oil has unleashed untold devastations on the locales where the oil reserves are extracted-especially the Niger-delta region of the country. Their main sources of livelihood (rivers and farmlands) are polluted and destroyed (Amaeshi *et al*, 2006). Nigeria suffers from poor infrastructural development. The educational system is under-funded and illiteracy rate is up to 40%; road networks are underdeveloped, more than two-thirds of Nigerians are poor, the country has one of the worst health care systems in the world with doctor-patient ratio of about 1:1000 (NEEDS, 2005). All these ought to have been taken care of through social responsibilities from companies operating therein.

Arguably, the history of organized CSR in Nigeria can be traced to practice in the oil and gas sector driven by multinationals (Ite, 2004). As typical of multinationals, the motivations to engage in CSR are varied response to market forces, globalization, and consumer and civil society pressure. However most of the compelling pressures to be engaged in CSR may not necessarily be applicable to most firms operating in Nigeria. Local consumer and civil society pressures are almost non-existent and law enforcement mechanisms have been weak and inefficient (Limbs and Fort, 2000; Oyejide and Soyibo, 2001, and Ahunwan, 2002).

However, with the recent shift of emphasis on economic growth to the private sector and with the wake of CSR policy issues on the Nigerian corporate atmosphere, companies both indigenous and multinational now have an onus to be socially responsible. But could these companies in such a challenging environment continue with these CSR principles when there might not be a favourable economic return? It is important to consider if CSR activities generate benefits to keep the venture sustainable; if CSR activities improve market values of the firm which according to Jensen (2002) is the prior objective of any firm. It is against this background that this study is being undertaken to address the above mentioned issue.

1.2 Statement of the Problem

Friedman's (1970) pronouncement that the social responsibility of business begins and ends with increasing profits suggests that social matters are best left for anyone but business. However, as international organizations such as the United Nations, its agencies and the World Bank, are having less and less impact on human development and reducing funding in this direction, and as the pressure increases on governments to spend less and less, the problems of underdevelopment and unemployment have defied solution, consequently, it is logical therefore, for businesses in the absence of public funds, to play a greater role in human development issues than ever before. But should businesses be

directly involved in these issues or simply pay taxes and rely on governments and public organizations to use these taxes wisely?

As a result of the emerging standards and global acceptability of CSR, corporations are left with no choice but to strategize on the level of CSR investments made. Today's heightened interest in the proper role of business in society has been promoted by increased sensitivity to environmental and ethical issues (Wikipedia, 2005). In some countries, government regulation regarding environmental social issues has increased, and standards, codes of conduct, and laws are also often set at a supranational level (for example, the European Union). Some investors and investment fund managers have begun to take account of a corporation's CSR policy in making investment decisions (Peloza, 2005). In addition, consumers have also become increasingly sensitive to the CSR performance of the companies from which they buy their goods and services. These trends have contributed to the pressure on companies to operate in an economically, socially and environmentally sustainable way.

Many managers and companies are concerned about social or environmental problems, but still wonder why it would be their responsibility to get involved. Ultimately, most scholars and researchers believe that only a proven cause- and- effect relationship between CSR activities and financial performance can dramatically increase CSR activity. (Phillip and Claus, 2002). Over the past decade, managers have faced pressure to justify the allocation of scarce firm resources. Indeed, investments in socially responsible behaviours

such as philanthropy have become much more strategic and focused on providing tangible returns to the firm (Margolis and Walsh, 2003).

The question then arises, can socially responsible investors integrating environmental, social and ethical issues in their investment policy expect the same returns as traditional investors? Do corporations that incur social costs improve the market values of their firms? If not, then why social responsibility? The attempt to establish a general cause–effect relationship between CSR and a firm's financial performance is the fastest growing research today (Phillips and Claus, 2002). This focus is not virgin as scholars in the 1970s tried to address the question of whether or not socially responsible firms were also profitable firms (McWilliams and Siegel, 2001). Although studies in finance have explored the relationship between CSR and firm performance, empirical evidence to date has been rather conflicting (for a review, see Orlitzky *et al* 2003, Pava and Krauz, 1996). For example, the returns to CSR are found to be positive in some studies (such as Fombrun and Shanley, 1990, Solomon and Hansen, 1995) but negative in others (such as Aupperle *et al*, 1985, McGuire *et al*, 1988). Thus Margolis and Walsh (2003) conclude that the relationships between CSR and firm performance are decisively 'mixed'.

There are at least two explanations for these conflicting findings. First, existing studies have largely related CSR to backward-looking firm profitability (that is accounting- based return on investment) but not to forward-looking firm market value, that is, stock based Tobin's q or stock returns (Xueming and

Bhattacharya 2006). Theoretically, however, market-value is different from (and probably more weighty than) return on investment because accounting measures are retrospective and examine historical performance while on the other hand, market value of firms hinges on growth prospects or expected performance in the future (Rust et al, 2004). Secondly, the unclear link between CSR and firm performance may be due, in part to finance literature having omitted the condition that may explain the range of observed relationship-firm size (Sen and Bhattacharya 2001). This study will examine these research issues.

Also, the measurement of CSR is complicated by the lack of consensus of measurement methodology .In many cases, subjective indicators have been developed by rating agencies such as the Domini Social Index (DSI) using the Kinder Lynderberg and Domini (KLD) rating system, Fortune Rankings, and Ethical Investment Research Service. (Akathaporn and McInnes, 1993; Preston and O'Bannon, 1997). These rating agencies use a combination of surveys. KLD for instance uses financial statement, articles on companies in the press, journals and government reports to assess CSR along eleven dimensions. Significantly, it is unclear exactly what these indicators measure (Tsoutsoura 2004). They seem to be open to impressions and biases.

The CSR issue is a growing concern in corporate Nigeria today. Nigeria is the most populous black country in the world and is influential both within sub-Sahara Africa and in the global economy–not least in the proven capability of her internal events to destabilize the global oil market (Amaeshi et al

2006).In fact, the incessant political and social unrests in the country are not unconnected with the social and environmental concerns that lie at the heart of the CSR debate (Adi, 2006). The shell vs Ogoni saga is a well recorded case study in the CSR literature (see Boele *et al*, 2001).

There have been a number of studies on CSR in Nigeria, all of which have been exploratory and descriptive and have mainly focused on discussing the phenomenon without examining its financial implications (See Ite, 2004, 2005; Wheeler et al, 2002; Frynas, 2000, 2001; and Christian, 2004); if the CSR practices of multinational firms operating in Nigeria reflect the national business systems of their home countries as Jones (1999) and Van Tulder and Kolk (2001) argue, the question then arises on the impact such CSR practices have on their financial states. In other words, is there a Nigerian brand of CSR – financial performance relationship? Do Nigerian firms that incorporate CSR into their operations reap economic benefits or is CSR just a 'philanthropic' cost?

The problem of this study is therefore, to empirically ascertain if CSR costs by conglomerates quoted on the Nigerian stock exchange have an impact on their market values.

1.3 Research Questions

This study shall address the following fundamental questions:

1. Do CSR activities generate benefits to keep the venture sustainable?.
2. What aspects of CSR results in positive financial performance

1.4 Objectives of the study

This study is designed to achieve the following objectives:

1. To test an empirical model which incorporates four (4) independent variables (Community CSR, Human resource management, Charitable contributions and firm size) in determining the market value of conglomerates quoted on the Nigerian stock exchange.
2. To determine the aggregate impact of the four (4) CSR variables on market value of the firms under study.
3. To identify which of the variables has a positive significant impact on market value.
4. To use the findings of the study as an informed platform for making a case for CSR investments in Nigeria while exposing the unfolding benefits/consequences of such investments.

1.5 Research Hypotheses

The null hypotheses of this study are as follows:

1. Corporate social responsibility (aggregate) does not significantly affect the market value of quoted conglomerates in Nigeria.
2. Community CSR has no significant impact on market value of quoted conglomerates in Nigeria.
3. Human resource management has no significant impact on market value of quoted conglomerates in Nigeria.
4. Charitable contributions have no statistical significant impact on market value of quoted conglomerates in Nigeria.
5. Firm size has no significant impact on the CSR-market value relationship.

1.6 Significance of the study

As businesses have increased their adoption of CSR practices and their involvement in issues traditionally under the domain of governments and NGOs, the measurement challenges associated with these non traditional initiatives have also grown up. Meanwhile, accurate measurement of results in CSR has taken on additional importance over the past decade as managers face the pressure to justify the allocation of scarce firm resources. Indeed investments in socially responsible behaviors have become much more strategic and focused on providing tangible returns to the firm (Margolis and Walsh, 2003; Smith, 2003).

This study is essentially an effort geared towards determining empirically the individual and aggregate impact of CSR indicators on the value/performance of conglomerates quoted on the Nigerian stock exchange. The constructive contributions of this study are thus manifold. Firstly, the study would create a first hand awareness of the financial implications of CSR practices of firms in Nigeria thus providing an opportunity for researchers to gain a more accurate assessment of the actual value of CSR investments to the firm.

Secondly, the study offers guidance to managers seeking to justify the allocation of scarce resources on social issues. The study would give quantitative evidence on the relationship between CSR investments and financial performance. Thirdly, the government which has been soliciting the wholehearted adoption of CSR practices would find this study a précis of the CSR–financial performance interaction in the Nigerian atmosphere and thus have quantitative and qualitative evidence covering a variety of CSR financial information to present while clamouring for CSR adoption by firms.

Lastly, with particular emphasis on conglomerates quoted on the Nigerian stock exchange (a typical sub-Saharan market), this study will serve as reference to other conglomerates/multinationals quoted on other emerging markets in the sub-Sahara. It would provide findings that will serve as a means of bridging the knowledge gap in this emerging phenomenon and thus contribute to the existing body of knowledge.

1.7 Scope of the study

This study investigates the impact of Community CSR, Human resource management and Charitable contributions on the market value of conglomerates quoted on the Nigerian stock exchange. The study also investigates the effect of firm size in the model. These variables have been selected on the basis of CSR constituents and empirical debates.

The study covers a period of six (6) years from 2001-2006. This timeframe is considered important because of the democratic dispensation which promoted the culture of social responsibilities amongst corporate firms in Nigeria. The period has thus witnessed a lot of outcry for social responsibility by the social constituents. The period 2001-2006 is also considered important because of its current nature and data are available for the period at the time of carrying out this research.

This study uses the Nigerian Stock Exchange listing to select its sample firms. The firms have been selected using random sampling with a view to creating a platform for this line of study. The conglomerate sector of the Nigerian Stock Exchange has been selected since all firms in this sector are multinationals and thus give us an inference to the operationalization of the CSR-Financial performance relationship in other multinationals. Based on the peculiarity of the study period and uniqueness of the sampling frame, it is believed that the research findings will warrant generalization.

1.8 Definition of Terms

Code of conduct- A document that sets standards for a company or entire industry, usually relating to worker treatment and rights.

Corporate citizenship -this term is synonymously used with CSR, however the distinction is academic. It involves the day-to –day practices of the firm as they impact (and are impacted by) stakeholders. It is an ensemble of actions that demonstrate commitment to responsibility.

Corporate social sustainability –aligns an organisation's product and services with stakeholder expectations thereby adding economic, environmental and social value.

Ethics- the science of morals in human conduct (oxford dictionary). According to Frieser (2001) business ethics examine more controversies that commonly arise in the business world including social responsibilities of capitalist business practices, insider trading, job discrimination, deceptive advertising, etc.

Iron law of responsibility –This was posited by Davies (1960) that the social responsibilities of the businessman need to be commensurate with their social power and influence.

Socially Responsible Company- is one that seeks and identifies the concerns of its stakeholders and endeavours to treat those stakeholders fairly (Stephanie Draper, Corporate Nirvana: Is the future socially responsible? London, Industrial Society, 2000).

Social Reporting- Non-financial data covering staff issues, community economic developments, stakeholder involvement and can include voluntarism and environmental performance (Hopkins,2004)

Stakeholder- Any group or individual who can affect or is affected by the achievement of the organization's objectives-specifically vis-à-vis our study, includes, owners, suppliers, employees, customers, communities, governments and the natural environment (Carroll and Buccholz, 1999)

Social investing firms- social investing firms manage investment portfolios and include only companies considered to be socially and or environmentally responsible.

Triple bottom line- Putting environmental concerns and people equity issues on an equal footing with shareholder return. Triple bottom line reporting declares not only financial results but also social and environmental impact of the business.

CHAPTER TWO

LITERATURE REVIEW

2.1 Concept of Corporate Social Responsibility

In a true democratic ethos, the government's first responsibility is to provide for the welfare of all ranks of society (Smith, 1776). Unfortunately, political ambitions and corruption gradually eroded the government's will to fulfill that regulatory responsibility and act as 'balancing agents' to control the natural excesses of the market system (De Regil, 2003).

It has been pointed out that considering the lack of will of most governments to fulfill their most basic responsibilities, it becomes needful that global civil society takes the responsibility. In this way, the civil society had to ensure the common good of the people and the basic principle of governance of pursuing the welfare of all ranks of society" (Stake holder Alliance, 2001). Probably no issue has received more attention by business, governments, politicians and people in general in the past few years than the issue of social responsibility (Mc Oliver and Yomere, 1999).

The debate on CSR began in the early 20th century, as concerns about large corporations and their power came to the fore (Heal and Nair, 2005). With the emphasis on globalization, the great beneficiaries seemed to be the global corporations (Garcia, 2002). In a globalized set up, companies cannot ignore the societies in any of the social spheres where they interact. This is

because they are formed and managed by individual members of society. Thus, the accumulation of capital is only possible due to the existence of these societies, which constitute their markets, and especially because their activities have a tridimensional impact (economic, environmental and social) on societies and their habitat (De Regil, 2003). Their huge political and economic influence has made government abandon their basic responsibilities, which results in very negative tridimensional effects (Stakeholder Alliance, 2001). Throughout the 20th century, academics in the field of business and the society have addressed the question of the social responsibilities of business. However, the term 'Corporate Social Responsibility' (CSR) and related terms and constructs were not used in the literature until the 1950s (Phillips and Claus, 2002).

Carroll (1999) among others credits Bowen (1953) for initiating social responsibilities of the business man in the modern era which helped to stimulate academic interest and channel it into themes of serious on going research. Bowen (1953) defined corporate social responsibility as "the obligations of businessmen to pursue those polices, to make those decisions or to follow those lines of action which are desirable in terms of the objective and values of our society". Thus being in business implies a degree of obligation to society. Literatures on the subject in the 1960s expanded the definition, suggesting that beyond legal obligations, companies had certain responsibilities to society (Drucker, 1984). Ever since then, academics have continued to debate the

validity and nature of this obligation and may have espoused the view point that obligation stems from the intrinsic power that business holds in society.

Davis (1960) posits that the social responsibilities of businessmen need to be commensurate with their social power. Pinkston and Carroll (1996) characterize this power as a preponderance of resources and capacity, stating that society turns to business to become the vehicles of change and progress primarily due to their size, financial resources and visibility.

Phillips and Claus (2002) argue that in the present age of globalization, citizens around the world have become increasingly aware of the fact that the private sector influences their daily lives in innumerable ways. They also opine that the societal impact of global business has been negative oil spills, air/water pollution, exploitation of labour, e.t.c.

However, Fitch (1976) defines CSR as the serious attempt to solve social problems caused wholly or in part by the corporation, making the argument that business often causes societal problems. Corporate social responsibility is an expression used to describe what some see as a company's obligation to be sensitive to the needs of all the stakeholders in its business operations (Wikipedia, 2006). A company's stakeholders are all those who are influenced by, or can influence, a company's decision and actions. These can include (but are not limited to) employers, customers, suppliers, community, organization, subsidiaries and affiliates, joint venture partners, local neighborhoods, investors, and shareholders (Donaldson and Preston, 1995). Mc Williams

(2001) came up with the stake holder theory which he called the 'dominant paradigm in CSR'. This theory is in response to one of CSR's most noteworthy critics, eminent economist Milton Friedman.

Friedman (1963) observes that few trends could so thoroughly undermine the very foundations of our free society as the acceptance by corporate officials of a social responsibility other than to make as much money for their stockholders as possible. On the other hand, Freeman (1984) directly challenged Friedman's assertion contending that firms have relationships with many constituent groups and these stakeholders both affect and are affected by the actions of the firm. He defines stakeholders as any group of individuals who can affect or is affected by the achievement of the organization's objective. Stakeholder theory has been touted as especially applicable to global business, where success depends on productive local relationships. Inclusion of all stakeholders in decision making ensures buy-in from the local community, cultural appropriateness, and the ability to meet local needs that are locally determined (The Consulting Network, 1998).

Corporate social responsibility is closely linked with the principles of 'sustainable development' in proposing that enterprises should be obliged to make decisions based not only on the financial/ economic factors but also on the social and environmental consequences of their activities (Wikipedia, 2006). Sustainability has been a popular concept throughout the 1990s into the 21st

century, not only among CSR scholars and business people, but in the public sector international economic development community as well.

The most widely recognized definition of sustainability comes from the 1987 report, 'over common future', also known as the Brudtland report of the UN World Commission on Environment. The report defines sustainability as meeting the needs of the present generation without compromising the ability of future generation to meet their needs. It is applicable at both the level of the individual firm and the global level. Just as firm are encouraged to make their own operations more sustainable, the business community as a whole is called upon to sustain the global environment and stabilize the global economy for the health of future generation (Phillips and Claus, 2002).

To live within an environment is to take into account in our every action those elements of our surroundings which are important to us and others (Mc Oliver and Yomere, 1999). Managers know that they must interact within an existing environment. This means that they must take into account every element in their surroundings that is important to their success and important to others who may be affected by the action taken. This is what they must do since the survival of their enterprises depends upon successful interaction with the critical elements of their environment (Inegbenohor and Osaze, 1999).

The application of the principle of sustainable development through the introduction of a CSR policy is often accompanied by what is called triple bottom line reporting which declares not only financial results but also the

social and environmental impact of the business. Some countries like France have made such reporting mandatory (Wikepedia, 2006). Many large companies now produce annual reports that cover sustainable development and CSR issues, and these reports are often externally audited (Blake et al, 1978).

A widely quoted definition by the World Business council for sustainable development states that corporate social responsibility is the 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. (CSR: meeting changing expectations, 1999).

This holistic approach to business regards organizations as being full partners in their communities, rather than seeing them more narrowly as being primarily in business to make profits and serve the needs of their shareholders. Corporate social responsibility is therefore defined by this study as "the implied social contract that exists between the corporation and its environs of which the former improves the welfare of the latter beyond the interest of the firm so as to enjoy a healthy relationship.

Probably no issue has received more attention by business, governments, politicians and people in general in the past few years than the issue of social responsibility (Mc Oliver and Yomere, 1999). One anticipates that issues concerning social responsibility will continue to be important to managers for some time in future. Society is becoming more complex, and social problems

are increasing. Business organizations are major institutions in society. As such, they are likely to be concerned with social responsibility firstly to avoid being faced with social protests, and additional government regulation (Beesly and Evans, 1978) and secondly because most of the large organizations, like the multinational corporations are highly visible and have a substantial impact on society (Mc Oliver, 1984)

2.2 Scope of Corporate Social Responsibility

In today's globalized market place, there is growing acceptance that the corporate sector has a role to play in securing a sustainable future (Collins, 2006). The concept of social responsibility of corporations has engendered considerable interest in recent years (Brine et al, 2006). However, the question to be answered with respect to CSR is how far do they extend.

It is difficult to strictly identify the coverage of CSR, when not even the experts agree (Collins, 2006). Some scholars have framed CSR in terms of level of activity. MC Guire (1963) asserts that the idea of social responsibilities presupposes that the corporation has not only economic and legal obligations, but also certain responsibilities to the society which extend beyond these obligations. The attractiveness of this scope is that it recognizes not only the primacy of economic objectives and the importance of legal obligations but also embodies a view which more broadly conceives the firm's responsibilities.

In the late 1960s and 70s in the United States, social movements around the issues of the environment, workers safety, consumer protections, and human

rights brought about new laws and regulations enabling scholars to include the legal level of responsibility in their CSR frame.

In 1971, the committee for Economic Development, a working group of business people and educators proposed a model of CSR composed of three concentric circles of responsibilities: the core or inner circle includes production of goods and services, jobs and economic growth; the middle circle consists of performing economic functions with awareness of changing social conditions such as respect for environment, good human resource policies, honesty and protection of consumers; and the outer circle was composed of newly emerging responsibilities to actively become involved in and improve the social environment.

Carroll (1979) produces a similar three dimensional conceptual model of corporate social performance. In his model, economic and legal obligations constitute the first tier of responsibility. The second tier consists of ethical responsibilities, the kinds of behaviours and ethical norms that society expects business to follow. Finally, the third tiers are discretionary activities, "guided by business in social roles not mandated or required by law and not expected of business in an ethical sense".

In a survey, Pinkston and Carroll (1996) find that United States executives in the chemical industry perceive their responsibilities in a manner resembling this three dimensional model, and Maignan (2000) also finds similar responses in a survey of 210 United States and 120 French mangers.

Some scholars and practitioners have disagreed with such stratifications of responsibilities; arguing that separation into layers is antithetical to strategic integration of CSR into business functions (Phillips and Claus, 2002). Waddock and Smith (2000) argue that too much time is spent to think about it as a discretionary responsibility, outside of the context of daily business operations and undertaken only after the more basic, economic, legal and ethical responsibilities have been met. The actions of a company in society are thereby (mistakenly) separated from its operating practices. This notion of inseparability between daily business operations and social responsibility is becoming increasingly widespread (Phillips and Claus, 2002).

Also the theme that CSR is not generalizable has recurred a lot in the literature. In this view, the disparate activities often lumped together are too different to be meaningfully associated or compared. It is argued by BSR (2000) that rather than viewing CSR as an overarching principle, it should be taken as an assortment of activities and programs, each with its own potential social or environmental outcomes (BSR, 2000). Heald (1970) suggests that the meaning and concept of social responsibility for businessmen must finally be sought in the actual polices with which they were associated.

There is currently a debate on the extent to which company directors and managers should consider social and environmental factors in commercial decision making (Brine *et al*, 2006). While there is no universally accepted

boundary of CSR, it usually encircles a company, managing and balancing the economic, social and environmental impacts of it activities (Parliamentary Joint Committee, 2006).

Formbrun *et al* (2000) see CSR as enveloping the stakeholders which they identify as "employees, customers, investors, partners, regulators, activists, community and media. Freeman (1984) specifically enumerates six stakeholders: owners, employees, customers, suppliers, communities and government. Other scholars have since included the natural environment as an additional stakeholder (Carroll and Buccholz, 1999).

The stakeholder concept has continued as a central theme in CSR. Development of the concept has revolved around finding ways to integrate various stakeholders and their concerns into business activity. Clarkson (1995) spearheaded the redefining of the corporation project, as ten year endeavor to bring out a process and dialogue- based approach to treating stakeholders with respect by consistently monitoring their interests and status and taking those into account in corporate decision making.

Donaldson and Preston (1995) have created a well- known stakeholder theory typology to argue for stakeholder engagement as an essential management tool.

The concept of social responsibility spans through many sectors of the economy (Beesly and Evans, 1987). Although various enterprises in different sectors have different missions, they still have to be socially responsible in order

to survive. Mc Oliver and Yomere, (1999) argue that in the mining, manufacturing and service sectors, CSR activities are undeniable. They also identify six responsibilities of business: responsibilities to the customers, to the public, to the business owners, to government, to employees and political responsibilities of business.

To Tsoutsoura (2004), there is no definite boundary of CSR- each company differs in the way it implements CSR. She asserts that social differences depend on such factors as the specific company's size, the particular industry involved, the firm's business culture, and stakeholder demands.

2.3 The Debate on Corporate Social Responsibility

The concept of CSR has been very controversial. It is highly favoured by some group of people, and strongly opposed by others. It has therefore suffered from a lack of a generally acceptable definition (Idoko, 1998). As businesses have increased their adoption of CSR practices and their involvement in issues traditionally under the domain of governments and NGOs, the challenge of such non- traditional initiatives have also grown (Peloza, 2005).

According to Friedman (1970), in a free society, there is one and only one social responsibility of business which is to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game. This means that it should engage in open and free competition without deception or fraud. He prefers that the state addresses social problems,

arguing that an executive, by taking money and resources that would otherwise go to owners, employees, and customers, and allocating them according to the will of the majority, fails to serve the interests of his or her principal. In this way, he argues that for an executive to impose a tax and spend the proceed for 'social' purpose, this is intolerable, since he has neither the skills nor the jurisdiction to do so.

On the other hand, there are many appeals by others for corporate adoption of CSR practices. Some writers like Tsoutsoura (2004) believe that although the government is majorly responsible for addressing these issues, the contribution of private firms can be substantial. According to the Organization for Economic Cooperative Development (OECD, 2001), of the 100 largest global economies, as measured by GDP, 51 of them are U.S corporations, and only 49 are nation states. So economic power seems to have shifted to the corporations. They, therefore, should have an increasing role in addressing social problems. Wikipedia (2007) finds this an inaccurate claim and argues that it is based on a miscalculation, where two numbers describing totally different things are compared: the GDP of nations to gross sales of corporations. According to Swedish economist Johan Norberg (2006), a correction would compare GDP to goods only produced within the particular company and that would make only 37 of 100 largest economies and all of them would be in bottom box: only 5 corporations would be in top 50.

Tsoutsoura (2004) argues that a firm cannot ignore the problems of the environment in which it operates since the poverty of a nation state's citizens, political unrest, and the exhaustion of natural resources can have destructive effects for a corporation. Porter and Kramer (2002) further state: "Executives find it hard, if not impossible, to justify charitable expenditure in terms of bottom- line benefit.

This dilemma has led many companies to seek to be more strategic in that philanthropy. But what passes for 'strategic philanthropy' today is almost never truly strategic and often it isn't even particularly effective as philanthropy". The majority of corporate contribution programmes are diffused and unfocused rather than being tied to well thought-out social or company goals. The derived benefit is goodwill and the focus is not on any strategic advantage (Porter and Kramer, 2002).

Smith (1994) outlines the dangers of "do gooding executives" who justify CSR simply on the basis that it is morally defensible. Critics have long argued that firm investments in socially responsible but unprofitable ventures will ultimately lead to the demise of the firm at worst, and at best lead to unsustainable support for non- profit organizations (Murray and Montannari, 2005).

Murray and Montannari (2005) further observe that the failure to supplement the moral justification for social responsibility with economic consideration may explain why many corporate executives view social

responsiveness as a strictly ‘”un-productive cost”. According to Peloza (2005), Such criticisms have resulted in managers developing more strategic forms of social responsibility that can be shown to deliver a financial return to the firm initiatives positioned as enlightened self- interest.

According to Tsoutsoura (2004), socially responsible corporate performance can be associated with series of bottom line benefits. But in many cases, it seems that time frame of the costs and benefits can be out of alignment because the costs are immediate, and the benefits are not often realized immediately. However, he identified many benefits: firstly, socially responsible companies have enhanced brands and companies with good reputation in CSR related issues. A company regarded as socially responsible can also benefit from its reputation within the business community by having increased ability to attract capital and trading partners. Secondly, companies that adopt CSR principles are more transparent and have less risk of bribery and corruption. In addition, they may implement more costly quality and environmental controls, but they run less risk of having to recall defective product line and pay heavy fines for excessive polluting.

Hillman and Keim (2001) report that socially responsible companies have less risk of negative social events which damage their reputation and thus should have more stable earnings growth and a lower discount rate since they carry less risk.

Turban and Greening (1997) are of the opinion that companies perceived to have a strong CSR commitment often have an increased ability to attract and to retain employees which leads to reduced labour turnover, recruitment, and training costs. They also contend that employees often evaluate their companies CSR performance to determine if their personal values conflict with those of business at which they work. Thus, companies that improve working conditions and labour practices can be expected to also experience increased productivity and reduced error rates. These practices though are costly but the increased productivity of the workers and improved quality of the products generate positive cash flows that cover the associated costs. Thus a firm may actually benefit from social responsible actions in terms of employee morale and productivity (Moskowitz, 1972; Parket and Eibert, 1975; Solomon and Hansen, 1985).

According to Knox and Maxlan (2004), the potential for CSR to provide risk mitigation is a widely accepted benefit of such activities. They contend that being trusted by stakeholders and pursuing socially responsible policies reduces risks arising from safety issues, potential boycotts and loss of corporate reputation.

The investment community is increasingly viewing corporate social responsibility as akin to long-term risk management and good governance practices (Brine *et al*, 2006). Recent survey indicates that analysts place as

much importance on corporate reputation as they do on financial performance (Hill and Knowltown, 2006).

Some commentators are cynical about the true level of commitment of corporations to ideas like CSR and sustainable development, and their actual motivations for responsible behaviour. Corporations that create the appearance of acting responsibly just for its public relations value are said to be green washing (Wikipedia, 2006). Such commentators also say, citing Friedman's dictum that the idea of an ethical company is an oxymoron, since the corporation is by its nature compelled to maximize its own interest whatever the external price (Griffin and Mahon, 1997) and that CSR may divert resources away from projects that would have had a greater impact on profitability (Mc Williams and Siegel, 2001)

The debate on the CSR issue is endless. However, the CSR movement may perhaps be understood as an attempt not so much to regulate the activities of corporations but rather to remind the people who constitute these corporation that they have other responsibilities beyond the corporate ones.

2.4 Corporate Social Responsibility Accounting

Corporate social responsibility accounting is an emerging concept, which has evolved from the changing socio-economic environment of accounting. The American Accounting Association (1966) defines accounting as the process of identifying, measuring, and communicating economic information to permit

informed judgments and decisions by the users of the information. However, the concern for social welfare objectives forced a redefinition of accounting in which its purpose was restated as to provide information which is potentially useful for making economic decision and which, if provided, will enhance social welfare. (American Accounting Association, 1975). This is a social welfare view point of accounting which attempts to provide information regarding the externality effects of corporate activities (Idoko, 1998).

Ramanathan (1976) views social accounting as the process of selecting firm level social performance variables, measures and measurement procedures, systematically developing information useful for evaluating the firm's social performance, and communicating such information to concerned social groups, both within and outside the firm.

Similarly, Estes (1976) defines social accounting as "The measurement and reporting (internal or external) of information concerning the impact of an entity and its activities on society". The definitions above indicate that the main purpose of corporate social responsibility accounting is to help evaluate how a firm is performing the social contract. Social responsibility accounting information should therefore be evaluative in nature (Collins, 2006). The scope of CSR accounting therefore extends beyond that of traditionally reported economic and financial effects.

According to Estes (1976) a firm may be said to be engaged in social measure of the aggregate changes in the claims which each social constituent is

presumed to have in the firm. However, the valuation of externalities (i.e. social costs and benefits) constitutes the greatest impediment to social responsibility accounting (Collins, 2006). Measurement in social accounting often requires the valuation of goods, services and effects not exchanged in the market and have no exchange prices. As Estes (1976) observes, exchange prices are considered to be the foundation of business accounting; business and accounting have become so accustomed to using exchange prices as a measure of value that it is difficult for them to accept valuation not based on exchanges.

Idoko (1998) however challenges that this should not be an impediment to social accounting because accountants make use of other monetary values that do not reflect exchange prices such as depreciation charges, goodwill and joint cost allocation. He further argues that opportunity cost can be employed and he identifies several approaches which include:-

1. Surrogate valuation-the value of an item that is logically expected to involve approximately the same utility as the item in which we are interested.
2. Survey- obtaining information from those affected by a social transaction.
3. Appraisals-use of independent valuers/experts
4. Outlay cost of the firm.

The application of CSR principles in CSR accounting ushered in what is called Triple bottom line reporting which declares not only financial results but also the social and environmental impact of the business (Wikipedia, 2006).

Some countries like France have made such reporting mandatory. Many large companies now produce annual reports that cover CSR issues, yet there is no common template for the reporting, style and evolution methodology (Wikipedia, 2006). Collins (2006) also observes that although CSR reports are essential to give a picture of a company's environmental performance, it is clear that they have limitations as tools for inclusive dialogue.

Idoko (1998) however is of the view that social responsibility accounting is impaired by the subjectivity of the basis for measuring a company's contribution to society. The importance of such reports however, cannot be over emphasized since stewardship is the dominant objective of social reporting. It means therefore that social reporting becomes necessary by establishing criteria such as relevance, freedom from bias, understandability, comparability and consistency.

2.5 Codes of Conduct, Regulation and Standards on Social Responsibility

A variety of organizations and initiatives are attempting to standardize social and environmental reporting procedures to let stakeholders more easily compare companies' performance across facilities, sectors and borders (Business for Social Responsibility, 2001).

The codes, conventions, principles and standards available have as their aim some aspect of improving the behaviour of corporations, and more appear to be emerging everyday. An OECD report (2001) identifies 233 codes of practice and an International Labour Organization (ILO) reports several hundred. According to Hopkins (2004), the case for the endorsement of codes stems from the need to:

1. Protect and enhance a company's reputation,
2. Establish the management's commitment to sound ethical behavior,
3. Raise stakeholders' confidence,
4. Demonstrate corporate prevention rather than response to crises and
5. Acknowledge corporate peer pressure for higher standards of accountability and transparency. He however identifies the case against the endorsement of codes:
    i Code proliferation is a counter- productive distraction that should be ignored
    ii There is no unique, unchangeable and widely accepted code

iii Codes do not take into account the running of a company and its major concerns to stay alive and avoid take over or bankruptcy and

iv Codes may lead to third party certification that is costly and without added value. The ILO report by Urminsky (2002) defines 'code of conduct' as "a written policy, or statement of principles, intended to serve as the basis for a commitment to particular enterprise conduct".

In his study of 258 codes, Urminsky (2002) found that 67% were devised by enterprises themselves, 11% by enterprise associations, 7% by Non Governmental organizations, 8% by framework agreement, 3% by workers' organization and only 4% by Governmental bodies. Of the codes examined, only 20 (7.8%) include any statement regarding a commitment to communicating the code, and only 6% are interested in external monitoring or inspection.

Most, if not all codes/standards are voluntary and few require formal and independent verification when used by companies. Their coverage is uneven (USCIB, 2001). A wide variety of standards are emerging that apply to corporate accountability. These include industry bench-marking tools and frameworks, legislation, and voluntary codes developed by non- governmental organizations and private sector consultancies (BSR, 2003). BSR (2003) identifies the most prominent codes/ standard. They include:

1. ***AA 1000/AA1000s***: Accountability 1000 (AA1000) is a tool to help companies integrate stakeholder engagement into business decision making

processes and improve organizational performance. The AA 1000 framework is meant to help companies engage stakeholders effectively in the development of the indicators and reporting systems needed to ensure that transparency efforts become as effective as they are well intentioned.

The expanded Accountability 1000 series builds on the AA1000 framework, adding a series of specialized modules, each of which consists of tools that users can use to help them develop their accountability processes over time. The five modules in AA1000s will cover the:

i AA1000s assurance standards

ii Governance and risk management,

iii Measuring and communicating the quality of stakeholder engagement

iv Integration of accountability processes, and

v Accountability for small and medium organizations

(www.accountability.org.uk/aa1000).

2. ***Global Reporting Initiative***: This is multi-stakeholder process and independent institution whose mission is to develop and disseminate globally applicable sustainability reporting guidelines. These guidelines are for voluntary use by organizations for reporting on the economic, environmental, and social dimensions of their activities, products, and services. Started in 1997, by the Coalition of Environmentally Responsible Economies (CERES), the GRI became independent in 2002, and is an official collaborating centre of the United Nations Environment programme (UNEP) and works with the Ex-UN

secretary General Kofi Annan's Global compact. The GRI's sustainability reporting Guidelines (last revised in July 2002) addresses a broad range of CSR issues related to an organization's:

i Economic performance (such as wages and benefits, training, research and development)

ii Environmental performance (such as energy, water and materials use, gas emissions, land use/bio diversity and

iii Social performance (such as labour and human rights, work place health and safety, employee retention). While the GRI promotes itself as a reporting framework/guideline only, it is having increasing influence on the debate on the ways and means a company should structure and govern its transparency and reporting (www.globalreporting.org).

3. ***Global Sullivan Principles***: Introduced in 1999, the Global Sullivan principle expands upon the original Sullivan principles developed by the Reverend Leon H. Sullivan in 1977 as a voluntary code of conduct for companies' daily business in apartheid South Africa. The principles cover areas of accountability, human rights, community engagement, environmental performance, and ethics. Endorsing companies and organization are asked to take part in an annual reporting process to document and share their experiences in implementing the principles. The principles currently have 290 endorsers-192 corporate, 87 civic, and 11 from institutions of higher education (www.revleonsullivan.org/principled).

Urminsky (2002) identifies five (5) prominent codes in his study. They include the GRI, AA1000, social Accountability 8000 (SA 8000), the United Nation's Global compact and the social venture network standards of CSR. SA 8000 and the United Nations' Global compact set standards for company behaviour, the former for the labour stakeholder group and the latter for three stakeholder groups labour, environment and the community (Human rights).

Of all the codes, the Global reporting initiative is currently the most wide ranging (Baker, 2002). Baker (2002) further observes that the GRI has been brave enough to attempt to devise a set of indicators, so that companies can report on the progress made in meeting "Triple bottom line" objectives.

While the GRI promotes itself as a reporting framework/guideline only, it is having increasing influence in the debate on the ways and means a company should structure and govern its transparency and reporting, and general sustainability efforts.

According to Hopkins (2004), one of the biggest problems faced by derivers of codes of conduct/ standard is what conceptual basis to use. There is a proliferation of terms, concepts and basis.

The need for codes/standards that will make social responsibility disclosures better evaluated cannot be over emphasized. A considerable gap still exists in this area. In fact, much remains to be done in the Nigeria context where no objective answers are readily available on the pattern of social responsibility disclosures in the financial reports of companies.

2.6 Multinationals and CSR

A multinational corporation (MNC) is a corporation that manages production on establishments or delivers services in at least two countries (Wikipedia, 2007). Barnett (1974) argues that very large multinationals have budgets that exceed those of many countries and they can have a powerful influence in international relations, local economies and globalization.

As typical of other business concepts, CSR is on its way to globalization, especially through multinational corporations (MNCs) (UN Global Compact, 2006). However, a central concern in the current drive for global CSR practice is the seeming underlined assumptions of the homogeneity of the CSR construct at a global level. In this regard, there is a burgeoning literature on the meaning and practice of CSR across cultures and national boundaries (See Orpen, 1987; Bennett, 1998; Jones, 1999; Maignan, 2001; Chapple and Moon, 2005). Amaeshi *et al* (2006) portend that a common strand that runs through most of these studies suggests that meaning and practice of CSR is socio-culturally embedded. They argue that the history of 'organized' CSR in Nigeria can be traced to practices in the oil sector driven by western MNCs and in other to make up for the government's failures and to protect their business interest in the region, these firms often engage in CSR.

As typical of multinationals, the motivations to engage in CSR are varied response to market forces, globalization, consumer and civil society pressures. The activities of these firms are therefore visible because of their global reach

(Limbs and Fort, 2000). As such, there is a higher incentive to protect their brands and investments through CSR.

Wheeler *et al* (2002) observe that as expected, most multinational firms operating in Nigeria miss out on the expected priority issues (Education, Health care, Security and Poverty alleviation) but rather focus on either CSR mandates from their home countries or CSR activities that directly impact on their businesses (i.e 'strategic' CSR), while sometimes ignoring local constructions of CSR. In otherwords, CSR in multinational firms are more strategic-they cut across both the market and non market environment's corporate strategy(Baron, 1995; Lantos, 2001).

2.7 Socially Responsible Investment (SRI)

There are now a large and growing number of ethical mutual funds in the U.S, Canada and Europe (Brammer *et al*, 2005). According to the U.S social investment forum, only 10% of all equity investment is currently managed under the guidelines for socially responsible investment. SRI is related to the concept of CSR and the former often involves a fund implementing 'ethical screens' to ensure that it does not invest in firms that have poor records in the later. Many large mutual funds and pension funds now include ethical criteria in their stock selection processes, and there is evidence that analysts are under pressure to produce research on SRI issues (Angel and Rivoli, 1997).

Socially responsible investments (SRI) combines investors' financial objectives with their concerns about social, environmental and ethical (S.E.E) issues (U.K Social Investment Forum, 2004). The question that arises with SRI investments is the profitability of those strategies. Is the performance of SRI strategies as good or as bad as traditional investment strategies? A large number of studies have empirically examined the link between social responsible investments (SRI) and returns by examining the performance of ethical mutual funds (Brammer et al, 2005).

Bello (2005) matches socially responsible mutual funds to conventional funds in the late 1990s and finds no significant difference in long- run investment performance or portfolio diversification between the two groups. Guerard (1997) uses an early set of data and finds that there is little significant difference between the performances of socially screened versus unscreened investment.

Many large mutual funds and pension funds now include ethical criteria in their stock selection processes and there is evidence that analysts are under pressure to produce research on socially responsible investment (SRI) issues. (Rivoli and Angel (1997) and Heinkel et al (2001) consider the issue of SRI from a different perspective, and examine the impact of environmentally sound behaviour on a firm's cost of equity capital. It is argued that the socially responsible investor will not invest in firms whose environmental policies are questionable and therefore the demand for the shares of such firm will come

only from ‘neutral’ investors, i.e. those who form portfolios without a social conscience. This lack of demand will force up the cost of capital for polluting firms relative to green (socially responsible) firms.

However, Heald (2005) observes that there maybe a correlation between a firm’s policies towards CSR and its position in capital markets. Kahn et al (1997) show that divestiture of tobacco stocks would have made little difference to typical investors’ returns since allocations to such stocks is usually very small. Cox et al (2004) and Waddock and Graves (1994), suggest using UK and U.S data – respectively, that poor corporate social performance leads to a reduction in the number of long- term institutional investors holding the firm’s stock since such firms are likely to be “screened out”.

Hamilton et al (1993), however use the CAPM framework to examine the performance of 32 socially responsible mutual funds for the 10 years period commencing January 1981. They conclude that the market does not price socially responsible characteristics.

While the number of academic studies in this area have also increased substantially in recent years, no clear consensus has yet emerged concerning whether investment in socially responsible stocks or funds is favoured or detrimental to returns (Brammer et al, 2005).This concern remains grossly unexplored in developing countries most especially Nigeria where the issue is almost virgin.

2.8 Corporate Social Responsibility and Financial Performance

There is an emerging view over the years that CSR can contribute to the financial performance of a company. This approach which has been described as the 'Enlightened Stakeholders Approach' suggests that corporate decision makers must consider a range of social and environmental matters if they are to maximize long-term financial interest (Brine *et al*, 2006). The attempt to establish or prove a general cause- effect relationship between CSR and a firm's financial performance is the fastest growing and most significant area of CSR research today (Phillips and Claus, 2002). This focus is not new, as far back as the 1970s, scholars were interested also in the question of whether socially responsible firms were also profitable firms (McWilliams and Siegel, 2001). In the late 1980s, the view became common that CSR initiatives might bring long run economic gain. CSR was perceived as a road to long- run profit maximization (Carroll, 1999). In fact, Johnson (1971) argues that businesses carry out social programs to add profits to their organization. But while this may have been endorsed as an underlying assumption, today's researchers are demanding more hard, quantitative evidence (Phillip and Claus, 2002).

The search for a link between CSR and financial performance is a quest that was begun many years ago and is not yet concluded. During the past 25 years, dozens of studies have examined this relationship (Roman *et al*, 1999).

Academics who had previously reviewed the literature exploring the relationship between CSR and financial performance had found the studies to be

inconclusive: no link between CSR and financial performance could be proved or disproved (Orlitzky *et al*, 2003). Most recently according to Barnett and Solomon (2003), despite the intensity of studies directed at it, the relationship between CSR and financial performance remains in dispute.

According to Margolis and Walsh (2002), one hundred and twenty two published studies between 1971 and 2001 empirically examined the relationship between CSR and financial performance. Moskowitz (1972) is generally credited as being the first to empirically examine the link between CSR and financial performance (Peloza, 2005); however Tsoutsoura (2004) recognizes Narvel (1971) as being the first to carry out such study.

Orlitzky *et al* (2003) observe that most of this studies conducted narrative reviews or used vote- counting methods of which neither is adequate because they do not correct for sampling and measurement error. Academic research in the causal relationship between CSR and financial performance sometimes referred to as the "virtuous circle" remains inconclusive (Nelling 2006).

Orlitzky *et al* (2003) therefore use meta- analysis in their review precisely because it corrects for sampling and measurement error when reviewing multiple studies. Meta analysis is a *proven* statistical technique that is frequently used in the medical research field to review multiple studies so its use in the management field is relatively new (Social Investment Forum Foundation, 2004).

Orlitzky *et al* (2003) searched the literature for the fullest list possible of journal articles on the relationship between CSR and financial performance. They located more than 1,200 business and trade journal articles, from 1970 to the period of the research. They limited the studies they analyzed to those that:

i Qualitatively examined the relationship between CSR and financial performance.

ii Were concerned with at least one aspect of a firm's economic performance. These resulted in the 52 studies that were subjected to meta-analysis.

Reviews of the literature often found the many studies to be dissimilar in their findings. However, none of these researchers had applied meta-analysis- the aggregation of many studies using complex statistical techniques to their reviews of the field. This left open the question of whether the reviews of the literature were inconclusive because the methods for reviewing the literature were not sophisticated enough to find correlations that were observed by methodological artifacts (such as sampling and measurement errors).

Orlitzky et al(2003) were able to support all four of their hypotheses through their findings that:

i There is a statistically significant relationship between social responsibility and financial performance,

ii That social responsibility and financial performance mutually reinforce each other,

iii The correlation between social responsibility and financial performance are shown to be due to improved managerial competency and improved corporate reputation and

iv The variance in studies is due to sampling or measurement error and different data sources.

Waddock and Graves (1997) find significant positive relationship between an index of CSR as measured by the Kinder Lydenderg and Domini database and performance measures such as ROA (Return on assets) in the following year. They suggest that the reason why a virtuous circle would exist is because positive stakeholder relationship can reduce the likelihood of difficulty when dealing with groups such as employees, customers, and the community in addition, good social performance and good managerial practice may be related, so this in turn may lead to strong financial performance.

Prior research has shown that there is a reverse- causality concern between CSR and financial performance (for example.McGuire, Sundgren, and Schneewies 1989). In this regard, it is believed that a firm's CSR affects its future performance and a firm's history of financial performance contributes to its current CSR involvement. McGuire *et al* (1988) find that prior year's stock returns and accounting based performance measures are related to current measures of CSR, but that a past record of good social performance does not affect the current financial performance of a firm. This sounds incredible and seems a reversal of cause but however finds defence and strong support in the

works of Cho and Pucik (2005) and Xueming and Bhattacharya (2006). However Xueming and Bhattacharya as well as Cho and Pucik (2005) accommodate this reverse causality concern by using ratings of CSR from fortune magazine with a one year lag and as such rendered the reverse-causality bias no longer a concern.

Aupperle *et al* (1985) did not find any significant relation between CSR as measured by subjective indicators and a firm's risk adjusted return on assets.

In contrast, Tsoutsoura (2004) find a positive association between CSR and profitability. KLD scores were used as a measure of CSR while profitability was represented by ROA (return on assets). Nelling (2006) provides new insights on the causal relationship between firm performance and corporate social responsibility. He uses the KLD Socrates Database to measure CSR and ROA as firm performance and finds that CSR and performance are related when the standard OLS regression model is used but using a time series fixed effects approach, finds that the relation between CSR and financial performance is much weaker.

Brine *et al* (2006) examine the relationship between financial performance and corporate social responsibility across the top 300 AS listed companies for the 2005 financial year. A total of 277 companies were drafted into their sample after companies with missing data were eliminated. They based their CSR measurement on whether companies made separate sustainability disclosure beyond what is required of them by the regulatory

framework. As such, the measure of CSR is a dummy variable. This variable has a value of one if the firm has adopted CSR and a value of zero if it has not (Gujarati, 1999). Accounting measures were used to calculate the financial performance of each company. The measures used were return on assets, return on equity and return on sales. They found no statistical significant relationship between the adoption of CSR and a firm's financial performance.

There is no evidence of the impact of social responsibility on stock returns at the firm's level, aside from studies by Feldman *et al* (1997) and Derwall *et al*, (2004). Feldman *et al* (1997) focus on the environmental aspect of CSR only, and suggest that firms who are able to improve their environmental performance can reduce their CAPM betas and raise their stock prices by up to 5%. Derwall *et al*, (2004) employ data from the invest rating database of "ecoefficiency" scores. They rank their sample of companies with ecoefficiency scores and form them into portfolios comprising the highest and lowest scoring companies. They find that the high scoring portfolio significantly out performs the low- ranking one.

Determining how social and financial performances are connected is further complicated by the lack of consensus of measurement methodology as it relates to corporate social responsibility (Tsoutsoura, 2004). In many cases, subjective indicators are used, such as a survey of business students (Heinze, 1976) or faculty members (Moskowitz, 1972). Significantly, it is unclear exactly what these indicators measure. Still other studies use survey instruments

(Aupperle, 1991) or behavioural and perceptual measures (Wokutch and McKinney, 1991).

Waddock and Graves (1997) draw upon the Kinder Lydenberg Domini (KLD) rating system, where each company in the standard and poor 500 is rated on multiple attributes considered relevant to social performance. KLD uses a combination of surveys: financial statements, articles on companies in the popular press, academic journals and government reports in order to assess corporate social performance along eleven dimensions (Alexander and Buccholz, 1978). Based on this information, KLD constructed the Domini 400 social index (DSI 400), the functional equivalent of the standard and poors 500 index, for socially responsible firms. The Ethical investment research service (EIRIS) specialize in the measurement of CSR against an objective set of criteria, principally for use by institutional investors. EIRIS survey firms concerning their social performance, but also undertake their own research. As a result, they are able to provide social performance scores for a firm irrespective of whether it participates in their survey (Brammer et al, 2005).

One other approach to measuring CSR initiatives is to rely on the amount of CSR investment disclosed in financial annual reports to shareholders. However, there are many important doubts about the validity of the announced CSR investments, despite the seeming attractiveness of this approach. For example, there is a lack of consensus on what should be included (or excluded) in CSR investments (Margolis and Walsh 2003; Orlitzky et al 2003, Tsoutsoura,

2004). Few companies have their announced CSR investments audited or validated externally by third parties. Thus, some firms may over-report CSR investments for impression management (i.e. exaggerating their giving). Other firms may under report CSR investments because they may regard CSR investments only as donated cash or in- kind products and service (excluding investments that benefit the environment and their employees). Although some external sources (for example Business ethics, Csrwire. com, social responsibility initiative reports) may track companies CSR investments objectively, the nature and amount of CSR investments for the same firm can change dramatically from one source to another (Berner 2005, Formbrun and Shanley 1990, Margolis and Walsh 2003).

Although measuring financial performance is considered a simple task, it also has its specific complications and there is little consensus about which measurement instrument to apply (Tsoutsoura,2004). Many researchers use market measures (Alexander and Buccholz, 1978; Vance, S.C 1975) others put forth accounting measures (Waddock and Graves, 1997, Cochran and Wood, (1984) and some adopt both of these (McGuire et al, 1988). The two measures, which represent different perspectives of how to evaluate a firm's financial performance, have different theoretical implications (Hillman and Keim, 2001) and each is subject to biases (McGuire et al, 1986). The use of different measures, needless to say, complicates the comparison of the results of different studies (Tsoutsoura, 2004).

In other words, accounting measures capture only historical aspects of firm performance (McGuire et al, 1986). They are subject, moreover, to bias from managerial manipulation and differences in accounting procedures (Branch, 1983; Brilloff, 1972) Market measures are forward looking and focus on market performance; they are less susceptible to different accounting procedures and represent the investors' evaluation of the ability of a firm to generate future economic earnings (McGuire et al, 1988). But the stock market based measures of performance also yield obstacles (McGuire and Branch, 1986). According to Ullman (1985), for example, the use of market measure suggests that an investor's valuation of a firm's performance is proper performance measure (McGuire et al, 1988).

Rust et al (2004) conclude that market measures are different from (and perhaps more important than) accounting measures because the latter are retrospective and examine historical performance while market value of firms hinges on growth prospects and sustainability of profits or the performance in the future.

However, there remains a serious question pertaining to the proper operationalization of the CSR- financial performance relationship; for example on their meta analysis, Orlitzky et al (2003) highlight a large amount of unexplained variance across the studies suggesting the presence of moderators, and McWilliams and Siegel (2001) find that when research and development

expenditures are factored into the relationship, the link between CSR and financial performance becomes neutral.

Xueming and Bhattacharya (2006) also control for the influence of research and development expenditures on performance. They argue that a firm's research and development intensity enhances innovation activities and investors evaluation of the firm (see also Chauvin and Hirschey, 1993; Gruca and Rego, 2005; McGuire et al, 1988). Here, a further refinement to the CSR-financial performance relationship is offered. Attempts to accurately reflect the financial return from CSR are more than an academic exercise (Peloza, 2005). The increased pressure faced by managers to justify the allocation of scarce resources means that money spent on CSR activities are becoming more closely scrutinized and are at risk of being withdrawn. This area of research remains inconclusive but however should provide quantitative evidence so that through such widened perceived value of CSR investments, firms can better justify their role in solving societal woes from a position of enlightened self-interest.

2.9 Theoretical Framework

Several theoretical frameworks have been used to examine CSR. Friedman (1970) asserts that engaging in CSR is symptomatic of an agency problem or a conflict between the interests of managers and shareholders. He argues that managers use CSR as a means to further their own social, political, or career agendas, at the expense of shareholders.

The agency theory suggests the existence of a contract (Jensen and Meckling, 1976) and thus a fiduciary relationship between two people- the principal and the agent (Eisenhardt, 1989). The idea of the theory, is to control the substantial goal conflict between principals and agents, particularly where agents, by virtue of their positions, engage in opportunistic behavior to the detriment of their principals (Fontrodona and Sison, 2006), who often find it difficult and expensive to verify the actions of their agents.

Obalola (2008) brings to fore that the economic perspective of the agency theory is based on a number of assumptions- that the firm is the nucleus of the contractual relationship between the principal and the agent, and it exists to maximize shareholder value; that the firm is owned by the shareholders, who seek after utility maximization. On ethical ground, this perspective of agency theory reflects individualism and utilitarianism, where morality is only reasonable and acceptable, if it brings with it greater economic benefits (Bohren, 1998).

On the basis of the agency theory therefore, managers (agents) would be acting contrary to the duties and responsibilities for which they have been employed if they engage in social responsibility, unless it can be shown that by so doing, shareholders' (principals') wealth are maximized (Whitehouse, 2006).

The agency theory perspective has been challenged by other researchers such as Preston (1978) and Carroll (1979), who outline a corporate social performance (CSP) framework. As exposited by Carroll (1979), this model

includes the philosophy of social responsiveness, the social issues involved, and the social responsibility categories (one of which is economic responsibility). An empirical test of the CSP framework is presented in the work of Waddock and Graves (1997), who report a positive association between CSP and financial performance. The CSP model has much in common with the stakeholder perspective, which is the most widely used theoretical framework (Mc Williams and Siegel, 2001).

In a seminal paper on stakeholder theory, Freeman (1984) asserts that firms have relationships with many constituent groups and that these stakeholders both affect and are affected by the actions of the firm. Stakeholder theory, which has emerged as the dominant paradigm in CSR, has evolved in several new and interesting ways. The idea of stakeholders' theory was first hinted by Johnson (1971) in his definition of CSR, where he conceives a socially responsible firm as been one who balances a multiplicity of interests, such that while striving for larger profit for its stockholders, it also takes into account, employees, suppliers, dealers, local communities and the nation. The theory was later developed by Freeman (1984) and thereafter refined by various authors (e.g Freeman, 1994; Bowie, 1991; Evan and Freeman, 1988, 1994; Freeman and Evan, 1990; Freeman and Philips, 2002).

Contrary to the proponents of the agency theory, Freeman (1984) posit that managers bear a fiduciary relationship to stakeholders, whom he defines as groups or individuals who can affect or affected by the achievement of the

organization's objectives, such as stockholders, supplier, employees, customers, and the local community.

Research on stakeholders' theory has generally focused on three areas-instrumental, normative, and descriptive (Donaldson and Preston, 1995). These three areas overlap and are sometimes difficult to delineate (Jones and Wicks, 1999; Driscoll and Crombie, 2001). The instrumental stakeholder shows the firm pursuing its interest by managing its relationship with other stakeholder groups. Normative stakeholder addresses the moral duties of the firm's management towards its stakeholders while that of the descriptive stakeholder explains the actual behavior of managers, firms and stakeholders (Obalola, 2008). Instrumental stakeholder theory (for example Clarkson, 1995; Cornell and Shapiro, 1987; Donaldson and Preston, 1995; Mitchell *et al*, 1997) suggest a positive relationship between CSP and CFP. According to this theory, the satisfaction of various stakeholder groups is instrumental for organizational financial performance (Jones, 1995). The basic assumption behind this theory is that CSR may be an organizational device that leads to more effective use of resources (Orlitzky *et al*, 2003), which then has a positive impact on corporate financial performance. Berman *et al* (1999) also find support for the position that good stakeholder relationships have a direct positive effect on financial performance, a notion sometimes called the Good Management Hypothesis (Waddock and Graves, 1997).

As fall outs of the agency and stakeholders theories, two distinct schools of thought appear to dominate the literature on the question of whether or not firms should embrace CSR (Obalola, 2008). The belief of the first group stems from the traditional neoclassical paradigm of the firm (Moir, 2001), a theory which reflects Adam Smith's notion of economic man, whose goal is to maximize the wealth of a firm, based on his contractual duties to the owners (Brenner and Cochran, 1991). The CSR theory that holds this view has also been regarded as the 'stockholders model' (Bruno and Nichols, 1990).

The other group holds the belief that business responsibility goes beyond profit maximization- while this group does not relegate the economic responsibility of the firm to the background, it argues that the business must take into consideration the interests of other members of the society who may be affected by its activities and therefore proposes a balance of interests among the constituent groups (Obalola, 2008). Thus contrary to shareholders' value maximization the adherents of this belief propose stakeholders' value maximization which is not inimical to profit maximization but rather improves it. This is the instrumental stakeholder approach.

On the above position, this study argues that stockholders are important stakeholders but by no means the only one. Sometimes the stakeholders (workers, customers and public at large) have in varying way a stake in the performance of the company which might be larger than stockholders who may dart in and out of their investments more readily than workers and customers

can disengage themselves from the company. Along this line, this study predicts that there is causality between corporate social responsibility and financial performance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

This study employs four independent variables-Community CSR, Human resource management, charitable contributions and firm size in explaining the CSR- market value relationship in quoted conglomerates in Nigeria. This enables us to disaggregate the effect of the various aspects of CSR on Tobin's Q, and to determine whether there are any differences between them.

The methodology of this study incorporates the dimensions employed in two earlier studies. First, like Brammer *et al* (2006), the study tests the impact of certain CSR variables on financial performance on a regression equation. Brammer *et al* regress a composite measure of CSR, the environmental performance indicator (ENV), employment performance indicator (EMP) and community performance indicator (COMM) on stock returns. However for this study, more comprehensive indicators are regressed on Tobin's Q. Similarly, like Brammer *et al*, this study acknowledges the importance of lagged CSR indicators in order to accommodate the reverse-causality concern and also to promote the understanding that financial performance today is a reflection of CSR yesterday and today. However, lagged variables have been observed to be a major cause of multicollinearity- a correlation of the explanatory variables

which renders the parameter estimates indeterminate (Koutsoyiannis, 1977). To accommodate this concern the study introduces a lag of the dependent variable as a regressor to replace the use of lagged explanatory variables as recommended by Koutsoyiannis (1977).

Secondly, the study controls for firm size (like Xueming and Bhattacharya, 2006) who factored research and development and firm size variables together with return on asset (ROA) into their regression equation in order to explain the significance of these on stock returns). However, differences arise in our measurement of the variables.

The study employs both quantitative and descriptive research approaches for the purpose of addressing the problem of the research. Quantitative research approach is used where the variables (market value, charitable contributions and firm size) to be investigated are amenable to empirical measurement and verification. Descriptive research approach has been used because some of the variables (community CSR and Human Resource Management) cannot be subjected to empirical measurement and as such non-metric approaches were utilized in arresting such situations.

In the sections that follow, a description of the population and sampling procedure is given, followed by a discussion on the method of data collection for the study. The third section provides the model specification. The techniques of data analysis are then discussed and justification of the techniques explained. Limitations of the technique are identified and a summary of the chapter is provided.

3.2 Population and Sampling Procedure

The population for this study is made up of quoted conglomerates on the Nigerian Stock Exchange. The conglomerate sector has been selected since all firms in this sector are multinationals and the history of organized CSR in Nigeria boils down to the operations of multinationals (See Amaeshi *et al*, 2006; Ite, 2004) As at April 2007, there were eight conglomerates listed on the Nigerian stock exchange.

Simple random sampling, the most popular of the probability sampling methods was used for the purpose of this study. This is a probability method where the sample is selected independent of human judgment (Soyombo, 2002). The lottery method of simple random sampling is used and as such members of the population are written on pieces of paper; are put together, shuffled and the desired sample size drawn from population. The sample size has a role in determining statistical power and also affect the generalizability of the result by

the ratio of observations to independent variables. A general rule is that the ratio should never fall below five, meaning that there should be five observations for each independent variable in the variate (see Hair et al, 1991). On this ground, this study uses a sample of five companies out of the eight quoted on the Stock Exchange as sample size. This measures about 70% of the population and also allows for the rule of thumb in sample selection i.e 30 observations for 5 variables (independent); allowing for the ratio of 6 for the general rule in sample size selection. The list of the sample firms is provided in appendix A.

3.3 Method of Data Collection

The study uses data mainly from the secondary source. This is because the estimation of the model employed in the study requires the use of data in the form of financial and market information.

In this regard, the sources of data for the study are the Nigerian Stock Exchange Fact Books for 2001-2006, daily official lists of the Nigerian Stock Exchange for the last day of trading in each of the years covered by the study, and the annual reports and accounts of the companies for all the years covered by the study.

3.4 Model Specification

The model in this study has been designed using the ordinary least squares (OLS) method. The model uses a single dependent variable-market value represented by Tobin's Q. The model has three major explanatory variables-community CSR (CCSR), human resources management (HRM), and charitable

contributions. These variables have been selected based on CSR constituents and their use in earlier studies (see Brammer *et al*, 2006; Brine *et al*, 2006) and more so on the requirements of the Companies and Allied Matters Act (CAMA) 1990 on the provision of such information in the Directors' Reports of audited annual financial statements. Dummy variables were used to denote community CSR and human resource management.

A one year lag has been recognized to exist between CSR and performance. However, the use of lags have been identified as one of the major causes of multicollinearity; a condition that renders the estimates inderterminate. To mitigate this problem, we employ an econometric approach by lagging the dependent variable and factoring it as a variable in the function (Koutsoyiannis, 1977).

Firm size has been considered important when examining the market value and CSR relationship. We introduce this as a fourth variable and also control for its influence in the equation using the hold-out method. Thus, the model has three linear regression equations. The first one assesses the impact of the core CSR variables on market value, this is the base model. The second equation introduces a lag of the dependent variable and also incorporates firm size as an additional explanatory variable; while the third equation controls for the influence of firm size. The equations are given below.

3.4.1 Model with core CSR variables

Market value is represented by Tobin's Equity Q (TQ).

The equation is stated as follows,

$TQ = bo + b_1 CCSR + b_2 HRM + b_3 CC + uit.$

Where TQ = Tobin's Equity Q

CCSR = Community Corporate Social Responsibility

HRM = Human Resource Management

CC = Charitable Contributions

Uit =Random error term

3.4.2 Model with CSR variables, lag of TQ and Firm Size.

To accommodate the possible effect of multi-collinearity in the regression equation above, we take out the lagged effects by factoring a lag of the regressand in the model. This equation is stated as follows:

$TQ = b_0 + b_1 CCSR + b_2 HRM + b_3 CC + b_4 TQ_{-1} + b_5 FS + uit.$

Where TQ = Tobin's Equity Q

CCSR = Community Corporate Social responsibility

HRM = Human Resources Management

CC = Charitable contributions

TQ -1 = A lag of dependent variable

FS = Firm size

3.4.3 Model controlling for firm size

This study controls for the influence of firm size in the relationship using the hold-out method. The essence is to examine the effect on parameter estimates when firm size is held out. The equation is as follows:

$$TQ = b_0 + b_1\ CCSR + b_2\ HRM + b_3\ CC + b_4\ TQ_{-1} + Uit.$$

3.5 Measurement of Variables

An initial challenge in testing the relationship between CSR and financial performance is identifying those companies that have adopted corporate social responsibility. This is because CSR reflects an approach to internal decision making, the presence or absence of which may not easily be determined by external observers (Brine *et al*, 2006).

However, the construct of CSR is associated with the following four broad measurement strategies: a) CSR disclosures: b) CSR reputation ratings; c) Social audits, CSR processes, and observable outcomes; and d) managerial CSR principles and values (Post, 1991).

First, CSR disclosure measurement consists of content analysis of annual reports, letters to shareholders and a number of other corporate disclosures to the public as surrogates of CSR.

A second approach to measuring CSR is the use of reputational indices, such as Moskowitz's (1972, 1975) tripartite ratings (outstanding', 'honourable', and 'worst' companies; for example, Cochran and Wood (1984) or Fortune magazine ratings of a corporation's responsibility to the community and environment' (Conine and Madden, 1987; Formbrun and Shanley, 1990; McGuire *et al*, 1988).

Other researchers (Alexander and Buccholz, 1978; Heinze, 1976; Vance, 1975) have developed their own reputational indices by surveying business professionals and business students. Reputational indices are based on the

assumption that CSR reputations are good reflections of underlying CSR values and behaviours.

Social audits and concrete observable CSR processes and outcomes consist of a systematic third-party effort to asses a firm's 'objective' CSR behaviours, such as community service, environmental programmes, and corporate philanthropy.

The fourth measurement category of CSR assess the values and principles inherent in a company's culture.

However past studies have used either the Kinder Lydenberg Domini Database (Nelling, 2006; Waddock and Graves, 1997; Tsoutsoura, 2004; Alexander and Buccholz, 1978), or the Ethical Investment Research Service (Turban and Greening, 1997). Others have used survey instruments (Wokutch and McKinney, 1991; Aupperle, 1991) and others subjective indicators (Brammer *et al*,2005;Brine *et al*, 2006; Feldman *et al*, 1997; Derwall *et al*, 2004).

These bases either include one indicator of CSR and exclude the other depending on the rating agency's perception of what CSR entails.

This study employs CSR disclosures on certain indicators which consist of content analysis of annual reports in a bid to examine the impact of these indicators on market value of sample companies.

Indicators employed are community indicator, human resources management and charitable contributions. They are identified on the extent of their being reported in the audited financial statements.

The community CSR concerns environmental and social performance. It covers waste management, biodiversity, customer relations and community contributions to sports, education, human rights, prevention and cure of diseases and provision of social amenities. This variable is measured as a dummy. Where the company reports on involvement of any of these, it scores 1 and where it does not report on any, it scores 0. Dummy variables are constructed by econometricians to be mainly used as proxies for other variables which cannot be measured because they are qualitative factors. Such qualitative attributes can be approximated by the introduction of the function of 'dummy variables', that is, indexes which we construct with considerable arbitrariness, but in a way relevant to the influence of the factor concerned (Leser, 1966).

The human resource management indicator is based on three measures relating to health and safety systems, systems for employee training and development, equal opportunities policies (without discrimination against physical disability or racial/tribal differences). This indicator is captured as a dummy. Where the company reports on involvement in any of these, it scores 1 and where it does not report on any, it scores 0.

Brine *et al* (2006) argue that companies that account for the interests of their employees by offering good working conditions will achieve better

performance in terms of quality and delivery, and, therefore, experience higher levels of productivity.

Charitable contributions is based on total philanthropic donations made by the company as reported in the financial statements.

It is important to consider firm characteristics when examining the relationship between market value and CSR (Brammer *et al*, 2005). To accommodate this, we control for the influence of firm size in the CSR-financial performance relationship. Firm size is denoted by the total assets of the firm. This is considered expedient because large firms have more resources available to support CSR efforts (Nelling, 2006; Xueming and Bhattacharya, 2006).

Large firms may have more resources and thus enjoy economies for scale, but small firms may have higher strategic flexibility when seeking entrepreneurial rents (Dutta *et al*, 1999; Rao *et al*, 2004).

As regards the debate on financial performance measures, three broad subdivisions exist. They include market based (investor returns), accounting-based (accounting returns), and perceptual (survey) measures. First, market based measures, reflect the notion that shareholders are a primary stakeholder group whose satisfaction determines the company's fate (Cochran and Wood 1984). The bidding and asking processes of stock-market participants., who rely on their perceptions of past, current and future stock returns and risk, determine

a firm's stock price and thus market value. Alternatively, accounting-based indicators, such as the firm's return (ROA), return on equity (roe), capture a firm's internal efficiency in some way (Cochran and Wood, 1984).

Accounting returns are subject to managers' discretionary allocation of funds to different projects and policy choices, and thus reflect internal decision-making capabilities and managerial performance rather than external market responses to organizational actions. Lastly, perceptual measures of financial performance ask survey respondents to provide subjective estimates of, for instance, the firm's 'soundness of financial position', or 'wise use of corporate assets' (Conine and Madden, 1987; Wartick, 1988).

We utilize market measures in this study because they hinge on growth prospects and sustainability of profit (Rust *et al*, 2004) and also are devoid of manipulation from differences in accounting procedures (Branch, 1983; Brilloff, 1972) and represent investors' evaluation of the ability of the firm to generate future economic earnings (McGuire *et al*, 1988).

In accordance with the basic argument made by Jensen (2002) that the single objective of a firm is to maximize its market value; we identify this type of corporate behaviour (accounting measures) as pure profit maximization which is actually different from market value maximization and thus we label it 'antithetical' to CSR and as such 'irresponsible'.

The two common market measures employed in CSR-financial performance studies are stock returns and Tobin's Q (See Nelling, 2006; Brammer *et al*, 2005; Dam, 2006; Brine *et al*, 2006; Heal, 2005; Xueming and Bhattacharya, 2006).

For this study, Tobin's Q would be employed. Tobin's Q is probably the most widely used valuation measure in empirical corporate finance (Drobetz, 2004). It is named after the Nobel prize winner Dr. James Tobin from Yale university who hypothesized that the combined market value of all the companies on the stock market should be about equal to their replacement costs. It is the ratio of the market value of a firm (as measured by the market value of its outstanding stock) to the replacement cost of the firm's assets (Tobin, 1969).

It is hinged on the idea that if a firm is worth more than its value based on what it would cost to rebuild it, then excess profits are being earned. These profits are above and beyond the level that is necessary to keep the firm in the industry. A Tobin's Q ratio greater than 1 indicates that the firm has done well with its investment decisions i.e. it has invested in positive net present value projects, in contrast, a value of Tobin's Q lower than 1 indicates that the company did not even earn its firm-wide cost of capital with its investment project (Drobetz, 2003). The advantage of using Q is that the difficult problem of estimating either rates of return or marginal costs is avoided.

This study recognizes a one year lag between the measurement of financial performance and the corporate social responsibility measure on the hypothetical grounds that there is a lag associated with the implementation of social responsibility and improved financial performance; that is, 'CSR today improves financial performance tomorrow'. (Blackburn *et al*, 1994). The one year lag is also employed in order to accommodate the reverse-causality concern (See McGuire *et al*, 1988; Cho and Pucik, 2005; Xueming and Bhattacharya, 2006).

This study seeks to contribute to the existing body of work on CSR-financial performance by examining the extent to which corporate social responsibility contributes to market value in the Nigerian context. A number of opportunities for refining the research area were identified. As such, this study could be considered as a first step in testing the relationship between financial performance and Corporate Social Responsibility in the Nigerian context. With the selection of the CSR indicators and control variable, the results of the regression would be rationalized and thus warrant generalization.

3.6 Technique of Data Analysis

This study employs the multivariate technique for the purpose of data analysis. A multiple regression model has been structured using the ordinary least squares (OLS) method. The model uses a single dependent variable (Tobin's Equity Q) and four explanatory variables– community CSR, Human Resource management, charitable contributions and Firm size.

The basic aims of the multiple regression model in this study is to investigate empirically the extent to which the predictor variables explain the hypothesized CSR- market value relationship in Nigerian conglomerates. More specifically, the multiple regression model specifically assesses the aggregate impact of the four explanatory variables on the CSR-market value relationship of the sampled firms.

The model is estimated using the coefficients of the independent variables and their level of significance. The coefficient of determination (R^2) is obtained and helps to assess the significance of the model. The F test is employed to determine the predictive ability of the model while the standard error test and T values are used to determine the significance of the four explanatory variables. Tests of multicollinearity are conducted to see if the parameter estimate are determinate and then an autocorrelation test is used to assess the presence or absence of serial correlation among the residuals.

These tests provide an empirical platform in drawing generalization for the study.

3.7 Justification of the Data Analysis Technique

Multiple regression is the appropriate method of analysis when the research has a single metric dependent variable (Agbadudu, 2002). The objective of multiple regression is to predict the variability in the dependent variable based on its covariance with all the independent variables.

It has proved to be a powerful tool used in developing economic and business models for the purpose of analyzing the relationship between variables (McClave and Benson, 1988). The tool has been employed in this study because it permits the extraction of parameter estimates which show the contribution of the various explanatory variables in predicting the dependent variable.

Little wonder most of the previous studies in the CSR-financial performance nexus have employed multiple regression in explaining the possible relationship that exists (see Brammer *et al*, 2006; Nelling, 2006; Dam, 2006). Finally, the use of the multiple regression is encouraged in this study by the present day preponderance of computer programs (SPSS, E-Views, microfit, etc) for the purpose of multivariate analysis.

3.8 Limitations of The Data Analysis Technique

This study employs a multiple regression model for the purpose of data analysis. There are major conditions and assumptions that analysts must be aware of when designing a multiple regression model. These assumptions pose a limitation to the model and are identified below.

3.8.1 Multicollinearity

A crucial condition for the application of least squares is that the explanatory variables are not perfectly linearly correlated. The term multicollnearity denotes the presence of linear relationships among explanatory variables. If the explanatory variables are perfectly linearly correlated that is, if the coefficient for these variables is equal to unity, the parameters become indeterminate: it is impossible to obtain numerical values for each parameter separately and the method of least squares breaks down. Multicollinearity may arise for three major reasons. Firstly, the use of lagged values of some explanatory variables as separate independent factors in the relationship. Secondly, there is a tendency of economic variable to move together over time. Economic magnitudes are influenced by the same factors and in consequence once these determining factors become operative the economic variables show the same broad pattern of behaviour over time.

Finally, multicollinearity tends to be more common and more a serious problem in time series and is also quite frequent in cross-section data as well.
In order to assess multicollinearity , this study examines the correlation matrix for independent variables for the purpose of checking the presence of high correlation (Generally those of 90 and above) among the independent variables.

To substantiate the correlation matrix results, the study also employs two more advance measures for assessing both pair wise and multiple variables collinearity. These are 1. the tolerance value and 2. its inverse- The variance

inflation factor (VIF). These measures tell us the degree to which each independent variable is explained by the other independent variables.

Tolerance represents the amount of variability of the selected independent variable not explained by the other independent variables (that is, one minus the coefficient of determination, R^2). As general rule, a very small tolerance value (the common cut off threshold of which is 10) and a large VIF values (usually above 10) denote multicollinearity.

These measures have been considered needful because the absence of high correlation among the independent variables in the correlation matrix does not guarantee absence of multicollinearity.

3.8.2 Autocorrelation

A major assumption of ordinary least squares is that the successive values of the random variable (Uit) are temporally independent, that is, that the value which 'U' assumes in any one period is independent from the value which it assumed in previous period. If this assumption is not satisfied, that is, if the value of 'U' in a particular period is correlated with its own preceding value we say that there is auto correlation or serial correlation of the random disturbance term. When the disturbance term exhibits serial correlation, the value as well as the standard errors of the parameter estimates are affected. In particular, the estimates of the parameter do not have the statistical bias and then the predictions based on the estimates will be inefficient.

A rough idea of autocorrelation is gained by plotting the regression residuals either against their own lagged value(s), or against time. This study applies a more accurate test- The Durbin Watson test (which is applicable to small samples) for assessing serial correlation.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter deals with the presentation, analysis and interpretation of the time-series data collected for the purpose of testing the model developed in this study.

Multiple regression, a time-honored technique has been employed to predict the relationship between the independent variables (Community corporate social responsibility, human resource management, and charitable contributions) and the dependent variable (Tobins Q-a measure of market value) Tobin's Q is given by the formula:

$$TQ = b_0 + b_1 CCSR + b_2 HRM + b_3 CC + uit \quad . \quad . \quad (1)$$

This study considers firm characteristics in examining the relationship between value or performance and corporate social responsibility since high-scoring firms have been typically found to be large (see Fama and French, 1992). Thus we examine the relationship between CSR and market value after allowing for firm characteristics. In other words, we factor in firm size into the function represented by total assets.

The relationship between CSR and financial performance in previous studies have been found to be reverse-causal, such that a firm's financial performance yesterday contributes to its current CSR involvement (See Cho and Pucik 2006, Xueming and Bhattacharya 2006). In a bid to accommodate this

concern, such studies have lagged the CSR variables so that CSR yesterday could hypothetically influence financial performance tomorrow. However lagged variables have been recognized as one of the major causes of multicollinearity; a condition that exists when the explanatory variables are highly correlated which results in the parameter estimate being indeterminate (see koutsoyiannis, 1977).

In order to mitigate this problem, this study employs an econometric approach by lagging the dependent variable and factoring it as a variable in the function (koutsoyiannis, 1977). The Tobin's Q formula (i) is thus modified as:

$TQ = b_o + b_1 CCSR + b_2 HRM + b_3 CC + b_4 TQ\text{-}1 + b_5 FS + uit$ . .. (ii)

The study controls for firm size in order to clearly identify the effect of firm size in the equation. The essence is to examine the changes in the other variables and regression results when firm size is controlled. Using the hold-out method of controlling variables, the equation is represented as:

$TQ = b_0 + b_1CCSR + b_2HRM + b_3CC + b_4TQ_{-1} + uit.$ …….. (iii)

4.2 Estimation of Market Value (Tobin's Q)

Tobin's Equity Q is defined as the ratio of stock market value to the total assets. A Tobin's Q ratio greater than 1 indicates that the firm has done well with its investment decisions, that is, it has invested in positive net present value projects. In contrast, a value of Tobin's Q lower than 1 indicates that the company did not earn its firm wide cost of capital with its investment projects.

Table 4.2 shows the determination of Tobin's Equity Q for the sample companies for the years under study.

Table 4.2 Estimation of Tobin's Equity Q (2001-2006)

2001	**Equity**	**Total Assets**	**TQ**
Chellarams	9,136,000	1,328,913,000	0.01
John Holt	813,326,451	3,274,000,000	0.25
PZ	15,391,837,880	18,284,877,000	0.84
Leventis	808,061,143	2,930,166,000	0.28
Unilever	3,292,984,320	9,080,739,800	0.36
2002			
Chellarams	14,851,000	2,132,786,000	0.01
John Holt	338,561,728	4,223,000,000	0.08
PZ	12,325,827,000	20,450,125,000	0.61
Leventis	635,329546	3,229,738,000	0.20
Unilever	4,449,157,860	10,742,119,000	0.42
2003			
Chellarams	61,871,000	1,965,431,000	0.03
John Holt	229,599,333	444,600,000	0.51
PZ	1,590,877,130	23,579,819,000	0.07
Leventis	668,641,908	3,378,596,000	0.20
Unilever	5,232,419,000	15,346,111,000	0.34
2004			
Chellarams	309,050,437	3,288,541,000	0.10
John Holt	385,259,897	6,194,000,000	0.06

PZ	7,031,246,144	12,932,928,000	0.55
Leventis	2,424,348,167	3,502,256,000	0.69
Unilever	1,356,712,505	24,463,769,000	0.06
2005			
Chellarams	150,006,937	3,267,021,000	0.05
John Holt	544,811,976	4,717,000,000	0.12
PZ	35,285,062,290	30,709,456,000	1.15
Leventis	2,514,925,790	3,927,026,000	0.64
Unilever	62,076,324,870	16,818,583,000	3.69
2006			
Chellarams	574,725,375	3,869,610,000	0.15
John Holt	470,873,208	5,715,000,000	0.09
PZ	50,822,106,180	38,042,806,000	1.34
Leventis	4,103,299,972	5,236,513,000	0.79
Unilever	4,710,203,520	18,622,475,000	0.26

Source: Financial Reports of Sampled Firms for 2001-2006

4.3 Estimation of CCSR, HRM, CC and FS

Two of the independent variables, human resource management (HRM) and community corporate social responsibility (CCSR) are non-metric variables. They are both limited to the extent of their being reported in the financial statements.

HRM carries one (1) where there is indication in the financial statements that the company is engaged in employee training, development and welfare

programmes for its staff and zero (0) when such is not indicated in its statements.

CCSR carries one (1) when the there is indication in the financial statements that the company is engaged in a community development course/programme and zero (0) when it has not.

The third variable, charitable contributions, is the total contributions made by the company as philanthropic donations while the firm size (fourth variable) is denoted by the total assets and finally a lag of Tobin's equity Q, TQ-1. These variables are presented in table 4.2 below:

Table 4.3 Estimation of the Explanatory Variables

2001	**HRM**	**CCSR**	**CC**	**Firm Size**	**TQ - 1**
Chellarams	1	0	367,500	1,328,913,00	0.006
John Holt	1	0	20,000	3,274,000,000	0.18
Leventis	0	1	600,440	293016600	0.26
PZ	1	0	440,000	18,284,877,000	0.19
Unilever	1	1	9,920,000	908,739,800	1.9
2002					
Chellarams	0	0	367,500	2,132,786,000	0.01
John Holt	1	0	110,000	4,223,000,000	0.25
Leventis	1	1	2,033,000	3,229,738,000	0.28
PZ	0	0	551,000	20,450,125,000	0.84
Unilever	0	1	87865000	10,742,119,000	0.36
2003					

Chellarams	1	0	451,310	1,965,431,000	0.01
John Holt	1	1	190,000	4,446,000,000	0.08
Leventis	1	1	1,396,000	3,378,596,000	0.20
PZ	0	0	685,550	23,579,819,000	0.61
Unilever	0	1	63,243,000	15,346,111,000	0.42
2004					
Chellarams	1	0	4,896,063	3,288,541,000	0.03
John Holt	1	0	230,450	6,194,000,000	0.51
Leventis	1	1	80,000	3,502,256,000	0.20
PZ	1	1	685,550	12,932,928,000	0.07
Unilever	1	1	54315000	24,463,769,000	0.34
2005					
Chellarams	1	0	12,814,000	3,267,012,000	0.10
John Holt	1	0	410,000	4,717,000,000	0.06
Leventis	1	0	220,000	3,927,026,000	0.69
PZ	0	0	350,000	30,709,456,000	0.55
.Unilever	0	1	45,528,220	16,818,583,000	0.06
2006					
Chellarams	0	0	2,752,000	3,869,610,000	0.05
John Holt	1	1	279,700	5,715,000,000	0.12
Leventis	1	0	150,000	5,236,513,000	0.64
PZ	1	0	460,000	38,042,806,000	1.15
Unilever	1	1	507,638,000	181,622,475,000	3.69

Source: Financial Reports of Sampled Firms for 2001-2006

4.4 The Impact of corporate social responsibility variables on market values (Tobin's Equity Q)

This section presents and analyses the regression results of Equation i, ii, and iii

4.4.1 The Impact of Core CSR variables on market value

Equation i observes the impact of the fundamental corporate social responsibility variables on market value.

$TQ = b_0 + b_1CCSR + b_2HRM + b_3CC + uit$

Where TQ = Tobin's Equity Q

HRM = Human Resource Management

CC = Charitable contributions

Uit = Error term

To test for the influence of the explanatory variables on Tobin's Equity Q in the above function, the following tests are discussed.

i. Standard error test of parameter estimates

ii. The T-test

iii. Goodness of fit test (r^2)

iv. Analysis of variance/F-test

v. Multicollinearity test

vi. Auto correlation test

The table below shows the regression results obtained using SPSS.

The full results are available in Appendix B

Table 4.4.1a Regression Summary

Variables	Parameter estimate	Standard Error	Values (t)
CCSR	.418	.290	1.442
HRM	.380	.278	1.366
CC	.014	.015	2.8

SOURCE: Regression results using SPSS

Table 4.4.1b Model summary

R	R-Square	Adjusted R-Square	Standard Error of the estimate	Durbin Watson
.439	.193	.024	.69076	2.041

SOURCE: Regression results using SPSS

Table 4.4.1c Analysis of Variance

	Sum of squares	Df	Mean square	F
Regression	2.733	3	.547	1.146
Residual	11.452	26	.477	
Total	14.185	29		

SOURCE: Regression results using SPSS

Table 4.4.1d Correlation Matrix

Pearson Correlation		TQ	CCSR	HRM	CC
	TQ	1.000	.157	-.268	-.001
	CCSR	.157	1.000	-.015	.313
	HRM	-268	-.15	1.000	.030
	CC	-.001	.313	.030	1.000

Source: Regression results using SPSS

Table 4.4.1e Collinearity Statistics

Variables	Tolerance	VIF
CCSR	.902	1.109
HRM	.998	1.002
CC	.901	1.110

Source: Regression results using SPSS

4.4.1i Standard error test

The results of the standard error test are shown below:

Table 4.4.1i

Variables	Standard error	Half of parameter estimate	Statistical reliability
CCSR	.290	0.209	Statistically unreliable
HRM	.278	0.19	Statistically unreliable
CC	.015	0.007	Statistically unreliable

Source: Regression results using SPSS

The above test reveals that the three explanatory variables are statistically insignificant in predicting market value as represented by Tobin's Equity Q. it suggests that none of them is important in explaining the hypothesized CSR-market value relationship.

4.4.1ii The T-test

Tabulated t values under this study with regards to 26 degree of freedom at 5% level of significance is 2.056. This value is the compared to observed t* to show the statistical significance of the values

Table 4.4.1ii t-test result

Variables	Observed t*	Tabulated t	Statistical significance
CCSR	1.442	2.056	Statistically insignificant
HRM	1.366	2.056	Statistically insignificant
CC	2.011	2.056	Statistically insignificant

Source: Regression results using SPSS

4.4.1iii Goodness of Fit Test with R^2

This test enables the researcher to know how good is the fit of the regression line to the sample observations of Y and X. In other words R^2 measures the dispersion of observations around the regression line. The better the goodness of fit, the better is the explanation of the variation of the dependent

variable by changes in the explanatory variables. This is calculated using the R^2 (coefficient of multiple determination).

The value of R^2 lies between 0 and 1. The higher the R^2, the greater the percentage of the variation of Tobin's Q explained by the regression plane.

For the first equation, R^2 equals 0.19. Thus the regression line explains only 19% of the total variation of the Y values around their mean. The remaining 81% of the total variation in Y is unaccounted for by the explanatory variables.

Introducing a new explanatory variable only increases the coefficient of multiple determination and never reduces it. To correct for this defect, R^2 is adjusted taking into account the degree of freedom which decreases as new variables are introduced into the function. Adjusted R^2 in this study equals 0.024, that is only 2.4% of the variation in y is explained by the independent variables.

The result above shows a poor fit and lends itself to the fact that none of the three variables is statistically significant.

However, the F test further clarifies our discussion while assessing the overall significance of the analysis of variance of the regression and residuals.

4.4.1iv Analysis of Variance / F test

This test is geared towards testing the overall significance of the regression via the F - statistic which is the ratio of two independent estimates of variance (ratio or mean square error between and mean square error within) which have been obtained from sample data.

The observed F* variance ratio is compared with the theoretical value F from the F table at a level of significance (for this study, 5% level) with V_1 = (K-1) and V_2 = (N - K) degrees of freedom (for this study $V_1 = 3$ and $V_2 = 26$).

If F* > F, we reject the null hypothesis that is we accept that the difference between the means is significant and vice versa.

In this equation the observed F* ratio is 1.146 and the theoretical F value from the F table at 5% level of significance at V_1, V2 (5, 24) degree of freedom is 2.99.

Based on the decision rule, since F* < F0.025, we accept the null hypothesis, that is, we accept that the explanatory variables have no significant aggregate impact on the criterion variable. In other words the corporate social responsibility variables have no significant impact on the value of the firms.

4.4.1vi Autocorrelation test (Durbin Watson)

One of the critical assumptions of the regression model is the assumption that the successive values of the random variable U are temporarily independent. That is, the value which U assumes in any one period is

independent of the value which it assumed in any previous period. If this assumption is not satisfied, that is, if the value of U in any particular period is correlated with its preceding value (or values), we say there is auto correlation or serial correlation of the random variable and thus violates the assumption of 'randomness' of the U. The traditionally applied tests for this assumption are the Von Neuman ratio and the Durbin Watson test.

In this study we use the Durbin Watson test since it is applicable to small samples (see Durbin and Watson, 1951 and Durbin, 1970). The test itself compares the empirical d value, calculated from the regression residuals, with dL (lower limit) and du (upper limit) in the Durbin Watson tables with their transforms (4 – dL) and (4 – du).

i. If $d^* < dL$, we accept that there is positive autocorrelation of the first order.

ii. If $d^* > (4 - dL)$ we accept that there is negative autocorrelation of the first order.

iii. If $du < d^* < (4 - du)$ we accept the hypothesis of no autocorrelation.

iv. If $dL < d^* < du$ or if $(4 - du) < d^* < (4 - dL)$ the test is inconclusive.

For equation 1, empirical d* is 2.041 while theoretical d at upper limit from the DW table for 30 observations and 3 explanatory variables is 1.65 and 1.21 at lower limit. Since $du < d^* < (4 - du)$, we thus conclude that there is no autocorrelation among the residuals (random term).

4.4.2 Impact of CSR variables, firm size and a lag of TQ on market value

Equation ii is the maintained hypothesis. The model incorporates firm size into the initial equation. However, a lag of the dependent variable is employed. The equation is thus stated:

$TQ = b_0 + b_1CCSR + b_2HRM + b_3CC + b_4TQ_{-1} + b_5 + FS + Uit$

Where TQ = Tobin's Equity Q

CCSR = Community Corporate Social responsibility

HRM = Human Resources Management

CC = Charitable contributions

TQ -1 = A lag of dependent variable

FS = Firm size

The tables below show the regression results obtained using SPSS.

Table 4.4.2a Regression Summary

Variables	Parameter estimate	Standard Error	Values (t)
CCSR	.379	.240	1.58
HRM	.239	.375	0.64
CC	-.644	.150	4.30
TQ -1	.417	.114	3.66
FS	.637	.271	2.35

SOURCE: Regression results using SPSS

Table 4.4.2b Model Summary

R	R-Square	Adjusted R-Square	Standard Error of the estimate	Durbin Watson
.679	.454	.340	.6117	1.632

SOURCE: Regression results using SPSS

Table 4.4.2c Analysis of variance

	Sum of square	df	Mean square	F
Regression	7.458	5	1.492	3.987
Residual	8.979	24	.374	
Total	16.437	29		

SOURCE: Regression results using SPSS

Table 4.4.2d Correlation Matrix

		TQ	CCSR	HRM	CC	TQ-1	FS
Pearson Correlation	TQ	1.000	.157	.268	.001	.006	.071
	CCSR	.157	1.000	-.015	.313	.185	.177
	HRM	-268	-.15	1.000	.030	.101	.030
	CC	-.001	.313	.030	1.000	.611	.591
	TQ-1	.006	.185	.101	611	1.000	.263
	FS	.071	.177	.030	.591	.263	1.000

SOURCE: Regression results using SPSS

Table 4.4.2e Collinearity Statistics

Variables	Tolerance	VIF
CCSR	.888	1.126
HRM	.982	1.018
CC	.313	3.196
TQ-1	.332	3.015
FS	.770	1.299

Source: Regression results using SPSS

4.4.2.i Standard error test

The result of the standard error test are shown below:

Table 4.4.2ii

Variables	Standard error	Half of parameter estimate	Statistical reliability
CCSR	.240	.190	Statistically unreliable
HRM	.375	.108	Statistically unreliable
CC	.051	.322	Statistically reliable
TQ-1	.114	.211	Statistically reliable
FS	.271	.32	Statistically reliable

Source: Regression results using SPSS

4.4.2 ii The t-test

Tabulated t value under this equation with regards to 24 degree of freedom at 5% level of significance is 2.065. a comparison of observed t* and tabulated t are shown below:

Table 4.4.2 iii Statistical significance of t values

Variables	Observed t*	Tabulated t	Statistical significance
CCSR	1.58	2.065	Statistically insignificant
HRM	0.64	2.056	Statistically insignificant
CC	4.30	2.065	Statistically significant
FS	3.66	2.065	Statistically significant
TQ-1	2.35	2.065	Statistically significant

Source: Regression results using SPSS and t-table

4.4.2 iii Coefficient of determination test with R^2

The value of R^2 for the second equation equals 0.45. In other words, the regression plane explains only 45% of the variation in Tobin's Equity Q. The remaining 55% of the variation in TQ is unaccounted for by the regression line and is attributed to the factors included in the disturbance variable u. the

adjusted coefficient of determination is 34%. The result shows an improvement in the fit as compared to the initial equation with 19%. This goes to say that the consideration of firm characteristics (firm size) improves the utility of the model.

The F-test is further employed to ascertain the reliability of the model.

4.4.2iv F-test

A test of the overall significance of the regression shows a F* ratio of 3.987 and a theoretical F-value of 2.62 at 5% level of significance and 5,24 degree of freedom.

Given that F*>F 0.025, we accept that the regression is significant, and that the significant variables are explanatory factors of the variation in TQ.

4.4.2v Serial Correlation test

The test compares the empirical d* value obtained from the regression residuals with the theoretical d< and du in the Durbin Watson tables.

In this equation, empirical d* is 1.632, while theoretical from the DW table for 30 observations and 5 explanatory variables at the upper and lower limits are 1.83 and 1.07 respectively. Based on the decision rule, since d<d*<du, we conclude that the test is inconclusive.

4.4.vi Multicollinearity test

Table 4.3.2d (Correlation matrix) reveals that the explanatory variables are not highly correlated. They range between 15 percent (CCSR and HRM) to about 61 percent (CC and TQ-1).

To assess pairwise and multiple variable collinearity, the tolerance value and variance inflation factors are examined.

The default tolerance value in SPSS for excluding a variable is .0001, which means that until more than 99.99 percent of variance is predicted by the other independent variable, the variable could be included in the regression equation. However, the tolerance value statistics for this equation are consistently greater than the common cut off threshold of .10 and also the variance inflation factor are consistently less than 10. These go to confirm the absence of multicollinearity in the equation.

4.4.3 Controlling for firm size

This regression plane controls for the influence of firm size in the relationship that exists between CSR and market value. The equation is a replication of equation ii but with the exclusion of firm size.

The essence is to examine the changes that would occur in the significance/sizes of our estimates and goodness of fit when firm size is controlled for. The model is thus re-estimated as:

$TQ = b_0 + b_1CCSR + b_2HRM + b_3CC + b_4TQ_{-1} + uit$

The tables below show the regression results obtained.

Table 4.4.3a Regression summary

Variables	Parameter estimate	Standard Error	Values (t)
CCSR	.248	.325	0.763
HRM	-182	.466	0.390
CC	-.684	.088	7.77
TQ-1	.729	.341	2.140

SOURCE: Regression results using SPSS

Table 4.4.3.b Model summary

R	R-Square	Adjusted R-Square	Standard Error of the estimate	Durbin Watson
.525	.276	.123	.7466	1.595

SOURCE: Regression results using SPSS

Table 4.4.3c Analysis of variance

	Sum of square	df	Mean square	F
Regression	4.030	4	1.008	1.807
Residual	10.592	25	.557	
Total	14.622	29		

SOURCE: Regression results using SPSS

Table 4.4.3 d collinearity statistics

Variables	Tolerance	VIF
CCSR	.770	1.299
HRM	.272	11.023
CC	.390	3.674
TQ-1	.086	13.120

Source: Regression results using SPSS

4.4.3i Standard error test

Table 4.3.3i shows the regression results of the standard error test:

Variables	Standard error	Half of parameter estimate	Statistical reliability
CCSR	.325	.124	Statistically unreliable
HRM	.466	.091	Statistically unreliable
CC	.088	.342	Statistically reliable
TQ-1	.341	.365	Statistically reliable

Source: Regression results using SPSS

4.4.3 ii T-test

The t-value under 25 degree of freedom at 5% level of significance is 2.060. Table 4.3.3ii shows a comparison of this value with observed t* values

Table 4.4.3 ii Results of the T-test

Variables	Observed t*	Tabulated t	Statistical significance
CCSR	0.763	2.060	Statistically insignificant
HRM	0.370	2.060	Statistically insignificant
CC	7.770	2.060	Statistically significant
TQ-1	2.140	2.060	Statistically significant

Source: Regression results using SPSS and T- table

4.4.3 iii Goodness of fit test (R^2)

Controlling for firm size reduces the R^2 from 0.45 to 0.27. Thus only 27% of the variation in Tobin's Q is explained by the regression plane. This implies that firm size is fundamental in the CSR market value relationship. The adjusted R^2 is 0.12. This is a poor fit with the exclusion of firm size. It goes to emphasize the moderating effect firm size has in the CSR- market value interaction.

The F-test establishes the significance of the model.

4.4.3iv F-test

F* ratio for this equation is 1.807 and the theoretical F-value at 5% level of significance and 4.25 degree of freedom is 2.76.

Since F* < F 0.025, we accept that there is no linear relationship between the explanatory variables and market value where firm size is controlled. Thus, the R^2 is statistically insignificant.

4.4.3v Serial correlation/Multicollinearity test

Empirical d* is 1.595, while theoretical d from the DW table for 30 observations and 4 explanatory variables at upper and lower limits are 1.14 and 1.74 respectively.

D*<d<, we thus accept that there is positive autocorrelation of the first order.

The variance inflation factor (above 10) and tolerance value (below. 10) shows the presence of multicollinearity.

These two violations of the ordinary least variable square method (autocorrelation and multicollinearity) suggest that the parameter estimates become indeterminate when the influence of firm size is ignored in the CSR-market value relationship.

4.5 Discussion of the findings

With the growing emphasis on CSR both in social development and more so in corporate business culture, there has never been a period in the Nigerian history than the current period when quantitative evidence is being demanded by management to justify the allocation of scarce resources for CSR ventures.

Possible implications exist regarding the use of the model employed in this study. The model has been structured in three functions. The first function has

used three independent variables (CCSR, HRM and CC) for the purpose of predicting market value (TR). The results revealed that none of the regression results was significant in explaining variations in market value. The goodness of fit at 19 percent is dismal showing that 81 percent of the variation in TQ is explained for by the plane. The F test establishes the insignificance of the regression though the absence of multicollinearity and autocorrelation is documented. This makes it crystal clear that while the variables (independent) are not perfectly correlated, they do not aggregately qualify in predicting market value.

The second function is the study's maintained hypothesis of the operationalization of the CSR-market value relationship. It embraces our hypothesis on the role of firm size in the CSR – market value interaction and also captures our position on the lag of the dependent variable. The hypotheses of the study are tested on the basis of this equation.

The model has used five independent variables for the purpose of predicting Tobin's Q. The five variables are community corporate social responsibility, Human resource management, charitable contributions, firm size and a lag of the dependent variable.

The study hypothesises that the explanatory variables have significant impact on the dependent variable (hypothesis one). This hypothesis was tested using the F statistic and results show that the five explanatory variables have significant overall impact on market value (TQ). This goes to confirm the

utility of the model in predicting market value. Thus null hypothesis one of the study is rejected and we conclude that corporate social responsibility has a statistically significant aggregate impact on market value of quoted conglomerates in Nigeria.

The study further hypothesizes that community corporate social responsibility has no significant impact on market value of quoted conglomerates in Nigeria (hypothesis two). This hypothesis was tested using the standard error and t tests.

The standard error test resulted in half of the parameter estimate (0.190) less than 0.240 (the standard error). This test reveals that the parameter estimate is insignificant in predicting market value. The t test goes further to corroborate this. The observed t* (1.58) was less than the tabulated t (2.064) which means that the variable was statistically unreliable in predicting a possible relationship.

We thus accept the null hypothesis that community CSR has no significant impact on market value of quoted conglomerates. This lends weight to the works of Aupperle *et al* (1985) and Welch and Wazzan (1999) that community development involvement does not improve profitability.

The third hypothesis of the study is that human resource management has no significant impact on market value of quoted conglomerates in Nigeria. The standard error test resulted in half of the parameter estimate (0.108) less than the standard error (0.375). This reveals that the estimate is insignificant in predicting market value. The t test also supports this finding. The observed t*

(0.64) was less than the tabulated t (2.064). It confirms that the variable is statistically unreliable in predicting market value. We thus accept the null hypothesis that human resource management has no significant impact on market value of quoted conglomerates.This contravenes the works of Becker and Huselid(1998) who conclude that high performance HRM system has an economically and statistically positive effect on company financial performance

The study finally hypothesizes that charitable contributions have no significant statistical impact on market value of conglomerates in Nigeria.

The standard error test resulted in the standard error (0.051) being less than half of the parameter estimate (0.322).

This implies that the estimate is significant in predicting market value. The t test corroborates this finding.

The observed t* (4.30) was more than the tabulated t (2.064) which shows that the variable is statistically reliable in predicting market value. The coefficient of the variable (cc) is (-0.644).

The economic implication of this negative sign is that the variable though significant has an inverse impact on market value.

That is, the lesser the charitable contributions the greater the market value. This goes to support the arguments of Friedman (1970) and his cohorts that philanthropic costs (charitable contributions) have a negative impact on the financial performance of a firm since the firm has less funds to invest into profitable ventures. However, the results lend support to our hypothesis that

charitable contributions (CC) has a statistical significant impact (though negative) on market value of quoted conglomerates in Nigeria.

Firm size (denoted by total assets) has also been found significant in predicting market value. The t-test and standard error test have all confirmed this.

This offers support to the works of Cho and Pucik (2006) and Xueming and Bhattacharya (2006) that the size of a firm influences the relationship between CSR and market value.

Tests of multicollinearity shows that the variables are not highly correlated however the serial correlation test was inconclusive.

The study controls for firm size in the third function to examine the effect on the parameter estimates of other explanatory variables and the fitness of the plane.

Two of the variables (CCSR and HRM) were found statistically unreliable. Both the standard error and T-tests confirm this.

Charitable contributions was found to have a significant negative impact on market value. This result remains similar to that of the second function.

The coefficient of determination fell from 0.45 in the first equation to 0.27. In other words, 18% of the variation in Tobin's Q is attributed to size.

However, since F* (1.807) < F (2.76), we conclude that the regression is insignificant.

Equation 2 (maintained hypothesis) is the only statistically significant regression plane in this study. The results of the study show the importance of incorporating firm size factor into the CSR-market value relationship as the plane becomes insignificant with the exclusion of firm size.

Charitable contributions have consistently appeared to be an important variable that can be used to explain the CSR-financial performance link. The impact has however been inverse such that higher philanthropic costs reduce market value. The findings suggest that in formulating CSR standards concerned authorities must put the firm size factor into consideration.

A firm's corporate social responsibility should also be reflective of its size while recognizing the negative returns of CSR.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary, conclusions, and recommendations of the study. The chapter is divided into three sections. Section one provides the summary, section two discusses the conclusion and section three highlights the recommendations of the study.

5.2 Summary

This study used a multiple regression model for the purpose of predicting empirically the impact of CSR on market value of quoted conglomerates in Nigeria. The study employed the confirmatory approach to model development in order to estimate the relationship between four explanatory variables – Community CSR, Human resource management, charitable contributions and firm size and market value (denoted by Tobin's Equity Q). Two of the variables used were non metric (dummy variables). These variables are CSR and HRM; while the other two (charitable contributions and firm size) are metric.

The study hypothesized a significant relationship between the four explanatory variables and market value. The study is predicated on the unsettled discourse on corporate social responsibility from various quarters – organization, community, government etc. The CSR issue has been a growing concern in the world and corporate Nigeria today. Nevertheless, critics posit that

such moral values have no influence on the profitability or value of the firm. This contention has tarried without a clear position on the possible influence of CSR on value and as such legislations/codes of conduct generated vis-à-vis CSR have no stimulant since it is unclear if there was a positive impact. Several studies have been carried out in relation to these debates but most have been inconclusive.

The findings of this research are based on the pooled time series data collected for the period 2001-2006 from a sample of five out of eight conglomerates quoted on the Nigeria stock exchange.

The results of the study revealed that the predictor variables have significant aggregate impact (at 95 percent confidence level) on market value of the sample firms as represented by Tobin's Equity Q.

The study has documented a significant relationship between market value and corporate social responsibility of the sample firms.

Community CSR and Human resources management (represented by dummies) have been found to have no significant impact on Tobin's Q. This goes to confirm the works of Aupperle et al (1985) and Welch and Wazzan (1999) but contravenes the findings of Moskowitz,1972;Parket and Eisbert,1975;and Soloman and Hansen,1985.

The results also reveal that charitable contributions have a negative impact on market value. In other words, the higher the charitable contributions, the lesser the market value. These results have confirmed in diverse respects the

views of Rostow (1959), Friedman (1970), Vance (1975), Brammer et al (2006) and Brine et al (2006). The study controls for firm size and documents that the model becomes insignificant where firm size is not incorporated. This affirms the work of Xueming and Bhattacharya (2006) that firm characteristics are unavoidable in the nexus between CSR and financial performance.

5.3 Conclusions

Based on the findings of the research, the study concludes as follows:-

First, the study has provided both empirical as well as statistical evidence on the use of four independent variables – Community CSR, Human Resource management, charitable Contributions and firm size in explaining and predicting market value of the sampled firms. The results show that the four variables have a significant aggregate impact (at 5%) on market value of the firms.

Second, the study has confirmed the insignificance of community CSR and Human Resources management as predictor variables of the market value of the sampled firms. This goes to say that CSR directed at communities in the form of projects have no ripple effect on the bottom line. It also lends itself to the fact that human resource development, training and welfare; to the extent that they are reported in the annual statements are not tangible in influencing its value.

Thirdly, the study established the significance of charitable contributions in the operation of the CSR – market value relationship. It however reveals that the relationship that exists is negative and as such, market value falls when more philanthropic costs are achieved by the firm and increases when such costs are reduced. These findings contradict the instrumental stakeholder theory which purports that CSR activities generate financial benefits.

Fourthly, the study also confirms the work of Xueming and Bhattacharya (2006) that firm size has a major role to play in the link that abounds between CSR and market value.

Finally, the study has demonstrated that the virtue of CSR in maximizing financial performance/value is just a philosophy and might not be applicable to developing countries. However, we recognize that the concept of CSR is inevitable because of the ever growing concern about environmental degradation; new concerns and expectations of citizens, consumers, public authorities, and investors in issues of company responsibility. Based on the above, this study advocates for a normative approach which suggests implementing CSR ventures as a moral obligation.

5.4 Recommendations

The recommendations of the study have been directed at 4 different parties who either have direct or indirect influence on a firm's CSR. These parties are the businesses, investors, government, and future researchers.

5.4.1 Businesses

Business cannot successfully operate in a community which they ignore. However, while business opens to the interests of groups in the society, they must certainly seek profits first and see maximization of shareholders' returns as prime. They should identify standards of behavior expected of them and adhere to that.

This study reveals that firm size has a tangible impact on the CSR- value relationship. Thus, firms CSR initiatives should be reflective of their corporate size.

It is important for managers to consider CSR initiatives in the light of the firm's corporate abilities. Less financially capable companies may be better off financially by avoiding CSR actions. Managers should understand that a misalignment of CSR with internal factors can be detrimental and lead to decreased market value. As a consequence, they need to examine carefully the context in totality before implementing CSR activities.

The study also reveals that human resource management and community investment do not have any impact on the market value of firms. While charitable contributions negatively impact value.

These results concur with the views of Friedman (1970), Navaro (1988) and Brine et al (2006) that CSR activities do not improve the profitability or market value of companies and as such resources devoted to CSR would be more wisely spent, from a social perspective, on increasing firm's efficiency. However, this study considers these views as too extreme. If the society does not exist, organizations will also not exist. Moreover, organizations tap the natural, material and human resources that they use for production from the society. It therefore behoves them to be socially responsible in return; for as long as the business system remains a subsystem of the organized society, the modern manager is left with no choice other than to be concerned with societal expectation, that is to be socially responsible.

5.4.2 Investors

The findings of this study lends weight to the argument that expenditure on corporate social activities is largely destructive of shareholder value (Navarro 1988).

It also goes to say that expenditure on CSR affects the bottom line negatively and thus the values of firms that engage excessively in such activities are punished by the financial market over the longer term of which shareholders might be slow to realize.

In this light, shareholders/investors while clamoring for ethical and moral responsibilities of their companies should have in mind the financial consequences of such. The study recommends that they dissuade their companies from such excessive investment but only patronize minimal and strategic CSR activities in view of a healthy relationship with the environment.

Equity analysts and fund managers considering the implementation of ethical screens as a determinant of the level of investment should consider the recommendation above as such 'screens' might dent their performance

5.4.3 Government

Given the already intense pressure brought to bear by civil society, to what extent must the government promote CSR? The government has a role to play in promoting CSR for several reasons. Because they establish and monitor compliance with the legislative and regulatory framework by private corporations, financial markets, and institutional investors and so can encourage economic players to create ethical, social or environmental criteria.

As custodian of our natural resources, the state must ensure that this collective wealth is used in compliance with the principles of sustainable development that underpins the concept of social responsibility.

The public sector should play a role in increasing responsible investment since they have a considerable financial clout that could be used to encourage private corporations to consider social responsibility criteria. They should set an example for the private sector by applying the principles of responsible investment.

The government would have to work closely with the private sector to support economic development and manage the funds entrusted to it. A dialogue must be made with the business world and other stakeholders in determining common standards, reporting mechanisms and the extent to which they should be responsible.

Even if business adopts social responsibility policies, they still face the major challenges of reporting the performance in this area. Without regulations, reports could come in all shapes and forms and would no doubt contain many hard-to verify or incomplete statements. The government should determine what a report should contain. For example, the Loi Sur Les Nouvelles regulations economiques adopted in France 2001 specifies that businesses listed on the stock exchange must include environmental and social sections in their annual reports.

This is not discrete enough. Attempts should be made to identify and structure appropriate information on CSR such as the global reporting initiative.

5.4.4 Future Researchers

The analysis of this study reveals a statistically significant negative relationship between the adoption of CSR and market value. However, in conducting the analysis, a number of opportunities for refining the research were identified. As such, this study could be considered as a first step in testing the relationship between firm value and corporate social responsibility in the Nigerian Context.

This research has highlighted the need to develop better measures of CSR within Nigeria. An increasing uptake of indices such as the corporate responsibility index may assist in this regard. More reliable measurement of the extent to which a company has adopted CSR will allow a more accurate analysis of the effect on value.

There are a number of areas where future research in this area could proceed. Firstly, our analysis include a sample of quoted conglomerates on the exchange. Increasing the sample size, potentially a representation of the various strata on the exchange, may allow for a better measure of the effect that the adoption of CSR has on the value of Nigeria companies. It may also be useful to determine whether significant relationships emerge and change as longer term financial information becomes available (Tsoutsoura, 2004).

The study period could be extended, and short-term and long-term measures of financial performance could be employed (Aupperle, Carroll and Hatfield, 1985). It may also be useful to use a one year lag between the measurement of financial performance and the corporate social responsibility measure instead of the lag of the dependent variable employed in this study. The essence is to determine whether there may be a lag associated with the implementation of social responsibility and improved financial performance (Blackburn, Doran and Shrader 1994). Alternatively, a one year lag could be used to test whether better financial performance leads to an increase in the level of social responsibility for an organization (Waddock and Graves, 1997).

Finally, the model used in this study cannot provide an understanding of whether socially responsible firms, outperform the socially reprehensible ones and precisely how much a firm should spend on CSR. This concept is exogenous to the model in this study. This issue can be answered by future empirical works that consider this proposition.

5.5 Limitations of the study

Although the study entails a comprehensive and thorough analysis of the impact of corporate social responsibility on market value of quoted conglomerates in Nigeria, it however suffers some limitations such as the following:

i. Measure of corporate social responsibility

The over riding research constraint faced in conducting this analysis was the lack of a reliable measure of corporate social responsibility. Although assessing market value is relatively clear cut, the same cannot be said about

assessing the extent to which corporate decision making encompasses the social and environmental consequences of a course of action. A limitation of the approach in this study is that it gives more of an indication of a company's willingness to report, rather than the extent to which company decision makers consider social and environmental factors in making decisions. While acknowledging this limitation, the researcher cautions that one should not understate the usefulness of such responsibility reporting as an indicator of corporate social responsibility.

ii. **Size/nature of the sample**-

The selected sample for the study is not sufficiently large enough to warrant generalization of a conclusion that all quoted firms in Nigeria or all firms in Nigeria behave alike. Only a sector (conglomerates) out of the 27 sectors in the Nigeria Stock Exchange was selected for the study. This is not tangible enough to draw conclusions for the study in the Nigerian context as a whole.

iii. **Period of the Study**

The period of this study was restricted to six years from 2001 to 2006. Thus the result could vary when compared to a period that is more than six years.

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APPENDIX A

Sample companies

1. Chellarams Nigeria PLC
2. John Holt Nigeria PLC
3. PZ Cussons Nigeria PLC
4. Unilever Nigeria PLC
5. AG Leventis Nigeria PLC

APPENDIX B

FULL RESULT OF THE REGRESSION ANALYSIS USING SPSS

EQUATION I; $TQ = b_o + b_1 CCSR + b_2HRM + b_3CC + U$

Descriptive statistics

	Mean	**Standard. deviation**	**N**
TQ	.465	.699	30
CC	.43	.50	30
HRM	.70	.47	30
CC	.6350	.48	30

CORRELATIONS

Pearson Correlation	**TQ**	**CCSR**	**HRM**	**CC**
TQ	1.000	.157	-.268	-.001
CCSR	.157	1.000	-.015	.313
HRM	-.268	-.015	1.000	.030
CC	-.001	.313	.030	1.000

MODEL SUMMARY

Model	**R**	**r-square**	**Adjusted R square**	**Standard error of the estimate**	**Durbin Watson**
1	.439	.193	.024	.69076	2.041

i. Predictors: (Constant), CC, HRM, CCSR

ii. Dependent variables: TQ

ANOVA

Model	**Sum of square**	**Df**	**Mean square**	**F**
Regression	2.733	3	.547	1.146
Residual	11.452	26	.477	
Total	14.185	29		

a. Predictors: (Constant), CC, HRM, CCSR

b. Dependent variables: TQ

Coefficients

Model	**Standardized coefficients (Beta)**	**Standard error**	**t**	**Collinearity Tolerance**	**VIF**
CCSR	.418	.290	1.442	.902	1.109
HRM	.380	.278	1.366	.998	1.002
CC	-.014	.015	2.8	.901	1.110

Collinearity Diagnostics

Model Dimension	**Eigen value**	**Condition index**	**Variance proportions**			
			Constant	**CCSR**	**HRM**	**CC**
1	2.552	1.000	.03	.05	.03	.03
2	.869	1.714	.02	.01	.04	.75
3	.432	2.430	.01	.80	.14	.21
4	.147	4.160	.94	.14	.79	.01

Dependent variable: TQ

Casewise Diagnostics

Case number	Standard residual	TQ	Predicted Value	Residual
1	-.348	.010	.25430	-.24430
2	-.006	.250	.25441	.4.E-03
3	-.859	.280	.88295	-.60295
4	.835	.840	.25427	.58573
5	-.175	.360	.48314	-.12314
6	-.913	.010	.65097	-.64097
7	-.248	.080	.25438	-.17438
8	-.407	.200	.48580	-.28580
9	-.058	.610	.65091	-4.1E-02
10	-.618	.420	.85352	-.43352
11	-320	.030	.25427	-.22427
12	.034	.510	.48642	2.36E-02
13	-.408	.200	.48601	-2.8601
14	-.828	.070	.65086	-.52086
15	-.744	-340	.86183	-.58183
16	-.218	.100	.25277	-.15277
17	-.277	.060	.25434	-.19434
18	.290	.690	.48646	.20354
19	.091	.550	-48625	6.37E-02
20	-.582	.060	.46816	-.40816
21	-.285	.050	.25010	-.20010
22	-.191	.120	.25428	-.13428
23	.550	.640	.25435	.38565
24	.711	1.150	.65098	.49902
25	4.021	3.690	.86780	2.82220
26	-.713	.150	.65017	-.50017
27	-.565	.090	.48639	-.39639

28	.763	.790	.25437	.53563
29	1.547	1.340	.25427	1.08573
30	-.079	.260	.31527	-5.5E-02

Residuals Statistics

	Minimum	**Maximum**	**Mean**	**Standard deviation**	**N**
Predicted value	.25010	.88295	.46500	.21802	30
Standard predicted value	-.986	1.917	.000	1.000	30
Standard error of predicted value	.18906	.68872	.24001	9.135E-02	30
Adjusted predicted value	.16927	1.754	.51382	.33421	30
Residual	-.64097	2.82220	1.30E-16	.66453	30
Standard residual	-913	4.021	.000	.947	30
Standard residual	-984	4.370	-.012	1.022	30
Deleted residual	-1.49462	3.33352	-.4.9E-02	.81775	30
Standard deleted residual	-.983	8.319	.124	1.661	30
Mahel distance	1.138	26.961	2.900	4.637	30
Cook’s Distance	.000	1.092	.077	.247	30
Centrered leverage value	.039	.930	.100	.160	30

Dependent variable: TQ

EQUATION II; $TQ = b_o + b_1\ CCSR + b_2 HRM + b_3 CC + \ + b_4\ TQ\text{-}1 + b_5\ FS + U$

DESCRIPTIVE STATISTICS

	Mean	Standard. deviation	N
TQ	.46500	.69	30
CC	.43	.50	30
HRM	.70	.47	30
CC	.63	.48	30
TQ-1	.46	.73	30
FS	.59	5.59	30

CORRELATIONS

Pearson Correlation TQ	TQ 1.000	CCSR .157	HRM -.268	CC -.001	TQ-1 -.006	FS -.071
CCSR	.157	1.000	-.015	.313	.185	.177
HRM	-.268	-.015	1.000	.030	.101	.030
CC	-.001	.313	.030	1.000	.611	.591
TQ-1	.006	.185	.101	.611	1.000	.263
FS	.071	.177	.030	.591	.263	1.000

MODEL SUMMARY

Model	**R**	**r-square**	**Adjusted R square**	**Standard error of the estimate**	**Durbin Watson**
2	.679	.454	.340	.6117	1.632

Predictors: (Constant), TQ-1, FS, HRM, CCSR, CC

Dependent variables: TQ

ANOVA

Model	**Sum of square**	**Df**	**Mean square**	**F**
Regression	7.458	5	1.492	3.987
Residual	8.979	24	.374	
Total	16.437	29		

Coefficients

Model	Standardized coefficients (Beta)	Standard error	t	Collinearity Tolerance	VIF
CCSR	.379	.240	1.58	.888	1.126
HRM	.239	.375	0.64	.982	1.018
CC	-.644	.150	4.30	.313	3.196
TQ-1	.637	.271	2.35	.332	3.015
FS	.417	.114	3.66	.770	1.299

Dependent variables: TQ

Collinearity Diagonistics

Model Dimension	Eigen value	Condition index	Variance proportions					
			Constant	CCSR	HRM	CC	TQ-1	FS
1	3.792	1.000	.01	.02	.01	.00	.00	.01
2	1.375	1.660	.03	.03	.05	.01	.01	.01
3	.495	2.769	.01	.64	.11	.00	.00	.01
4	.164	4.808	.26	.01	.65	.07	.00	.31
5	.138	5.238	.45	.08	.17	.03	.04	.58
6	3.53e-02	10.362	.24	.22	.01	.88	94	.07

Dependent variable: TQ

Casewise Diagnostics

Case number	Standard residual	TQ	Predicted Value	Residual
1	-.133	.010	.10171	-9.2e-02
2	.177	.250	.12796	.12204
3	-.815	.280	.84265	-.56265
4	.532	.840	.47256	.36744
5	.228	.360	.20238	.15762
6	-.709	.010	.50004	-.49004
7	-.088	.080	.14065	-6.1e-02
8	-.460	.200	.51744	-.31744
9	-.306	.610	.82145	-.21145
10	.013	.420	.41096	9.04e-03

11	-.124	.030	.11538	-8.5e-02
12	-.108	.510	.58455	-7.5e-02
13	-.486	.200	.53568	-.33568
14	-1.233	.070	-92177	-.85177
15	-.517	.340	.69741	-.35741
16	-.014	.100	.10993	-9.9E-03
17	-.135	.060	.15326	-9.3E-02
18	.205	.690	.54854	.14146
19	-.332	.550	.77937	-.22937
20	-.792	.060	.60696	-.54696
21	.014	.050	4.064E-02	9.36E-02
22	.077	.120	.17345	-5.3E-02
23	.813	.640	7.8271E-02	.56173
24	.076	1.150	1.09755	5.25E-02
25	4.023	3.690	.9108	2.77920
26	-.532	.150	.51736	-.36736
27	-.750	.090	.60841	-.51841
28	.977	.790	.11546	.67454
29	.764	1.340	.81255	.52745
30	-.210	.260	.40485	-.14485

Residuals Statistics

	Minimum	**Maximum**	**Mean**	**Standard deviation**	**N**
Predicted value	.21112	.89516	.46500	30.700	30
Standard predicted value	-1.382	2.060	.000	1.000	30
Standard error of predicted value	.19932	.68050	.28955	.10949	30
Adjusted predicted value	-.25621	5.17041	.60062	.93123	30
Standard residual	-85177	2.77920	7.03E-17	.62840	30

Residual	-.1233	4.023	.000	.910	30
Standard Residual	-1.382	4.463	-.021	1.033	30
Deleted residual	-1.49462	3.41965	-.13562	1.19003	30
Standard deleted residual	-1.410	10.594	.183	2.053	30
Mahel distance	1.448	21.178	4.833	5.064	30
Cook's Distance	.000	8.174	.313	1.491	30
Centrered leverage value	.050	.937	.167	.193	30

Dependent variable: TQ

EQUATION III; $TQ = b_o + b_1\ CCSR + b_2 HRM + b_3 CC + \ + b_4\ TQ\text{-}1 + U$
Descriptive statistics

	Mean	**Standard. deviation**	**N**
TQ	.465	.69	30
CC	.43	.50	30
HRM	.70	.47	30
CC	.63	.48	30
TQ-1	.46	.73	30

MODEL SUMMARY

Model	**R**	**r-square**	**Adjusted R square**	**Standard error of the estimate**	**Durbin Watson**
3	.525	.276	.123	.7466	1.595

Predictors: (Constant), TQ-1, HRM, CCSR, CC

Dependent variables: TQ

ANOVA

Model	**Sum of square**	**Df**	**Mean square**	**F**
Regression	4.030	4	1.008	
Residual	10.592	25	.557	1.807
Total	14.622	29		

Coefficients

Model	**Standardized coefficients (Beta)**	**Standard error**	**t**	**Collinearity Tolerance VIF**	
CCSR	.248	.325	0.763	.770	1.299
HRM	.182	.466	0.390	.272	11.023
CC	-.684	.088	7.77	.390	3.674
TQ-1	.729	.341	2.140	.086	13.120

COLLINEARITY DIAGONISTICS

Model Dimension	Eigen value	Condition index	Variance proportions				
			Constant	CCSR	HRM	CC	TQ-1
1	3.135	1.000	.02	.03	.02	.01	.02
2	1.095	1.692	.03	.01	.05	12	.04
3	.485	2.542	.01	.76	.10	.00	.04
4	.164	4.378	.36	.01	.70	.26	.28
5	.122	5.073	.58	.19	.12	.61	.63

Casewise Diagnostics

Case number	Standard residual	TQ	Predicted Value	Residual
1	-.286	.010	.21389	-.20389
2	.023	.250	.23342	1.66E-02
3	.862	.280	.89516	-.61516
4	.849	.840	.23407	.60593
5	-.415	.360	.65633	-.29633
6	-.860	.010	.62394	-.61394
7	-.226	.080	.24103	-.16103
8	-.401	.200	.48623	-.28623
9	-.147	.610	.71516	-.10516
10	-.552	.420	.81422	-.39422
11	-.258	.030	.21424	-.18424
12	.061	.510	.46615	4.39E-02
13	-.390	.200	.47809	-.27809
14	-.868	.070	.68969	-.61969
15	-.710	.340	.84677	-.50677
16	-.157	.100	.21176	-.11176
17	-.293	.060	.47948	-20954
18	.295	.690	.47948	.21052
19	-.120	.550	.46453	8.55E-02
20	-.529	.060	.43775	-.3775
21	-.226	.050	.21112	-.16112
22	-.140	.120	.21979	-1.0E-01
23	.491	.640	.28937	.35063
24	.653	1.150	.68343	46657
25	4.012	3.690	.82579	2.86421
26	-.066	.150	.62584	-.47584

27	-.533	.090	.47046	-.38046
28	.709	.790	.28394	.50606
29	1.401	1.340	.33978	1.00022
30	-.097	.260	.32903	-6.9E-02

Residuals Statistics

	Minimum	**Maximum**	**Mean**	**Standard deviation**	**N**
Predicted value	.21112	.89516	.46500	.22290	30
Standard predicted value	-1.382	1.930	.000	1.000	30
Standard error of predicted value	.19614	.70175	.27283	.10434	30
Adjusted predicted value	-10535	2.29367	.53717	.43247	30
Standard residual	-.61969	2.86421	1.79E-16	.66291	30
Residual	-.868	4.012	000	.928	30
Standard Residual	-.948	4.435	-.017	1.027	30
Deleted residual	-2.03367	3.50017	-7.2E-02	.88788	30
Standard deleted residual	-.946	9.049	3.867	5.128	30
Mahel distance	1.222	27.049	3.867	5.128	30
Cook’s Distance	.000	1.568	.097	.320	30
Centered leverage value	.042	.933	.133	.177	30

Dependent variable: TQ

APPENDIX C
Significance Points of d_L and d_U: 5%

n	$k' = 1$		$k' = 2$		$k' = 3$		$k' = 4$		$k' = 5$	
	d_L	d_U	d_L	d_U	d_L	d_U	d_L	d_U	d_L	d_U
15	1·08	1·36	0·95	1·54	0·82	1·75	0·69	1·97	0·56	2·21
16	1·10	1·37	0·98	1·54	0·86	1·73	0·74	1·93	0·62	2·15
17	1·13	1·38	1·02	1·54	0·90	1·71	0·78	1·90	0·67	2·10
18	1·16	1·39	1·05	1·53	0·93	1·69	0·82	1·87	0·71	2·06
19	1·18	1·40	1·08	1·53	0·97	1·68	0·86	1·85	0·75	2·02
20	1·20	1·41	1·10	1·54	1·00	1·68	0·90	1·83	0·79	1·99
21	1·22	1·42	1·13	1·54	1·03	1·67	0·93	1·81	0·83	1·96
22	1·24	1·43	1·15	1·54	1·05	1·66	0·96	1·80	0·86	1·94
23	1·26	1·44	1·17	1·54	1·08	1·66	0·99	1·79	0·90	1·92
24	1·27	1·45	1·19	1·55	1·10	1·66	1·01	1·78	0·93	1·90
25	1·29	1·45	1·21	1·55	1·12	1·66	1·04	1·77	0·95	1·89
26	1·30	1·46	1·22	1·55	1·14	1·65	1·06	1·76	0·98	1·88
27	1·32	1·47	1·24	1·56	1·16	1·65	1·08	1·76	1·01	1·86
28	1·33	1·48	1·26	1·56	1·18	1·65	1·10	1·75	1·03	1·85
29	1·34	1·48	1·27	1·56	1·20	1·65	1·12	1·74	1·05	1·84
30	1·35	1·49	1·28	1·57	1·21	1·65	1·14	1·74	1·07	1·83
31	1·36	1·50	1·30	1·57	1·23	1·65	1·16	1·74	1·09	1·83
32	1·37	1·50	1·31	1·57	1·24	1·65	1·18	1·73	1·11	1·82
33	1·38	1·51	1·32	1·58	1·26	1·65	1·19	1·73	1·13	1·81
34	1·39	1·51	1·33	1·58	1·27	1·65	1·21	1·73	1·15	1·81
35	1·40	1·52	1·34	1·58	1·28	1·65	1·22	1·73	1·16	1·80
36	1·41	1·52	1·35	1·59	1·29	1·65	1·24	1·73	1·18	1·80
37	1·42	1·53	1·36	1·59	1·31	1·66	1·25	1·72	1·19	1·80
38	1·43	1·54	1·37	1·59	1·32	1·66	1·26	1·72	1·21	1·79
39	1·43	1·54	1·38	1·60	1·33	1·66	1·27	1·72	1·22	1·79
40	1·44	1·54	1·39	1·60	1·34	1·66	1·29	1·72	1·23	1·79
45	1·48	1·57	1·43	1·62	1·38	1·67	1·34	1·72	1·29	1·78
50	1·50	1·59	1·46	1·63	1·42	1·67	1·38	1·72	1·34	1·77
55	1·53	1·60	1·49	1·64	1·45	1·68	1·41	1·72	1·38	1·77
60	1·55	1·62	1·51	1·65	1·48	1·69	1·44	1·73	1·41	1·77
65	1·57	1·63	1·54	1·66	1·50	1·70	1·47	1·73	1·44	1·77
70	1·58	1·64	1·55	1·67	1·52	1·70	1·49	1·74	1·46	1·77
75	1·60	1·65	1·57	1·68	1·54	1·71	1·51	1·74	1·49	1·77
80	1·61	1·66	1·59	1·69	1·56	1·72	1·53	1·74	1·51	1·77
85	1·62	1·67	1·60	1·70	1·57	1·72	1·55	1·75	1·52	1·77
90	1·63	1·68	1·61	1·70	1·59	1·73	1·57	1·75	1·54	1·78
95	1·64	1·69	1·62	1·71	1·60	1·73	1·58	1·75	1·56	1·78
100	1·65	1·69	1·63	1·72	1·61	1·74	1·59	1·76	1·57	1·78

Note: k' = number of explanatory variables excluding the constant term.

Source: J. Durbin and G. S. Watson, 'Testing for Serial Correlation in Least Squares Regression', *Biometrika*, vol. 38, 1951, pp. 159–77. Reprinted with the permission of the authors and the *Biometrika* trustees.

APPENDIX D
Percentage Points of the t Distribution

ν \ α	·25	·20	·15	·10	·05	·025	·01	·005	·0005
1	1·000	1·376	1·963	3·078	6·314	12·706	31·821	63·657	636·619
2	·816	1·061	1·386	1·886	2·920	4·303	6·965	9·925	31·598
3	·765	·978	1·250	1·638	2·353	3·182	4·541	5·841	12·941
4	·741	·941	1·190	1·533	2·132	2·776	3·747	4·604	8·610
5	·727	·920	1·156	1·476	2·015	2·571	3·365	4·032	6·859
6	·718	·906	1·134	1·440	1·943	2·447	3·143	3·707	5·959
7	·711	·896	1·119	1·415	1·895	2·365	2·998	3·499	5·405
8	·706	·889	1·108	1·397	1·860	2·306	2·896	3·355	5·041
9	·703	·883	1·100	1·383	1·833	2·262	2·821	3·250	4·781
10	·700	·879	1·093	1·372	1·812	2·228	2·764	3·169	4·587
11	·697	·876	1·088	1·363	1·796	2·201	2·718	3·106	4·437
12	·695	·873	1·083	1·356	1·782	2·179	2·681	3·055	4·318
13	·694	·870	1·079	1·350	1·771	2·160	2·650	3·012	4·221
14	·692	·868	1·076	1·345	1·761	2·145	2·624	2·977	4·140
15	·691	·866	1·074	1·341	1·753	2·131	2·602	2·947	4·073
16	·690	·865	1·071	1·337	1·746	2·120	2·583	2·921	4·015
17	·689	·863	1·069	1·333	1·740	2·110	2·567	2·898	3·965
18	·688	·862	1·067	1·330	1·734	2·101	2·552	2·878	3·922
19	·688	·861	1·066	1·328	1·729	2·093	2·539	2·861	3·883
20	·687	·860	1·064	1·325	1·725	2·086	2·528	2·845	3·850
21	·686	·859	1·063	1·323	1·721	2·080	2·518	2·831	3·819
22	·686	·858	1·061	1·321	1·717	2·074	2·508	2·819	3·792
23	·685	·858	1·060	1·319	1·714	2·069	2·500	2·807	3·767
24	·685	·857	1·059	1·318	1·711	2·064	2·492	2·397	3·745
25	·684	·856	1·058	1·316	1·708	2·060	2·485	2·787	3·725
26	·684	·856	1·058	1·315	1·706	2·056	2·479	2·779	3·707
27	·684	·855	1·057	1·314	1·703	2·052	2·473	2·771	3·690
28	·683	·855	1·056	1·313	1·701	2·048	2·467	2·763	3·674
29	·683	·854	1·055	1·311	1·699	2·045	2·462	2·756	3·659
30	·683	·854	1·055	1·310	1·697	2·042	2·457	2·750	3·646
40	·681	·851	1·050	1·303	1·684	2·021	2·423	2·704	3·551
60	·679	·848	1·046	1·296	1·671	2·000	2·390	2·660	3·460
120	·677	·845	1·041	1·289	1·658	1·980	2·358	2·617	3·373
∞	·674	·842	1·036	1·282	1·645	1·960	2·326	2·576	3·291

Source: This table is abridged from Table III of Fisher & Yates: *Statistical Tables for Biological, Agricultural and Medical Research* published by Oliver & Boyd Ltd., Edinburgh, and by permission of the authors and publishers.