The Impact of Environmental Sustainability Practice on the Financial Performance of SMEs: A Study of Some Selected SMEs in Sussex.

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Abstract

Sustainability has been a pertinent concern in the past decades and the pressure of sustainability is mostly concentrated on business because of their activities' impact on ecosphere, society and people. In response to this pressure businesses are progressively practising sustainability but the financial cost seems to outweigh its benefits. The main objective of this study is to empirically investigate the relationship between environmental sustainability practice and financial performance of SMEs. This research adopted a survey research design, studying 98 SMEs in manufacturing and industry, business services and wholesale and retail sectors in Sussex, United Kingdom.Electronic, mail, hand-to-hand paper questionnaire were jointly used to gather data. Multiple regression, correlation analysis and descriptive statistics were the main analytical tools used. The analysis results indicates that profit is the best predictor of SMEs financial measurement, pollution prevention and control is positively and significantly related to profit and recycling is negatively and significantly related to profit of sustainable SMEs. Communication to internal and external stakeholders evidently boosts SMEs profitability.Networking, stricter regulations, innovation, TQM, media use and consistency and persistency in sustainability practice can substantially yield concrete financial results for Small business should focus on pollution prevention and control to realise more profit and lobby government to subsidize recycling that takes a chunk of their profit.

1.0 INTRODUCTION

1.1 Introduction

The purpose of this chapter is to provide a comprehensive underlying issues related to environmental sustainability of businesses. The strategic and operational interests of business organisations as they are connected to pertinent decisions on their environmental actions and how this could have financial effects on their operations is equally explored in this chapter.

The structure of the chapter is as follows: Background to the Study; which gives a general description of the area of study of environmental sustainability practice, Research Problem; expatiates on the basis that prompted the research study, Aims and Objectives; explains the rationale for the study on environmental sustainability and financial performance, Methodological Approach; explains the research design and method adopted for the study and Research Report Structure; outlines the structure of subsequent chapters of the dissertation.

1.2 Background to the study.

The varying degrees of political, social, and economic promulgation has initiated pressures related to environmental issues over the past few decades and this has caused companies to take these issues into greater consideration in their strategic and operational outlooks. Competitiveness of organizations has now gone beyond building quality products at low costs in a timely manner (Sarkis et al., 2010), and now more focused on the conservation of natural resources and the environment in general.

Some companies are increasingly conscious of the need to reduce their environmental hazards but the spectrum of environmental initiatives they may undertake is very broad (Lefebvre et al., 2003). A small number of firms have already made significant progress in responding to the environmental challenge (Marcus and Willig, 1997) while others display a lacklustre attitude to internalize environmental issues and are still driven by compliance with legislation and risk avoidance(Lefebvre et al., 2003). This organisational attitude is also argued and supported by (Eccles et al., 2013) that during the last 20 years, a relatively small number of companies have integrated social and environmental policies in their business model1 and operations, on a voluntarily basis.

Corporate responsibility, social and environmental issues are very critical for organizational competitiveness at strategic and operational levels (Porter and Kramer, 2006; Sarkis et al., 2010) and responses to them vary among firms in the same sector of economic activity and the same geographic region (Fisher and Schot, 1993; Handfield et al., 1997). The environmental sustainability of our planet has a profound impact on the economy; and the pollution of air, soil and water is increasingly damaging the ecological system and this in turn may jeopardize the rate of economic growth. A sustainable economy can, therefore, be seen as essential for creating long term economic growth.

However, given the complications of natural resource usage and the impact of pollution on the ecosystem, it is often unclear to determine actions to take in order to actually move towards a more sustainable economy. Media broadcasting has increased the knowledge and awareness of the possible consequences of environmental degradation and has also made the general public more appreciative of the importance of the environment and created business opportunities. (Vijfvinkel et al., 2011).

Being environmentally conscious in business operations at least should have some payoffs. If this environmental sustainability is to be sustained for long, then the incentive for business should be encouraging rather than having little or nothing as value added. Some companies focus on a single area, which is regarded as the most important for them or

where they have the highest impact or vulnerability—human rights, for example, or the environment—while others aim to integrate CSR in all aspects of their operations, Magarita (2004). However, this study is focusing on the environmental aspect of corporate social responsibility and financial performance with exemption to social issues. Although they are acknowledged to be interrelated but a more nuanced study of the environmental issues in relation to financial performance could generate some insight.

1.3 Research Problem

Companies often attribute high financial cost to being environmentally sustainable. The basis of this attribution is sometimes ambiguous Markku (2004). The society is now being more concerned about sustainability practice by businesses and this tends to open up business opportunities that divide the attention of business on either core business objective (finance) or sustainability.

(Eccles et al., 2013) posit that the relationship between sustainability and firm performance is not expected to be linear and that when there are opportunities to enhance the performance of a firm by becoming more sustainable, this often does not imply that the firm should become as sustainable as possible. They further emphasized that at some point, becoming more sustainable might worsen the financial position of a firm.

The larger the firm, the more resources (financial and non-financial) are available to integrate environmental concerns into the product lifecycle. Large firms are also more visible and therefore subject to greater external pressures (Lefebvre et al., 2003). However, because of the tremendous changes involved in undertaking green corporate practices Noci and Verganti (1999), smaller firms, which are usually more flexible and less formalized, may adapt more rapidly and also green products and services are related to niche markets and smaller firms may thrive better. Consequently, size may play an ambivalent role, either promoting or hampering environmental efforts. (Lefebvre et al., 2003).

If smaller firms are likely to be better than big firms in environmental sustainability, they are constrained by limited resources. But if they could defy this challenge, then their effort needs to be justified financially.

While there is significant amount of research on the effect of environmental and corporate sustainability on performance (Eccles et al 2013; Epstein 2009), many of them focus on large organizations. Very few focused on SMEs (Vijfvinkel et al 2011; Lefebvre et al 2003) with reference to the financial performance and within a region or county. This dearth of research necessitates this study which focuses on impact of environmental sustainability on SMEs financial performance in Sussex, UK.

(Spence et al., 2012) also opined that "the vast majority of private enterprises are small and medium-sized (with 250 or fewer employees), and that they are responsible for well over half of employment and business turnover, we can ill-afford to neglect their practices". The United Nations Industrial Development Organization (UNIDO) also says SMEs represent more than ninety percent of global businesses and account, on average, for about fifty percent of Gross Domestic Product (GDP) of all countries and for sixty percent of their employment (UNIDO 2006). Hillary (2004) makes a contribution that as a sector, SMEs could contribute up to seventy percent of all industrial pollution. As a consequence there is an increasing recognition of SMEs' environmental impact. There is a noticeable growing trend in the sustainability movement that increasingly focuses on SMEs, and not just on multinational enterprises (MNEs), as part of the process of creating a more sustainable world. (Spence et al., 2012). Given this discussion above, SMEs response to eco-friendly practice is expected to have financial reward for them to be consistent in protecting the ecosphere.

1.4 Aims and Objectives of the Study.

This dissertation is aimed at empirically investigating the relationship between environmental sustainability practice and financial performance using SMEs in Sussex County of the UK. The geometric rate at which economic activities are expanding has called into question the rapid exploitation of natural resources, pollution and the concern for the possible non-availability of these resources in the near future. The agitation for the sustainability of the ecosystem has been intense in the past decade.

Governments have developed regulations to reverse the situation before it gets out of hand and on the other hand some businesses are taking it upon themselves as an obligation to preserve the planet to allow the unborn generations have their fair share of natural resources and environment. However, businesses are still grappling with the inability to justify their environmental sustainability actions monetarily. The 90% share of SMEs and its 50% employment generation in the global business arena (UNIDO, 2006; IFC, 2012) coupled with its huge environmental pollution makes it imperative to have a focal study of how solid monetary reward could accrue to these businesses in their crusade to sustain the environment. The specific aims and objectives of this study are:

- To assess the impact of the firms environmental contribution on their financial performance.
- To determine how SMEs investments in sustainability could yield concrete financial results. NBS (2013).

1.5 Methodological Approach

The research design adopted for this research study is survey. A sample of 98 SMEs in manufacturing and industry, business services and wholesale & Retail were successfully studied in Sussex.

A self-administered electronic, mail and direct questionnaires were used to gather responses. Descriptive statistics, correlation and regression analysis of SPSS statistics version 21 were employed in the analysis as well.

1.6 Research Report Structure.

The organization of this dissertation is as follows: A review of the literature on the relationship between sustainability and firm performance is presented in Chapter 2. In Chapter 3, the data and the research method used for the empirical analysis are described. Chapter 4 presents the findings of the empirical analysis. Finally, in Chapter 5 the outcomes are discussed and conclusions and recommendations are drawn.

2.0 **LITERATURE REVIEW**

2.1 Introduction

The aim of this chapter is to clearly present the theoretical position of this study by exploring relevant previous researches related to sustainability and performance. The externalities theory is adopted as this study's framework because it suitably captures the relationship between environmental impact of business and cost and benefit associated with it. The 3p approach encompasses the social aspect of Corporate Social Responsibility, thus unsuitable for this study as suggested by (Vinjfinkel et al., 2011).

This chapter comprises of: Introduction to the chapter. The organisational and societal sustainability approaches with justification for externalities theory adopted. The relationship between sustainability and performance as studied previously with various outcomes. Different measures of financial performance and basis for the financial indicators chosen. Communication of environmental sustainability to stakeholders and how it affects financial returns. Concrete financial return from sustainability with focus on making a case for stricter regulations and networking among SMEs .Summary and implications where appropriate research questions and hypotheses were drawn from the reviewed literature.

2.2 Organisational and Societal Level Sustainability

Sustainability could be defined as an ability or capacity of something to be maintained or to sustain itself. It's about taking what we need to live now, without jeopardising the potential for people in the future to meet their needs. If an activity is said to be sustainable, it should be able to continue forever (Landlearnnsw, 2014).

Brundtland report of (1987) also defines sustainability as economic development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. To live sustainably is about living within the means of our natural systems (environment) and ensuring that our lifestyle doesn't harm other people (society and culture). For businesses, this includes issues of corporate social responsibility and citizenship along with improved management of corporate social and environmental impacts and improved stakeholder engagement. (Epstein, 2009).

Evidence from the scientific research indicates that business activities have an impact upon the ecosphere and that the negative consequences of current practices will be detrimental to the natural environment (Stern, 2006). Furthermore, the overall environmental performance of firms, including SMEs, which collectively have a high aggregate impact (Rowe and Hollingsworth, 1996), will come under increasing scrutiny because there is a consensus that the laissez-faire approach is no longer viable(Lefebvre,2003). Firms have to be proactive in protecting the environment and from the macro-economic view the growth that is based on serious resource exploitation and intensive pollution is environmentally unsustainable (Spence et al., 2012).

Market does not redistribute all resources in the most efficient manner due to the nonexistence of ownership rights on resources such as air and water, resulting in an externality according to the general economic paradigm related to sustainability (Vinjfinkel et al., 2011). The view of people in this context is that of non-excludability; it is nature's gift and everybody can exploit it to the fullest. Meanwhile externality is being generated. OECD (2003) defines externalities as situations when the effect of production or consumption of goods and services imposes costs or benefits on others which are not reflected in the prices charged for the goods and services being provided. British economist A.C. Pigou was instrumental in developing the theory of externalities. The theory examines cases where some of the costs or benefits of activities "spill over" onto third parties (Gene Callahan, 2001).

Externality can be positive as well as negative and sustainability issue is often associated with negative externality. Positive externality occurs when the consumption or production of goods and services benefit a third party. This benefit to the society in large is greater than personal benefit. On the other hand a negative externality occurs when an organization undertakes an activity that causes harm or costs to one or more third parties—for example, to society. In particular, when an operational decision is made, a negative externality exists if the total cost associated with that operational decision is not borne entirely by the firm, but rather is borne in part by another party. The classic example of a negative externality is pollution, in which the impact of a firm's industrial activity causes harm to those geographically proximate to the polluting firm (which is why negative externalities are sometimes called local or neighbourhood costs) (Gorvett, 2012).

The '3P' approach (People, Planet, and Profit), which describes the interdependence between social, environmental and economic aspects can be said to be the most popular and commonly used definition to describe the sustainability issue (Kemp and Martens, 2007; Vijfvinkel et al., 2011). The idea behind the "Triple Bottom Line" paradigm is that a corporation's ultimate success or health can and should be measured not just by the traditional financial bottom line, but also by its social/ethical and environmental performance.(Friedman,1970). This concept holistically encapsulates sustainability by integrating the social, environmental and financial issues. Although the awareness that these three concepts are interrelated is becoming more developed and this is conceded to be a shortcoming of this research. On the other side 3p approach is not appropriate for this study using (Vijfvinkel et al.,2011) approach since it is basically focusing on environmental sustainability and financial performance as a result a better theoretical perspective is the externality approach which reflects the relationship between environmental issues and economy issues as earlier described in OECD's definition (2003).

More supportively, Goodland and Daly (1996) made a case for the distinction between social sustainability, economic sustainability and environmental sustainability. While recognizing an overlap and interconnectedness between the concepts, they maintain that the three concepts are best addressed separately. To further buttress this argument, Goodland and Daly (1996) constructed the following concept of 'environmental sustainability': "...holding waste emissions within the assimilative capacity of the environment without impairing it. It also means keeping harvest rates of renewables to within regeneration rates."

Given the purpose of this dissertation and the foregoing argument the synergetic interdependence between the environmental sustainability and finance will be an imperative focus.

2.3 The Relationship between Sustainability, Organisational and Financial Performances.

Sustainability is a very germane issue that humanity should be mindful of and what the exact consequences of not being sustainable are, is to some extent an extraneous factor in the decision-making process of individual firms to undertake particular strategic actions. A crystal clear aspect of the matter is that sustainability, eco-efficiency and 'green' issues are valued by society, which give rise to a situation in which being more sustainable can, under certain conditions, actually become a preferred strategic action or change for firms (irrespective of what the actual consequences are in terms of sustaining the resources on the planet)(Vinjfinkel et al., 2011;Noci and Verganti, 1999).

Moreover, people are increasingly willing to part with a surcharge for products and services that are more sustainable i.e. consumers are willing to pay 6.6% more for environmentally friendly products(Roper, 1990 as cited by Gu and Zhang, 2012) thereby creating more business opportunities which does not necessarily translate to a better financial performance for the most sustainable firms.

Some previous researches posit that companies can gain by doing well (Porter and Kramer, 2011; Godfrey, 2005; Margolis et al., 2007) based on the assumption that meeting the needs of other stakeholders– e.g. customers by meeting their sustainable demand and employees through investment in training etc. – directly translates to value creation for shareholders (Porter and Kramer, 2011; Freeman et al., 2010). It is also based on the assumption that by not meeting the needs of other stakeholders, companies can destroy shareholder value because of consumer boycotts (Sen et al., 2001), the inability to hire the most talented people (Greening and Turban 2000), and by paying potentially punitive fines to governments and eventually losing money.

Improved environmental performance can also provide access to new markets. Evolving environmentally conscious markets with their increasing desire for eco-friendly products, can lead to new sales opportunities (Porter and van der Linde, 1995; Hart 1995). Examples range from high-fashion clothing produced with organic materials Binkley (2007), to hybrid vehicles and data centres that consume less energy (Bulkeley, 2007 as cited by Jacobs et al, 2010). Hart (1995) maintained that the increasing awareness of natural environment, pollution prevention, product stewardship, and sustainable development has become a more and more important source of competitive advantage. He further explained that the ability of a corporation to deal with environmental issues could be regarded as an aspect of organizational capability.

In their study, Fineman and Clarke (1996) found that corporations usually include environmental issues in their planning processes. There are two major reasons for corporations to look at environmental issues as very vital (Judge and Douglas, 1998). Firstly, "the environment is significantly threatening the cost structure of many businesses" these higher cost structure may affect organisations e.g. paying their employees living rather than market wages (Eccles et al., 2013). Sometimes environmental regulatory measures by governments of countries that embrace sustainable development force businesses to improve their environmental performance. For example the Batteries Directive has been amended to ban the use of cadmium in batteries for cordless power tools from 31 December 2016 in the UK. It also prohibits battery button cells containing mercury from 1 October 2015. Batteries placed on the market before the bans come into place can still be sold until stocks run out (GOV.Uk, 2014). This regulation puts battery manufacturing firms to invest in alternative sustainable elements in battery making in advance. The second reason is that the natural environment may bring significant new business opportunities ((Friedman, 1970). E.g. recycling of waste.

Environmental sustainable practices reduce the amount of waste, the consumption of various production inputs including energy and materials (Rothenberg et al., 2001; Stroufe,2003), and the number of components in products (Ashley, 1993 as cited by Jacobs et al 2010). Rao and Holt (2005) argue that marketing logistics in terms of inbound and outbound benefits from reduced product packaging. Pollution prevention may reduce disposal and mitigation costs and also avoid the cost of installing and operating pollution control devices (Hart and Ahuja, 1996). Other cost avoidance benefits of effective environmental management include mitigation of risks of losses from crises or regulation (Reinhardt, 1999), and preventing expenses associated with lawsuits and legal settlements (Karpoff et al., 2005). (Dowell et al., 2000) expostulated that stringent environmental standards has the tendency to lower the cost to develop, maintain, and enforce policies and procedures, thus allowing easy transfer of accrued knowledge and increasing employee morale and productivity.

Some scholars also argue that adopting environmental and social policies can destroy shareholder wealth (Friedman 1970; Navarro 1988; Galaskiewicz 1997). The argument is that sustainability may singly benefit managers embedding environmental and social policies in the company' strategy, but doing so has negative financial implications for the organization (Baloti and Hanks 1999; Brown et al., 2006).

Concluding from the theory of externality framework, just few empirical studies indicate a negative relationship between environmental and financial performance (e.g. Jaggi and Freedman, 1992; Wagner et al 2001). On the other hand numerous researches have established the always envisaged positive relationship between corporate social and environmental performance and financial performance(Orlitzky et al., 2003; Margolis and Walsh, 2003; Roman et al, 1999; Epstein et al 2014).

(Gould 2002 as cited by Vijfvinkel et al., 2011) explains that one potential explanation for the relative over-representation of empirical studies that display a positive relationship between environmental and financial performance could be that the desire of researchers to find and support a positive relationship has resulted in a publication bias which should not be mistaken for fraud because no conscious intent is present. Although the dominant view today is that good environmental performance results in improved financial performance, empirical results have been inconclusive and even conflicting, which highlights the complex nature of the link between environmental and financial performance (Corbett and Klassen, 2006 as cited by Jacobs et al, 2010).

The above discussion seems to tip the scales in favour of a positive relationship between natural environment sustainability and financial performance. However, the positive relationship appears to be closely connected to long-term, yet in short-term, unparalleled expenses on environment issues may bring a negative effect on corporate financial performance.

2.3.1 Different Measures of Financial Performance.

Investopedia (2014) defines financial performance as a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. This term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. There are many different ways to measure financial performance, but all measures should be taken in aggregation, at the same time each of these measures may slightly measure different aspect of financial performance.

(Vijfvinkel et al., 2011) explain that some, such as profitability, evaluates return; others, like sales growth and market share growth, measure the growth of a firm. Some gauge profitability (return on investment, return on equity), some liquidity (quick ratio, current ratio), and still others solvency (gearing). Some measures are indicators of commercial success (growth, market share) while others are indicators of financial success (profitability, revenue). From this point of view it can be argued that a single measurement may not capture an acceptable financial performance.

For this study, financial performance will be measured using revenue, profitability and Return on Equity (ROE) which although did not cover all forms of financial measures but emphasizes SMEs' area of concern, reflect growth indicator and competitive strategy (Baumol, 1967 as cited by Vijfvinkel et al., 2011) and propose a different relationship between revenue and profit and sustainability (Porter and Van der Linde, 1995). The two financial indicators combine market and accounting measurements that have been scarcely used jointly in previous related researches.

2.4 Communication of Environmental Sustainability.

Regulation-induced or self-initiated environment friendly practices may be very fuzzy, hence difficult to assess. The only proven way to justify such organisational policies is that firms must ultimately communicate their rationale for sustainability engagement with stakeholders (Hartman et al., 2007). Communications plays a vital part in any sustainability strategy. If firms don't communicate internally, they won't be able to implement the change necessary to make their organizations more sustainable. And their employees are, of course, part of the very green-conscious public. They're eager to participate in and advocate for the company's sustainability efforts.

And if businesses fail to communicate their strategies and activities externally, to customers, partners, and the public, sales could be lost to the increasing number of environmentally-conscious consumers, or they could miss out on a major contract to supply a global firm because it doesn't understand their sustainability policies (Cohn and Wolfe, 2014).

Consumers are now increasingly keen at ascertaining that the brands they interact with are environmentally and socially responsible; globally, 79% would prefer to buy products from environmentally responsible companies (Havas Global Media Survey, May, 2008 as cited by Verde, 2009), which are only identified through communication engagement. This burgeoning movement of conscious consumers isn't only to be found in wealthy Western economies; consumers in emerging markets such as China, India and Brazil are even more engaged than their peers in Europe and the US (Verde, 2009).

To communicate their sustainability message effectively, firms have several choices depending on the audience to whom the communication is addressed (Hartman et al., 2007). Meanwhile the content, scope, and quality of sustainability reporting varies tremendously among companies but in general should focus on 1.Materiality 2.Stakeholders responsiveness 3. Context and 4. Completeness (IFC, 2014).

Communicating sustainability could benefit companies in the longer term by providing:

- enhanced business value as investor confidence grows in response to evidence that the company is managing important risks and positioning itself to take advantage of emerging opportunities;
- improved operations as employees develop a deeper understanding of a company's sustainability values, and performance indicators provide insight to support continuous improvement;
- strengthened relationships as local community leaders, civil society representatives, government officials and regulators, and other key stakeholders learn how the company responsibly manages sustainability issues; and
- enhanced trust and credibility as customers, suppliers and the wider society understand the company's brand, operations and products.(IPIECA, 2013)

Evidence from this discussion suggests that firms that communicate their environmental sustainable efforts to concerned internal and external stakeholders stand a better chance of good perception and financial returns.

2.5 Concrete Financial Return from Sustainability.

Incorporating sustainability in business signifies a form of social responsibility of business and such responsibility is desired by relevant stakeholders because it prevents or reduces negative externalities. Fundamentally, businesses are designed to make money – and introducing sustainability initiatives usually comes at a cost (Puritt, 2012). This cost is however expected to be "substantially" recovered from sales to provide justification for such spending. Meanwhile it appears businesses are yet to realise concrete financial returns from being sustainable. Large firms may be lesser affected than small ones who are resources-shrunk.

The relationship between financial return concreteness and sustainability practice of SMEs was articulated by Network for Business Sustainability (NBS, 2013) as one of the research questions put forth. NBS is an SME council of collaborators on sustainability and it presents its annual report on the sustainability challenges of SMEs and organizes them into research questions for researchers to answer. NBS (2013) asserts that SMEs want to integrate sustainability into their core businesses, but realize that they are being pulled in different directions by sustainability objectives. Hence they find it difficult to be assertive in their choices and little or no profit is derived from their sustainability efforts, "In other words, are there cases where "planet" can take precedence over "profit"?"

If planet takes precedence over profit, small business will however face competition from unsustainable businesses and have their financial reward competed away. Stricter regulations on sustainability policies by government could protect the investment of genuine sustainable businesses and help identify the unsustainable ones, hence reasonable financial return.

Also the collaborations and networking among sustainable SMEs that enable them share ideas, experience and knowledge can have a tremendous pay off for these organisations if properly harnessed.

2.6 Summary & Implications

In this chapter, two sustainability theories are described. The 3p and the externalities approaches. The 3p approach argues that financial interest should not be the only concern of business but the integration of financial, social and environmental concern in its consideration and reporting. The externalities approach centres on the impact of businesses on third parties. It can be positive or negative. This research focuses on externality approach because only the environmental aspect of corporate social responsibility is studied with relation to financial performance. However, negative externality is the main focus in environmental issues (Vijfvinkel et al 2011) and it is primarily the theoretical background of this study.

The relationship between environmental sustainability and financial performance as presented by past researches have been mixed-positive, negative or no correlation. This results are indicative of different financial indicators used i.e. market and accounting based. This research uses profit, revenue and ROE which belong to both market and accounting indicators to test the relationship that exists between sustainability and financial performance in order to generate a new insight. Communication to both internal and external stakeholders about sustainability is expected to have positive effect on financial performance because it projects the good image of organisations.

Finally, this study opines that stricter regulations and networking among SMEs will translate into concrete financial returns because unsustainable organisations will be disadvantaged competing with the sustainable ones that stakeholders have recognized. Sharing ideas, experience and knowledge is expected to bring about innovativeness, consequently yields tangible returns.

This theoretical discussion leads to the following research questions and hypotheses:

Research Questions.

- Q1. What is the relationship between environmental sustainability and financial performance?
- Q2. Does dissemination of environmental sustainability information to stakeholders positively correlate with financial performance?

Q3. How can SMEs investments in sustainability yield concrete financial results?-NBS (2013).

Hypotheses.

- H1: Environmental sustainability practice of a firm has a positive relationship with its financial performance.
- H2: The communication of a firm's environmental friendly activities to its internal stakeholders is positively correlated to its financial performance.
- H3: The communication of a firm's environmental friendly activities to its external stakeholders is positively correlated to its financial performance.
- H4: Networking among businesses by exchanging knowledge, ideas and experience in order to identify best environmental practices will improve a firm's financial performance.
- H5: Stricter regulations on environmental performance will improve the financial performance of genuine eco-friendly companies.

The next chapter describes the methods used in this study. The population, sample, statistical analysis employed and the variables are discussed in-depth.

3.0 METHODOLOGY

3.1 Introduction

The purpose of this chapter is to explain the methodological approach used in this research. The theoretically underpinned method for data collection and sample selection is justified in this chapter. The basis for the area of study, the rationale for choosing quantitative study rather than its qualitative counterpart, the strategy adopted in gathering data, the duration and difficulties encountered in the course of collecting data are comprehensively presented in this chapter. The variables used in the regression model and justification, the data collection instruments, statistical tools of analysis, the reliability and validity of the scales used in the study and the model specification of the regression are all presented in this chapter as well.

The chapter outline is as follows: Introduction; Methodological issues; Methodological framework which comprises of the quantitative vs qualitative method used and the data sample and variables; Data instruments and analysis; Reliability and validity of scales; Model specification.

3.2 Methodological Issues.

Research methodology is simply a technique for collecting data and it may involve the use of specific data collection instrument like self-completion questionnaire or structured interview schedule or observation (Bryman and Bell, 2010). If we think about the word "Methodology", it is the way of searching or solving the research problem. (Industrial Research Institute, 2010).

Research methodologies are generally used in academic research to test hypotheses or theories. (Vaccaro, 2014). Research methods help us collect samples, data and find a solution to a problem and it helps in knowing a suitable method for the chosen problem, the order of accuracy of the result of a method and the efficiency of the method (Rajasekar. S et al., 2013).

Bryman and Bell (2010) affirms that research design provides a framework for the collection and analysis of data. The research design for this study is cross-sectional design in form of survey method. Self-administered e-questionnaire, mail questionnaire and hand-to-hand paper questionnaire were used in gathering data from the sampled organisations as these are reflective of the methods commonly used based on the reviewed literatures. For example (Lefvebre et al., 2003) used regular mail questionnaire typed on a recycled paper while studying determinants of environmental performance in 386 Canadian SMEs also (Vijfinkel et al., 2011) jointly used e-questionnaire with interview in a similar study. The rationale for survey method in this study is to generalize findings to environmentally sustainable businesses.

3.3 Methodological Framework

Given that environmental sustainability practice are practised across sectors, I decided to cover three industries namely: manufacturing and industry, business services and wholesale and retail in Sussex county (west and East) of England. Related and previous studies focused mainly on either international or national comparison of sustainable companies with few study on SMEs. This study takes a new dimension of local region study. Although some scholars like (Lefvebre et al., 2003 and Vijfinkel et al., 2011) argue that manufacturing companies have a high degree of sustainable practice than other sectors, thus a basis for study. On the other hand Magarita (2004) used 13 industries for a longitudinal period of 5 years with a basis that virtually all industries are becoming sustainable other than manufacturing sector alone. Because of the limited time (12 weeks) and resources for this study, 3 industries were studied by this research. 3.3.1 Quantitative Vs Qualitative

There are two main research strategies: quantitative and qualitative. The distinction between these two strategies is ambiguous, because some writers believe they are basically contrast and by some as no longer useful or even unfounded (Layder 1993: 110 as cited by Bryman and Bell, 2010). (Jones 1995, as cited by Gu and Zhang 2012) is of the opinion that they are different but should be seen as complementary rather than competitive. The major distinction is that quantitative uses measurement and qualitative does not use measurement. Although some researchers combine them for a more robust study. This empirical study is designed to investigate the relationship between environmental sustainability and financial performance which involves measuring relevant indicators, hence the quantitative strategy is adopted. The selected environmental indicators and financial indicators to be measured have their root in the reviewed literature and they are environmental policy, pollution reduction and control, recycling and material usage reduction and revenue, profit and ROE. 3.3.2. Data and sample

Based on the fact that the unit of this study's analysis is the SMEs (1-249 employees) that are environmentally sustainable and at least 2 years old, a total of 98 that satisfied this conditions and cooperated were studied. This sample size however could be said to be big enough to accommodate multiple regression analysis as explained by Tabachnick and Fidell, (2007) and as cited by Pallant, (2010) in their formula-N> 50 + 8m (where m= number of independent variables). Since the predictor variables of this study is 5(Whether a company has comprehensive environmental policy; pollution prevention, and control, recycling and reuse and the control variables of age and size), then 90 above sample size is acceptable. Although the predictors could have been 6 but reduction of energy and material consumption was removed from the regression analysis because of multicollinearity issue as suggested by Field, (2009) that one of highly correlated independent variables (more than 0.9) should be dropped in multiple regression analysis. Despite this the independent variables used still completely capture the externality theoretical framework. It is important to state that the population of this study could not be ascertained because there is no association of sustainable SMEs in Sussex. Four business directories namely- Brighton and Hove, Chamber of Commerce for Sussex, Mid Sussex and Federation of Small Business (Surrey & West Sussex) were used to contact potential respondents. An integrated approach was adopted to gather responses i.e. email, mail, personal contact, business referrals, following some of these businesses on social media like Twitter, Facebook and LinkedIn and phones calls. 165 SMEs in the manufacturing & industry were contacted and 20 responded (12%), 400 in the category of business services were contacted and 41 responded (10%) and 260 in the wholesale & Retail and 37 yielded (14%). Averagely the response rate is 12%. The manufacturing and industry are made up of high-tech companies, food and breweries, clothing manufacturing companies, therapeutics, surfacing and flooring system. The business services sector comprises of professional services like accounting, financial and legal services; cleaning services, agencies, marketing, electrical and electronics and health services. The retail and wholesale is made up of groceries stores, furniture, electrical appliances, clothing, mobile phone sellers and medical equipment merchants. The willingness of this businesses was sought by e-mailing and calling them. After which participants information sheet, consent form and request letter duly approved by BMEC Ethical Review Committee of the University of Sussex were emailed, posted or personally handed to them.

Small business owners and top managers tend to be armed with information related to the overall performance of the business and they were the target respondents. Electronic, mail and paper questionnaires were jointly used. The researcher followed up on the respondents by incessantly calling, visiting and sending email to them which made the prior budget for the study widely exceeded. Additionally, it was also very challenging to gather responses because most of the target responses were too busy to fill the questionnaire. But perseverance and persuasion improved the response rates towards the end of the data collection period which eventually lasted for five weeks. 3.3.3 Variables

The variables in this study have been selected in prior and related studies and are divided into three parts: Independent variables, dependent variables and control variables.

Independent Variables

The independent variables are environmental policy, reduction of consumption, recycling and pollution prevention and control. Environmental policy was adopted from the work of (Vijfinkel et al., 2011). Reduction, recycling and pollution prevention have also been incorporated as components of environmental indexes and indicators in the works of (Gu and Zhang 2012, Magarita, 2004, Lefvebre et al 2003 and Vijfinkel et al 2011), most of which derived their origin from Kinder, Lydenberg and Domini Inc (KLD) database, Dow Jones Sustainability Index and Environmental Sustainability Index. Dependent Variables

The dependent variables adopted for this dissertation are meant to measure financial performance. They reflect the combination of market indicators (revenue and profit) and accounting indicator (ROE). Although early studies were more in favour of one particular financial indicator i.e. Magarita (2004) and Hart and Ahuja (1996) as cited by Gu and Zhang (2012) used only accounting variables. (Vijfinkel et al., 2011) used market indicators. Mc Guire (1988) reported that varying financial indicators has given rise to different conflicting outcomes. Market, stock-market and accounting measures have yielded mixed result.

However the two combined measure used for this study-market and accounting follow from the work of (McGuire, J. B., Sundgren, A., Schneeweis, T., 1988 as cited by Magarita, 2004) and are chosen to suit SMEs' commonly used indicators and to ascertain the relationship it would elicit with environmental sustainability practice in a small region other than larger ones.

Control Variables

It is plausible to argue that financial performance in relation to environmental sustainability will differ. Some companies are larger, in a favourable sector or older than others. All these factors will influence financial performance. Gu and Zhang (2012) cited Ullman, (1985) as a previous related study that used size, risk and industry as control variables. Also (Vijfinkel et al., 2011) explains that size and age were empirically found to be significant predictors of financial performance, thus a basis for control variable.

For this study size and age were used as control variable because of their continuous nature which make them fit into the regression model used in this study. The size was measured based on the number of employees 1-9 (micro), 10-49(small) and 50-249(Medium). These sizes were coded as 1, 2 and 3 respectively. The ages of the SMEs also range between 2 and 37 years.

3.4 Data Instrument and Analysis.

As earlier mentioned, the data for this study were gathered through e-questionnaire, mail and paper questionnaire. Data were analysed using some descriptive statistics. The correlation and multiple regression statistics are used to determine the relationship among the variables of the study. Separate multiple regression was run on the three dependent variables that indicate financial performance- profit, revenue and Return on Equity(ROE) and their relationship with the chosen independent variables(environmental policy, pollution prevention and control and recycling and reuse) and the two control variables- age and size. Hypothesis 1 is analysed using multiple regression, hypothesis 2 and 3 are analysed with correlation; these 3 hypotheses emanated from research question 1 and 2. Hypothesis 4 and 5 which relate to research question 3 are descriptively analysed because they are new phenomenon which NBS (2013) set to unravel and the complete aspect of this research question are covered in the last question of the questionnaire which will be descriptively analysed as well.

3.5 Reliability and Validity.

Reliability is the consistency of a measure of a concept while validity refers to the issue of whether an indicator measures a concept that is gauged to measure or not (Bryman and Bell, 2010). Both are vital for any study because the trustworthiness of studies are based on them (Gu and Zhang, 2012).

The core measurements of this study which are environmental and financial performances need to be checked for reliability and validity. As earlier reported that all the financial and environmental indicators used were extracted from past studies, these indicators have been validated by these studies. However, the reliability of these indicators were tested by computing Cronbach's alpha. A value of 0.92 and 0.93 were derived respectively for financial and environmental performances indicators. This is arguably a reliable reliability measurements. Ideally, the Cronbach alpha coefficient of a scale should be above 0.7(DeVellis, 2003 as cited by Pallant, 2010).

3.6 Model Specification.

The relationship between environmental sustainability and financial performance include the interconnection of some variables which are better analysed using the right statistics. For this relationship, this study adopted multiple regression model to study the relationship between three separate dependent variables (revenue, profit and ROE); three independent variables (environmental policy, pollution prevention and control and recycling and reuse) and two control variables (age and size). The near normality assumption is taken cognizance of by transforming the variables that are either positively or negatively skewed through Log transformation. Transformed are- profit, revenue, ROE, environmental policy, pollution control and recycling. The regression equations used in this study are as follows:

Profit= β 0+ β 1*Énvironmental policy+ β 2*Pollution prevention and control+ β 3*Recycling and reuse+ β 4*Age+ β 5*Size +ε.....1

Revenue= $\beta 0+\beta 1$ *Environmental policy+ $\beta 2$ *Pollution prevention and control+ $\beta 3$ *Recycling and reuse + $\beta 4$ *Age+ $\beta 5$ *Size + ϵ2

The relationship of the specified variables in this model, general findings and other analysis involved in this study are presented in the next chapter.

4.0 **FINDINGS**

4.1 Introduction

The purpose of this chapter is to present findings of this study based on statistical analysis output of SPSS 21. The chapter outline is as follows; Respondents' characteristics and classification, Analysis and Results, Analysis of other Findings and Discussion of Findings.

4.2 Respondents' Characteristics and Classification

As earlier reported in chapter 3, the total number of respondents are 98. The distribution of the respondents according to the industry they belong are: Business service-41, Manufacturing and Industry-20 and Wholesale and Retail-37, and they represent 41.8%, 20.4% and 37.8% of the sample respectively- see Table 1 in Appendix 2. These respondents are made up of owner, director, manager and other top official. For analysis purpose they are coded in SPSS as Owner=1, Director=2, Manager= 3 and other top official=4. 47 of the respondents are top official and they represent 48% of the respondents

sampled. Owners are 33 and this represents 33.7% of the respondents. Managers are 16 and represent 16.3% of the sample while directors are just 2 and represents just 2% of the respondents. This reflects that other top official which could range from different designations not covered in the options in the questionnaire participated mostly in the study. See Table 2 in Appendix 2.

In Table 3 –see Appendix 2, the sizes of these SMEs are described according to European commission. 31 are micro businesses (1-9 employees), 43 are small businesses (10-49 employees) and 24 are medium size businesses (50-249 employees). They represent 31.6%, 43.9% and 24.5% of the sample respectively. For SPSS analysis they are coded as Micro=1, Small=2 and Medium=3.

Table 4 summarizes the target customers of these businesses. 76 of these SMEs sell to final consumers, 18 sell to business and 4 sell to governments. The representation of this distribution in the sample is 77.6%, 18.4% and 4.1% accordingly. They are coded as Final consumers=1, Business=2, Government=3. See Appendix 2 for details. And finally, Table 5 in Appendix 2 also shows that the minimum age of these SMEs is 2 years and the maximum is 37 years. The average age is 16.83 years and the standard deviation is 9.67.

4.3 Analysis and Results.

The findings are systematically arranged and explained below to reflect the order of the hypotheses. The financial performance and environmental sustainability relationship was analysed with multiple regression. Hierarchical multiple regression was used to assess the ability of three independent variables(Environmental Policy, Pollution Prevention and Control and Recycling and Reuse) to predict all the dependents variables (Profitability, Revenue and ROE) after controlling for the influence of age and size in the three models(see section 3.6). Also, preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity. Age and Size were entered at step 1 and Environmental Policy, Pollution Control and Prevention and Recycling and Reuse were entered at step 2. See Appendix 3 for the three multiple regression models correlation outputs.

The result of the first model is presented in the table below. At stage 1, Age and Size explain 6% of the variance in profitability. At stage 2, the total variance explained by the model as a whole was 19.2%, F(5,92)=4.38, P<0.01. The three independent variables explained an additional 14% of the variance in profitability, after controlling for Age and Size, R squared change=0.14, F change(3,92)=5.208,P <0.01. In the final model, only Size, Pollution Control and Prevention and Recycling and Reuse were statically significant with Pollution Control and Prevention recording the highest beta value (beta=0.38, P<0.05) followed by Size of SMEs (beta=0.28, P<0.01) and Recycling and Reuse (beta=-0.57, P<0.05) Table A- Multiple Regression Output for Model 1

	В	SE B	β
Step 1			
Constant	0.25	0.04	
Size of SMEs	0.05	0.02	0.25*
Age of organisation	-0.00	0.00	-0.06
Step 2			
Constant	0.29	0.05	
Size of SMEs	0.06	0.02	0.28**
Age of the Organisation	-0.00	0.00	-0.13
Environmental Policy	-0.04	0.15	-0.06
Pollution Control and Prevention	0.30	0.14	0.38*
Recycling and Reuse	-0.49	0.20	-0.57*

Note: R²=0.06 for step 1, ∆ R²=0.14 for step 2(P<0.01). [*P<0.05, **P<0.01 and ***P<0.001]

The result of the second model is presented in the table below. At stage 1, Age and Size explain 5% of the variance in revenue. At stage 2, the total variance explained by the model as a whole was 17.2%, F(5,92)=3.38, P<0.01. The three independent variables explained an additional 13% of the variance in revenue, after controlling for Age and Size, R squared change=0.13, F change(3,92)=4.64. In the final model, only Size was statistically significant (beta= 0.28, P<0.01).

Table B- Multiple Regression Output for Model 2

•			
	В	SE B	β
Step 1			
Constant	0.26	0.04	
Size of SMEs	0.04	0.02	0.23*
Age of organisation	-0.00	0.00	-0.05
Step 2			
Constant	0.31	0.05	
Size of SMEs	0.05	0.02	0.28**
Age of the Organisation	-0.00	0.00	-0.13
Environmental Policy	-0.14	0.15	-0.21
Pollution Control and Prevention	0.20	0.13	0.27
Recycling and Reuse	-0.30	0.20	-0.36
	L destate D		

Note: R²=0.05 for step 1, \triangle R²=0.13 for step 2. [*P<0.05, **P<0.01 and ***P<0.001]

The result of the third model is presented in the table below. At stage 1, Age and Size explain 1% of the variance in ROE. At stage 2, the total variance explained by the model as a whole was 13.8%, F(5,92)=2.95, P<0.05. The three independent variables explained an additional 13% of the variance in ROE, after controlling for Age and Size, R squared change=0.13, F change(3,92)=4.62. In the final model none of the independent variables were statistically significant.

Table C- Multiple Regression Output for Model 3

	В	SE B	β			
Step 1						
Constant	0.27	0.04				
Size of SMEs	0.01	0.02	0.06			
Age of organisation	0.00	0.00	0.05			
Step 2						
Constant	0.32	0.05				
Size of SMEs	0.02	0.02	0.11			
Age of the Organisation	0.00	0.00	-0.03			
Environmental Policy	-0.18	0.15	-0.26			
Pollution Control and Prevention	0.22	0.14	0.29			
Recycling and Reuse	-0.28	0.20	-0.33			

Note: R²=0.008 for step 1, ∆ R²=0.13 for step 2. [*P<0.05,** P<0.01 and ***P<0.001]

The correlation analyses that address hypotheses 2 and 3 are presented in Table D and E. In Table D, communication of environmental activities to internal stakeholders has a small, positive correlation with profit growth as r=.24, p<0.01 and 6% variance explained. Communication to internal stakeholders also has small, positive correlation with revenue growth as r=.29, p<0.01 and 8% variance explained. Lastly, communication to internal stakeholders has a medium correlation with ROE as r=.35, p<0.001 and 12% variance explained.

Table D- Correlation between communication of a firm's environmental friendly activities to its internal stakeholders and its financial performance.

	1	2	3	4
1.Communication of environmental activities to internal stakeholders	1			•
2.Profit growth within the last two years	.244** (.008)	1		
3.Revenue growth within the last two years	.289** (.002)	.932*** (.000)	1	
4.ROE growth within the last two years	.354*** (.000)	.744*** (.000)	.737*** (.000)	1

Note: Values in parentheses are p-values. [*P<0.05, **P<0.01 and ***P<0.001]

In Table E, communication of environmental activities to external stakeholders has a small, positive correlation with profit growth as r=.20, p<0.05 and 4% variance explained. Communication to external stakeholders also has small, positive correlation with revenue growth as r=.29, p<0.01 and 8% variance explained. Lastly, communication to external stakeholders has a medium correlation with ROE as r=.33, p<0.001 and 11% variance explained.

Table E- Correlation between communication of a firm's environmental friendly activities to its external stakeholders and its financial performance.

	1	2	3	4
1.Communication of environmental activities to external stakeholders	1			•
2.Profit growth within the last two years	.197* (.026)	1		
3.Revenue growth within the last two years	.289** (.002)	.932*** (.000)	1	
4.ROE growth within the last two years	.333*** (.000)	.744*** (.000)	.737*** (.000)	1

Note: Values in parentheses are p-values. [*P<0.05, **P<0.01 and ***P<0.001]

Hypotheses 4 and 5 as explained are descriptively analysed and they emanated from research question 3. Also answering research question 3 is question 17(see Appendix 1 for questionnaire).

Out of 98, 54(55%) respondents strongly agreed that networking among SMEs by sharing ideas, information and experience will improve financial performance of sustainable SMEs. 41(41%) agreed to this assertion while 4(4%) were undecided. No response in terms of either disagree or strongly disagree.

11(11%) strongly agreed that stricter regulation on environmental sustainability will improve financial performance of sustainable SMEs, 42(43%) agreed to this assertion, 40(41%) were undecided,3(3%) disagreed and 2(2%) strongly disagreed.

In addition, open-ended views were categorized as a. Certification b. Cheap sustainable sourcing c.Consistency d. Ecofriendly logistics e. Innovation f. Media g. Paperless transaction h. Total Quality Management (TQM). 21(21%) of the respondents suggested that being innovative in terms of sustainability will help SMEs achieve concrete financial performance, 16(16%) favoured consistency in sustainable practice, 15(15%) voted for obtaining relevant certificates, 14(14%) suggested using media to inform stakeholders, 11(11%) favoured TQM and 7(7%) each suggested paperless transaction, eco-friendly logistics and cheap sustainable sourcing.-see Appendix 4a-c for the frequency tables. 4.3.1 Analysis of other Data.

Data not directly related to this study's research question is the amount that SMEs invest in sustainability in the following year. 6(6%) strongly agreed that the amount they invest in sustainability the following year is based on their financial performance in the preceding year, 22(22%) agreed, 50(51%) were undecided, 16(16%) disagreed and 4(4%) strongly disagreed. See Appendix 4d for frequency table.

4.4 Discussion of Findings.

The three multiple regression models yielded different results. For model 1, Size, Pollution control are positively correlated with profit, that is the larger the size of SMEs, the more pollution control measures put in place, the more profit realised- this seems consistent with Hart, (1995) position that pollution prevention is important source of competitive advantage. These two variables are also statistically significant. Age and environmental policy are negatively correlated with profit; the older and the more sustainable policy put in place, the lesser the profit. However, these two variables are not statistically significant, hence we can't gain confidence that they have genuine relationship with profit. Recycling and reuse is negatively correlated with profit and significant. Recycling and reuse of waste and materials can be said to be taking a chunk of SMEs profit.

For model 2 only size is statistically significant on revenue and model 3 does not have any significant relationships. This makes the models not generalizable and would not be used for conclusion. However, this is no surprise because Vijfinkel et al (2011), a much related study found no statistically significant results and they formulated new significance levels to accept and reject their hypotheses. Also (Orlitzky, 2011; Corbett and Klassen, 2006 as cited by Jacobs et al., 2010) explain that related studies have showed positive, non-significant, inconclusive, conflicting and negative associations. Since model 1 yielded significant results and considering that generalizability is the target of this study, thus, no need for significance levels manipulation.

Because model 1, shows mixed results, hypothesis 1 is rejected. That is environmental sustainability does not have positive relationship with financial performance. For hypotheses 2 and 3, communication of a firm's environmental friendly activities to internal and external stakeholders have positive and significant relationships with all the financial performance variables-these are explanatory of (Hartman et al., 2007 and Cohn and Wolf, 2014 assertions that firms that communicate internally and externally gain employees' and customers' confidence in promoting the company's sustainability efforts which leads to high profit. We therefore accept hypotheses 2 and 3. For hypothesis 4, over 90% respondents agreed that networking among SMEs will improve financial performance of sustainable business. Hence, we accept hypothesis 4. For hypothesis 5, 53% agreed that stricter regulation on sustainability will improve financial performance of SMEs, this is above average, hence we accept hypothesis 5.

Innovative sustainable practice, consistency and persistence in sustainability, obtaining relevant sustainable certificates like ISO 9001, 14001, use of media to inform stakeholders and TQM are highly suggested by respondents as means which SMEs can get concrete financial performance from sustainable practice.

Lastly, the amount SMEs reinvest in sustainability in following year seems not to be commensurate with their financial performance.

The next chapter sheds light on conclusion and recommendation made from this research findings.

5.0 **CONCLUSIONS**

5.1 Introduction

The purpose of this chapter is to draw conclusions based on the findings of the studies and make recommendations where applicable. The structure of this chapter is as follows; Cyclical Closure, Conclusion, Contribution, Robustness and Further Research.

5.2 Cyclical Closure

So far, this study has been able to systematically achieve its aims and objectives by identifying the best financial indicator of SMEs(profit) and the environmental sustainability indicators that best predict profitability(pollution control and recycling). The second objective was also achieved and factors like networking, innovation, TQM, stricter regulations etc. could yield concrete financial results for sustainable SMEs as being inquired by NBS, 2013.

5.3 Conclusion

It can be concluded that the relationship between environmental sustainability and financial performance depends on the variable of focus. Pollution control and prevention is the best positive predictor of profit for SMEs. Recycling is negatively related to sustainable SMEs' profit. Large sustainable SMEs are better at making profit than the small ones. Pollution control's best predictor of profit could be attributed to externalities theory. The less negative externalities SMEs pass on to the society, the more positively it is perceived. Hence the more profit it realizes. The cost of recycling is too much for SMEs to bear. This may hinder consistency and persistency in sustaining the planet. So SMEs should focus more on pollution prevention and control to gain more profit and lobby government for recycling subsidization. It is plausible to recommend that government needs to tighten regulations on pollution prevention and subsidize SMEs recycling in order to sustain their sustainable efforts.

The mixed results generated by this study in terms of financial performance and environmental sustainability suggest a new dimension in sustainable studies. The positive relationship is similar to works of (Orlitzky et al, 2003; Margolis and Walsh,2003; Roman et al, 1999; Epstein et al 2014). The negative relationship is similar to the works of (Jaggi and Freedman, 1992; Wagner et al 2001) and the non-significant relationship as reported in the work of (Orlitzky, 2011).

Communication to both internal and external stakeholders substantially affect financial performance because their workers are motivated to preserving the planet and this results in investing their best at work. Customers, society as a whole tend to patronise the sustainable ones via communication and this reflects on profit. This result is similar to (Vijvnkel et al, 2011) findings.

Lastly, networking, stricter regulations, TQM, innovation, consistency, media usage and certification are measures that can result in concrete financial performance for sustainable SMEs. The less reinvestment in sustainability of SMEs in following year is an indication that SMEs are giving less to sustaining the environment than what they are realising from it.

5.4 Contribution

The contribution of this study is the identification of best regional financial performance indicator (profit) and environmental performance indicator (pollution control). This will help SMEs to concentrate on these indicators to boost their performance. This study has also been able to answer NBS, 2013 research question of how SMEs can realize concrete financial results by being sustainable. Prominent among these factors as found by this study are networking, stricter regulations, innovation, TQM, media and consistency.

5.5 Robustness

The strength of this study as earlier mentioned is helping SMEs know how they can be sustainable without being financially worse off. The weakness is the isolation of financial performance variables- profit, revenue and ROE and studying their individual relationship with the independent sustainable variables. This could have concealed the collective effects.

5.6 Future Research

Future research can use categorical financial variables i.e. profit increase, decrease or unchanged. More environmental sustainable indicators could also be considered. If used this way, then multinomial logistic regression that can combine the dependent variables at one goal can be run and this could yield a more robust result.

Reflection

This study has had a significant influence on my research insight. I have realised that dealing with busy respondents like managers, top officials, owners and directors requires patience, courtesy, persuasive communication skills to get required data. I have also learnt to employ all possible but ethical means of gathering data other than one-way method, this I call integrated approach". This invaluably enhanced the quality and quantity of data garnered for this research as a whole.

This research has opened up avenue to be able to make future study of SMEs in UK because I was able to establish a reliable contacts with many of these SMEs on different platforms. I earlier thought I could not get a single manufacturing company is Sussex especially the medium size ones, but to my surprise I found quite a handful ones. I discovered that many of these SMEs are environmentally conscious in their operations.

Overall, I was impressed with the final response rate although they were made possible as a result of substantial efforts, money and time invested in gathering the data and carrying out the research as a whole.

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APPENDICES

Appendix 1: Questionnaire

Industry- Man []. Ret []. Serv [] QUESTIONNAIRE

his research undertaken at the University of Sussex, Brighton aims to explore the impact environmental sustainability practice has on the financial performance of Small and medium size enterprises (SMEs), with a specific focus on SMEs in Sussex.

Kindly help me fill the questionnaire. Thank you.

Section A - Company Information.

Please tick the appropriate circles as they pertain to you and your organisation.

- 1. What is your role within the organization?
 - 1. Owner 2. Director 3. Manager 4. Other top official.
- 2. Approximately how many employees work in your organisation? Part-time
- Full-time
- 3. When was your organisation established?
- Please select the target group(s) that your organisation sell its products or services to:
 1. Final consume(s) 2. Busines(s) 3. Governme(t)

Section B- Environmental

This section measures environmental sustainability performance.

Please tick the option according to the best of your knowledge.

1- Strongly agree, 2 - Agree, 3 - Undecided, 4 - Disagree, 5 - Strongly disagree.

	1	2	3	4	5
5. Our company has a comprehensive policy towards environmental friendly practice.					
6. We reduce our consumption of energy and resources to the barest minimum.					
7. We lay emphasis on recycling of waste and reuse of materials.					
8. Pollution prevention and control is embedded in our business activities.					

.....

Section C - Communication

This section measures how communication affects financial performance. Please tick the option according to the best of your knowledge. 1- Strongly agree, 2 - Agree, 3 - Undecided, 4 - Disagree, 5 - Strongly disagree.

	1	2	3	4	5
9. We communicate aspects of the company's activities that are ecologically beneficial to internal					
stakeholders.					
10. We communicate aspects of the company's activities that are ecologically beneficial to external					
stakeholders.					

Section D - Performance

This section measures financial and general performance. Please tick the option according to the best of your knowledge

	<0-0%	1-15%	16-30%	31-45%	>45%		
11. The organisation profit within the last two years is							
12. Revenue within the last two years is							
·							
13. The company's Return on Equity (ROE) within the last two years							
is							

Please tick the option according to the best of your knowledge.

1- Strongly agree, 2 - Agree, 3 - Undecided, 4 - Disagree , 5 - Strongly disagree

	1	2	3	4	5
14. Our overall yearly financial performance determines the amount that gets invested in					
environmental issues the following year.					
15. Stricter regulations on environmental performance will improve the financial					
performance of genuine eco-friendly companies.					
16. Networking among businesses by exchanging knowledge, ideas and experience in order					
to identify best environmental practices can result in substantial financial proceeds for					
SMEs.					

17. Please state other factors you think can help SMEs achieve concrete financial results by investing in sustainable activities.

Please give examples

.....

.....

END OF QUESTIONNAIRE

Appendix 2: Descriptive Statistics for Demographics.

(a) Table 1 SMEs industry

			Frequency	Percent	Valid Percent	Cumulative Percent		
Valid	Bus Service	&	41	41.8	41.8	41.8		
	Manufacturing Industry		20	20.4	20.4	62.2		
	Whole&Retail		37	37.8	37.8	100.0		
	Total		98	100.0	100.0			
		_						

(b) Table 2

Is the respondent owner or director or manager or other top official

		Frequency	Percent	Valid Percent	Cumulative Percent
	1 owner	33	33.7	33.7	33.7
	2 director	2	2.0	2.0	35.7
Valid	3 manager	16	16.3	16.3	52.0
	4 other top official	47	48.0	48.0	100.0
	Total	98	100.0	100.0	

(c) Table 3 Size of SMEs

		Frequency	Percent	Valid Percent	Cumulative Percent
	1 1-9(Micro)	31	31.6	31.6	31.6
Valid	2 10-49(Small)	43	43.9	43.9	75.5
valid	3 50-249(Medium)	24	24.5	24.5	100.0
	Total	98	100.0	100.0	

(d) Table 4

Target customers of business

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 final consumers	76	77.6	77.6	77.6
	2 business	18	18.4	18.4	95.9
	3 government	4	4.1	4.1	100.0
	Total	98	100.0	100.0	

(e) Table 5 Age of SMEs

	N	Minimum	Maximum	Mean	Std. Deviation		
Age of the organisation Valid N (listwise)	98 98	2	37	16.83	9.673		

Appendix 3: Multiple Regression Models Correlation Outputs.

					•	
(a)	Table 6					
Correla	ation Output	t for Mode	1(Multiple	Rearessi	on Analy	/sis)

·	Profit_growthlo g10	Size of SMEs	Age of the organisation	Environmental_p olicyRlog10	Pollution_cont rolRlog10	Recycling_reus eRlog10
Pearson Correlation. Profit_growthlog10	1.000	.228	.020	222	109	276
Size of SMEs	.228	1.000	.317	.079	025	003
Age of the organisation	.020	.317	1.000	232	332	301
Environmental_policyRl og10	222	.079	232	1.000	.788	.891
Pollution_controlRlog10	109	025	332	.788	1.000	.828
Recycling_reuseRlog10	276	003	301	.891	.828	1.000
Sig. (1-tailed). Profit_growthlog10	-	.012	.422	.014	.142	.003
Size of SMEs	.012		.001	.219	.404	.489
Age of the organisation	.422	.001		.011	.000	.001
Environmental_policyRl og10	.014	.219	.011		.000	.000
Pollution_controlRlog10	.142	.404	.000	.000		.000
Recycling_reuseRlog10	.003	.489	.001	.000	.000	
Ν	98	98	98	98	98	98

(b) Table 7

Correlation Output for Model 2 (Multiple Regression Analysis)

	Revenue_growt hlog10	Size of SMEs	Age of the organisation	Environmental_ policyRlog10	Pollution_contro IRlog10	Recycling_reus eRlog10
Pearson Correlation. Revenue_growthlog10	1.000	.212	.023	268	160	287
Size of SMEs	.212	1.000	.317	.079	025	003
Age of the organisation	.023	.317	1.000	232	332	301
Environmental_policyRl og10	268	.079	232	1.000	.788	.891
Pollution_controlRlog1 0	160	025	332	.788	1.000	.828
Recycling_reuseRlog1 0	287	003	301	.891	.828	1.000
Sig. (1-tailed). Profit_growthlog10		.018	.413	.004	.058	.002
Size of SMEs	.018	-	.001	.219	.404	.489
Age of the organisation	.413	.001		.011	.000	.001
Environmental_policyRl og10	.004	.219	.011		.000	.000
Pollution_controlRlog1 0	.058	.404	.000	.000	-	.000
Recycling_reuseRlog1 0	.002	.489	.001	.000	.000	-
Ν	98	98	98	98	98	98

(c)	Table 8
Correlat	ion Output for Model 3 (Multiple Regression Analysis)

	ROE_growthlog 10	Size of SMEs	Age of the organisation	Environmental_ policyRlog10	Pollution_contr olRlog10	Recycling_reus eRlog10
Pearson Correlation.						
ROE_growthlog10	1.000	.075	.071	311	184	315
Size of SMEs	.075	1.000	.317	.079	025	003
Age of the organisation	.071	.317	1.000	232	332	301
Environmental_policyRl og10	311	.079	232	1.000	.788	.891
Pollution_controlRlog10	184	025	332	.788	1.000	.828
Recycling_reuseRlog10	315	003	301	.891	.828	1.000
Sig. (1-tailed).		.232	.245	.001	.035	.001
Size of SMEs	.232		.001	.219	.404	.489
Age of the organisation	.245	.001		.011	.000	.001
Environmental_policyRl og10	.001	.219	.011	-	.000	.000
Pollution_controlRlog10	.035	.404	.000	.000		.000
Recycling_reuseRlog10	.001	.489	.001	.000	.000	
Ν	98	98	98	98	98	98

Appendix 4: Descriptive Statistics for other Data

(a) Table 9 Networking as a tool to improve financial performance

		Frequency	Percent	Valid Percent	Cumulative Percent		
Valid	3 undecided	4	4.1	4.1	4.1		
	4 agree	40	40.8	40.8	44.9		
	5 strongly agree	54	55.1	55.1	100.0		
	Total	98	100.0	100.0			

(b) Table 10

Stricter regulations will improve financial performance

		Frequency	Percent	Valid Percent	Cumulative Percent
	1 strongly disagree	2	2.0	2.0	2.0
	2 disagree	3	3.1	3.1	5.1
Valia	3 undecided	40	40.8	40.8	45.9
vallu	4 agree	42	42.9	42.9	88.8
	5 strongly agree	11	11.2	11.2	100.0
	Total	98	100.0	100.0	

(c) Table 11

	Frequency	Percent	Valid Percent	Cumulative Percent
Certification	15	15.3	15.3	15.3
Cheap sustainable sourcing	7	7.1	7.1	22.4
Consistency	16	16.3	16.3	38.8
Eco-friendly logistics	7	7.1	7.1	45.9
Innovation	21	21.4	21.4	67.3
Media	14	14.3	14.3	81.6
Paperless	7	7.1	7.1	88.8
TQM	11	11.2	11.2	100.0
Total	98	100.0	100.0	

(d) Table 12

Financial performance and environmental protection investment in following year.

		Frequency	Percent	Valid Percent	Cumulative Percent
	1 strongly disagree	4	4.1	4.1	4.1
Valid	2 disagree	16	16.3	16.3	20.4
	3 undecided	50	51.0	51.0	71.4
	4 agree	22	22.4	22.4	93.9
	5 strongly agree	6	6.1	6.1	100.0
	Total	98	100.0	100.0	