AN INVESTIGATION OF ENVIRONMENTAL CORPORATE SOCIAL RESPONSIBILITY AND ITS RELATIONSHIP TO CORPORATE PERFORMANCE AND CORPORATE RISK IN THE U.S. HOTEL INDUSTRY

by

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Abstract

Corporate environmental responsibility is a growing concern at a global level, and firms confront substantive energy and waste management costs. The hotel industry addresses environmental issues through Environmental Corporate Social Responsibility (ECSR). Prior research into the topic in the hotel industry has been limited. This study filled a research gap investigating the relationship between four identified indicators of ECSR, two measures of corporate performance, and a measure of corporate risk in U.S. public hotels and motels for the years 2010-2012. The study also investigated firm size as a moderator in these relationships. Data was retrieved for secondary data analysis and content analysis from the U.S. Securities and Exchange Commission's EDGAR database, corporate websites, and other public websites. Six hypotheses were tested using quantitative analysis including descriptive statistics, multiple linear regression, and moderated multiple regression. The statistical results were analyzed and deductive logic applied to formulate conclusions for the study. There was no significant relationship found between the four identified indicators of ECSR and two measures of corporate performance. Firm size was not found to influence these relationships. A significant relationship was found between the four identified indicators of ECSR and a measure of corporate risk, and firm size was found to influence this relationship. This study provided evidence of a projected economic upturn, and a divergence in the hotel industry between domestic and foreign firms.

Dedication

This dissertation is dedicated to my family, who has supported me through this endeavor. To my beloved husband, Frank, through your eternal optimism and good humor, you daily remind me to follow my dreams.

I also dedicate this to my precious children. To my son, Adam, you have been at my side through three college degrees. Your intellect and curiosity continually stimulate me to think at higher levels. To my daughter Sage, you brighten my days and inspire me with your positive attitude. To my stepson, Kyle, you bring me gentle kindness and joyful dreams of what can be.

It is also dedicated to my seven brothers, two sisters, their wonderful spouses, and dear children. Your belief in me has encouraged me to continue. I treasure each and every one of you.

And I devote this work to my parents, Bill and Adelaide Zimmerman. You gave us community, in which I find comfort and support. You taught us faith, which provides me strength and solace. You instilled in us the importance of education, and provided the foundation on which I have achieved this goal. You taught us equity, which fills me with confidence. Above all, you taught us love.

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CHAPTER 1. INTRODUCTION

Introduction to the Problem

The threat of an industry's environmental contribution to climate change brings into question the accountability of the industry regarding environmental sustainability. The hotel industry is a key contributor in energy consumption, waste, and greenhouse gases on a global level (Roller & Dombrovski, 2010), and represents a significant environmental impact (Han, Hsu, Lee, & Sheu, 2011). Domestically, annual energy costs in the industry average over two thousand dollars per room, corresponding to 6% of a hotel's operating costs (U.S. Environmental Protection Agency, 2013g). These costs total almost four billion dollars (U.S. Environmental Protection Agency, 2013e). In light of this, the hotel industry faces maintaining competitiveness while addressing problems associated with environmental impacts on natural resources and pollution (Han et al., 2011). The hotel industry addresses these issues through environmental corporate social responsibility (ECSR). There is limited academic research investigating the relationship between ECSR, corporate performance, and corporate risk in the hotel industry. The Spanish hotel industry has figured prominently in this research, but researchers (Segarra-Oña, Peiró-Signes, Verma, & Miret-Pastor, 2012) are calling for additional research on the topic within the U.S. Hotel industry.

ECSR is a subcategory of corporate social responsibility (CSR). It developed from concern for environmental issues, recognition of corporate responsibility for these

issues, and managerial motivation to take action. Environmental corporate social responsibility (ECSR) in this study will be defined as legal and voluntary managerial actions taken to address the environmental concerns of the firm (Ambec & Lanoie, 2008; Rahman & Post, 2012). Other categories of CSR focus on social issues and are beyond the scope of the current research.

The rationale for implementing ECSR programs ranges from altruism, to wealth maximization, to stakeholder pressure. J. T. Campbell, Eden, and Miller (2012) speculated that foreign companies engage in CSR in host companies as a form of altruism. Porter and Kramer (2006) indicated that many times companies do not consider corporate social responsibility (CSR) a source of competitive advantage. There are fears that CSR programs may increase firm risk (Orlitzky & Benjamin, 2001), or are implemented due to political pressure to comply with social agendas (Friedman, 1970; Baron, 2001). Elms, Brammer, Harris, and Phillips (2010) saw these two rationales as a controversy of ethics versus economics. Although the controversy continues academically, on a practical level, companies can realize financial results from ECSR efforts.

Competitive advantage gained through corporate strategy sparks interest in both practitioners and academics. According to the U.S. Environmental Protection Agency (2013e) reducing energy usage by 10% can be comparable to an average daily room rate increase up to $1.35. Additionally, some hotels are beginning to use their environmental programs to target specific markets (Datamonitor, 2011; Han et al., 2011). These two examples describe the fundamental sources of competitive advantage, costs and

differentiation (Porter, 1985). These examples also suggest the potential to apply ECSR strategically, a theoretical perspective that is currently under development.

Strategic ECSR has a foundation in strategic management theories, resource-based theories and theories of the firm. From a strategic management perspective, academics feel that companies will gain competitive advantage by applying CSR and ECSR (Porter & Kramer, 2006; Siegel, 2009; L. Lee, 2012). Newbert (2008) added to this using a resource-based theoretical approach indicating that competitive advantage is the strategic application of combinations of resources that will positively influence corporate economic performance. However, there is uncertainty about this proposal. Some feel that corporations will seek equilibrium between ECSR and profits (McWilliams & Siegel, 2001; Orlitzky & Whelan, 2007). McWilliams and Siegel (2001) indicated that from a theory of the firm perspective the goal is wealth maximization, but its applicability in the hotel industry is questioned (McWilliams, Siegel & Wright, 2006; Siegel, 2009) due to monopolistic competition. Is there a relationship between ECSR and performance? Conclusions from empirical studies on the topic are inconclusive. Additionally, research involving CSR, ECSR, and performance in the hotel industry is limited.

The current study extended existing research in the field of organization and management by investigating the relationship between each of four identified indicators of environmental corporate social responsibility (ECSR), two measures of corporate performance, and a measure of firm risk. The study also investigated firm size as a

moderator of these relationships. Additionally, the study provided academics and practitioners a tested instrument for measuring ECSR.

Background of the Study

The hotel industry has not figured prominently in academic research. Studies such as Kang, Lee, and Huh (2010) have explored CSR and performance in the hotel industry as part of cross-industry research. They called for additional investigations into individual industries (Kang et al., 2010). Research specifically involving CSR and performance in the hotel industry has been limited to S. Lee and Park's (2009) study of 23 companies (7 hotels and 16 casinos) focusing on the years 1991-2006. Both studies used data from the KLD STATS database, which offers composite CSR information. Kang et al. (2010) recommended studies exploring the unique areas within CSR. S. Lee and Park (2009) indicated a need for additional research into the topic within the hotel and casino industries.

Research investigating the relationship between ECSR and performance is also limited. Welter's (2011) study involving 11 companies in seven industries, found the relationship between ECSR and corporate performance industry specific. Similarly, L. Lee's (2012) cross-industry research involving 195 top Taiwanese firms found a significant ($p < .01$) relationship between instrumental motives (i.e., profit maximization and ECSR). However, the hotel industry was not included in the study.

Research specific to the hotel industry is restricted to three studies focusing on Spanish hotels (Carmona-Moreno, Céspedes-Lorente, & De Burgos-Jiménez, 2004;

Rodríguez & del Mar Armas Cruz, 2007; Segarra-Oña et al., 2012), and one focusing on Caribbean hotels (Shah, 2011). These studies will be reviewed in detail in Chapter two. Rodríguez and del Mar Armas Cruz (2007) recommended strategic application of ECSR, while Ambec and Lanoie (2008) indicated a need for further research on the topic. Shah (2011) pointed out a need for ECSR research on the hotel industry in broader geographic contexts, while Segarra-Oña et al. (2012) indicated the specific need for further research in the U.S. hotel industry. These studies investigated firm performance, but either did not address firm risk or controlled for it. Firm risk is important to consider when addressing corporate performance.

Investigations regarding CSR and firm risk are also limited, and dated. Brigham and Houston (2012) pointed out the importance of including risk when analyzing wealth maximization. There is a correlation between a company's use of debt and the financial risk for stockholders (Brigham & Houston, 2012). Orlitzky and Benjamin's (2001) meta-analysis of research indicated the multidimensionality of firm risk, and illustrated numerous measures for the concept. Their study found a negative relationship between corporate social performance (CSP) and all measures of firm risk. Ambec and Lanoie's (2008) review of empirical research also indicated that increased environmental performance would reduce firm risk. Hull and Rothberg (2008) controlled for firm risk while investigating the influence of corporate innovation on the relationship between CSR, and firm performance in 69 companies. Additionally, Orlitzky and Whelan (2007) pointed out that research correlating social and environmental accounting (SEA) measures and firm risk is inconclusive, and called for additional research. One important

point is that these studies involve research performed before the current economic downturn.

More recently, Baird, Geylani, and Roberts (2012) used a firm's debt ratio as a control in a 1,153 firm cross-industry study investigating the relationship between CSR performance and financial performance. Their study focused on the years 2001-2008, and did not include the hotel industry. Specifically researching debt ratio as a measure of corporate risk, Ramadan's (2012) study of financial data for 259 Jordanian firms for the years 2001-2011 indicated a consistency with the theory of capital structure where debt ratio significantly ($p < .01$) influenced systematic risk, explaining 21% of the variance. Therefore, the study addressed a gap in research involving ECSR and corporate risk, and applied debt ratio as a supported measure of one significant aspect of corporate risk. Together these investigations supported the use of debt ratio as a measure of corporate risk in the current study.

The current study aligned with existing research on three points. First the use of a quantitative design utilizing secondary and content analysis followed similar studies (Claver-Cortés, Molina-Azorín, & Pereira-Moliner, 2007; de Grosbois, 2012; Segarra-Oña et al. 2012). Additionally, Taneja, Taneja, and Gupta's (2011) review of CSR research articles from 1970-2008, found 82% of them used secondary data. Secondly, the study investigated ECSR in an industry with high environmental concerns (Han et al., 2011) and high consumer visibility (Siegel & Vitaliano, 2007). A third point of alignment was the use of moderated multiple regression analysis to test the hypothesized influence of firm size on the relationships between each of four identified indicators of

environmental corporate social responsibility (ECSR), measures of corporate performance, and a measure of corporate risk among public hotel and motel firms in the United States. Two studies utilizing moderated multiple regression are Russo and Fouts (1997) seminal research and Segarra-Oña et al.'s (2012) research involving the Spanish hotel industry. Aguinas and Gottfredson (2010) pointed out that moderated multiple regression is the foremost approach in moderation testing.

The foundation for this study was built on the concept of CSR. The theoretical foundation derives from strategic management theories, resource-based theory, and the theory of the firm. This section presents an overview of seminal authors in the field; Chapter 2 will present a deeper investigation in the literature review. Current research (Orlitzky, Siegel, &Waldman, 2011) has indicated the importance of these three theoretical streams in study of strategic ECSR. Seminal authors on the concept of CSR include Knight (1922) who pointed out that businessmen create the wants of the consumer, and are therefore responsible for the desire they generate. Dodd (1932) presented a seminal perspective of corporate responsibilities, and defined a separation of stakeholders from stockholders. These authors provided a base for the evolution of CSR theory.

Theoretical development surrounding CSR followed an interest in stakeholders until Friedman (1970) voiced an alternate opinion concerning responsibilities to the firm. Johnson (1971) presented early propositions combining the two concerns into corporate strategies and pointed out that CSR efforts are temporal. Freeman's (1984) stakeholder theory of strategic management formalized a theory that has been widely investigated in

CSR related literature. Donaldson and Preston (1995) figured prominently for identifying stakeholder theory as multilevel, containing a normative core. Freeman (1994) tied stakeholder theory to ECSR by indicating that one of these cores is ecological principles. Therefore, CSR expanded conceptually and theoretically from a singular focus on stakeholders to a multidimensional concept including the environment.

The stream of ECSR research offers additional seminal authors, and the earliest theoretical development focused on corporate strategy. Hoffman's (1991) theoretical perspective provided early conceptual development of ECSR. DesJardin (1998) furthered ECSR concept development and developed the first theory, establishing a foundation for strategic ECSR. Johnson (1971), Reinhart (1999), and Jamison (2000) provided seminal theoretical development of strategic CSR and strategic ECSR. Baron (2001) was the first to develop a formal theory of strategic CSR. Siegel (2009) felt that strategic CSR is more applicable in public companies. These works illustrate that the chronology of the development of CSR and ECSR is intertwined.

A second stream of theoretical research followed ECSR as a resource capable of creating competitive advantage. Wernerfelt (1984) provided the seminal resource-based theory which indicates that companies can gain competitive advantage through their resources. Hart (1995) applied this theory in the development of natural resource-based theory, strengthening ECSR as a separate line of research. More recently, L. Lee (2012) indicated ECSR performance as a unique strategic asset in building competitive advantage. Empirical research using this theory is being called for (Newbert, 2008). The

resource-based theory provides for the identification of ECSR as a unique corporate resource that can be used for competitive advantage.

A third focus developed around theories of the firm. McWilliams and Siegel (2001) developed a seminal CSR theory of firm that indicates firms determine optimal CSR levels based on supply and demand analysis. Firm size is a factor in determining CSR optimization. Industries in this theory are separated as either producing search or experience goods. Search goods are those whose value can be determined before purchase. Industries involved in experience goods are theorized to have higher CSR levels (McWilliams & Siegel, 2001). Siegel and Vitaliano (2007) further separated goods into goods and services, and directly applied the experience concept to the hotel industry, categorizing it as an experience service. Lyon and Maxwell (2008) also developed an ECSR specific theory of the firm. Their theory is based on supply and demand and differs from McWilliams and Siegel's theory in its focus on the role of government, and imperfect markets. These theories of the firm provide the industry context for the strategic application of ECSR as a unique resource for a company's quest for competitive advantage.

The premise of the current study was founded on a gap of research involving ECSR, firm performance, and firm risk in the U.S. hotel industry. Seminal concept development established a base for the ECSR. Three lines of theoretical research were used to support the study including strategic management theories, resource-based theories, and theories of the firm. These elements provide a background for the study, and will be investigated further in the literature review.

Statement of the Problem

The problem is that there are no studies examining the relationship between ECSR, corporate performance, and corporate risk involving the hotel industry. Researchers are calling for additional research into the relationship between CSR and performance within single industries (Welter, 2011), and specifically within the hotel industry (Sprinkle & Maines, 2010). Additionally, Segarra-Oña et al. (2012) called for research investigating ECSR and performance in the United States hotel industry. Addressing this problem has provided benefits to both the academic and practitioner communities. The current study closed a gap in ECSR research within the U.S. hotel industry, thus providing additional research support within the academic community. The approach used in this study benefits the field by illustrating the usefulness of transparency in corporate reporting for investor assessment of the impact of corporate strategy on firm performance and risk. The results of the current study benefit practitioners by illustrating how strategic applications of ECSR directly affect the public U.S. hotel industry. These results can be applied to organizational and industry recommendations. This study also offered management within the industry a tested instrument for measuring ECSR in their organizations.

Purpose of the Study

The primary purpose of this quantitative research was to build on existing literature by performing a robust examination of the relationships between each of four identified

indicators of environmental corporate social responsibility (ECSR), measures of corporate performance, and a measure of corporate risk among public hotel and motel firms in the United States. The purpose was not to investigate the interrelations between the independent variables or those between the dependent variables, but the strength and direction of the relationships between each of the independent and dependent variables. To increase the comprehensive and robust nature of the study, a secondary purpose was to investigate the moderating influence of firm size on these relationships.

The study performed a quantitative investigation with the following objectives:

1. Determine whether there is a significant relationship between each of the four identified indicators of ECSR and measures of corporate performance.
2. Determine whether there is a significant relationship between each of the four identified indicators of ECSR and a measure of corporate risk.
3. Determine whether firm size moderates the effect of each of the four identified indicators of ECSR on measures of corporate performance.
4. Determine whether firm size moderates the effect of each of the four identified indicators of ECSR on a measure of corporate risk.

Rationale

Academics calling for research into this area stressed the need for ongoing studies. The lack of current research involving the U.S. hotel industry in this area is one indication of the timeliness of this study. A second indication is the contribution made by attention to statistical significance and confidence intervals in multiple regression

analysis. President Obama (2013) highlighted the current concern for the environment in his state of the union address, indicating the need for significant increases in alternative energy usage while significantly decreasing energy usage. His speech supports the relevance of the current study. The results of the current study offer academics and managers timely statistical information for further research and decision making.

If the current study were not performed, the U.S. hotel industry would continue to lag behind its European and Caribbean counterparts in this area. This is evidenced by the lack of studies focusing on the U.S. hotel industry. Additionally, the gap of current research into ECSR, firm performance, and firm risk would continue to widen.

Research Questions

1. Is there a relationship between Environmental Corporate Social Responsibility (ECSR) and corporate performance in the U.S. hotel industry?
2. Is there a relationship between Environmental Corporate Social Responsibility (ESCR) and corporate risk in the U.S. hotel industry?
3. Does firm size influence the relationship between Environmental Corporate Social Responsibility (ECSR) and corporate performance in the U.S. hotel industry?
4. Does firm size influence the relationship between Environmental Corporate Social Responsibility (ECSR) and corporate risk in the U.S. hotel industry?

Hypotheses

The hypotheses formulated from these questions, and which were tested in in this study are:

$H_0$1: There is no relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry.

H_A1: There is a significant positive relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry.

$H_0$2: There is no relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry.

H_A2: There is a significant positive relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry.

$H_0$3: There is no relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ESCR) and a measure of corporate risk in the U.S. hotel industry.

H_A3: There is a significant negative relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ESCR) and a measure of corporate risk in the U.S. hotel industry.

$H_0$4: Firm size does not influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry.

H_A4: Firm size has a significant positive influence on the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry.

$H_0$5: Firm size does not influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry.

H_A5: Firm size has a significant positive influence on the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry.

$H_0$6: Firm size does not influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate risk in the U.S. hotel industry.

H_A6: Firm size has a significant negative influence on the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate risk in the U.S. hotel industry.

Significance of the Study

Current investigations involving CSR, ECSR, firm performance, and firm risk in the hotel industry have been limited. These studies have either been cross-industry (Kang

et al., 2010), or focused on Caribbean (Shah, 2011), and Spanish hotels (Carmona-Moreno et al., 2004; Rodríguez & del Mar Armas Cruz, 2007; Segarra-Oña et al., 2012). The current research was significant for four reasons. First, the study addressed Sprinkle and Maines (2010) call for research into CSR and firm performance in the hotel industry. Second, the study extended Segarra-Oña et al.'s (2012) research into ECSR and firm performance and addressed their call for research in the U.S. hotel industry. Third, it reduced two gaps in the literature. Researching the relationship between indicators of ECSR, measures of firm performance, and a measure of firm risk in the U.S. hotel industry reduced one gap. Exploring the moderating effect of firm size on these relationships diminished a second.

The current research benefits organizations and management within the hotel industry by providing results that directly affect the industry and recommendations concerning their strategic application of ECSR. The study also offers management within the industry a tested instrument for measuring ECSR in their organizations.

Definition of Terms

The following terms were used in the study. Corporate performance was investigated using two separate measures, corporate strategy performance and corporate accounting performance.

Environmental Corporate Social Responsibility (ECSR). This is defined as the legal and voluntary managerial actions taken to address the environmental concerns of the firm (Ambec & Lanoie, 2008; Rahman & Post, 2012).

Corporate Strategy Performance. This is a measure of the level of a firm's financial demonstration of corporate strategy. It was operationalized as return on assets (ROA). According to Hull and Rothenberg (2008), ROA provides a direct reflection of corporate strategy.

Corporate Accounting Performance. This is a measure of the level of a firm's financial demonstration of corporate accounting. It was operationalized as return on equity (ROE). According to Brigham and Houston (2012), ROE is "the single best accounting measure of performance" (p. 111).

Corporate Risk. The measurement of corporate risk in this study, operationalized as a firm's debt ratio measured as total assets/total debt (Hull & Rothenberg, 2008; Orlitzky & Benjamin, 2001; Ramadan, 2012).

Firm Size. The firm's number of guest rooms. According to Carmona-Moreno et al. (2004), the number of guest rooms determines size in the hotel industry. Supporting this is Hotel Management's 2012 Top Hotels, a list classified according to number of guest rooms.

Assumptions and Limitations

This study was conducted under the following assumptions and limitations.

Assumptions

The study assumed that the hotels would have high ECSR scores. This was assumed because of the impact of the hotel industry on the environment (Han et al., 2011) and its theoretical application as an experience goods and services industry (Siegel

& Vitaliano, 2007), along with McWilliams and Siegel's (2001) contention that these industries have higher CSR levels. A second assumption was that companies would use ECSR as a strategic resource. This derived from strategic management theories indicating that mangers use resources to improve financial performance (Nag, Hambrick, & Chen, 2007), and that good management theory indicates managers will use resources to reduce risk (Waddock & Graves, 1997).

Previous research (Carmona-Moreno et al., 2004; Segarra-Oña et al., 2012) found firm size to be important in the relationship between environmental performance measures and economic performance measures in Spanish hotels. Shah (2011) found a correlation between ECSR and firm size ($p < .01$) in Caribbean hotels. Therefore, firm size was assumed to be important in this relationship in the U.S. hotel industry.

The study assumed that it would provide reliability testing of Rahman and Post's (2012) instrument. Siegel (2009) indicated that ECSR is a duty for public companies. Because the companies in the study are public, it was assumed that each company will have a non-zero ECSR-Overall score. Because the SEC requires public companies to file financial information, it was assumed that information would be available for each company for the year 2011.

Because the sample size was calculated to be large enough to provide statistical significance and power, the results of the study were assumed to be statistically significant and meaningful.

Limitations

One of the limitations of the study was using secondary data, which may be incomplete (Robson, 2011) or problematic (Trochim & Donnelly, 2008). A related limitation was using a single industry and publicly owned companies. This narrowed the focus and posed a threat to the study's generalizability (Trochim & Donnelly, 2008). One example is Hilton Hotels, which is one of the largest companies in the hotel industry (Marketline, 2012a). Because it became a privately held firm and submitted no SEC documentation after 2008, Hilton Hotels was not included in the study. The investigation of private firms was beyond the scope of this project. Future research should include a comparison of public and privately held organizations.

Nature of the Study

This study utilized a quantitative, non-experimental, fixed, causal comparative design using a secondary data and content analysis methods approach. An unobtrusive measurement strategy was employed. A post-positivist perspective was used to address the research questions, which is appropriate for reductionist and objective studies (Creswell, 2009) such as the one presented here.

The study involved a single group. The population for this study was all publicly held hotels and motels in the U.S. The sampling frame was publicly held hotels and motels listed in the SEC's EDGAR database. The database, described below, provides an automated system for filing required corporate information with the government.

Domestic public companies have been using EDGAR since 1996, and publicly owned foreign companies since 2002.

Data sources included the United States Securities and Exchange Commission EDGAR data. This data source is free to the public, and use of EDGAR as a data source supported academically (Morlino, 2008; Rahman & Post, 2012). Rahman and Post's (2012) ECSR instrument was used to measure data retrieved for the four indicators of ECSR. Data sources for this instrument included individual corporate websites, and publically available industry websites. Additional sources included nonprofit websites such as the Global Reporting Initiative (GRI) and CERES.

Quantitative analyses included descriptive statistics, multiple linear regression, and moderated multiple regression analysis. The results of the statistical analysis were used to reject or fail to reject the hypotheses. The study explored whether a statistically significant association existed between each of the four identified indicators of ECSR, a measure of corporate strategy performance, a measure of corporate accounting performance, and a measure of corporate risk. It also investigated the direction of the association, statistical power, and confidence interval levels associated with the findings. The study also investigated the moderating influence of firm size had on these potential associations.

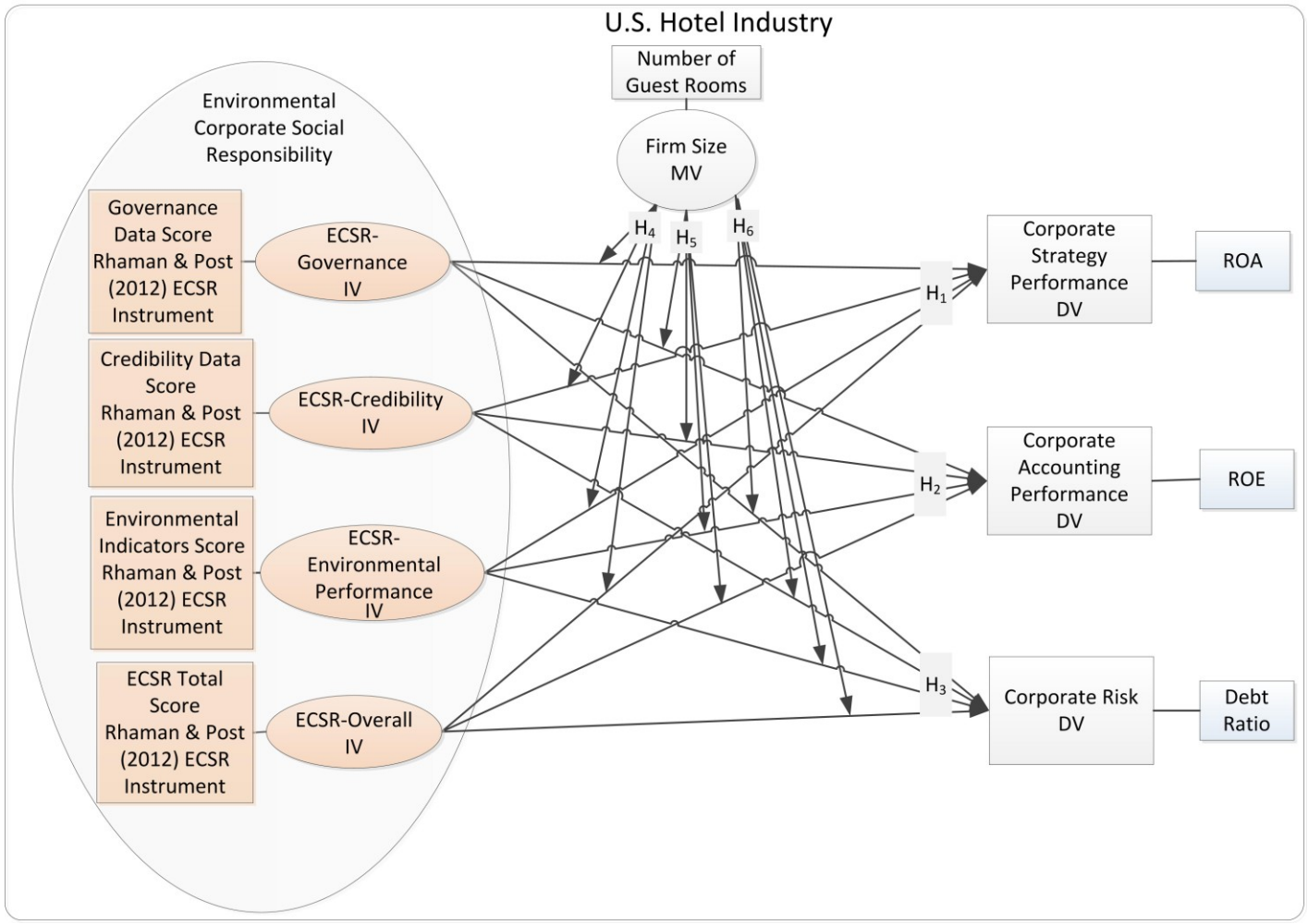

Figure 1. Relationships between four identified indicators of Environmental Corporate Social Responsibility (ECSR), Corporate Strategy Performance, Corporate Accounting Performance, and Corporate Risk moderated by Firm Size in the U.S. Hotel Industry.

The conceptual framework in Figure 1 illustrates that within the context of the U.S. hotel industry, the construct of Environmental Social Responsibility includes four identified indicators. The four identified ECSR indicators used as independent variables (IVs) in this study were ECSR-Governance, ECSR-Credibility, ECSR-Environmental Performance, and ECSR-Overall. The figure illustrates that these independent variables were measured as the governance data score, credibility data score, environmental indicators score, and composite ECSR scores from Rahman and Post's (2012) instrument. Figure 1 illustrates that these independent variables impact measures of corporate strategy performance (DV), corporate accounting performance (DV), and corporate risk (DV).

Corporate performance and corporate risk are multifaceted concepts. This study investigated two separate measures of corporate performance as dependent variables. These measures were corporate strategy performance and corporate accounting performance. This study investigated one measure of corporate risk, debt ratio, as a dependent variable. Figure 1 illustrates that corporate strategy performance was measured as ROA, corporate accounting performance was measured as ROE, and corporate risk was measured as a firm's debt ratio (total assets/total debt). The conceptual framework also shows firm size (MV) has the ability to influence the relationship between each of the four identified indicators of ECSR, and corporate strategy performance. Additionally, Figure 1 shows that firm size (MV) also has the ability to influence the relationship between each of the four identified indicators of

ECSR and corporate accounting performance, and the relationship between each of the four identified indicators of ECSR and a measure of corporate risk.

Organization of the Remainder of the Study

The remainder of the study includes four chapters. Chapter two offers a review of literature establishing the paradigm of research for the relationship between ECSR, firm performance, and firm risk. Chapter three describes and justifies the research design, methodological approach, and research methods. Chapter four presents the research findings from the statistical analysis for each research question and associated hypothesis. The study culminates in Chapter five with a discussion and interpretation of the results, indication of limitations, and suggestions for future research.

CHAPTER 2. LITERATURE REVIEW

The following literature review investigates the research surrounding ECSR, corporate performance, and firm risk from a historical perspective. The review contains eight sections. The first section presents an investigation of the seminal works developing the concept of corporate social responsibility (CSR). Second, the review looks into the multidimensionality of CSR and how the environmental aspect became a separate stream of research. In a third section, the review presents an investigation of ECSR theories. Fourth, the review then inspects the research into measurement instruments, and empirical applications of ECSR. Following this is a fifth section examining the development and application of resource-based theory. Sections six and seven investigate strategic CSR and its connection to strategic ECSR. Finally, a section is presented analyzing the hotel industry and research on the topic in this industry.

Development of a Concept

Corporate social responsibility (CSR) was proposed by Knight (1922) who indicated that corporations must be responsible for the wants their products generate, and they "must operate in accordance with a *social* standard" (p. 580). The social standards must establish benchmarks for addressing the needs of others, and be measured against a system of values (Knight, 1922). Dodd (1932) expanded on this identifying the others in Knight's discussion as stakeholders who include stockholders, employees, consumers,

and society in general. In Dodd's view, social responsibility derives from a company's influential power for the well-being of its stakeholders. It is the attentiveness paid to their needs. It is necessary for management to reach beyond legal compliance in order to act on social responsibilities without violating corporate duties to stockholders (Dodd, 1932). These seminal works provided the seeds for a paradigm of research that is still evolving.

From the 1930s until the 1950s, there was little academic contribution in the field. In the 1950s, two significant works appeared by Bowen (1953) and Barnard (1958). Bowen's (1953) work marked a turning point in CSR literature (Carroll, 1999). Bowen (1953) felt CSR was a worthwhile guide for businesses, and he followed Knight's position that corporations must work within acceptable societal standards. Bowen's (1953) purpose was to define CSR and to specify the responsibilities for businesses. The environment is discussed as conservation in relation to three areas including a rationalization for government controls, the responsibilities of natural resource extraction industries, and in terms of sustainability for future generations (Bowen, 1953). In a second crucial contribution, Barnard (1958) provided an early view of corporate citizenship in his indication that the moral actions of business depend on the morality of the individuals in the corporation. He additionally pointed out that corporations have responsibilities to internal and external stakeholders that extend beyond the law. Barnard (1958) also outlined responsibilities including reduction of economic waste. Here the indications were that corporate economic responsibilities reach beyond efficiency, targeting useless waste of resources such as electricity. Corporate responsibilities also

included maintaining quality production and performance standards, and the need to go beyond legal requirements and sanctions. Conflicts in these responsibilities cause moral dilemmas. Corporations resolve these issues by redefining corporate responsibilities, reconciling the differences of those in conflict, or creating a different solution (Barnard, 1958). These two major works establish the validity of CSR in business through definition and the formation of a framework.

In the 1960s, authors continued to work toward defining the concept and scope of CSR. Empirical work in CSR was slow, evidenced by Davis' (1960) indication of Bowen (1953) as source of current work in the field. Davis (1960) suggested a direct relationship between CSR activities and corporate social power. As the level of CSR activities increases or decreases, so does corporate social power (Davis, 1960). Davis concentrated on CSR issues related to human stakeholders, and the axiomatic perspectives businessmen use in decision making. This article illustrated an ongoing singular focus in the field.

A decade later, a strong alternate perspective surfaced, indicating CSR as a corporate antagonist. Friedman (1970) vocalized the primary opposition. Rejecting the concept of an individual's ethical role in business decision making, he indicated that the main goal of a corporation is to increase its wealth. It is the executive's duty to attain that goal regardless of their personal interests. CSR was simply political pressure from stockholders to comply with social agendas. Individuals act as agents for businesses, and that their business decisions are not, and should not be reflections of their personal morals. Additionally, CSR is simply political pressure from stockholders on a company

to comply with social agendas, and a means to destroy capitalism (Friedman, 1970). However extreme Friedman's view, it is a view which does not consider the impact of organizational decisions holistically, or the impact of reputation on corporate profits. While extreme, the perspective has merit, and corporations need to keep the goal of profits in mind, but they must also keep society in mind.

Johnson (1971) disagreed with Friedman's stance on CSR indicating that firms were part of a larger socioeconomic system, and that their responsibilities were temporal. Johnson's (1971) contemporary proposals suggested an initial framework for strategic application of CSR by applying it to profit maximization, performance, and goal prioritization. Johnson's theories represent an early application of strategic management to CSR. His theories also coordinated the concerns for profits with societal concerns. Johnson will be highlighted again in the third section of this review where ECSR theories are investigated. Stakeholder pressure however, continued to be a concern in CSR literature.

Friedman's argument opened the door to further development of the CSR concept and to investigations into the relationship between CSR and profits. Cochran and Wood (1984) found that research results were divergent during the 1960s – 1970s. Similarly, Richardson, Welker, and Hutchinson (1999) indicated that research on the topic during the 1970s – 1990s provided inconclusive results. According to Taneja et al. (2011), inconsistent research findings on the relationship continued into the 2000's. Orlitzky, Schmidt, and Rynes (2003) meta-analysis of research ranging from the 1970s – 2002 on the topic indicated an overall positive relationship, but indicated that "areas in which the

unexplained variance across studies remains relatively large" (p. 425). These authors proposed a solution existed in the further development of a consensual definition (Taneja et al., 2011), measurement (Cochran & Wood, 1984; Orlitzky et al., 2003), and of formal CSR theory (Richardson et al., 1999; Taneja et al., 2011). These proposals highlight the emerging nature of CSR in research and support the relevance of the current study. As the definition of CSR has developed, academics pointed out its multidimensional quality.

A Multifaceted Focus

From the conceptual foundation established by seminal authors, academic investigations have yet to determine a normative paradigm for CSR. Definitions, theory, and research remain unresolved. Although there has been over 60 years of investigation into CSR, academics continue to indicate a lack of consensus on a CSR definition (Carroll, 1999; McWilliams et al., 2006; Taneja et al., 2011). Taneja et al. (2011) pointed out "the biggest lacuna of CSR research is the absence of a single, agreed definition of the term CSR" (p. 357).

Theoretical investigations into CSR have also been diverse. McWilliams and Siegel (2001) indicated that CSR is investigated through thousands of theoretical perspectives. Beginning in the 1980s fundamental theories began to emerge that would change the field of CSR. Stakeholder theory is one key theory that contributes to the currently proposed study by establishing a foundation for the concept of ECSR. Three additional theories contributing to currently proposed study include: resource-based theory, strategic management theory, and McWilliams and Siegel's (2001) theory of the firm approach for CSR.

CSR research tends to focus on issues relevant to the particular time period (Carroll, 1999; Johnson, 1971; Lockett, Moon, & Visser, 2006; Matten & Moon, 2008; Richardson et al., 1999), institution (Matten & Moon, 2008), industry (Griffin & Mahon, 1997; Richardson et al., 1999), and country (Johnson, 1971; Matten & Moon, 2008). According to Johnson (1971), a 1966 Harris poll indicated public desire for business to engage in CSR. The poll indicated 83-92% felt that business should address social concerns such as poverty, discrimination, education, and depression. A significant 90% of respondents indicated business needed to take the lead in pollution control (Johnson, 1971). While the public was concerned with both social and environmental issues, a shift in subject priority was not seen in the literature until the 1990s.

In 2001, McWilliams and Siegel indicated that CSR research had been dominated by the stakeholder perspective. More recently, Lockett et al. (2006) analyzed a decade of academic literature (1992-2002), and found 36% of the studies had an environmental focus, followed by 31% with an ethical focus, 18% focusing on stakeholders, and 15% on social issues.

Stakeholder Perspective

In the higher conceptual branch of CSR research, four main categories of subjects began to come into focus. These include stakeholders, social issues, ethics, and the environment (Lockett et al., 2006). Freeman (1984) formalized stakeholder theory as a theory of strategic management. The stakeholder approach includes an analysis that identified groups, associated processes, and related strategic goals. In this approach, companies develop strategies to satisfy stakeholder needs voluntarily. However,

Freeman (1984) felt CSR was a nontraditional application of his theory, and it represented pressure from adversarial groups. Therefore, Freeman initially agreed with Friedman (1970). This initial stakeholder perspective was important to the current study in establishing ECSR as a unique theoretical stream.

The ethical considerations of CSR began to separate into a distinct category in the 1990s. In one significant study, Donaldson and Preston (1995) indicated that stakeholder theory is nested, containing three levels, with a central normative core. This normative core of stakeholder theory established the moral responsibility of management toward stakeholder's interests (Donaldson & Preston, 1995). Freeman (1994) not only accepted this, but also proposed there are multiple stakeholder theories, each revolving around differing normative cores. The foundation of one of these theories is ecological principles (Freeman, 1994), which supported the development of the construct environmental social responsibility.

Perez-Batres, Doh, Miller, and Pisani (2012) illustrated an application of Donaldson and Preston's normative core concept in their description of CSR as firm actions surrounded by the industry and global level initiative of sustainable development. The study separated self-regulatory codes (SRCs) into two groups. The substantive group, characterized by the Global Reporting Initiative (GRI), focuses on measurable firm actions. The symbolic group, characterized by the United Nation Global Compact (UNGC), focuses on non-measurable agreements. Using longitudinal regression analysis with secondary data from KLD, the GRI, and the UNGC, the study investigated associations between stakeholder pressure, the strategic use of SRCs, pollution intensity

of the industry, and the level of slack resources (measured as cash flow). In a study of 1,145 public companies for the years 2001-2005, there was no statistical support connecting stakeholder pressure and a firm's choice of SRC type. However, the study found significant statistical support ($p < .0001$) for associations between stakeholder scrutiny, pollution intensity ranking, slack resources, and a company's use of substantive SRCs (Perez-Batres et al., 2012). The study showed an ongoing investigation of stakeholder theory within the newer framework of strategic CSR. It also highlighted the importance of practical applications of CSR measurement particularly in pollution intensive industries. The study also contributed to the development of the hypotheses that there is a relationship in industries with higher environmental impact between higher levels of corporate performance measures, lower levels of corporate risk, and higher ECSR scores.

An Environmental Focus Leads to ECSR Development

While the mainstream focus in the field of CSR was on stakeholders, an eddy was forming that would become the stream of ECSR research. ECSR demonstrates itself as an academic paradigm by focusing on concept, theoretical development, definition, instrument development, and empirical application. The concept of environmental corporate social responsibility developed from a combination environmentalism and corporate social responsibility (Hoffman, 1991). The concept as it was applied in the current study is known by many terms.

A variety of interchangeable terms. Academics searching for clarity apply numerous terms to a concept. Environmental corporate social responsibility as it was

applied in this study is also known by a variety of terms. These include corporate environmental responsibility (Bisschop, 2010); corporate social performance (Orlitzky & Benjamin, 2001); environmental performance (Ambec & Lanoie, 2008; Dixon-Fowler, Slater, Johnson, Ellstrand, & Romi, 2013; Molina-Azorín, Claver-Cortés, López-Gamero, & Tan, 2009); environmental responsibility (Orlitzky et al. 2011); environmental social responsibility (Siegel, 2009); environmental sustainability (Orlitzky et al., 2011); and green management (Molina-Azorín et al., 2009; Siegel, 2009).

Early ECSR concept development. Hoffman (1991) represented an early contribution to the development of the ECSR construct. Environmental disasters such as the Exxon Valdez oil spill, Love Canal, and Chernobyl were examples used to show the importance of ECSR. He argued that business should engage in environmentally responsible actions, extending the current trend of promoting environmental education and responsible behavior. However, he also pointed out that for business ECSR activities had a narrower focus than stakeholder focused CSR activities. He felt that ECSR actions were limited to those regulated by government. Industry and government should join together to develop ECSR regulations. In addition, the conditions for ethical environmental business activities included going beyond corporate self-interests. Business should become the leaders of ECSR efforts (Hoffman, 1991). Hoffman's ideas formed a base for the normative core of ecological principles guiding the morality of management.

Recent authors have supported the development of ECSR as a unique line of research. According to van Wijk, Stam, Elfring, Zietsma, and den Hond (2013) there are

three paths that lead to developing a new field including conflict, opportunity, and collaboration. These propositions were investigated using a mixed method case study of the Dutch sustainable tourism field. A combination of content analysis, participant-observation, and 34 interviews provided data for qualitative analysis and development of a network database for the study. Social network analysis was used to examine three levels in the network database. The authors observed that two lines of discourse "focused on the environmental impacts of tourism" (p. 361), and "the sociocultural and economic impacts of mass tourism" (p. 361), sparked the interest in change. Combined with this were social movements toward sustainable tourism and the development of formal associations with written policies and codes of conduct. Additionally, a growing number of conferences, literature, and certifications fostered the interest (van Wijk et al., 2013). This article illustrated the chronological development of an environmentalist movement. The movement was formed by advancing from development of ethical codes and policies to communication and publication of ECSRs within the industry, to the formation of associations. The article illustrated the progression of development of ECSR as a separate line of research. This article also supported the formation of a unique paradigm of ECSR research separating from within the CSR domain.

Early ECSR theory. DesJardins presented the first ECSR theory in the late 1990s. According to DesJardins (1998) the economic activity needed to meet growing global population demands created an unsustainable equation when combined with poverty and natural resource limits. This equation leads to environmental ruin known as the "Lorax Principle" (p. 831). There are two current perspectives of CSR. In the classic

view, there are no corporate environmental responsibilities. Consumers determine environmental goals, which are achieved by operating within the law in the economic markets. The classic perception is countered by environmental devastation, profit maximization at the expense of the environment, and environmentally devastating consumer demands. In the second economically based neoclassic view, CSR activities are measured by economic efficiency. This model indicates that companies attain a minimum moral level. However, the environment is not included in this minimum (DesJardins, 1998). In response to this, he presented an economically based ECSR model targeting sustainable development.

DesJardins (1998) model of environmental corporate responsibility indicated that profit maximization is acceptable under the condition of maintaining ecological equilibrium. The theory involved three normative principles of environmental sustainability. These included using resources at rates that allow replenishment, allow substitution or replacement, and allow for absorptive waste capacity (DesJardins, 1998). This theory is important in both the development of ECSR and of strategic ECSR. It provides for the combination of two fundamental elements of business, profits, and ethics.

Theoretical Development of Strategic CSR and Strategic ECSR

Johnson (1971) presented three approaches that formed the seeds of strategic CSR. The first perspective focused on maximizing corporate profits through CSR efforts, the second saw CSR achieved by maximizing organizational performance, and the third

ranked CSR activities as a high corporate priority as a strategic measure. These concepts of strategic applications of CSR and ECSR were not addressed again until 1999.

In an article appearing prior to the formal definition of strategic CSR, Reinhardt (1999) recognized the environment as a corporate social responsibility and an application for corporate strategy. He suggested that business incorporate management of environmental issues into corporate strategy. The article presented five ECSR strategies for business including: a) product differentiation; b) reducing competition through business alliances, or by increasing government regulation; c) reducing costs through environmental conservation; d) managing risk, e) redefine corporate systems from an environmental management perspective that impact the industry (Reinhardt, 1999). This indicates the development of strategic ECSR as a precursor to strategic CSR.

An initial discussion of strategic ECSR came in 2000. Jamison (2000) discussed environmental strategies, ecological modernization, and sustainable development as interchangeable terms. In these strategies, private sector firms are seen as responsible for sustainable development. Jamison also theorized a new form of politics in which environmentalism from a social perspective is separate from corporate environmentalism. Each perspective has formed its own paradigm. According to Jamison (2000), the social perspective, called critical ecology, aligns with the fields of sociology and anthropology. This reactive perspective focuses on justice, politics, government control, individuals as citizens, and establishing a link between academia and the public as civic entities. Corporate environmentalism, called green business, focuses on an economic, rational perspective of the environment. Corporate environmentalism embraces science and

technology, and a link is made between academia and industries. There are two different perspectives of strategic environmentalism. One is that strategic environmentalism is a method of quelling and avoiding the rise in external environmentally focused stakeholder pressures. The second is that rising levels of strategic corporate environmental activities are the result of combining environmental innovation and policies into new integrated systems. These systems serve to connect business, academia, and the government (Jamison, 2000). This article is important for providing a historic background for the concept and for describing two main views in the field.

ECSR Definitions

Clear definitions of ECSR began appearing in the 2000s, after initial theoretical development had begun. Mazurkiewicz and Grenna (2003) provided a seminal definition of ECSR stating:

> Nowadays many citizens, environmental organizations and leadership companies define corporate environmental responsibility as the duty to cover the environmental implications of the company's operations, products and facilities; eliminate waste and emissions; maximize the efficiency and productivity of its resources; and minimize practices that might adversely affect the enjoyment of the country's resources by future generations (p. 10).

Lyon and Maxwell (2008) agreed with this definition, and added that the actions were voluntary and extended beyond legal requirements. Baughn, Bodie, and McIntosh (2007) defined ECSR as a multidimensional construct including four measurements from Executive Opinion Survey. These measured ECSR planning, priority, institutionalization, and reporting. Therefore, definitions of ECSR include voluntary and required corporate actions within multiple areas. Formal definitions of ECSR also helped

establish the concept and allow for consistency in measurement, further cementing ECSR as a paradigm.

Development of Measurement Instruments

Consistency and transparency in measurement are concerns in the development of a paradigm. Several authors have addressed these concerns by developing ECSR related instruments. J. Emil Morhardt has made significant contributions to advancing measurement of ECSR. Morhardt (2001) examined the correlation between three numerical ECSR scoring systems and the ECSR reporting of 28 companies. The scoring systems included Davis-Walling and Batterman, UNEP/SustainAbility system, and a third by Deloitte Touche Tohmatsu. The study found that the systems differed in prioritizing and weighing social and environmental issues. It also found no significant correlation between high systems scores and ECSR performance reporting. Morhardt, Baird, and Freeman (2002) continued investigating ECSR scoring. This research compared the 10 largest companies in four industries with the Global Reporting Initiatives (GRI) 2000 reporting guidelines, and ISO 14031 standards. The article pointed out that because ECSR reporting can be scored numerically, it can be statistically analyzed (Morhardt et al., 2002). The authors additionally advocated using multiple data sources for validating investigations of ECSR performance.

Morhardt's work with the Roberts Environmental Center in California included developing the Pacific Sustainability Index (PSI). In Morhardt (2010), he presented a review of ECSR reporting in academic literature back to 1982. He pointed out that

information for many of the company's investigated was not readily available on the internet. Nevertheless, due to its financial desirability, companies were increasingly using it for reporting. The PSI uses internet related ECSR information to calculate its scores. Morhardt applied the Pacific Sustainability Index (PSI) to top companies (revenues greater than $9 billion) in 25 industries, but did not include the hotel industry. Firm size was found to be a moderator, with large firms engaging more in ECSR (Morhardt, 2010).

Four additional methods for measuring ECSR have recently developed including Clarkson, Li, Richardson, and Vasvar (2008); Jose and Lee (2007); Walls, Phan, and Berrone (2011); and Rahman and Post (2012). All of the methods use content analysis of internet based data. Clarkson et al. (2008) developed an index based on the GRI reporting standards and tested it using 191 companies in five industries, not including the hotel industry. Their article provides an excellent description of the instrument, and analysis of the study, but does not include validity and reliability testing of the instrument. Jose and Lee (2007) performed an extensive content analysis of the top 200 multinational firms in the *Fortune* 500 for 2002. They developed categories for environmental leadership, environmental control, external certifications, and ECSR communications. Walls et al.'s (2011) instrument is specifically related to environmental strategy as proposed in natural resource-based theory. The instrument uses content analysis and scores from summed scales. The instrument was developed using 184 companies from the S&P 500 for the year 2003. The article also provides validity and reliability testing instrument. However, the article did not include the instrument.

Offering the development of a fifth instrument, Rahman and Post (2012) described the instrument and data collection process in detail, providing transparency and testing that made it applicable to the current study. Their instrument included three dimensions of ECSR including governance, credibility, and performance. It is reviewed in detail in Chapter 3.

ECSR indicators

Four ECSR indicators were identified for the current research. These indicators include ECSR-Governance, ECSR-Credibility, ECSR-Performance, and ECSR-Overall. A review of literature related to each of the indicators is presented below.

Governance. Corporate executives taking responsibility natural disasters such as British Petroleum's 2010 oil spill in the Gulf of Mexico, and Enterprise Products Partners 2013 natural gas explosions raise questions concerning corporate governance and ECSR. While hotels may not figure prominently in natural disasters, Han et al. (2011) pointed out that their environmental impact is substantive. Because of this, ECSR governance is important to the hotel industry. Christmann (2004) stated, "Self-regulation refers to a firm's adoption of environmental policies or performance standards that exceed the requirements of government regulations" (p. 747). According to Walls, Berrone, and Phan (2012) corporate governance is currently a prominent research topic. This prominence is illustrated in the following review of related literature

J. L. Campbell (2007) developed eight propositions surrounding the threshold at which firms act either responsibly or irresponsibly. He indicated higher levels of governance, involvement with stakeholders and associations, along with better economic

conditions lead to higher levels of responsible behavior. On the other hand, lower levels of governance, lower levels of involvement with stakeholders and business associations, poor profitability, and poor economic environment are conditions that will lead some firms to pursue profits through irresponsible CSR behavior (J. L. Campbell, 2007). This paper is important for linking interaction with stakeholders to levels of governance. This work indicates that higher levels of governance in the current study should be associated with higher levels of credibility due to greater stakeholder interaction through reporting.

Additionally, Post, Rahman, and Rubow (2011) postulated that board structure influences the level of corporate ECSR. They formulated five hypotheses to test levels of internal to external director ratios, gender diversity ratios, education location, and education level and their relationships to ECSR. Their study used the ECSR measurements from the current study as dependent variables along with KLD STATs scores. Using a sample of 49 electronics firms and 40 chemical firms, they found that those with outside directors disclosed individual indicators of ECSR more significantly ($p < .05$ to $p < .001$). Between the industries, chemical firms showed significantly higher ECSR-Governance scores ($b = 0.40, p \leq .01$). The importance to the current study is illustrating variance in ECSR results in individual industries. This indicates that the results in the current study should show also vary. A second important item in Post et al.'s (2011) study is that board structure influences ECSR. However, an investigation of board structure in the U.S. hotel industry is beyond the scope of the current study.

Irresponsible CSR was investigated in a recent research study. Surroca, Tribó, and Zahra (2013) studied the transfer of irresponsible CSR activities in 269 subsidiaries

of public multinational enterprises (MNE) for the years 2003-2007. Three hypotheses used panel data techniques to investigate the potential that stakeholder pressure and government regulation increases lead to the transfer of irresponsible behavior to other locales. The study measured irresponsible CSR practices using a value calculated from Sustainalytics Global Platform data. The panel data technique included using a moderated multiple regression analysis to test the hypotheses. The data supported an increase in transfer of irresponsible behaviors to subsidiaries, but did not support a reduction in stakeholder pressure under weaker government controls. A secondary study using newspaper data from 2003-2010 for 110 of the MNEs from the first analysis found over 38% of the firms had stakeholder related events during that time period. Future research was called for involving a wider range of corporate sizes (Surroca et al., 2013).

The measurement of the variable ECSR-governance in the current study corresponds with similar variables in other ECSR instruments. Environmental scoring systems such as UNEP-Sustainability index, GRI 2000, and ISO 14031 contain topics regarding organizational profile, management, and policies (Morhardt et al., 2002). Jose and Lee's (2007) environmental leadership variable and Clarkson et al.'s (2008) governance structure and management systems variable investigated activities, communication, and collaboration with NGOs. These are similar in nature to the criteria for the ECSR-Governance variable, with some instruments (Clarkson et al., 2008) exhibiting a one-to-one correspondence. The similarity of measurements for this variable across instruments provided support for using Rahman and Post's (2012) instrument in the current study.

The importance of the governance to corporate ECSR performance has recently been empirically tested. Walls et al. (2012) investigated the relationship of three levels of corporate governance (ownership, board, and management) to two dimensions of environmental performance (concern and strategy) in their study of 313 cross industry firms. The sample was from the S&P 500 for the years 1997-2005. The study controlled for firm performance measured as a company's ROA, and leverage measured as its debt ratio. Firm size was also included as a control variable, but in contrast to the current study, was measured as the log of total assets. The study employed correlation and regression analysis techniques to analyze the 2,002 observations. The results indicated a significant relationship ($p < .01$) between environmental committees and environmental strategy. Governance variable indicators also resulted in significant positive ($p < .01$) relationships between environmental committees and environmental concerns. Additionally, significant positive ($p < .05$) relationships resulted between individual board indicators, CEO salary, and environmental concerns (Walls et al., 2012). This study was important in establishing validity for ECSR-governance as an important independent variable in the current study. It also contributed to formulating hypotheses in the current study using ROA as a measure of corporate performance, debt ratio as a measure of corporate risk, and firm size as a moderator.

Credibility. Credibility is developed through reporting and corporate transparency. The 11 items comprising the ECSR-Credibility score in the current research investigate evidence of a firm's ECSR reporting, environmental audits, and involvement in ECSR related associations. The ECSR-Credibility score is concerned

with reporting and transparency. Orlitzky and Whelan (2007) looked at transparency and accountability in ECSR. Their article investigated social and environmental accounting (SEA). SEA was defined as measurable and verifiable nonfinancial corporate reporting. Signaling theory was used to explain how companies gain competitive advantage through SEA. Stakeholder theory and economic theories were used to develop an instrumental theory where companies seek to optimize the cost and benefits of SEA (Orlitzky & Whelan, 2007). This supports the validity of ECSR-Credibility as a measurable variable, and the application of it to gain competitive advantage for U.S. public hotels and motels.

Holcomb, Upchurch, and Okumus (2007) offered an investigation of CSR reporting transparency specific to the hotel industry. Their investigation of the top 10 hotels was limited to 2005. Of the over 80% of firms reporting charitable donations, 60% had CSR programs directed toward stakeholders, and 40% involved CSR in their corporate missions (Holcomb et al., 2007). This research is important in highlighting the importance of measurement both from a management and a research perspective. It also supported ECSR-Credibility as a variable in the current research, measuring evidence of a firm's ECSR reporting.

The variable ECSR-Credibility in the current study also aligns with other current instruments. Morhardt et al.'s (2002) research of five environmental indices included topics such as communications, third party statements, reporting, and operational performance indicators. Jose and Lee (2007) included variable categories concerning environmental audits, certifications, and related communications. In addition to these categories, Clarkson et al.'s (2008) environmental credibility variable included indicators

concerning collaboration on industry environmental initiatives. The elements of ECSR-Credibility from Rahman and Post's (2012) instrument touch on each of these topics, illustrating convergent validity.

Performance indicators. ECSR performance indicators measure a company's disclosure of actual resource usage as well as pollution discharge and emissions. The criteria for this variable target a firm's reporting of specific usage or reduction levels. The variable is supported in existing environmental indices, as well as other recently developed ECSR instruments. Morhardt et al. (2002) described the following categories that appear in environmental indices: environmental impact data; inputs and outputs, environmental performance metrics; individual operational performance indicators such as energy, wastes, and emissions; and environmental condition indicators such as air, water, and land. Jose and Lee (2007) investigated environmental control as a variable. Their cross industry study of the Global 200 companies used content analysis, resulting in the following categories for this variable: compliance data, historical trends, process toward goal achievements, and explanation of variances and corrective actions (Jose & Lee, 2007, p. 316). Clarkson et al. (2008) used the EPA's toxic release inventory to develop the environmental performance indicator variable on their instrument. The categories on these three instruments correspond closely with the ones used in the current study, again illustrating convergent validity. However, Clarkson et al. (2008) included additional categories such as air emissions other than greenhouse gas, land and other resource use; impact of corporate resources on environment; and compliance. Their instrument also used a scale of 0-6 for rating these elements.

ECSR Overall indicator. The ECSR-Overall score is a totaled score of the three individual indicators. Post et al. (2011) tested the total ECSR score indicator from an early model of the current ECSR instrument for convergent and discriminant validity against similar KLD stats indicators. The study included 89 firms in the chemical and electronics industries. ECSR-Overall was used as a dependent variable along with the other three ECSR-indicators. The study found "ECSR is strongly correlated with KLD strength ($r = .72$, $p < .01$), but not significantly correlated with KLD strengths-concerns ($r = .21$, *ns*) (p. 200). The study also showed independent board variables showed significance with one or more of the individual ECSR-indicators. Large board size was related to ECSR-Governance, and ECSR-Overall (Post et al., 2011).

Instrument Summary

Development of measurement instruments for CSR and ECSR followed closely on the heels of formal definitions and early theoretical development. A review of related academic literature revealed five instruments. All of these instruments offer researchers and management alternatives to commercial indices such as Dow Jones Sustainability Index, the KLD Domini 400, and the FTSE4Good, which, according to Marcus (2010), include these concepts.

In a study developing the ECSR instrument, Rahman and Post (2012) tested the ECSR overall score using 112 firms in the electronics, chemical, and petroleum industries. Their investigation tested each of the ECSR indicators for discriminant with the Fortune reputation score, and convergent validity with the KLD strengths and

concerns scores. Results provided support for discriminant and convergent validity, and for the multidimensionality of the instrument.

Additional Applications of ECSR

Compliance vs. Voluntary Actions

The following section presents current research in ECSR. He and Chen (2009) presented an application of ECSR in China. The study surveyed 242 Chinese and multinational corporations investigating the differentiating characteristics in Chinese business of ECSR priority, stakeholders, and motivations. Four theoretical areas including instrumental, political, integrative, and ethical were postulated to be motivational sources. Freeman's (1984) stakeholder theory was used to support ECSR. The study found that limited financial and human resources hamper ECSR priorities. It also found the environment to be one of the top five stakeholders identified by Chinese businesses. Government regulation was found to be the strongest motivation for ECSR activities for the businesses (He & Chen, 2009). This indicates that although the environment is important to Chinese businessmen, responsibility toward it is more regulatory than voluntary.

An additional application includes Bisschop's (2010) study, which investigated ECSR from a criminology standpoint. In a qualitative study design, respondents were interviewed from the European Union government, corporate, and environmental NGO association categories. The study found that respondents felt environmental crimes have been committed if corporations were compelled into ECSR. Respondents also felt that

corporations are motivated to engage in ECSR primarily by economic decisions, and secondarily for ethical reasons. A third finding was that corporations should be involved in a combination of regulatory and voluntary ECSR activities. The authors emphasized that corporate motivation to cause environmental harm is what raises the question of environmental crime (Bisschop, 2010).

Further Progress in Strategic Theory

In the past twelve years, academics (Ambec & Lanoie, 2008; Baron, 2001; Kang et al., 2010; Orlitzky & Benjamin, 2001; Orlitzky et al., 2011; Siegel, 2009) have begun pointing to the strategic use of ECSR. Siegel (2009) indicated the potential for ECSR strategies to be part of the goal of maximizing profits, particularly in public firms (p. 5). Corporations apply strategic ECSR to reduce costs and diversify in order to maximize profitability associated with ECSR initiatives. In other words, strategic ECSR gains corporations competitive advantage. Some authors (McWilliams et al., 2006; Siegel, 2009) have characterized the hotel industry as a monopolistic competition, and postulate that due market structure, there will be equilibrium between CSR and non-CSR participants. McWilliams and Siegel (2001) stated that due to equilibrium, CSR will have no relationship to other corporate elements. They felt that this explained the inconsistent results in research into the relationship. They stated "that there will generally be a neutral relationship between CSR activity and firm financial performance" (McWilliams & Siegel, 2001, p. 125). Additionally, Orlitzky and Whelan (2007) indicated that corporations would seek optimization between accountability for ECSR

efforts and profits. Therefore, the currently proposed study should find no difference in firm performance as levels of ECSR increase. The following two sections describe the development of resource-based theory, strategic CSR, and strategic ECSR.

Resource-Based Theory Development and Application

Two fundamental theories supporting the currently proposed study were developed during the 1980s. One proposition of resource-based theory (Wernerfelt, 1984) indicates a firm has identifiable valuable resources that can be used strategically to increase profits. This proposition provides the foundation for hypothesizing a relationship between ECSR scores and profitability. In natural-resource-based theory (Hart, 1995), the three components of pollution prevention, product stewardship, and sustainable development combine to provide firms with a foundation of unique competitive advantage. In this theory, pollution prevention will be more prevalent in larger firms. The interconnected dependent engagement of these elements was theorized to become the foundation of future corporate strategies (Hart, 1995). These two theories support a proposed relationship between ECSR and corporate strategy measured by ROA.

The development of resource-based theory and natural resource-based theory led to a seminal study applying them to environmental corporate social responsibility. Russo and Fouts (1997) indicated empirical research into environment responsibility and financial performance during the 1970s and 1980s had inconclusive results. In a cross-industry study of 477 firms, with a final sample size of 243, they applied resource-based based theory to the hypothesis that there is a direct positive relationship between

environmental performance and profitability. They also hypothesized that industry growth moderated this relationship. Environmental performance was operationalized using the Franklin Research and Development Corporation Ratings for the years 1991-1992. A company's profitability was operationalized as ROA from COMPUSTAT financial information. Seven control variables including firm size were also used. Using a moderated multiple regression analysis similar to the one used in the current study, Russo and Fouts (1997) found a significant positive relationship 1.48 ($p < .004$) between environmental performance and profitability. Another finding was industry growth's significant .58 ($p < .01$) moderating effect on this relationship (Russo & Fouts, 1997). Their study provided crucial background support for the current study. One point was using resource-based theory to hypothetically link ECSR to firm profits, and a second the use of ROA as a measurement of corporate profitability. A third element of support was found in the use of moderated multiple regression.

More recently, Newbert (2008) indicated the need for more empirical testing of resource-based theory. In a survey study of 117 technology related firms, Newbert (2008) hypothesized relationships between the value and rareness of combinations of resources, firm performance, and competitive advantage. Hierarchical regression analysis was used to test the mediating effect of competitive advantage in these proposed relationships. Resource combinations were operationalized by multiplying resource capability scores with resource value scores. Competitive advantage was operationalized by combining score values from three multi-level competitive advantage questions. The summative score from a subjective market performance scale measured firm

performance. Firm size was a control variable, and was operationalized as the log of number of employees. Results determined that while the value and rareness of combinations of resources had significant ($p < .01 - p < .001$) influence on competitive advantage indicators, firm size did not (Newbert, 2008). The results also indicated that competitive advantage did not affect the relationship between value and firm performance. In contrast, it significantly ($p < .01$) affected the relationship between resource rareness and firm performance (Newbert. 2008). Therefore, the more valuable ECSR is to a corporation, the more likely it will be to apply it strategically in an effort to improve corporate performance and reduce risk.

One assumption of resource-based theory is that firm size is an influence in the relationship between ECSR measured as corporate performance and financial performance. Dixon-Fowler et al. (2013) contended that firm size influences corporate environmental performance (CEP) in its relationship with corporate financial performance (CFP). CFP measured as a company's ROE was defined as an indicator of long-term performance. Their meta-analysis of 71 samples (n = 22,869), found CEP influenced more by small firms (Dixon-Fowler et al., 2013). However, Hart (1995) indicated that pollution prevention would be evidenced more in larger firms. The inconclusive results of these two studies support the significance of investigating firm size as a moderator in the currently proposed study.

Recently, Schmidt and Keil's (2013) investigation of resource value has furthered the theoretical investigation of resource-based theory. The study developed five propositions surrounding the identification of market position, resource base, network

position, and managerial knowledge as ex ante factors contributing to resource value. Here, competitive advantage gained through valuable resources leads to performance bolstered by market position (Schmidt & Keil, 2013). Applying these positions to Porter's (1990) proposal that home base competitive advantage leads to greater performance indicates that higher ECSR scores are indicative of higher resource value, which should lead to greater competitive advantage and performance in the U.S., and therefore a greater competitive advantage in the global market.

Strategic CSR

Formal definition and theoretical development of strategic CSR appeared in 2001. Baron (2001) defined strategic CSR as "a profit-maximizing strategy that some may view as socially responsible" (p. 17). This theory was similar to Johnson's argument, indicating that although a group of companies may achieve high corporate social performance (CSP) ratings, there may be very different sources of organizational motivation behind the actions. According to Baron (2001), motivations include profit maximization, altruism, and corporate image. McWilliams and Siegel (2001) added a model of strategic CSR based on the theory of the firm. In this theory, the purpose of CSR is profit maximization and the attributes of CSR are used to strategically differentiate company resources. CSR decision making is not prioritized over other corporate goals. A cost benefit analysis determines the level of investment in CSR. McWilliams and Siegel's (2001) CSR theory of the firm perspective provides the context for the hotel industry by defining experience goods as "products that must be consumed

before their true value can be known" (p. 120), and hypothesizing their association with higher levels of CSR. However, their main conclusion is that industry will find CSR equilibrium, a fact that they felt explained the inconsistent results in research. They stated "that there will generally be a neutral relationship between CSR activity and firm financial performance" (McWilliams & Siegel, 2001, p. 125).

Strategic CSR provides a strategic management base for this study. Extensions and applications of this theory (Ambec & Lanoie, 2008; Kang et al., 2010; Orlitzky et al., 2011; Siegel & Vitaliano, 2007; Siegel, 2009) allow for ECSR to be applied strategically as a means of improving competitive advantage. Orlitzky & Benjamin (2001) provided a significant conceptual link between the concepts of CSR, ECSR, firm risk and corporate strategy. Additionally, according to Ambec and Lanoie (2008) strategic CSR indicates that reducing corporate risk improves competitive advantage.

Ambec and Lanoie (2008) described ECSR along Friedman's (1970) terms as pressure by internal and external stakeholders to "reduce their negative impact on the environment" (p. 46). The authors extended strategic CSR by outlining seven environmental corporate strategies for improving competitive advantage. The seven strategies include two interactive sets, one targeting increased revenues, and one cost reduction. Set one includes three strategies for increasing revenue: a) expand both supply and demand markets through focus on environment; b) apply ECSR attributes to products and services for differentiation; and c) offer ECSR technology products. The second set includes four strategies for cost reduction including: a) risk management and stakeholder relations; b) reduce resource pollution and consumption levels; c) reduce capital costs

through increased ECSR investment in stocks, easier access to financing, and improved stock market performance; d) reduce labor costs by improving working conditions. There were calls for additional research into the relationship between ECSR and profitability, and between ECSR and economic performance (Ambec & Lanoie, 2008). Variables in the current study aligned with Ambec and Lanoie's (2008) strategies. The variable ECSR-Governance in current study aligned with reducing costs through risk management; and the variable ECSR-Performance aligned with reducing energy usage and waste.

Empirical application of these concepts was found in Kang et al.'s (2010) study of four travel and hospitality industries including the hotel industry. There were 44-156 observations for each variable within each industry. The study used pooled regression analysis to determine the effect of positive CSR activities, and effect of reducing negative CSR activities on firm performance within each of the industries. The CSR activity variables were measured as calculated total scores of positive and negative activities from the KLD STATs database. Previous studies had found inconclusive results for firm size as a variable. It was therefore included as a control variable measured as the log of sales. Financial performance was a multidimensional construct measured as profitability and firm value. Data sources for financial performance variables included the Compustat database and Yahoo finance. ROA and ROE were used to operationalize profitability. Debt ratio was used as a measure of leverage. Firm value was operationalized as a firm's price/earnings ratio and Tobin's Q. In the hotel industry, positive CSR activities were found to significantly ($p < .05$) influence a firm's price/earnings ratio, raising the ratio

seven percent for every positive CSR increase. Additionally, significant positive relationships were found between firm size and ROE ($p < .05$), and debt ratio and ROE ($p < .01$). The study concluded that hotels should give greater priority to positive CSR activity strategies than strategies targeting the reduction of negative CSR activities (Kang et al., 2010). This study supported the use of ROA and ROE as measures of corporate performance. It also indicated the potential for relationships between firm size, debt ratio and ROE within the hotel industry.

Academic support for strategic CSR continues to be found. Orlitzky et al. (2011) confirmed Baron's (2001) indications of strategy as a rationale for corporate CSR along with compliance, and altruism. However, Orlitzky et al. (2011) also warned that results from early studies may no longer be accurate due to an increase in distrust of CSR. One example is British Petroleum, which received high CSR ratings just prior their 2010 environmental disaster. BP's Deepwater Horizon oil spill is used to illustrate a conflict between CSR ratings and corporate actions. The article also indicated that lack of tested methodologies in strategic CSR weakens the field (Orlitzky et al., 2011). The current research used multiple sources to determine a corporations CSR score, rather than one social index or rating. It also used a replicable research design and a tested instrument to increase validity and reliability.

Siegel and Vitaliano (2007) performed an empirical study applying both Baron's (2001) and McWilliams and Siegel's (2001) strategic CSR theories. The study of 696 publicly traded firms from the Kinder, Lydenberg, and Domini (KLD) database investigated the prevalence of CSR investment in different industries. Firms were

identifies as CSR by their presence in the KLD Large Cap Social Index, their presence in the KLD social performance measures, or their presence in KLD's CSR file. Experience service industries were found to have a significant (CSR1 = $p < .1$, CSR2 = $p < .1$, and CSR3 = $p < .05$) likelihood to engage in three aspects of CSR. The study also found that firms specifically chose to engage in CSR or not engage in CSR had higher profits (Siegel & Vitaliano, 2007). Their study also specifically applied the hotel industry to the McWilliams and Siegel's (2001) category of experience goods.

Linking strategic CSR and strategic ECSR

Establishing a link between strategic CSR and strategic ECSR is important for the proposed study. Siegel's (2009) article applied the concepts of strategic CSR and resource-based theory to ECSR. Siegel indicated that public firms can strategically apply ECSR efforts to profit maximization. He also applied ECSR to the economic cost-benefit analysis in McWilliams and Siegel's (2001) CSR theory of the firm framework. Environmental ruin represents an additional corporate cost beyond the social cost to the firm. Strategies to reduce these costs include the government's environmental cap and trade programs, and corporate proactive initiatives such as setting specific goals for emission reduction. The article used resource-based theory as a rationale for ECSR resource demand and allocation. Six issues related to strategic ECSR are discussed. One crucial indication in this article is that hotels are firms in monopolistic competition, and as such will not be able to apply strategic ECSR to gain competitive advantage. The conclusion indicated that much of the research into ECSR focuses on its relationship to profits. The call for future research indicated a need for investigations of variables at the

individual management level (Siegel, 2009). Bagnoli and Watts (2003) offered an explanation for a proposed lack of relationship between ECSR and profits in the hotel industry. They defined public good as ECSR, and stated:

> In particular, too little of the public good is provided when there are a large number of active firms (including the case of free entry) in the market for the private good. Intuitively, the reason is that the firms providing the linked version of the private good are unable to capture enough of the consumers' benefits due to having the public good (Bagnoli & Watts, 2003, p. 440).

Therefore, ECSR can be used to strategically increase profits, but it will not be evidenced in the hotel industry. This indicates that this study should find no relationship between ECSR indicators and corporate performance measures.

A Theory of the Firm for ECSR

Lyon and Maxwell (2008) described a theory of the firm perspective for ECSR. The model is based on the concepts of supply and demand. According to this theory corporations will only engage in ECSR to the level demanded by the market. From the supply side, imperfect substitution drives pricing and limits complete resolution of environmental issues. This necessitates government intervention in environmental management. ECSR also includes voluntary agreements between external stakeholder groups and industries. Within industries, individual companies engaging in voluntary agreements are seeking low transaction costs (Lyon & Maxwell, 2008). Their theory is important in detailing the ongoing development of ECSR theory. Their theory indicates that ECSR will only increase corporate profits when demand for it is high. Therefore, if the demand in the hotel industry for ECSR is high, the current research should find a relationship between ECSR, corporate performance, and corporate risk.

Applications

The following reviews three recent investigations of ECSR and corporate performance from a strategic ECSR and theory of the firm perspective. Applications of strategic CSR cannot focus solely on increasing profits and reducing costs. They must also include reducing risk. Orlitzky and Benjamin (2001) expanded the theories of strategic CSR by exploring the associations between corporate social performance, corporate environmental performance, and firm risk. Corporate risk effects strategy by introducing uncertainty and fluctuations which impact the market, strategic planning, and may lead a firm to financial collapse. A total of 6,186 observations were included in a meta-analysis of 18 studies ranging from 1976-1997. The study found that corporate social performance reduces corporate risk. A small negative relationship was found between corporate environmental performance and firm risk. The study indicated the potential to apply the CSR variables in McWilliams and Siegel's (2001) theory of the firm perspective to firm risk (Orlitzky & Benjamin, 2001). This study is important to the currently proposed study in providing a link between ECSR and firm risk, and indicating strategic application can be used as a means of reducing firm risk.

A second study investigated the relationship between ECSR and profits from a theory of the firm perspective. Uecker-Mercado and Walker (2012) studied strategic ECSR applications in the sport and public assembly building industry. The research applied McWilliams and Siegel's (2001) theory of the firm to the proposition that due to consumer demand, public firms apply CSR strategically. Their research investigated the source of ECSR demand (financial, stakeholder based, or morally/ethically based)

through 15 qualitative interviews. ECSR initiatives were found to be based more on internal pressure and culture, rather than on financial motives. Additionally, the authors found the sporting and public assembly industry managers focus more on social outcomes rather than financial outcomes of ECSR (Uecker-Mercado & Walker, 2012). Their study helped to support the investigation of public firms. It also indicated that management within public firms can give ECSR higher strategic value than profits.

In a third study, Yahya and Ha (2013) used structural equation modeling (SEM) to test two hypotheses investigating the relationship between ECSR issues and corporate performance. The investigation of managers in 261 Malaysian service and manufacturing organizations separated ECSR into societal and economic concerns. A further conceptual dimension was added by separating economic concerns into strategy and marketing related opportunities. Goodness of fit indices illustrated alignment with the model with GFI (0.947), and CFI (0.958). The ECSR indicator of strategic related opportunities was found to have a significant ($p \leq .05$) relationship with corporate performance. However the relationship between the ECSR marketing related opportunities variable and corporate performance was not supported. The authors did not include organizational size as a variable, but indicated a need to include it in further research (Yahya & Ha, 2013). Their research supports the multidimensionality of the ECSR construct in the current study, and the potential for each dimension to have different results. It also provided evidence of a relationship between ECSR and corporate performance.

The Hotel Industry

The following section describes the hotel industry, its segmentation, and how ECSR can affect competitive advantage. The hotel industry competes on a global level. The hotel industry has been described as a monopolistic competition (McWilliams et al., 2006; Siegel, 2009), and an experience good (Siegel & Vitaliano, 2007) industry. The United States represents 27% (Marketline, 2012a) of an extremely competitive global industry poised to increase nearly 40% by 2016 (Marketline, 2012b). The impact of the recent economic downturn has bolstered the competitive nature of the industry (Datamonitor, 2011). The U.S. therefore holds over one quarter of a highly competitive, rapidly expanding global market.

How is the domestic market segmented? In the hotel industry, market segmentation by economic class has targets ranging from luxury to economy. According to data presented by Miller and Washington (2013), at over 70% occupancy, the luxury segment had the highest occupancy rate with the highest per room price (> $270.00) of any segment in 2011. Additional segmentation by type includes leisure and business, with the leisure market capturing the major portion of the market both globally (74.8%) (Marketline, 2012b), and domestically (71.1%) (Marketline, 2012a). The majority (62%) of hotels are small to medium in size, having less than 150 rooms (Miller & Washington, 2013). These facts highlight the importance of competitive advantage for hotels.

According to Porter (1990), it is imperative that firms foster the sources of competitive advantage in their home base to gain industry success in the global market, regardless of their original nationality. Supporting this, Ricca (2012) indicated that 79%

of Hotel Management magazine's Top Hotel Companies are multinational, and 85% are located in the Americas. Diversification is one method of gaining competitive advantage. Many domestic hotels are adding spas, loyalty programs, and ECSR related strategies as a means of diversification (Marketline, 2012a). Gaining competitive advantage through diversification is helping domestic hotels stay competitive in a global market.

The costs related to environmental matters in the industry are high. According to the U.S. Environmental Protection Agency (2013e) energy costs represent 6% of a hotels operating costs. Liu and Sanhaji (2010) pointed out that each "property consumes more than 2.5 times the level of fuels consumed by individual office properties" (p. 68). By reducing costs through sustainable practices, and differentiating themselves through strategic ECSR, hotels have the potential to improve their performance and reduce firm risks.

Investigations of ECSR and Performance in the Hotel Industry

The following five studies address ECSR in the hotel industry. Four of these studies investigated the Spanish hotel industry (Carmona-Moreno et. al., 2004; Claver-Cortés, Molina-Azorín, & Pereira-Moliner, 2007; Rodríguez & del Mar Armas Cruz, 2007; Segarra-Oña, Peiró-Signes, Verma, & Miret-Pastor, 2012). In the fifth study, Shah (2011) focused on the Caribbean hotel industry.

Spanish hotels

Carmona-Moreno et al. (2004) surveyed 268 hotels in the Spanish hotel industry in 1999. The study investigated strategic environmental management typologies using

factor analysis. The study discovered four types of environmental management including two based on experience level. The second two types were based on whether environmental management was seen as a strategy or a practice. The study used ANOVA to analyze the relationship between environmental strategy type and economic performance. One conclusion was that more hotels with greater environmental management experience found ECSR as a source of competitive advantage. Another key finding was that hotels that are indifferent to strategic environmental management had significantly lower ($p < .01$) financial performance than the two more experienced groups (Carmona-Moreno et al., (2004). This study highlights how indifference to ECSR can impact financial performance. Similar results in the current study would be evidenced by a significant negative relationship between ECSR indicators and measures of corporate performance.

In a second study involving the Spanish hotel industry, Rodríguez and del Mar Armas Cruz (2007) used regression analysis to investigate the relationship between ECSR and firm performance. Focusing on the year 2001, the study included data for 3,775 analytic elements from a survey of 114 managers in 80 hotels from six regions in Spain. ECSR was measured using a management survey, and firm performance as relative ROA. Resource-based theories were used to postulate a positive connection between ECSR and competitive advantage. The study found a 7% rise in relative ROA for each increment of ECSR (Rodriguez & del Mar Armas Cruz, 2007). Their study supported hypothesizing a positive relationship between ECSR and a measure of

corporate performance in the U.S. hotel industry. Their study also supported the use of regression analysis in the current study.

The third and fourth studies (Claver-Cortés, Molina-Azorín, & Pereira-Moliner, 2007; Segarra-Oña et al. 2012) researched strategy on firm performance in the hotel industry using secondary data employed cross-sectional time frames. In the third study, Claver-Cortés et al. (2007) applied resource-based theory along with strategic management theories in a mixed method approach to investigate the predictive validity of firm size on performance in 114 Spanish hotels. The study was temporally limited to 2003. Quantitative data came from the 2003 Guide of Valencian Community Hotels. The study used exploratory factor analysis to group the hotels based on how they achieve competitive advantage. The results found only one group, focusing on improvement and dimension to have the highest level of environmental certification. Dimension was defined as resource commitment, and activity scope. This group was larger in size, showed the highest occupancy rate per bed (83.08%), gross operating profit (GOP) valuation (6.12), and GOP per day valuation (5.82) in comparison to the three other groups. Their conclusions included that hotels should emulate the highest performing group by increasing size, and strategically applying improvement and dimension. More recently, there have been additional studies of ECSR in the hotel industry.

In the fourth study, Segarra-Oña et al. (2012) investigated the relationship between environmental certification and firm performance from a strategic management perspective. The study also investigated the moderating influence of geographic location and firm size on this relationship. The study included 2,116 Spanish hotels, with data

limited to the year 2008. Four data sources included: the IHOBE database, which is a monthly updated list of Spanish ISO 14001 certified companies; AENOR, a Spanish certification association; and two international certification companies Bureau Veritas, and TÜV Rheinland. Data for a multidimensional construct of firm performance came from the Iberian Balance-Sheet Analysis System (SABI). Results of the study found a significant improvement ($p < .05$) in financial performance indicators for hotels implementing ECSR management (Segarra-Oña et al., 2012). Claver-Cortés et al. (2007) and Segarra-Oña et al. (2012) illustrated the use of multiple data sources in cross-sectional research designs similar to the used in the current study.

Caribbean hotels

Caribbean hotels were the focus of another recent empirical application. Shah (2011) achieved a 55.8% return rate in a survey of 489 hotel managers. Institutional theory and resource-based theory were used to investigate the rationale behind the hotels strategic application of ECSR. Six hypotheses postulated whether hotels higher levels of ECSR were reactions to market pressures, or results of proactive elements such as European and American cultural attitudes. Each of the proactive hypotheses included sub hypotheses investigating the moderating role of three variables including ownership, eco-consciousness, and specific market segments. A two-step ordinary least squares regression analysis (OLS) was used to examine the data. As in the current study, the initial regression tested direct relationships, with the second testing moderating variables using a model that included interaction terms. The data analysis supported the contentions that policy ($p < .001$), eco-tourism, target marketing ($p < .001$), foreign

ownership ($p < .05$), and foreign affiliation ($p < .05$) all lead to higher levels of ECSR. Targeting the luxury segment was not supported as leading to higher ECSR levels (Shah, 2011). This study provided evidence of strategic applications of ECSR in the hotel industry.

Summary

The preceding literature review has followed ECSR from a chronological perspective. An investigation of CSR revealed its importance in business as early as Knight (1922). According to Knight (1922), corporations must be morally responsible for their actions. Research on CSR focused on concept development and associated scope through the 1960s. Friedman's (1970) opposition to the ethical responsibility of CSR in business, and contention that profit maximization is the corporate goal, opened an ongoing controversy. Investigations of the relationship between CSR and profits from the 1960s into the 2000s have produced inconsistent results. Academics have pointed to the need for further development of formal CSR definition (Taneja et al., 2011), measurement (Cochran & Wood, 1984; Orlitzky et al., 2003), and theory (Richardson et al. 1999; Taneja et al., 2011). The multidimensionality of the concept has slowed CSR paradigm development, but allowed for the recognition and initiation of research on ECSR.

Formalizing a theoretical base for ECSR, Freeman (1994) indicated that ecological principles are one normative core of his stakeholder theory of strategic management. Researchers then began developing a formal paradigm for ECSR through definition (Mazurkiewicz & Grenna, 2003), theory (Ambec & Lanoie, 2008; DesJardins,

1998; Jamison, 2000; Johnson, 1971; Lyon & Maxwell, 2008; Reinhardt, 1999; Siegel, 2009), and measurement (Clarkson et al., 2008; Jose & Lee, 2007; Morhardt, 2001; Morhardt et al., 2002; Morhardt, 2010; Rahman & Post, 2012; Walls et al., 2011). The construct of ECSR was also determined to be multidimensional, and a review of each of the dimensions in the current study presented.

Theoretical Framework

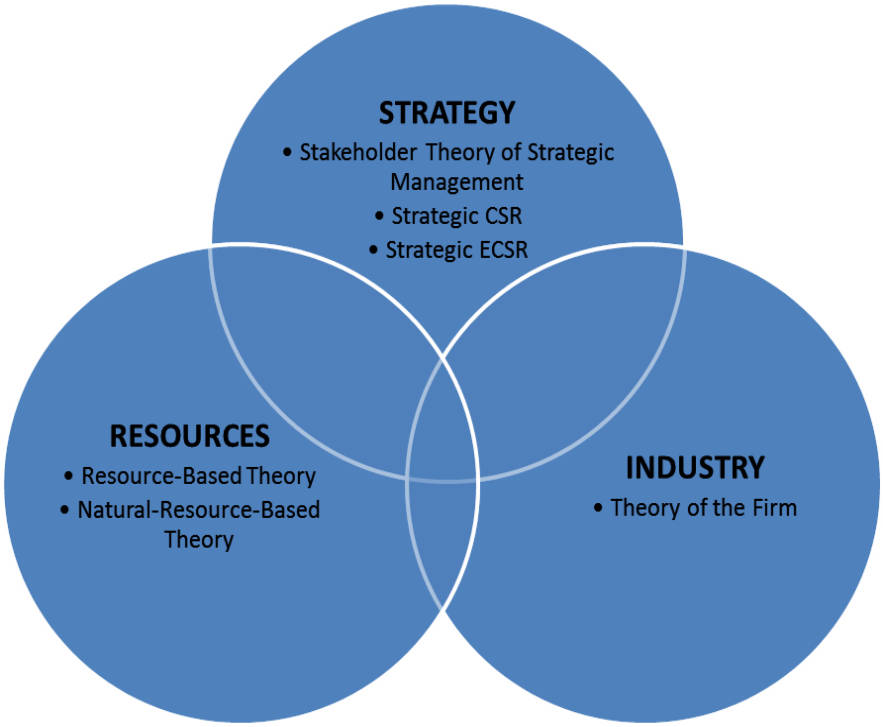

Figure 2. Theoretical framework

Three theoretical areas addressing strategy, resources and industry combined to create the framework illustrated in Figure 2. This framework formed the basis for hypotheses development in this study, and included strategic management theories, resource-based theories, and theories of the firm. Strategic management theories indicate

that firms have the ability to strategically apply CSR (Baron, 2001), and ECSR (Reinhart, 1999; Jamison, 2000; Siegel, 2009). Profit maximization is theorized to be a goal of these strategies (Baron, 2001; Siegel, 2009). Reinhart (1999) further indicated ECSR can be used to manage risk. Orlitzky and Benjamin (2001) added support indicating that strategic CSR reduces corporate risk.

These strategic management theories are bolstered by Wernerfelt's (1984) resource-based theory in which resources can be strategically applied to increase profits. Hart's (1995) natural resource-based theory further identified the combination of specific ECSR elements as providing unique competitive advantage, and a strategic foundation. This combination added to the theoretical framework a tenet for testing relationships involving the strategic application of CSR and ECSR. Russo and Fouts (1997) seminal study provided a statistical link between resource-based theory and the strategic application ECSR.

McWilliams and Siegel's (2001) CSR theory of the firm had an industry level focus. Their study indicated that CSR can be used to strategically differentiate company resources, but that industry equilibrium will neutralize the impact on profits (McWilliams & Siegel, 2001). Siegel and Vitaliano's (2007) application of this theory identified the hotel industry as an experience industry. Their connection provided a context for the current research. An investigation of the hotel industry literature revealed a highly competitive environment dominated by a luxury segment in a leisure market. Environmental matters are costly in this industry, and reducing these costs through ECSR

can impact financial performance. Recent studies into the topic in the hotel industry have been limited and leave questions unanswered. Therefore:

RQ1. Is there a relationship between Environmental Corporate Social Responsibility (ECSR) and corporate performance in the U.S. hotel industry?

RQ2. Is there a relationship between Environmental Corporate Social Responsibility (ESCR) and corporate risk in the U.S. hotel industry?

Recent studies have indicated a relationship between ECSR, measures of corporate performance, and measures of corporate risk. Applications in the hotel industry have indicated a relationship between ECSR and corporate strategy measured as ROA (Rodriguez & del Mar Armas Cruz, 2007), and between ECSR and firm performance (Segarra-Oña et al., 2012). Further, studies support the use of ROA (Dixon-Fowler et al., 2013; Kang et al., 2010; Rodriguez & del Mar Armas Cruz, 2007; Russo & Fouts, 1997; Walls et al., 2012), and ROE (Dixon-Fowler et al., 2013; Kang et al., 2010) as measures of corporate performance. Orlitzky and Benjamin (2001) indicated a firm's debt ratio is a measure of corporate risk. In the current study, the measures of corporate performance were separated into two variables, a measure of corporate strategy performance (ROA) and a measure of corporate accounting performance (ROE). A firm's debt ratio was used as a measure of corporate risk. The following three hypotheses were developed from these variables to test RQ1 and RQ2.

$H_0$1: There is no relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry.

H_A1: There is a significant positive relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry.

$H_0$2: There is no relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry.

H_A2: There is a significant positive relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry.

$H_0$3: There is no relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ESCR) and a measure of corporate risk in the U.S. hotel industry.

H_A3: There is a significant negative relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ESCR) and a measure of corporate risk in the U.S. hotel industry.

The influence of firm size

Firm size is theoretically and empirically a strategic influence on corporate performance and ECSR. Firm size is a characteristic known to influence economic performance (Caves, 1980), and is indicated size as a factor of sustainable competitive

advantage (Ghemewat, 1986). Hart (1995) indicated that large firms would engage more in pollution prevention. Similarly, McWilliams and Siegel (2001) postulated a positive relationship between firm size and CSR attributes. Morhardt's (2010) research found firm size to influence the Pacific Sustainability Index, a measure of corporate environmental and social responsibility reporting. Additionally, Dixon-Fowler et al. (2013) pointed out a controversy in research surrounding the influence of size on the relationship between ECSR and firm performance. The controversy is illustrated in the current literature review with Dixon-Fowler et al. (2013) finding smaller size as an influence, while others (Claver-Cortés et al., 2007; Segarra-Oña et al., 2012) found larger firms more influential. This led to questioning the moderating influence of size in the U.S. hotel industry in the research questions:

RQ3. Does firm size influence the relationship between Environmental Corporate Social Responsibility (ECSR) and corporate performance in the U.S. hotel industry?

RQ4. Does firm size influence the relationship between Environmental Corporate Social Responsibility (ECSR) and corporate risk in the U.S. hotel industry?

According to Carmona-Moreno et al. (2004), the number of guest rooms determines size in the hotel industry. Supporting this is Hotel Management's 2012 Top Hotels, a list classified according to number of guest rooms. This study operationalized firm size as number of guest rooms. The following hypotheses were developed to test RQ3 and RQ4.

$H_0$4: Firm size does not influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry.

H_A4: Firm size has a significant positive influence on the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry.

$H_0$5: Firm size does not influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry.

H_A5: Firm size has a significant positive influence on the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry.

$H_0$6: Firm size does not influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate risk in the U.S. hotel industry.

H_A6: Firm size has a significant negative influence on the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate risk in the U.S. hotel industry.

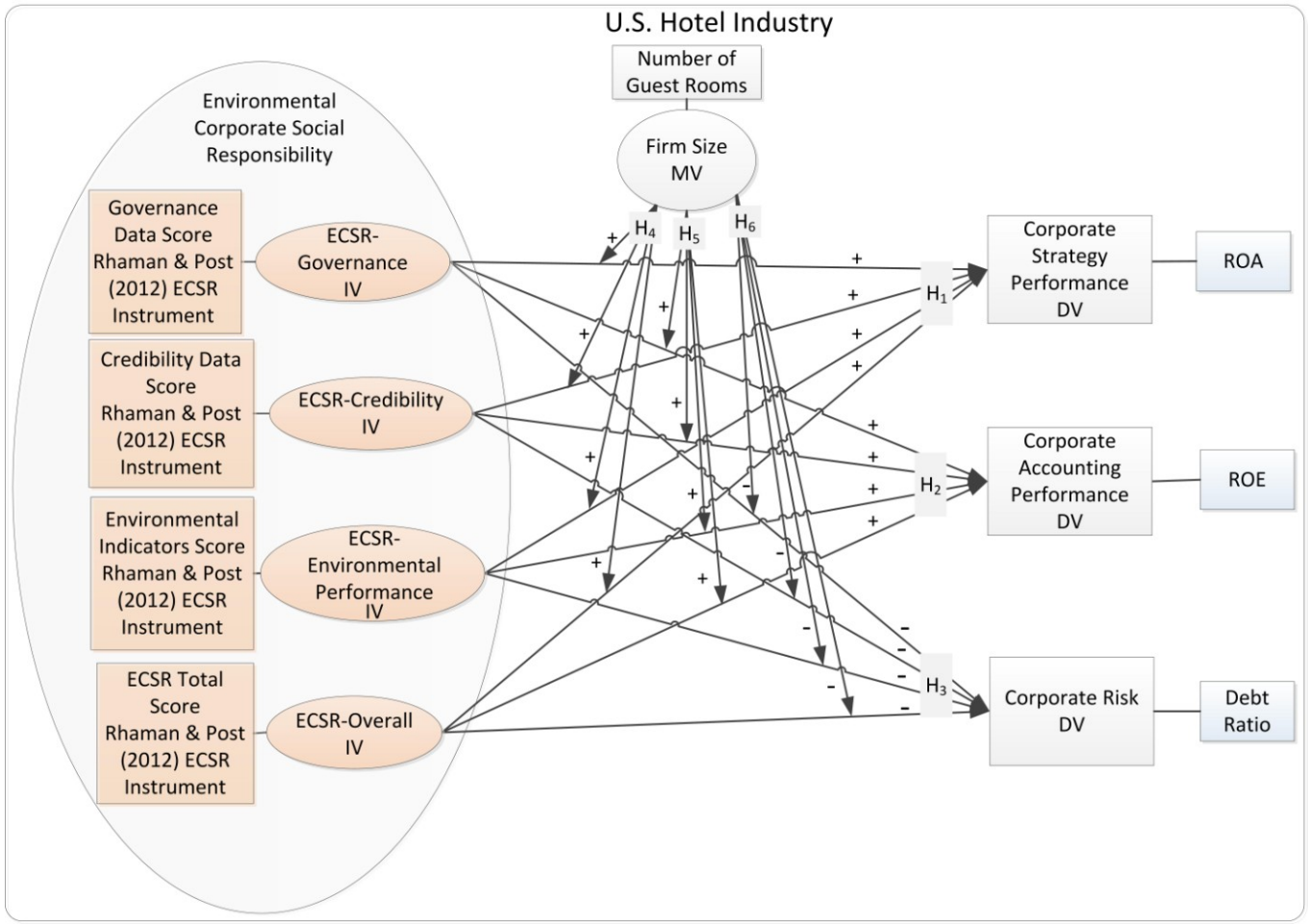

Figure 3. Patterns of Relationships between four identified indicators of Environmental Corporate Social Responsibility (ECSR), Corporate Strategy Performance, Corporate Accounting Performance, and Corporate Risk moderated by Firm Size in the U.S. Hotel Industry.

This study separated the concept of corporate performance into the two dependent variables of corporate strategy performance and corporate accounting performance. The conceptual framework in Figure 3 illustrates that within the context of the U.S. hotel industry, the construct of Environmental Social Responsibility includes four identified indicators. The four identified ECSR indicators that were used as independent variables (IVs) in this study were ECSR-Governance, ECSR-Credibility, ECSR-Environmental Performance, and ECSR-Overall. Figure 3 illustrates that these independent variables were measured as the governance data score, credibility data score, environmental indicators score, and composite ECSR scores from Rahman and Post's (2012) instrument. Figure 3 also illustrates that each of the four identified indicators was hypothesized to have a positive impact on corporate strategy performance (DV) and corporate accounting performance (DV), and a negative impact on corporate risk (DV). Figure 3 illustrates that the measure of corporate strategy performance was ROA, the measure of corporate accounting performance was ROE, and the measure of corporate risk was a firm's debt ratio (total assets/total debt). The conceptual framework in Figure 3 also shows firm size (MV) was hypothesized to influence the relationships between each of the four identified indicators of ECSR and corporate strategy performance positively, and the relationship between each of the four identified indicators of ECSR and corporate accounting performance positively. Additionally, Figure 3 illustrates that firm size (MV) was hypothesized to influence the relationship between each of the four identified indicators of ECSR and corporate risk negatively.

CHAPTER 3. METHODOLOGY

There are currently limited investigations into CSR, ECSR, firm performance, and firm risk in the hotel industry. The primary purpose of this quantitative research was to build on existing literature by performing a robust examination of the relationships between each of four identified indicators of environmental corporate social responsibility (ECSR), measures of corporate performance, and a measure of corporate risk among public hotel and motel firms in the United States. The purpose was not to investigate the interrelations between the independent variables or those between the dependent variables, but the strength and direction of the relationships between each of the independent and dependent variables. To increase the comprehensive and robust nature of the study, a secondary purpose was to investigate the moderating influence of firm size on these relationships.

The current quantitative study pursued answers to the following research questions:

RQ1. Is there a relationship between Environmental Corporate Social Responsibility (ECSR) and corporate performance in the U.S. hotel industry?

RQ2. Is there a relationship between Environmental Corporate Social Responsibility (ESCR) and corporate risk in the U.S. hotel industry?

RQ3. Does firm size influence the relationship between Environmental Corporate Social Responsibility (ECSR) and corporate performance in the U.S. hotel industry?

RQ4. Does firm size influence the relationship between Environmental Corporate Social Responsibility (ECSR) and corporate risk in the U.S. hotel industry?

Hypotheses

$H_0$1: There is no relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry.

H_A1: There is a significant positive relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry.

$H_0$2: There is no relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry.

H_A2: There is a significant positive relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry.

$H_0$3: There is no relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ESCR) and a measure of corporate risk in the U.S. hotel industry.

H_A3: There is a significant negative relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ESCR) and a measure of corporate risk in the U.S. hotel industry.

$H_0 4$: Firm size does not influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry.

H_A4: Firm size has a significant positive influence on the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry.

$H_0 5$: Firm size does not influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry.

H_A5: Firm size has a significant positive influence on the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry.

$H_0 6$: Firm size does not influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate risk in the U.S. hotel industry.

H_A6: Firm size has a significant negative influence on the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate risk in the U.S. hotel industry.

Research Design

The current study used a quantitative, causal comparative design, focused on the years (2010-2012). The research objective of this explanatory study was to test the relationships between each of four identified indicators of environmental corporate social responsibility (ECSR), a measure of corporate strategy performance, a measure of corporate accounting performance, and a measure of corporate risk in the U.S. hotel industry. The secondary purpose was to test the moderating influence of firm size on these relationships.

This study used a non-experimental design. Experimental and quasi-experimental designs involve testing groups by manipulating a variable for at least one group and evaluating the causal results (Creswell, 2009; Trochim & Donnelly, 2008; Robson, 2011). Applying Trochim & Donnelly's (2008) classification system, the current study did not include multiple groups, random assignment, a control group, or multiple occurrences of measurement. The current study was therefore non-experimental (Trochim & Donnelly, 2008). Additionally, the researcher did not manipulate the variables in the study indicating a non-experimental design (Robson, 2011).

The current study addressed a gap in research by performing a robust examination of the relationships between each of four identified indicators of ECSR, two measures of corporate performance, and a measure of corporate risk in the U.S. hotel industry. The purpose of the study was to explain the relationships between each of the identified indicators of ECSR, corporate strategy performance and corporate accounting performance, and a measure of corporate risk in the U. S. hotel industry. A secondary

purpose was to investigate the moderating influence of firm size on each of these relationships. According to Robson (2011), explaining relationships between variables such as those in this study, is an appropriate application of a non-experimental design.

Sample

The population of the study was all publicly owned hotels and motels in the United States for the years 2010-2012. All public hotels and motels are required by the U.S. Securities and Exchange Commission (2013d) to file financial information which is disclosed to the public in the EDGAR database. The U.S. Securities and Exchange Commission (SEC) requires "public companies to disclose meaningful financial and other information to the public" (2013d, para. 6). The SEC discloses these documents to the public through their EDGAR database. There are 428 companies listed under SIC code 7011, Hotels & Motels, in the EDGAR database. The findings of the current study applied to U.S. public hotels and motels, and did not extend to privately held U.S. hotels and motels.

The sampling frame for the current study was the SEC's EDGAR database, which includes 428 publicly held hotels and motels. The data from the EDGAR database utilized in this study included firm size, and corporate financial information related to return on equity, return on assets, and debt to asset ratio. The sample included all companies listed in the EDGAR database with data for the years 2010-2012. A census sampling procedure was used in order to offer a large enough sample to provide statistical significance and power for regression analysis. Hotels without annual report information

or physical locations were not included. Information regarding the ECSR indicators was retrieved using content analysis of publicly available information.

Conservative sampling in multiple regression analysis utilizing rule of thumb measures for continuous independent variables indicate 10 observations per independent variable (Bartlett, Kotrlik, & Higgins, 2001; Bates, 2005; Field, 2009). For this study, there are a total of four independent variables (ECSR-Governance, ECSR-Credibility, ECSR-Environmental performance, and ECSR-Overall). Using these recommendations, the random sample should have a minimum of 40 hotels. Utilizing Faul, Erdfelder, Buchner, and Lang's (2009) G*Power statistical power analysis program version 3.1.6, the recommended sample size for four predictor variables in multiple regression to achieve a power level of .95, and an $\alpha = .05$ is 53. Including the modifying variable, the recommended sample size increases to 57. Not all academics agree with these small sample sizes.

Sample size calculations specific to multiple regression include confidence interval, effect size, and error considerations. Bonett and Wright (2011) indicated that many sample size calculations for multiple regression neglect to consider the importance of confidence intervals. Shieh (2009) also pointed out the need to account for potential distribution variability when calculating sample size for moderated multiple regression analyses. Shieh (2009) applied two methods, ST and NT to simulated normal and gamma distributions. The NT method achieved power levels of .95 with absolute error = .003 in a normal distributed sample of 226, and with absolute error =.008 in a gamma distributed sample of 255. Bonett and Wright (2011) tested an example of five predictor variables

with $p = .05$, and a relative precision of $\tilde{e} = 1.182$, at an assurance probability $\gamma=.9$, with a resulting sample size is 317. Therefore, utilizing the entire sample frame as the sample offered a high level of power, precision, and assurance for the study.

Setting

The study involved secondary data analysis and content analysis of public firms. All data was retrieved from the internet. Data sources included the United States Securities and Exchange Commission EDGAR data. This data source is free to the public, and use of EDGAR as a data source supported academically (Morlino, 2008; Rahman & Post, 2012). For the independent variable ECSR, data sources included individual corporate websites, and publically available industry websites. Additional sources included nonprofit websites such as the Global Reporting Initiative (GRI) and CERES sites.

Instrumentation

For Research Questions 1-4, Rahman and Post's (2012) instrument was used to measure each of the four ECSR independent variables of ECSR-governance, ECSR-credibility, ECSR-environmental performance, and ECSR-overall. The instrument used in this study is included in Table 4 (Rahman & Post, 2012, pp. 313-315). The instrument is complete and includes all the questions, a guide to locating the information, and how to score the information. The instrument is designed to provide transparency in measuring Environmental Corporate Social Responsibility using publicly available data sources.

Measures

Independent Variables

Environmental Corporate Social Responsibility indicators. There were four identified indicators of Environmental Corporate Social Responsibility (ECSR). Each of the four ECSR indicators, ECSR-Governance, ECSR-Credibility, ECSR-Environmental Performance, and ECSR-Overall, were independent variables. The manifest variables of each of these indicators were scores from Rahman and Post's (2012) instrument.

- The manifest variable of *ECSR-Governance* was the total governance data score, measured using the summated rating from a 5-item simple category scale from Rahman and Post's (2012) instrument. The measurement for this variable was at a continuous, ratio level, ranging from 0-5.
- The manifest variable of *ECSR-Credibility* was the total credibility data score, measured using the summated rating from an 11-item simple category scale from Rahman and Post's (2012) instrument. The measurement for this variable was at a continuous, ratio level, ranging from 0-11.
- The manifest variable of *ECSR- Environmental Performance* was the total environmental performance indicators score, measured using the summated rating from a 6-item simple category scale from Rahman and Post's (2012) instrument. The measurement for this variable was at a continuous, ratio level, ranging from 0-6.
- The manifest variable of *ECSR- Overall* was the ECSR total score, measured using the calculated total of the ECSR-Governance, ECSR-Credibility, and

ECSR-Environmental Performance scores. The measurement for this variable was at a continuous, ratio level, ranging from 0-22.

Dependent Variables – Corporate Strategy Performance, Corporate Accounting Performance, and Corporate Risk

Corporate Performance. Corporate performance was separated into the two dependent variables of corporate strategy performance and corporate accounting performance.

This study operationalized the construct *corporate strategy performance* as return on assets (ROA). This was a ratio level measurement. ROA is defined as the ratio of an organization's annual net income to their total assets. ROA provides a direct reflection of corporate strategy (Hull & Rothenberg, 2008).

This study operationalized the construct *corporate accounting performance* as return on equity (ROE). This was a ratio level measurement. ROE is defined as the ratio of an organization's net income to their shareholder's equity. According to Brigham and Houston (2012), ROE is "the single best accounting measure of performance" (p. 111).

Corporate Risk. This dependent variable was defined and operationalized as a firm's debt ratio (debt/asset ratio) (Hull & Rothenberg, 2008; Orlitzky & Benjamin, 2001). Corporate risk was a ratio level measurement.

Moderating Variable – Firm Size

The variable firm size was operationalized as the number of guest rooms for an individual organization. Firm size was a continuous, interval level measurement.

Data Collection

Data was retrieved for this study using secondary data analysis and content analysis of publicly available websites. This study involved one data retrieval activity with a multi-mode approach. The process involved the following steps.

ECSR Indicators – Retrieval Process

For the four identified ECSR variables ECSR-Governance, ECSR-Credibility, ECSR-performance, and ECSR-Overall, the following data retrieval steps were taken:

1. Preparation. Copies of the ECSR scoring instrument were printed. Values for items on each scale (governance, credibility, and environmental performance) were recorded using blue or black ink. Scales total scores and the composite ECSR score were recorded in red ink. A time log was kept including an export of the full listing of company names under SIC 7011 in the EDGAR database. The time log also included the date of data retrieval, start and stop times for each company, as well as relevant notes. Notes included information such as "No SEC data after 10/2007; last 10-K for 1995". The log was used for estimating and analyzing data retrieval completion time. Scratch paper was available for note taking.
2. A data retrieval spreadsheet named OM9960_Data retrieval.xlsx was maintained. The spreadsheet contained the columns CIK number, ECSR-Governance, ECSR-Credibility, ECSR-performance, ECSR-Overall, ROE, ROA, Debt Ratio, firm size, and year. A company's CIK number or Central

Index Key is the unique identifier used in the EDGAR database (U.S. Securities and Exchange Commission, 2013a). The data was retrieved one company and one year at a time.

3. ECSR data was retrieved using the following procedure.
    a. The researcher opened the Excel data retrieval spreadsheet (OM9960_Data Retrieval.xlsx), and the Global Reporting Initiative's (2013) global reports list excel file of companies 1999-2013. Web bookmarks were used to access the CERES (2013) member listing; CorporateRegister.com (http://www.corporateregister.com/); the EPA's climate leader program website (U.S. Environmental Protection Agency, 2013a); the EPA's combined heat and power program website (U.S. Environmental Protection Agency, 2013b); ENERGY STAR website (U.S. Environmental Protection Agency, 2013c); the EPA's Green Power Partnership website (U.S. Environmental Protection Agency, 2013f); and the EPA's Wastewise website (U.S. Environmental Protection Agency, 2013h). A Google search browser was also opened for finding and recording company specific information.
    b. Answers for each of the questions were recorded using blue ink.
    c. ECSR-governance, ECSR-credibility, ECSR-environmental performance, and ECSR-overall scores were calculated, entered on the instrument in red ink, and entered into the data retrieval spreadsheet (OM9960_Data Retrieval.xlsx).

Measures of Corporate Performance and Corporate Risk – Retrieval Process

The following describes the steps taken for retrieving the two measures of corporate performance, and the measure of corporate risk. A browser was opened containing the U.S. Securities and Exchange Commission's (2013b) EDGAR database window for the specific company under review. Each company's ROE, ROA, debt ratio, and firm size (if available) were determined from the records for the specific year in this database. Values were entered into the data retrieval spreadsheet (OM9960_Data Retrieval.xlsx).

Firm size data retrieval

The value for firm size associated with each individual year was retrieved from the EDGAR database, or from company information. The value was entered into the data retrieval spreadsheet (OM9960_Data Retrieval.xlsx).

Data Analysis

The data retrieved for this study was analyzed using SPSS® Statistics Base version 21 (IBM Corporation, 2012) to run descriptive statistics and the moderated multiple regression analysis. All data was measured at an interval or ratio level, which Shieh (2009) indicated is appropriate in moderated multiple regression. The statistical results were analyzed and deductive logic applied to formulate conclusions for the study.

Validity and Reliability

Validity relates to the accuracy of measurement. This study used an unobtrusive measurement strategy. Employing unobtrusive measurement in a study reduces researcher and instrument bias (Rabinovich & Cheon, 2011; Trochim & Donnelly, 2008). This technique increased the external validity of the study.

Sampling techniques can lead to issues that threaten the external validity of a study. Appropriate sample size determination in this study reduced potential threats. Threats to internal validity were reduced by using publicly available corporate and government data, a large sample with a variety of firm sizes, and a tested measurement instrument for ECSR indicators.

Indicators of Environmental Corporate Social Responsibility

The four identified indicators of ECSR were measured using Rahman and Post's (2012) instrument. The instrument is not industry specific, and is appropriate in populations of publicly held companies, due to higher levels of environmental reporting. The original six-category, 35-item instrument was reduced through expert review, confirmatory and hierarchical factor analysis to the final three-category, 22-item instrument. Internal consistency tests of these scales produced Cronbach alpha scores ranging from .67-.89 (Rahman & Post, 2012). Each of the scales in the instrument includes at least 4-5 items, and therefore, according to Field (2009), their Cronbach alpha scores are accurately reflecting the internal consistency of the instrument. According to Rahman and Post (2012), testing of the instrument was performed with 112 companies in the electronics, chemicals, and petroleum industries. This produces a sample size to

instrument item ratio of was 5.09:1, which falls within MacKenzie, Podsakoff, and Podsakoff's (2011) desired range of 3:1 to 10:1 for instrument testing.

Inter-rater reliability testing agreements for Rahman and Post's (2012) ECSR instrument ranged from 87.32% to 91.81%, with additional correlation testing resulting in kappa coefficients ranging from .68 ($p < .001$) to .82 ($p < .001$). Convergent validity testing was performed with KLD stats scores, and significant ($p < .001$) correlations were found between KLD strength scores and the four scores of the instrument (ECSR-governance, ECSR-credibility, ECSR-environmental performance, and ECSR-overall). Discriminant validity was supported through testing between *Fortune* reputation scores and the four scores (ECSR-governance, ECSR-credibility, ECSR-environmental performance, and ECSR-overall) of the instrument resulted in small but significant ($p <$ .01 to $p < .001$) results (Rahman & Post, 2012).

Measures of Corporate Performance and Corporate Risk

The data source for the dependent variables was retrieved from the U.S. Securities and Exchange Commission (2013c) the EDGAR system. Public companies are required to annual corporate financial information on this site. The level of validity and reliability of the data in this study is equal to the information submitted by companies to the EDGAR system.

Ethical Considerations

The current study involved content and secondary data analysis of publicly available corporate information. Sampling for the study did not involve human subjects,

and did not include any confidential information. The sample included publicly owned companies. Therefore, there was no breach of confidentiality of any of the companies. All accessed data records currently existed, and were publicly available. No conflicts of interest existed for the researcher. The researcher was not employed by any of the subject companies, no funding was received for this research, and the research did not involve other individuals. The Capella University Ethical Principles and Guidelines were followed.

CHAPTER 4. RESULTS

The following chapter presents the research findings from the statistical analysis used to explore the data and test each of the six hypotheses investigated in this study. This study employed a quantitative, non-experimental, fixed, causal comparative design using a secondary data and content analysis methods approach. An unobtrusive measurement strategy was employed. Quantitative analyses included descriptive statistics, multiple linear regression, and moderated multiple regression analysis.

The primary purpose of this study was to build on existing literature by performing a robust examination of the relationships between each of four identified indicators of environmental corporate social responsibility (ECSR), measures of corporate performance, and a measure of corporate risk among public hotel and motel firms in the United States. The purpose was not to investigate the interrelations between the independent variables or those between the dependent variables, but the strength and direction of the relationships between each of the independent and dependent variables. To increase the comprehensive and robust nature of the study, a secondary purpose was to investigate the moderating influence of firm size on these relationships.

This chapter contains four sections. The first section describes the population. This second presents the results of reliability testing on the ECSR-instrument. The third section reports results of exploring the statistical assumptions within each of the variables. The fourth section presents the statistical results of the hypothesis testing.

Sample Size

The theoretical population of the study included all public hotel and motel companies with locations in the United States. The population allowed for the identification of the sampling frame as all public hotel companies listed in the U.S. Securities and Exchange Commission's EDGAR database. A census sampling technique was used to achieve adequate sample size and adequate coverage of all subgroup variations (Wahab, Rose, & Osman, 2011). All records listed in the EDGAR database did not contain information being investigated. Data was retrieved for the years 2010-2012 to achieve a sample size of 140. This was below the estimated sample of 317. However, conservative sampling in multiple regression analysis utilizing rule of thumb measures for continuous independent variables indicate 10 observations per independent variable (Bartlett et al., 2001; Bates, 2005; Field, 2009). For this study, there are a total of four independent variables (ECSR-Governance, ECSR-Credibility, ECSR-Environmental performance, and ECSR-Overall). Using these recommendations, the random sample should have a minimum of 40 hotels. Utilizing Faul et al.'s (2009) G*Power statistical power analysis program version 3.1.6, the recommended sample size for four predictor variables in multiple regression to achieve a power level of .95, and an $\alpha = .05$ is 53. Including the modifying variable, the recommended sample size increases to 57. Therefore, the final sample size of 140 was acceptable for the current study.

Reliability Testing

A reliability analysis using Cronbach's alpha was used to test Rahman and Post's (2012) instrument in the U.S. Hotel industry. All scale level items were entered into an Excel spreadsheet. All total scores were verified using by calculating the total in Excel and comparing it to the total value entered for each of the four indicators of ECSR. The data was loaded into SPSS for scale level reliability testing. According to Field (2009) α scores above .8 are a good indication of reliability. The overall reliability for the instrument in the U.S. Hotel industry is good, with α = .850. The ECSR-Credibility subscale had the highest reliability for this population with α = .81. This was followed by the ECSR-Environmental Performance subscale with α = .78, and the ECSR-Governance subscale resulted in α = .63. These values are similar to those found in Rahman and Post's (2012) original internal consistency tests of these scales, where Cronbach alpha scores ranged from .67- .89.

Data Exploration Results

Missing Values Analysis

A missing value analysis (MVA) was performed in SPSS® for all variables. An inspection of the univariate statistics resulting from the analysis indicated no missing values in the data. Following this, descriptive statistics and normality tests were run.

Descriptive Statistics

Descriptive statistics were run for all variables testing normality and linearity. The results shown in Table 1 illustrate that the variables have non-normal distributions.

Testing for statistical assumptions is important, because violations of these assumptions can lead to biased and unreliable results. There are a number of ways to determine if data meets the conditions of normality. Normally distributed data have skewness and kurtosis values equal to 0 (Field, 2009). However, Spriestersbach, Röhrig, du Prel, Gerhold-Ay, and Blettner (2009), pointed out that data with skewness between plus or minus 1, are still within the normal range, and these values were used in the current study. Outliers were assessed for each of the variables using an examination of z-scores. Field (2009) indicated that only 1% of cases should have z-scores over 2.58, and the variables in this study were analyzed for violating this level. One observation made during data retrieval was that some hotels indicated that higher levels of environmental protection and reporting would be implemented only if they were required. This is reminiscent of DesJardins (1998) concept of companies adopting a moral minimum regarding the environment, and Jamison's (2000) reactive perspective. A second observation was that hotels were only beginning to implement environmental reporting. Some of the companies had no environmental reports prior to 2010.

Table 1. Summary of Descriptive Statistics

Variable	n	*M*	sd	Skewness	Kurtosis
ECSR-Governance	140	0.45	0.90	2.04	3.28
ECSR-Credibility	140	1.69	2.21	1.44	1.09
ECSR-Environmental	140	1.25	1.56	1.30	0.48
ECSR-Overall	140	3.38	4.33	1.56	1.30
Number of Guest Rooms	140	72255.39	172594.21	2.71	5.95
Corporate Strategy Performance Measure	140	-1.19	90.40	-1.18	22.68
Corporate Accounting Performance Measure	140	1.14	9.41	2.85	16.34
Debt/Asset Ratio	140	66.26	32.22	1.24	3.47

Variable Normalcy

Outliers, visual plots, and homogeneity of variance. Outliers were assessed for each of the variables using z-scores. The z-scores and results were achieved using SPSS® syntax as presented in Field (2009) pages 102-103. The results are presented in the following section, along with the each variables description. Visual plots including histograms, P-P plots, box-plots, and Q-Q plots were generated for all variables to check for normalcy. Additionally, Levene's test for homogeneity of variance was run using the

year as a categorical factor. All independent variables and the moderating variable were included in an initial homogeneity of variance test and all dependent variables in a second. These tests were repeated after data transformations.

Data transformations were performed when necessary to reduce the influence of extreme cases and to reduce Type I errors. Data transformations are recommended for small samples (Speed, 1994), and with continuous variables (Tabachnick & Fidell, 2013). Where indicated, variables were transformed using inverse transformation as recommended by Tabachnick and Fidell (2013) for data exhibiting extreme right skewness. The following calculation was used to compute new variables: TRIN_Original_Variable_Name=1/(Original_Variable_Name+1).

ECSR-Governance. The independent variable ECSR-Governance measured a company's ECSR related actions, behaviors, and controls exhibited by internal management and external stakeholders. As seen in Figure 4, the data displayed a right-handed skewness, and the presence of outliers. With a skewness of 2.04 (z-score = 7.77), and a kurtosis of 3.28 (z-score = 6.95), the data exhibited a non-normal distribution. Scores for the Kolmogorov-Smirnov (K-S) statistic of $D(140) = .441$, $p < .001$, and Shapiro-Wilk of $W=.564$, $p < .001$ indicated a significant deviation from the norm. The Q-Q plot in Figure 4 illustrates the skewness of the data. According to Field (2009), less than 1% of data should exhibit z-scores greater than ± 2.58. The ECSR-Governance data had 6.4% of cases with z-scores greater than 2.58. The boxplot in Figure 4 illustrates the outliers. These outliers required further investigation, and an inverse transformation was

performed. Levene's test supported the stability of the variables with no significant differences of variances between years (2010-2012) with $F(2,137) = 1.94$, *ns.*

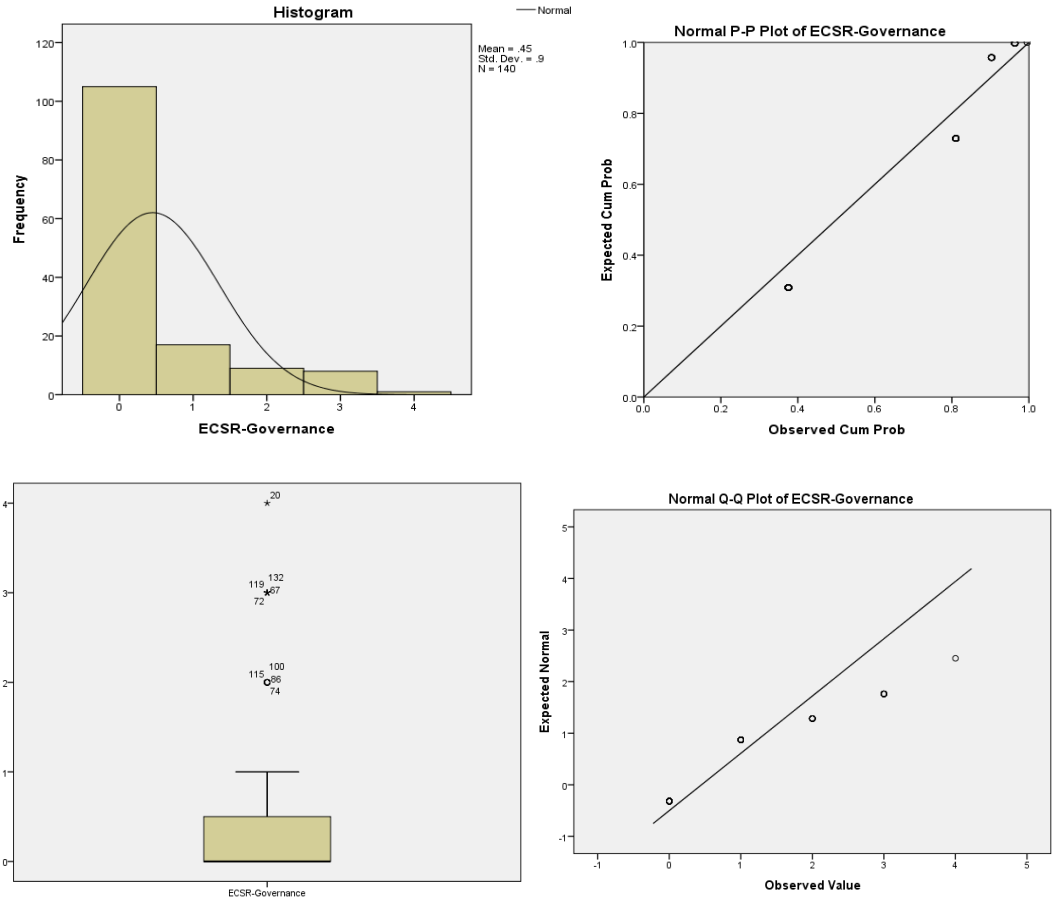

Figure 4. Normality Charts - ECSR-Governance

Inverse transformation - ECSR-Governance. An inverse transformation was performed by creating a transformed variable. A constant was added to the variable during transformation due to the presence of 0 values (Garson, 2012b; Tabachnick & Fidell, 2013). The formula for transformation was adapted from Tabachnick and Fidell (2013) and equaled: TRIN_ECSR_GV=1/(ECSR_GV+1). Transformation increased the

valid percentage of z-scores at the 1.96 level to 100%. Skewness was reduced to -1.314 (z-score = -2.27, $p < 0.05$), and kurtosis to -.59 (z-score = .63). The Kolmogorov-Smirnov (K-S) statistic of $D(140)=.463$, $p < .001$, and Shapiro-Wilk of $W=.582$, $p < .001$ were improved, but continued to indicate a deviation from the norm. Levene's test continued to show no significant differences of variances between years (2010-2012) with $F(2,137) = 0.87$, *ns*.

ECSR-Credibility. The independent variable ECSR-Credibility was defined as ECSR related reports and involvement in ECSR related associations and programs. It was measured by the total credibility data score calculated using Rahman and Post's (2012) instrument. The variable exhibited skewness 1.437 (z-score = -1.23) and for kurtosis 1.092 (z-score = -0.47), both indicating a slightly non-normal distribution. Visual examination of histograms and Q-Q plots in Figure 5 confirmed a non-normal distribution. Scores for the Kolmogorov-Smirnov (K-S) statistic of $D(140) = .265$, $p < .001$, and Shapiro-Wilk of $W = .761$, $p < .001$, indicated a significant deviation from the norm. Although there were no outliers with z-scores over 3.0, this data had 2.9% of cases with z-scores greater than 2.58. The boxplot in Figure 5 illustrates the outliers. The stability of the variables was illustrated by no significant differences of variances between years (2010-2012) with Levene's test indicating $F(2,137) = 0.64$, *ns*. The variable was transformed using inverse transformation to reduce the influence of extreme cases and increase normality.

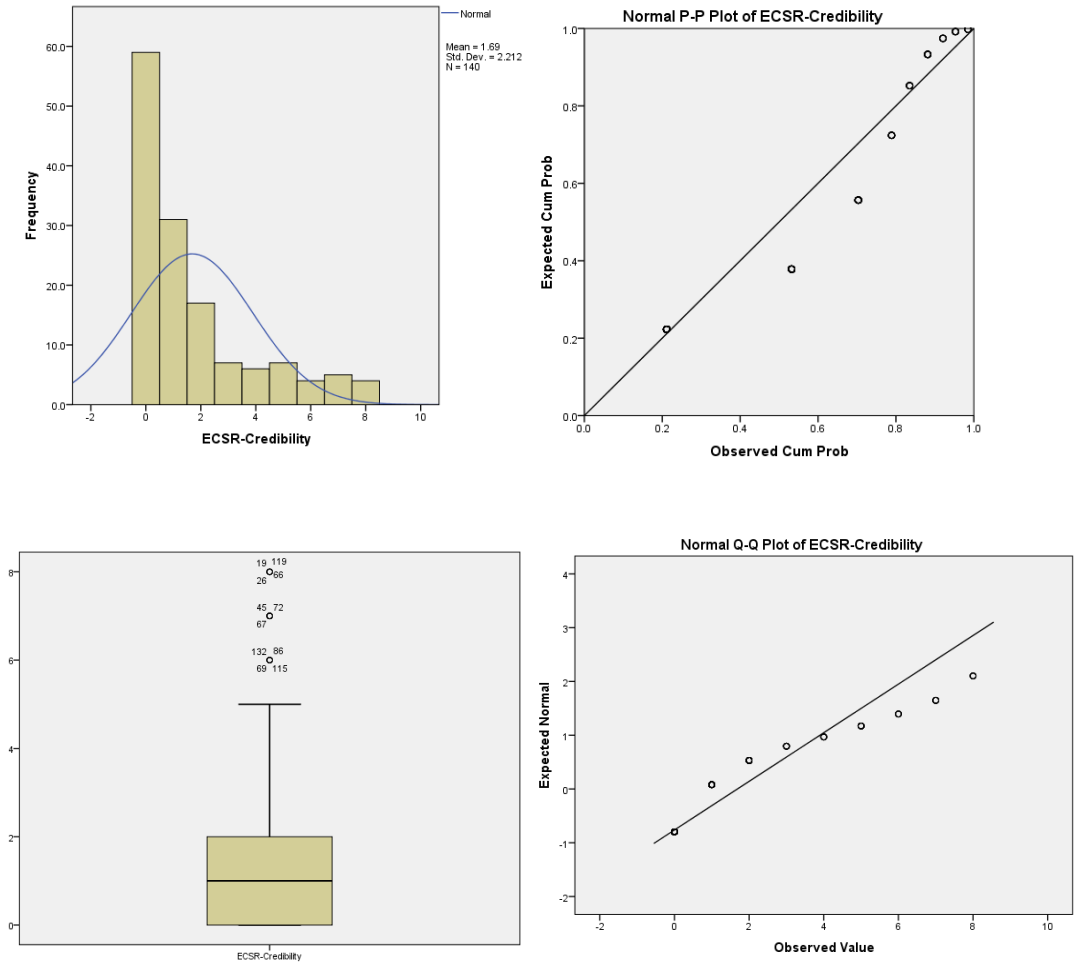

Figure 5. Normality Charts – ECSR-Credibility

Inverse transformation - ECSR-Credibility. After inverse transformation, 100% of the z-scores for the TRIN_ECSR_CR variable were less than 2. Skewness was reduced to 0.014 (z-score = -1.47), reflecting a normal distribution. Kurtosis remained abnormal at -1.69 (z-score = -2.64, $p < 0.01$). According to Tabachnick and Fidell (2013), issues of extreme positive kurtosis "disappear with samples of 100 or more cases" (p. 80). Kolmogorov-Smirnov (K-S) statistic of D(140) = .287, $p < .001$, and Shapiro-

Wilk of $W = .799$, $p < .001$ improved slightly, but remained significant. Levene's test showed no significant differences of variances between years (2010-2012) with $F(2,137) = 1.48$, *ns*. No further alteration was done to this variable.

ECSR-Environmental Performance. The independent variable ECSR-Environmental Performance was defined as corporate disclosures related to energy usage and pollution discharge. It was used to measure level of corporate environmental performance. It was operationalized using the total environmental performance indicators score calculated using Rahman and Post's (2012) instrument. The variable showed slight right-handed skewness 1.297 (z-score = .23), and normal kurtosis 0.484 (z-score = -1.88). In Figure 6 below, the histogram, P-P plot, and Q-Q plot illustrate the skewness of the variable data. The Kolmogorov-Smirnov (K-S) statistic of $D(140) = .321$, $p < .001$, and Shapiro-Wilk of $W = .751$, $p < .001$ showed a significant deviation from the norm. There were no outliers with z-scores over 3.0; the variable data had 7.1% of cases with z-scores greater than 2, but less than 2.5. The boxplot in Figure 6 illustrates the extreme scores. There was no significant differences of variances between years (2010-2012) with Levene's test indicating $F(2, 137) = 2.21$, *ns*.

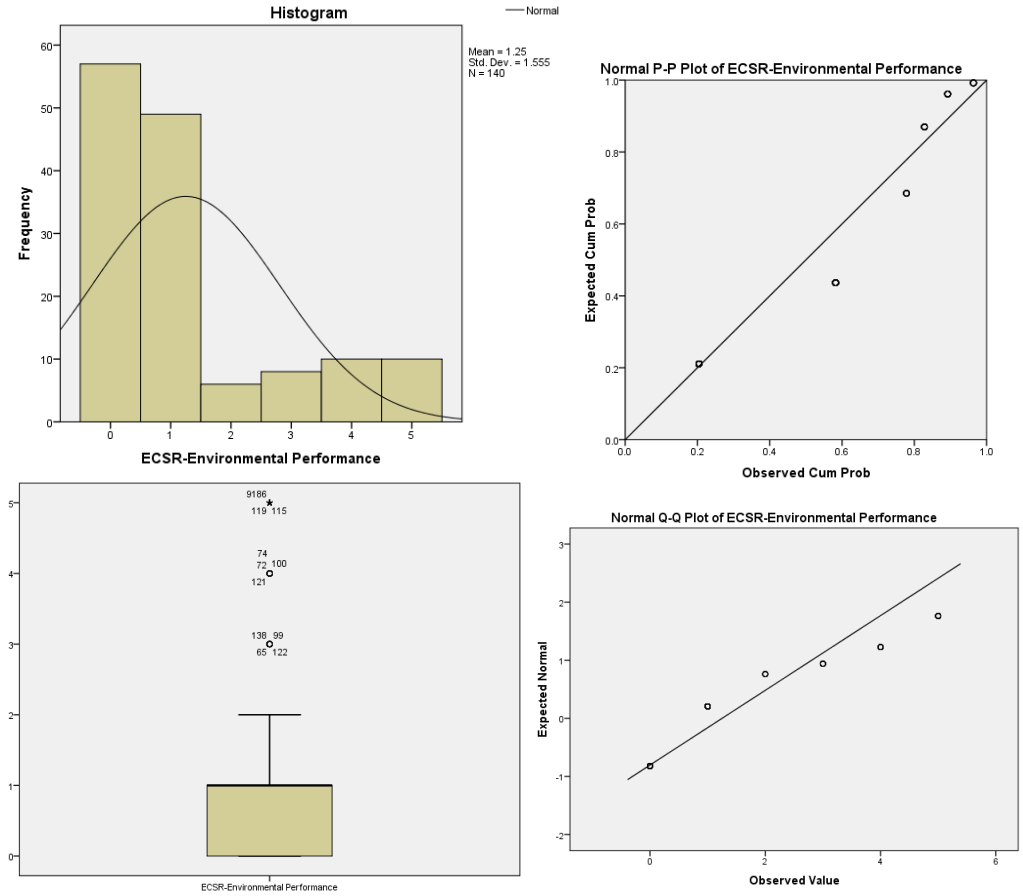

Figure 6. Normality Charts – ECSR-Environmental Performance

Inverse transformation - ECSR-Environmental Performance. Inverse transformation increased the percentage of cases with absolute z-scores less than two for TRIN_ECSR_EP to 100%. Skewness was reduced to 0.022 (z-score of -2.99, $p < 0.01$), reflecting a normal distribution. Kurtosis was increased to a significant positive level at -1.58 (z-score = -2.32, $p < 0.05$). Kolmogorov-Smirnov (K-S) statistic of $D(140) = .278$, $p < .001$, and Shapiro-Wilk of $W = .797$, $p < .001$ remained significant. There were no

significant differences of variances between years (2010-2012) with Levene's test indicating $F(2, 137) = 0.511$, *ns*. Therefore, this transformation resulted in reducing the influence of extreme cases while maintaining a normal distribution.

ECSR-Overall. The independent variable ECSR-Overall was defined as the composite level of corporate ECSR. The variable was measured as the ECSR total score calculated using Rahman and Post's (2012) instrument. The variable showed significant right-handed skewness 1.556 (z-score = -8.90, $p < .001$), and a significant positive kurtosis 1.303 (z-score = 5.10, $p < .001$). The histogram, P-P plot, and Q-Q plot in Figure 7 illustrate the skewness of the variable data. Scores for the Kolmogorov-Smirnov (K-S) statistic of $D(140) = .275$, $p < .001$, and Shapiro-Wilk of $W = .747$, $p < .001$ showed a significant deviation from the norm. There were no z-scores over 3.0, but 8.6% of cases with z-scores greater than 2. Levene's test for homogeneity of variance indicated no significant differences of variances between years (2010-2012), with $F(2, 137) = 1.27$, *ns*.

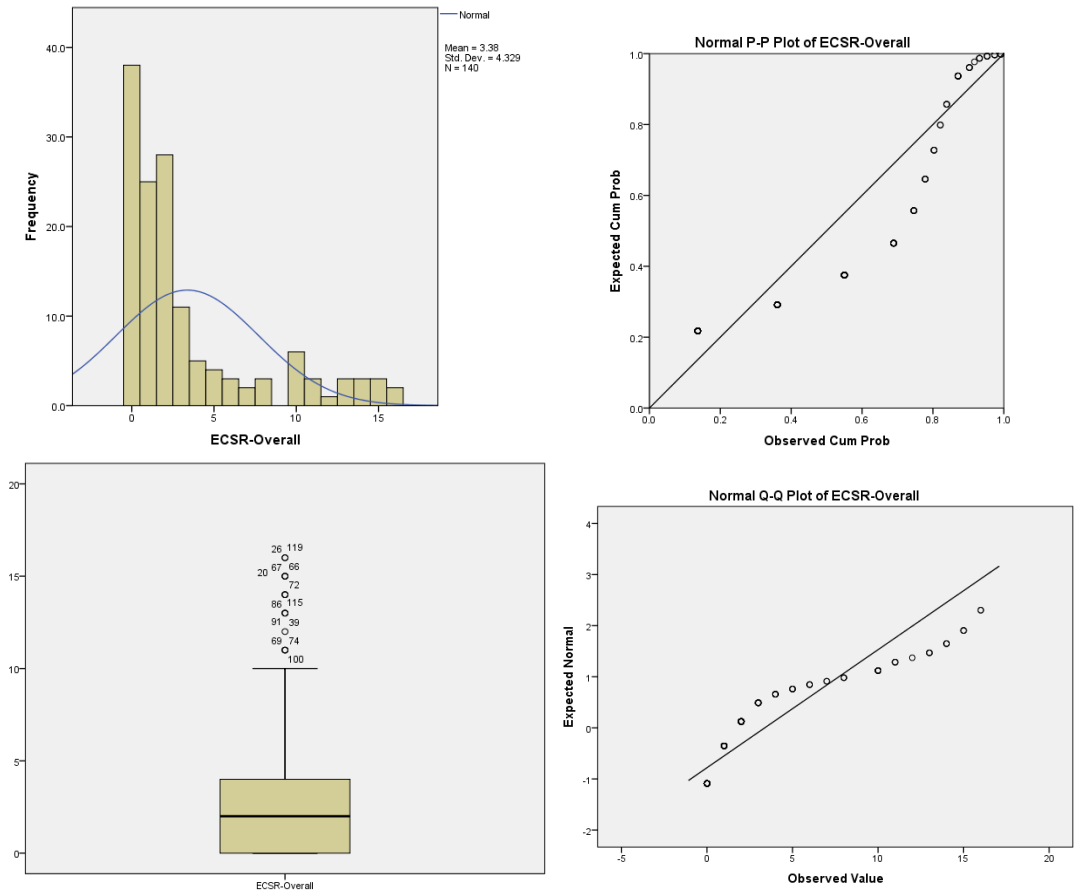

Figure 7. Normality Charts – ECSR-Overall

Inverse transformation - ECSR-Overall. Inverse transformation increased the percentage of cases with absolute z-scores less than two for TRIN_ECSR_OV to 100%. Skewness was reduced to 0.573 (z-score = .47), and kurtosis to -1.18 (z-score = -1.733). Significant non-normal distribution was found in the Kolmogorov-Smirnov (K-S) statistic of $D(140) = .211$, $p < .001$, and Shapiro-Wilk of $W = .824$, $p < .001$. Homogeneity of variance continued to show no significant differences of variances between years (2010-2012) with Levene's test indicating $F(2, 137) = 0.418$, *ns.*

Firm Size. The modifying variable, Firm Size, was defined and measured as the number of guest rooms for an individual organization. Firm size was a continuous, interval level measurement. The mode of firm size was 2,826 rooms. The variable showed extreme right-handed skewness 2.708 (z-score = -352,452.1, $p < .001$), and an extreme positive kurtosis 5.95 (z-score = 177,517.04, $p < .001$). Figure 8 illustrates the non-normal distribution in the histogram, P-P plot, and Q-Q plots. The Kolmogorov-Smirnov (K-S) statistic of $D(140) = .369$, $p < .001$, and Shapiro-Wilk of $W = .458$, $p < .001$ supported a significant deviation from the norm. The data showed a presence of outliers with 3.6% of z-scores over 3.29, an additional 3.6% of z-scores over 2.58, and 1.4% of z-scores over 1.96. Levene's test for homogeneity of variance indicated no significant differences of variances between years (2010-2012), with $F(2, 137) = 0.25$, *ns.* Inverse transformation was performed to normalize the distribution.

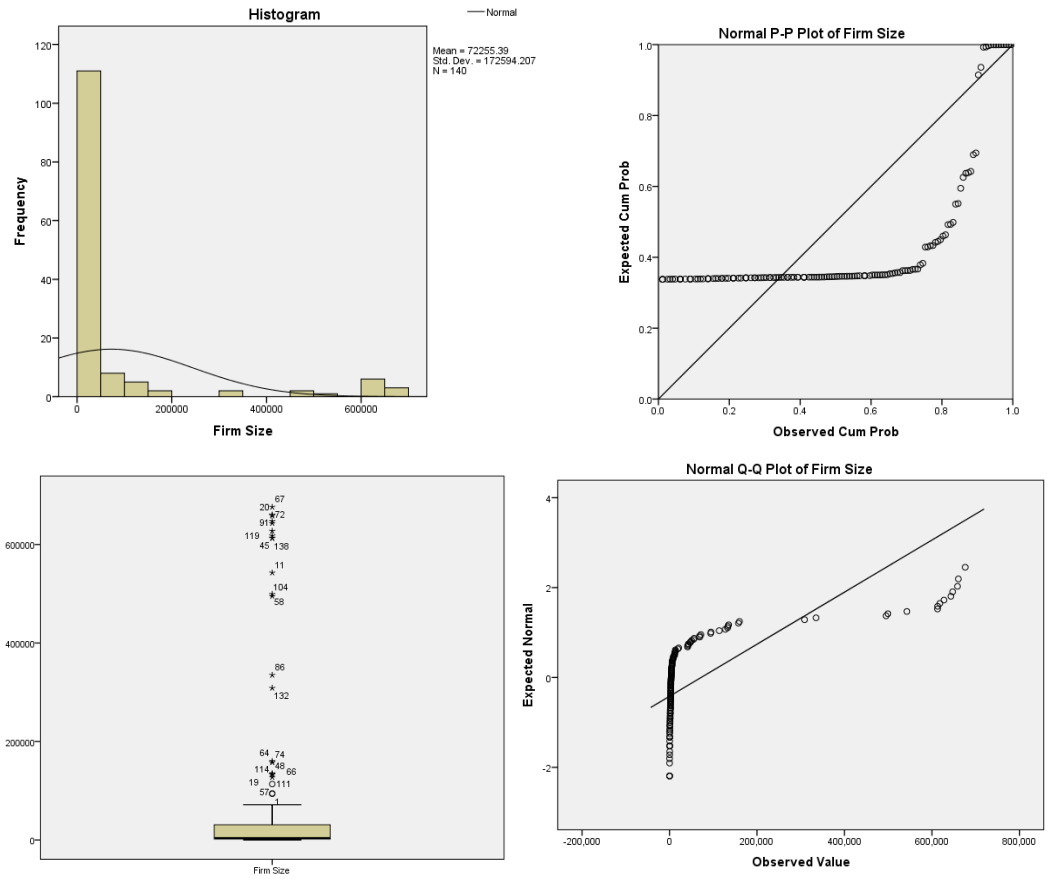

Figure 8. Normality Charts – Firm Size

Inverse transformation – Firm Size. Inverse transformation increased the percentage of cases with absolute z-scores less than 2 to 97%, however 2.1% remained as outliers with z-score values greater than 3.29. In total, 18 cases were changed to reduce the influence of outliers. A summary of changed cases for the variable appears in Appendix A, Table A1. This process increased the percentage of valid z-scores less than 2.58 to 100%. Skewness was reduced to 1.087 (z-score = 5.30, $p < .001$), and kurtosis to -.0067, (z-score = -0.16). Significant non-normal distribution was found in the

Kolmogorov-Smirnov (K-S) statistic of $D(140) = .170$, $p < .001$, and Shapiro-Wilk of $W = .810$, $p < .001$. Homogeneity of variance continued to show no significant differences of variances between years (2010-2012) with Levene's test indicating $F(2, 137) = 0.268$, *ns.*

Corporate Strategy Performance – ROA. The dependent variable a measure of corporate strategy performance was defined as the financial demonstration of corporate strategy. It measured corporate strategy performance as a company's financial return on assets (ROA). This variable data displayed a right handed skewness of 2.849 (z-score = 8.35, $p < .001$), and an extreme positive kurtosis 16.338 (z-score = 37.35, $p < .001$). Scores for the Kolmogorov-Smirnov (K-S) statistic of $D(140) = .189$, $p < .001$, and Shapiro-Wilk statistic of $W = .790$, $p < .001$, also indicated a significant deviation from the norm. In Figure 9, the visual histogram, P-P plot, and Q-Q plot in illustrate the skewness of the data, and the boxplot illustrates a single outlier. The outlier analysis confirmed that 99.3% of cases having z-scores less than 3.00, with one outlying case with a z-score greater than 3.29. No significant differences of variances were found between years (2010-2012) with Levene's test, $F(2, 137) = 0.61$, *ns.* An inverse transformation was performed to normalize the distribution.

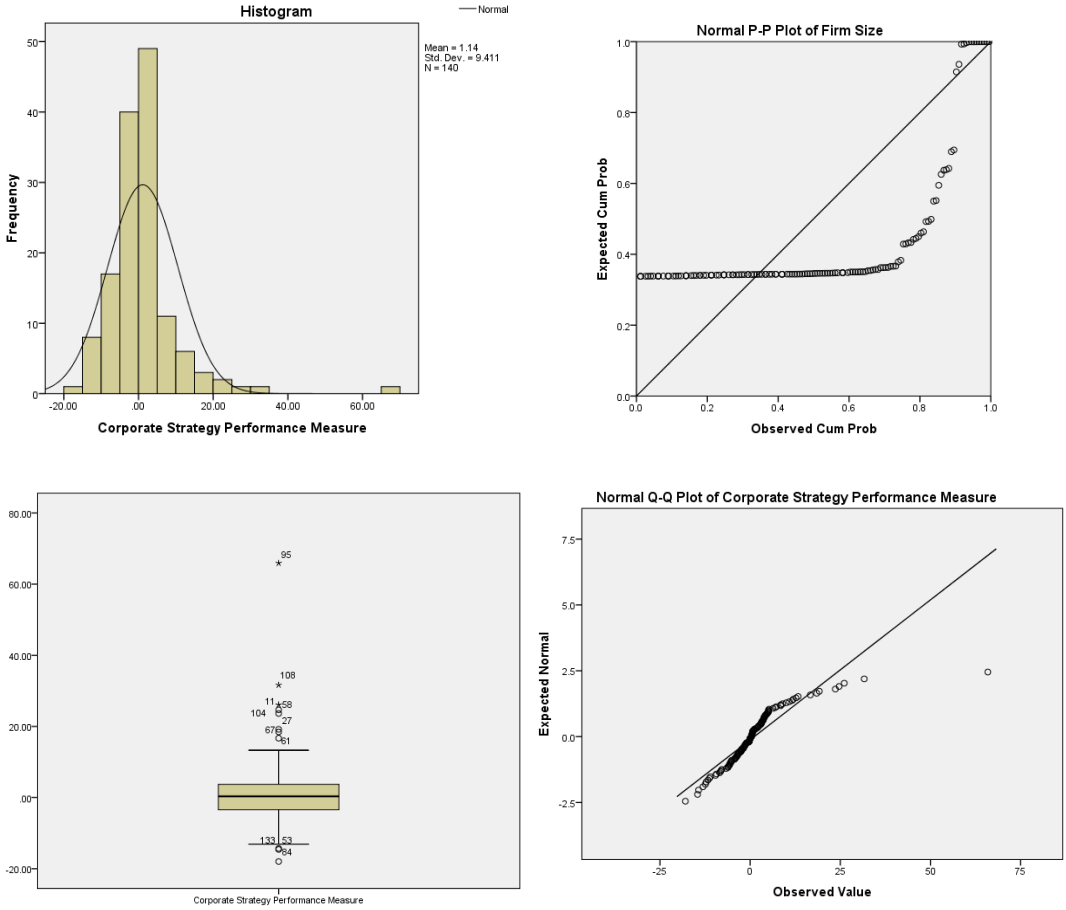

Figure 9. Normality Charts – Corporate Strategy Performance (ROA)

Inverse transformation – Corporate Strategy Performance. Inverse transformation and changing of extreme scores increased the percentage of cases with absolute z-scores less than 2.58 to 98.6%, and 100% of cases exhibited z-scores less than 3.00. Eight cases were changed to reduce the influence of outliers. A summary of changed cases for the variable appears in Appendix A, Table A2. Skewness was reduced to -.561 (z-score = -2.62, $p < 0.01$), and kurtosis to 1.217, (z-score = 2.93, $p < 0.01$). Significant non-normal distribution was found in the Kolmogorov-Smirnov (K-S) statistic of $D(140) = .119$, $p <$

.001, and Shapiro-Wilk of $W = .943$, $p < .001$. Homogeneity of variance continued to show no significant differences of variances between years (2010-2012) with Levene's test indicating $F(2, 137) = 1.40$, *ns*.

Corporate Accounting Performance – ROE. The variable a measure of corporate accounting performance was defined as a firm's financial demonstration of corporate accounting. It measured corporate accounting performance as a company's financial return on equity (ROE). As seen in Figure 10, the data displayed a near normal skewness of -1.18 (z-score = 0.04), and an extreme positive kurtosis 22.68 (z-score 52.79, $p < .001$). Scores for the Kolmogorov-Smirnov (K-S) statistic of $D(140) = .316$, $p < .001$, and Shapiro-Wilk statistic of $W = .545$, $p < .001$, indicated a significant deviation from the norm. In Figure 10, the Q-Q plot in illustrates the skewness of the data, and the boxplot illustrates the outliers. These outliers were confirmed by the 2.8% of cases having z-scores greater than 2.58. No significant differences of variances were found between years (2010-2012) with Levene's test, $F(2, 137) = 0.92$, *ns*. The outliers required further investigation, and an inverse transformation was performed.

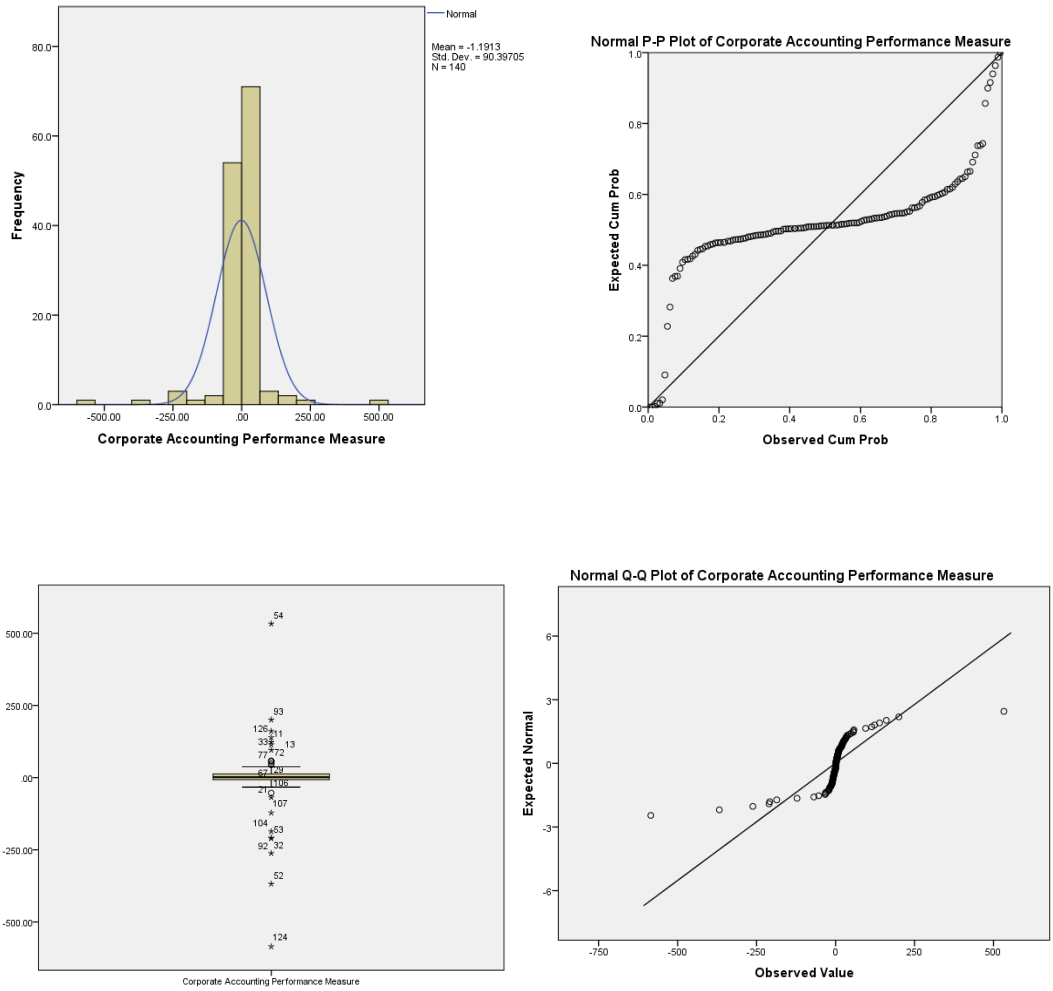

Figure 10 Normality Charts - Corporate Accounting Performance (ROE)

Transformation – Corporate Accounting Performance. An investigation to reveal outliers was performed using z-scores, Q-Q plots, and boxplots. Deleting outliers with z-scores over 3.29 resulted in increasing levels outliers with z-scores over 3.29. Data was transformed using inverse transformation. Following this, outlier scores were changed by 1-3 units over the value of Case 65 (.54). A summary of cases with changed values appears in Appendix A, Table A3.

An analysis of z-scores, histograms, and frequencies was employed in determining the base value for changing the values. Inverse transformation and changing of outlier scores resulted in increasing the valid percent of z-scores ± 1.96 to 100%, indicating a normal distribution. Skewness was reduced to .219 (z-score = .76), and Kurtosis to .431 (z-score = .91) also indicating a normal distribution. The Kolmogorov-Smirnov (K-S) statistic of $D(140) = .130$, $p < .001$, and Shapiro-Wilk statistic of $W = .944$, $p < .001$, continued to indicate deviation from the norm. Levene's test continued to show no significant differences of variances between years (2010-2012), $F(2, 137) = 0.59$, *ns.*

Corporate Risk. The variable corporate risk was defined and measured as a firm's debt ratio (debt/asset ratio) (Hull & Rothenberg, 2008; Orlitzky & Benjamin, 2001). The data displayed a right-handed skewness of 1.243 (z-score = -317.16, $p < .001$), and a positive kurtosis 3.471 (z-score = -154.27, $p < .001$). Scores for the Kolmogorov-Smirnov (K-S) statistic of $D(140) = .107$, $p < .001$, and Shapiro-Wilk statistic of $W = .929$, $p < .001$, also indicated a non-normal distribution. Figure 11 illustrates the deviations in the histogram, P-P plot, and Q-Q plot, while the boxplot illustrates the presence of outliers. Outliers were represented by 1.4% of cases having z-scores greater than 3.29. For the variable Corporate Risk, no significant differences of variances were found between years (2010-2012) with Levene's test, $F(2, 137) = 0.50$, *ns.* An inverse transformation was performed to reduce skewness and kurtosis, and reduce the influence of outliers.

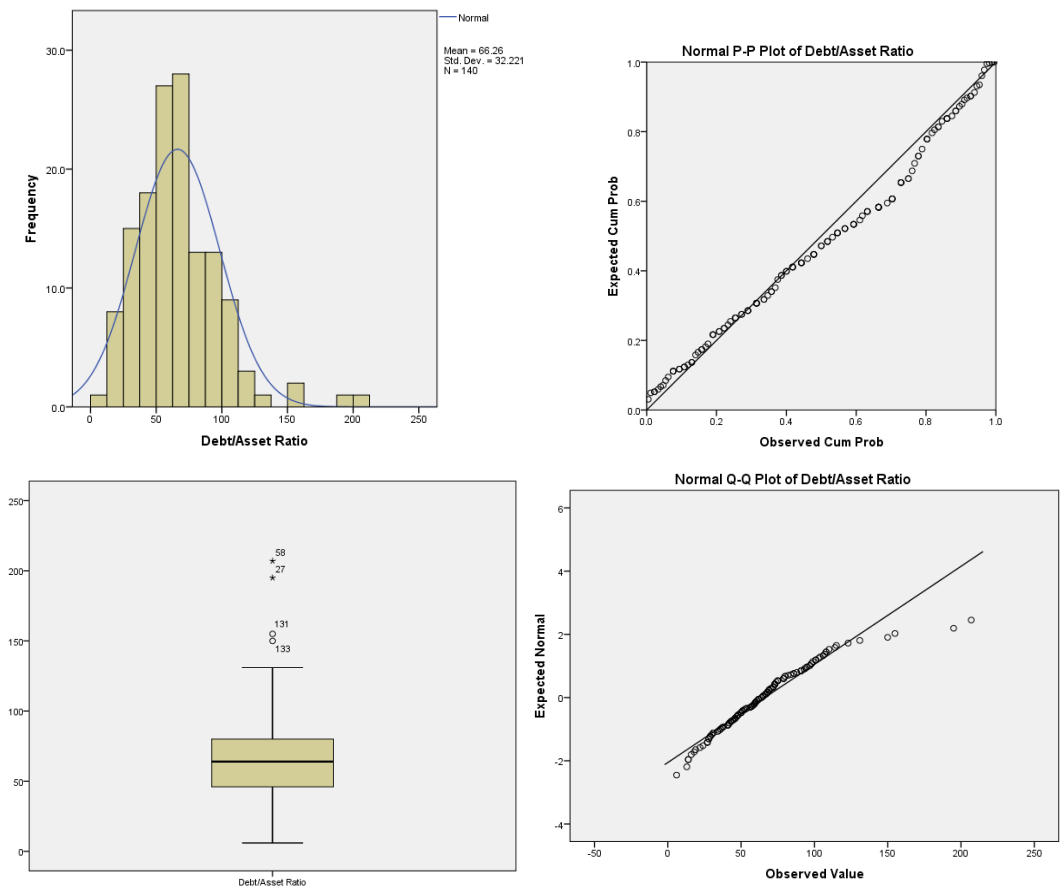

Figure 11. Normality Charts - Corporate Risk (DEBT)

Transformation – Corporate Risk. Data was transformed using inverse transformation. Changing outliers with z-scores over ± 3.29, resulted in increasing the percentage of outliers with z-scores over 3.29. This was followed by a deeper investigation of boxplots and histograms. Following this, extreme and outlying scores were changed to values 1-4 units over the value of Case 59 (.0357). Appendix A, Table A4, shows a summary of cases with changed values.

An analysis of z-scores, histograms, and frequencies was employed in determining the base value for changing the values. Inverse transformation and changing of outlier scores resulted in increasing the valid percent of z-scores less than 2.58 to 100%, indicating a normal distribution. Skewness was reduced to .972 (z-score = 4.65, $p < .001$), and Kurtosis to .035 (z-score = 0.04). The percentage of the Kolmogorov-Smirnov (K-S) statistic of $D(140) = .154$, $p < .001$, and Shapiro-Wilk statistic of $W = .888$, $p < .001$ remained significantly non-normal. Levene's test continued to show no significant differences of variances between years (2010-2012), $F(2, 137) = 0.15$, *ns.*

Hypothesis Testing

Regression analysis was chosen in this study for its ability to test moderation. It was also used to determine the existence and strength of any relationships between variables, and the ability of the independent variables to predict the dependent variable in each hypothesis. IBM® SPSS® 21 was used for the analysis. The study addresses the assumption of variable type in having all quantitative variables with at least interval level measures. All variables in this study are measured at the ratio level. The following presents the results of the statistical analysis for each of the six hypotheses.

Hypothesis 1

Hypothesis one tested whether a relationship exists between each of the four independent indicators of ECSR, and Corporate Strategy Performance (ROA). The results in Table 2 show an R^2 of .033, indicating that the predictors account for 3.3% of the variation in Corporate Strategy Performance. According to Field (2009), the adjusted R^2 will give an indication of how well this model generalizes the results, and the adjusted

R^2 value should be close to the actual R^2 value. The adjusted R^2 results for Model 1 are -0.003, indicating a 3.6% difference from R^2. Goodness-of-fit was tested using the ANOVA test in SPSS®. The results, shown in Table 3, indicated that the four independent indicators of ECSR were not significant $F(5, 134) = 0.909$, $p = .477$ in their ability to predict Corporate Strategy Performance (ROA). Table 4 provides a summary of the coefficients, significance, and confidence intervals resulting from the regression analysis for Hypothesis 1. The results of this analysis could not reject the null hypothesis, $H_0 1$, and the alternative, $H_A 1$, was rejected.

Table 2. Regression Model Summary – Hypothesis 1

Model Summary[b]

Model	R	R^2	Adjusted R^2	SE of the Estimate
1	.181[a]	.033	-.003	.65653

a. Predictors: (Constant), Transformed Inverse Firm Size, Transformed Inverse ECSR-EP, Transformed Inverse ECSR-GV, Transformed Inverse ECSR-CR, Transformed Inverse ECSR-OV.
b. Dependent Variable: Transformed Inverse ROA.

Table 3 - ANOVA – Hypothesis 1

ANOVA[a]

Model		Sum of Squares	df	Mean Square	*F*	Sig.
1	Regression	1.960	5	.392	.909	.477[b]
	Residual	57.758	134	.431		
	Total	59.717	139			

a. Dependent Variable: Transformed Inverse ROA.

b. Predictors: (Constant), Transformed Inverse Firm Size, Transformed Inverse ECSR-EP, Transformed Inverse ECSR-GV, Transformed Inverse ECSR-CR, Transformed Inverse ECSR-OV.

Table 4. Summary of Multiple Regression Coefficients – Four Identified Indicators of ECSR, Firm Size, and Corporate Strategy Performance

						95.0% C.I. for *B*	
	B	SE B	β	t	Sig.	LL	UL
(Constant)	.316	.213		1.479	.141	-.106	.737
Trans. Inv. ECSR-GV	-.456	.274	-.188	-1.662	.099	-.998	.087
Trans. Inv. ECSR-CR	-.087	.387	-.046	-.224	.823	-.852	.679
Trans. Inv. ECSR-EP	.175	.315	.086	.556	.579	-.448	.798
Trans. Inv. ECSR-OV	.028	.480	.015	.058	.954	-.921	.976
Trans. Inv. Firm Size	59.373	157.487	.037	.377	.707	-252.118	370.855

Note. Dependent Variable: Transformed Inverse ROA.

Testing Assumptions – H1. The Durbin-Watson statistic was used to test the assumption of independent errors. The result indicated a coefficient of 1.9, which is within the acceptable range of 1.5-2.5 (Garson, 2012b). The assumption of no multicollinearity between independent variables and singularity were tested using

Pearson *r* correlations, Tolerance (1-SMC) and VIF statistics. Coefficients over .9 cause an increase in standard regression errors (Tabachnick & Fidell, 2013) and bias the model. There was a high correlation between ECSR-Credibility and ECSR-Overall (r =.869, p <.001), but it fell below the cutoff.

Further collinearity testing was performed resulting in Tolerance and VIF statistics. Tolerance values for ECSR-Credibility (.169) and ECSR-Overall (.112) were both low and within the recommended cutoff values of .10 (Field, 2009) to .20 (Garson, 2012a). Additionally, VIF values ranging between 5 (Garson, 2012a) and 10 (Field, 2009) are indicative of potential multicollinearity problems. VIF values for ECSR-Credibility (5.9) and ECSR-Overall (8.9) were both high. The average VIF for the model was 4.24, within the acceptable range. Eigenvalues for ECSR-Credibility (74%) and ECSR-Environmental Performance (60%), and ECSR-Overall (93%) showed a high percentage of variance loading on dimension 6. These statistics were further indications of multicollinearity.

Residual Analysis – H1. In a population of 140, only seven cases should have standardized residual scores ± 2 *SD*s. There were only two cases (82 and 112) with scores over ± 2.58 *SD*s, which is within acceptable limits. There were no individual cases exhibiting undue influence on the model as all Cook's distance values were below 1. According to Tabachnick and Fidell (2013), cases with Mahalanobis distance values over 20.515 are indicative of outliers at $p < .001$. The data has no evidence of outliers, with the largest value in case 27, with Mahalanobis distance = 15.49. Average leverage for the model was .043, with three times this value being .129. The highest value was

found again in case 27 with a value of .111, which is acceptable. Covariance Ratios for this analysis should be between 0.87-1.13. Case 27's Covariance ratio of 1.17, exceeded the upper limit, but the Cook's distance for this case was .00565, which is well within limits.

Graphical Analysis – H1. A visual examination of residual graphs and plots was used to test regression assumptions. As seen in Figure 12, the inverse transformations performed on the variables improved the normality of the data. The assumption of homoscedasticity was met. The histogram and P-P plot illustrated a near normal distribution. These graphs were supported by a skewness of -4.6 (z-score = -2.22, $p <$ 0.5), and kurtosis 1.17 (z-score = 2.87, $p < 0.01$) for the standardized residual. These values are all within three *SD*s of the mean.

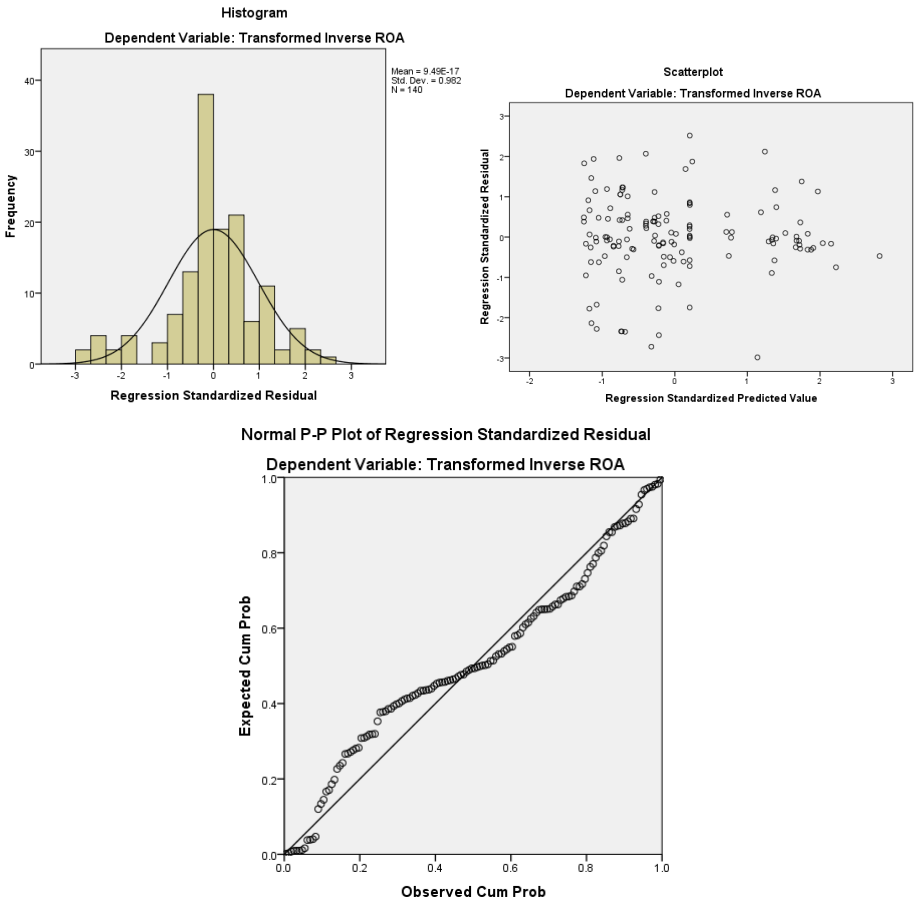

Figure 12. Normality Charts - Corporate Strategy Performance (ROA) Residual

Conclusion – Hypothesis 1. The results of the analysis support the null Hypothesis 1, rejecting the alternative. There is no significant relationship between relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry.

Hypothesis 2

Hypothesis 2 tested whether a relationship exists between each of the four independent indicators of ECSR, and a measure of Corporate Accounting Performance (ROE). The model summary in Table 5 shows an R^2 of .021, indicating that the predictors accounted for 2.1% of the variation in Corporate Accounting Performance. According to Field (2009), the adjusted R^2 will give an indication of how well this model generalizes the results, and the adjusted R^2 value should be close to the actual R^2 value. The adjusted R^2 results for Model 1 were -0.015, again representing a 3.6% difference from the value of R^2. Goodness-of-fit was tested using the ANOVA test in SPSS®. The results shown in Table 6 indicated that Model 1 is not significant F (5, 134) = 0.578, p = .716 in its ability to predict Corporate Accounting Performance (ROE). Table 7 provides a summary of the coefficients, significance, and confidence intervals resulting from the regression analysis for Hypothesis 2. The results could not reject the null hypothesis $H_0$2, rejecting H_A2.

Table 5. Regression Model Summary – Hypothesis 2

Model Summary[b]

Model	R	R^2	Adjusted R^2	SE of the Estimate
1	.145[a]	.021	-.015	.24800

a. Predictors: (Constant), Transformed Inverse Firm Size, Transformed Inverse ECSR-EP, Transformed Inverse ECSR-GV, Transformed Inverse ECSR-CR, Transformed Inverse ECSR-OV.

b. Dependent Variable: Transformed Inverse ROE.

Table 6. ANOVA – Hypothesis 2

ANOVA[a]

Model		Sum of Squares	df	Mean Square	*F*	Sig.
1	Regression	.178	5	.036	.578	.716[b]
	Residual	8.241	134	.062		
	Total	8.419	139			

a. Dependent Variable: Transformed Inverse ROE.

b. Predictors: (Constant), Transformed Inverse Firm Size, Transformed Inverse ECSR-EP, Transformed Inverse ECSR-GV, Transformed Inverse ECSR-CR, Transformed Inverse ECSR-OV.

Table 7. Summary of Multiple Regression Coefficients - Four Identified Indicators of ECSR, Firm Size, and Corporate Accounting Performance

	B	SE B	β	t	Sig.	95.0% CI for B LL	UL
(Constant)	.152	.081		1.892	.061	-.007	.312
Trans. Inv. ECSR-GV	-.093	.104	-.102	-.898	.371	-.298	.112
Trans. Inv. ECSR-CR	-.100	.146	-.141	-.681	.497	-.389	.190
Trans. Inv. ECSR-EP	.025	.119	.033	.211	.833	-.210	.260
Trans. Inv. ECSR-OV	.073	.181	.102	.401	.689	-.286	.431
Trans. Inv. Firm Size	-1.673	59.489	-.003	-.028	.978	-119.333	115.987

Note. Dependent Variable: Transformed Inverse ROE.

Testing Assumptions – H2. The Durbin-Watson statistic tested the assumption of independent errors, resulting in a value of 1.8. This statistic was within the acceptable range of 1.5-2.5 (Garson, 2012b). The assumption of no multicollinearity between independent variables and singularity were tested using Pearson *r* correlations, Tolerance

(1-SMC) and VIF statistics. There were no coefficients over .9, however a coefficient of (r =.869, p <.001) was observed between ECSR-Credibility and ECSR-Overall. Low tolerance values occurred for ECSR-Credibility (.169) and ECSR-Overall (.112), but were within recommended cutoff values of .10 (Field, 2009) to .20 (Garson, 2012a). VIF values for ECSR-Credibility (5.9) and ECSR-Overall (8.9) were high, but were below the Field's (2009) high VIF cutoff value of 10. The average VIF for the model was 4.24, which is a slightly high, but within the acceptable range. Eigenvalues for ECSR-Credibility (.74) and ECSR-Environmental Performance (.60), and ECSR-Overall (.93) showed a high percentage of variance loading on dimension 6. These statistics are indications of multicollinearity.

Residual Analysis – H2. The residuals from the regression analysis for Hypothesis 2 resulted in only one case (112) with a score over ± 2.58 *SD*s, which is within acceptable limits. All Cook's distance values were below 1, indicating there were no individual cases exhibiting undue influence on the model. The largest Mahalanobis distance value was case 27, with a distance = 15.49. This is below the outlier cutoff value of 20.515 (p < .001) advised by Tabachnick and Fidell (2013). Average leverage for the model was .043, with three times this value being .129. The highest average leverage was acceptable, and occurred in case 27 with a value of .111. Covariance Ratios for this analysis should be between 0.87-1.13. Twelve cases violated the upper and lower limits, but in all cases the Cook's distance values were negligible, indicating these cases were not influential in the model. Seven cases had covariance ratios exceeding the upper limit, ranging from 1.14-1.16, but in all cases the Cook's distance

ranged between .00-.01., indicating these cases were not influential. Five cases violated the lower ratio, ranging from .77 to .86. Again the Cook's distance for these cases was well below 1, ranging from .01 to .05, indicating non-influence.

Graphical Analysis – H2. Regression assumptions were tested through a visual examination of residual graphs and plots. Figure 13 illustrates that the inverse transformations improved the normality and linearity of the data. The scatterplot shows the assumption of homoscedasticity was met. The histogram illustrates a near normal distribution, with evidence of positive kurtosis. The P-P plot indicates skewness and kurtosis. These graphs are supported by a skewness of .283 (z-score = 1.38), and kurtosis .361 (z-score = .88) for the standardized residual. These values are all within three *SD*s of the mean, and the assumption of normality was met.

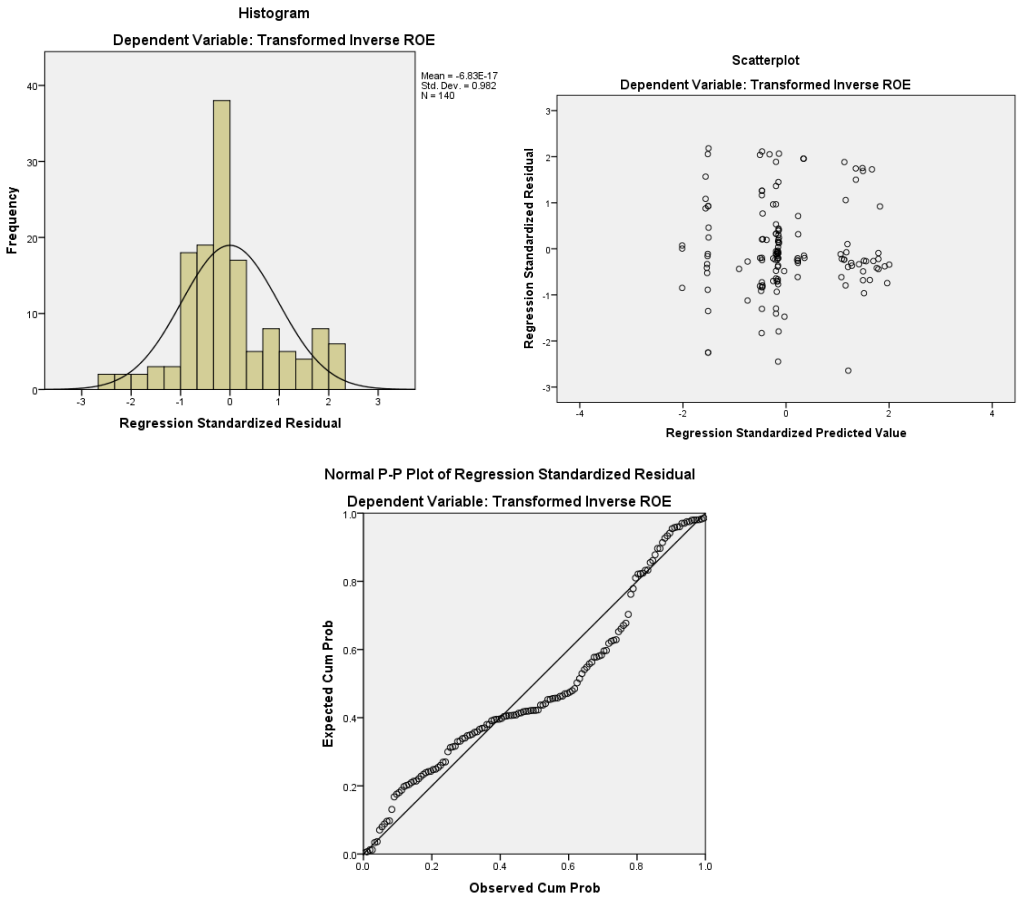

Figure 13. Normality Charts - Corporate Accounting Performance (ROE) Residual

Conclusion – Hypothesis 2. The regression analysis results could not reject $H_0 2$, therefore $H_A 2$ is rejected. There results indicate there is no significant positive relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry.

Hypothesis 3

Hypothesis 3 tested whether a relationship exists between each of the four independent indicators of ECSR, and a measure of Corporate Risk (DEBT). Table 8 shows the results for Model 1, illustrating an R^2 of .105, indicating that the predictors accounted for 10% of the variation in the measure of Corporate Risk. The adjusted R^2 value is .071, a distance of .034 from the actual R^2 value. Goodness-of-fit was tested using the ANOVA test in SPSS®. The results, shown in Table 9, indicated that the four identified indicators of ECSR explained a significant proportion of the variance of a measure of Corporate Risk (DEBT), F (5, 134) = 3.14, p = .01. As seen in the summary of coefficients in Table 10, no individual indicator significantly predicted a measure of Corporate Risk. The results reject the null hypothesis $H_0$3, and accepted the alternative H_A3.

Table 8. Regression Model Summary – Hypothesis 3

Model Summary[b]

Model	R	R^2	Adj. R^2	SE of the Estimate
1	.324[a]	.105	.071	.00796

a. Predictors: (Constant), Transformed Inverse Firm Size, Transformed Inverse ECSR-EP, Transformed Inverse ECSR-GV, Transformed Inverse ECSR-CR, Transformed Inverse ECSR-OV.

b. Dependent Variable: Transformed Inverse DEBT.

Table 9. ANOVA – Hypothesis 3

ANOVA[a]

Model		Sum of Squares	df	Mean Square	*F*	Sig.
1	Regression	.001	5	.000	3.140	.010[b]
	Residual	.008	134	.000		
	Total	.009	139			

a. Dependent Variable: Transformed Inverse DEBT.

b. Predictors: (Constant), Transformed Inverse Firm Size, Transformed Inverse ECSR-EP, Transformed Inverse ECSR-GV, Transformed Inverse ECSR-CR, Transformed Inverse ECSR-OV.

Table 10. Summary of Multiple Regression Coefficients - Four Identified Indicators of ECSR, Firm Size, and A Measure of Corporate Debt

Coefficients[a]

						95.0% CIl for B	
	B	SE	β	t	Sig.	LL	UL
(Constant)	.017	.003		6.741	.000	.012	.023
Trans. Inv. ECSR-GV	-.003	.003	-.084	-.771	.442	-.009	.004
Trans. Inv. ECSR-CR	.008	.005	.349	1.759	.081	-.001	.018
Trans. Inv. ECSR-EP	-.006	.004	-.243	-1.639	.103	-.014	.001
Trans. Inv. ECSR-OV	.003	.006	.130	.533	.595	-.008	.015
Trans. Inv. Firm Size	.249	1.909	.012	.131	.896	-3.526	4.025

a. Dependent Variable: Transformed Inverse DEBT.

Testing Assumptions – H3. The assumption of independence of errors was tested using the Durbin-Watson statistic, which resulted in an acceptable coefficient of 2.19. This value was within Garson's (2012b) acceptable range of 1.5-2.5. The

assumption of no multicollinearity between independent variables and singularity were tested using Pearson *r* correlations, Tolerance (1-SMC) and VIF statistics. Coefficients over .9 cause an increase in standard regression errors (Tabachnick & Fidell, 2013) and bias the model. There was a high correlation between ECSR-Credibility and ECSR-Overall (r =.869, p <.001), but it fell below the cutoff. Therefore, the model met the assumption of no multicollinearity.

Further collinearity testing was performed resulting in Tolerance and VIF statistics. Tolerance levels below .10 are indicative of multicollinearity (Field, 2009). Tolerance values for ECSR-Credibility (.169) and ECSR-Overall (.112) were both low and within the recommended cutoff. Additionally, VIF values ranging between 5 (Garson, 2012a) and 10 (Field, 2009) are indicative of potential multicollinearity problems. VIF values for ECSR-Credibility (5.9) and ECSR-Overall (8.9) were both high. The average VIF for the model was 4.24, within the acceptable range. Eigenvalues for ECSR-Credibility (74%) and ECSR-Environmental Performance (60%), and ECSR-Overall (93%) showed a high percentage of variance loading on dimension 6. These statistics are further indications of multicollinearity.

Residual Analysis – H3. An analysis of residuals from the regression analysis for Hypothesis 3 showed no cases of scores over ± two *SD*s. All Cook's distance values were below 1, with the maximum value of .053, indicating there were no individual cases exhibiting undue influence on the model. The largest Mahalanobis distance value was case 27, with a distance = 15.49. This is below the outlier cutoff value of 20.515 (p < .001) advised by Tabachnick and Fidell (2013). Average leverage for the model is .043,

with three times this value being .129. The highest average leverage was acceptable, and occurred in case 27, with a value of .111. Covariance Ratios for this analysis should be between 0.87-1.13. A total of six cases violated the ranges, but each had Cook's distances less than .03, indicating these cases were not influential on the model. Two cases (127 and 140) exceeded the limit at 1.14, but had Cook's distances of .00-.01. Four cases (12, 43, 59, and 114) had a covariance ratios ranging from .82-.83, all with Cook's distances of .02.

Graphical Analysis – H3. Regression assumptions were tested through a visual examination of residual graphs and plots shown in Figure 14. The scatterplot shows the assumptions of linearity and homoscedasticity have been met. The histogram illustrates a near normal distribution, with evidence of positive skewness and kurtosis. The P-P plot indicates slight skewness and kurtosis. These graphs are supported by a skewness of .698 (z-score = 3.40, $p < .001$), and kurtosis .361 (z-score = 3.71, $p < .001$) for the standardized residual. These skewness and kurtosis values indicated the assumption of normality was met, but the results are not generalizable outside of this sample.

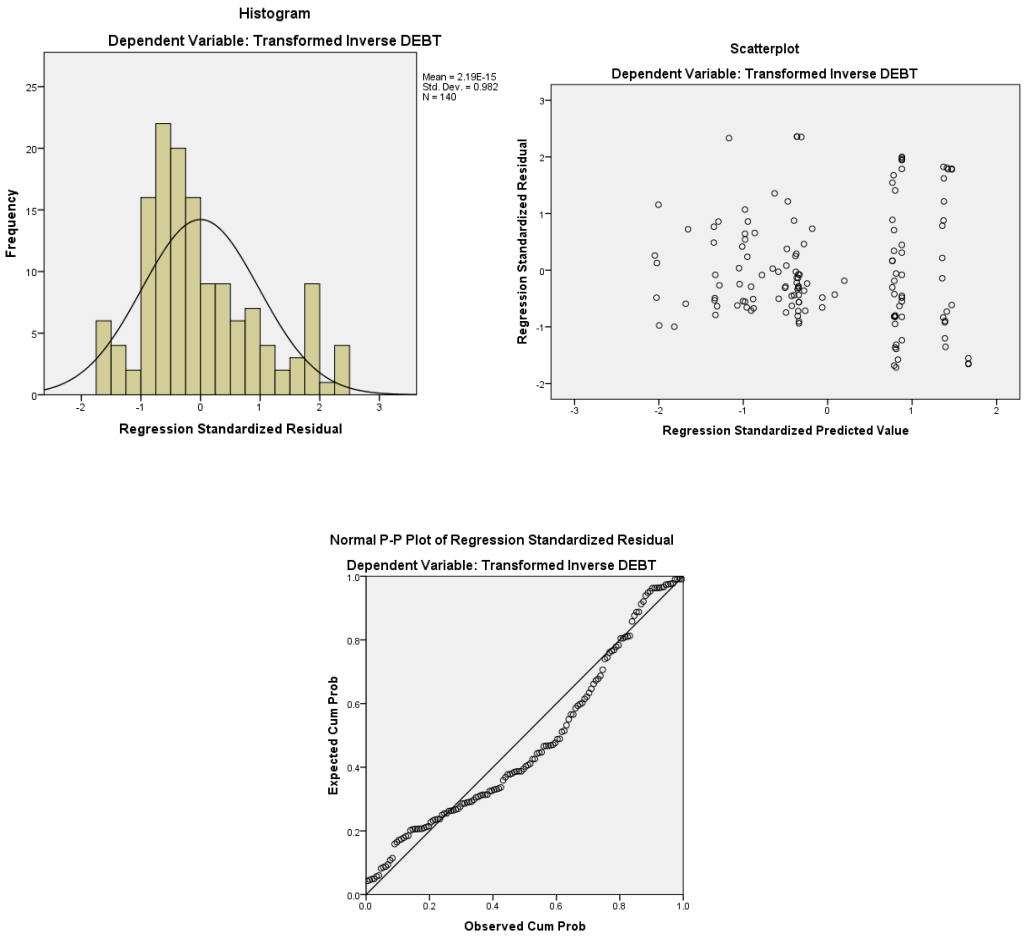

Figure 14. Normality Charts – A Measure of Corporate Risk (DEBT) Residual

Conclusion – Hypothesis 3. The regression analysis results rejected the null hypothesis $H_0 3$, and the alternative $H_A 3$ was accepted. The results indicated a significant relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry. The four identified ECSR indicators significantly predicted a

measure of Corporate Risk $R^2 = .105$, $F\ (5, 134) = 3.14$, $p = .01$. However, no individual indicator exhibited a significant ability to predict a measure of Corporate Risk (DEBT).

Hypothesis 4

Hypothesis four tested the ability of firm size to influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and corporate strategy performance in the U.S. hotel industry. The results of the regression analysis in Table 11 show an R^2 of .038, indicating that the interaction of firm size with the four identified ECSR indicators accounts for 3% of the variation in the measure of corporate strategy performance. The adjusted R^2 value -.029, was a distance of .067 from the actual R^2 value. Goodness-of-fit was tested using the ANOVA test in SPSS®. The results, shown in Table 12, indicated that interaction of firm size with the four identified indicators of ECSR could not explain a significant proportion of the variance of a measure of corporate strategy performance (ROA), $F\ (9, 130) = .565$, $p = .823$. As seen in the summary of coefficients in Table 13, no individual indicator significantly predicted a measure of corporate strategy performance. The results could not reject the null hypothesis $H_0 4$.

Table 11. Regression Model Summary – Hypothesis 4

Model Summary[b]

Model	R	R^2	Adj. R^2	SE of the Estimate
1	.194[a]	.038	-.029	.66487

a. Predictors: (Constant), TRIN_ECSR_OV * TRIN_FIRM_SIZE, Transformed Inverse ECSR-GV, Transformed Inverse ECSR-EP, Transformed Inverse ECSR-CR, Transformed Inverse Firm Size, Transformed Inverse ECSR-OV, TRIN_ECSR_CR * TRIN_FIRM_SIZE, TRIN_ECSR_EP * TRIN_FIRM_SIZE, TRIN_ECSR_GV * TRIN_FIRM_SIZE.

b. Dependent Variable: Transformed Inverse ROA.

Table 12. ANOVA – Hypothesis 4

ANOVA[a]

Model		Sum of Squares	df	Mean Square	*F*	Sig.
1	Regression	2.249	9	.250	.565	.823[b]
	Residual	57.468	130	.442		
	Total	59.717	139			

a. Dependent Variable: Transformed Inverse ROA.

b. Predictors: (Constant), TRIN_ECSR_OV * TRIN_FIRM_SIZE, Transformed Inverse ECSR-GV, Transformed Inverse ECSR-EP, Transformed Inverse ECSR-CR, Transformed Inverse Firm Size, Transformed Inverse ECSR-OV, TRIN_ECSR_CR * TRIN-FIRM_SIZE, TRIN_ECSR_EP * TRIN_FIRM_SIZE, TRIN_ECSR_GV * TRIN_FIRM_SIZE.

Table 13. Summary of Multiple Regression Coefficients – Four Identified Indicators of ECSR, Firm Size, Interaction Terms, and Corporate Strategy Performance

Coefficients[a]

						95.0% CI for B	
	B	SE	β	t	Sig.	LL	UL
(Constant)	.337	.244		1.378	.170	-.147	.820
Trans. Inv. ECSR-GV	-.359	.374	-.148	-.960	.339	-1.098	.380
Trans. Inv. ECSR-CR	-.399	.592	-.213	-.674	.501	-1.570	.772
Trans. Inv. ECSR-EP	.131	.461	.064	.284	.777	-.782	1.044
Trans. Inv. ECSR-OV	.282	.755	.149	.373	.710	-1.211	1.775
Trans. Inv. Firm Size	-355.084	1645.109	-.220	-.216	.829	-3609.735	2899.568
TRIN_ECSR_GV *TRIN_FIRM_SIZE	-34.085	1433.269	-.021	-.024	.981	-2869.635	2801.466
TRIN_ECSR_CR*TRIN_FIRM_SIZE	783.146	1003.919	.477	.780	.437	-1202.987	2769.280
TRIN_ECSR_EP * TRIN_FIRM_SIZE	360.101	1541.335	.196	.234	.816	-2689.247	3409.449
TRIN_ECSR_OV* TRIN_FIRM_SIZE	-715.604	1683.585	-.385	-.425	.672	-4046.376	2615.168

a. Dependent Variable: Transformed Inverse ROA.

Testing Assumptions – H4. The assumption of independence of errors was tested using the Durbin-Watson statistic, which resulted in an acceptable coefficient of 1.93. This value is within Garson's (2012b) acceptable range of 1.5 - 2.5. The assumptions of no multicollinearity between independent variables and singularity were tested using Pearson *r* correlations, Tolerance (1-SMC), and VIF statistics. According to Tabachnick and Fidell (2013), coefficients over .9 cause an increase in standard regression. There was a significant correlation between firm size and the interaction of firm size with ECSR-Governance ($r = .984$, $p < .001$) and the interaction of firm size with ECSR-Credibility ($r = .933$, $p < .001$). There was also a significant correlation between the interaction of firm size with ECSR-Governance, and the interaction of firm size with ECSR-Credibility ($r = .948$, $p < .001$). An additional significant correlation was found between the interaction of firm size with ECSR-Credibility, and the interaction of firm size with ECSR-Overall ($r = .926$, $p < .001$). The model indicated multicollinearity.

The inclusion of interaction terms in this analysis caused a substantial increase in collinearity, found in the examination of Tolerance and VIF statistics. Only transformed inverse ECSR-Governance (Tolerance = .312), and transformed inverse ECSR-Environmental Performance (Tolerance = .145), exhibited Tolerance values between .10 and .20. These two variables also had acceptable VIF statistics, with transformed inverse ECSR-Governance (3.2), and transformed inverse ECSR-Environmental Performance (6.9). All other variables had Tolerance values ranging between .074 – .007, violating the low cutoff of .10. Additionally, all other VIF values ranged from 13.46 – 140.75, well over the cutoff value of 10 (Field, 2009). The model indicated serious

multicollinearity problems. Eigenvalues for firm size (92%), the interaction of firm size with ECSR-Governance (67%), the interaction of firm size with ECSR-Environmental Performance (83%), and the interaction of firm size with ECSR-Overall (79%) showed a high percentage of variance loading on dimension 10. These statistics indicated a high level of multicollinearity in this model. According to Field (2009), the best solution for multicollinearity is to report it. Therefore, the interaction of firm size with the four identified indicators of ECSR led to an increase in the multicollinearity of all predictors with the exception of transformed inverse ECSR-Governance (Tolerance = .312, VIF = 3.2), and transformed inverse ECSR-Environmental Performance (Tolerance = .145, VIF = 6.9).

Residual Analysis – H4. The residuals from the regression analysis for Hypothesis 4 resulted in only one case (112) with a score over ± 2.58 *SD*s, and no cases over ± three *SD*s, which is within acceptable limits. All Cook's distance values were below 1, indicating there were no individual cases exhibiting undue influence on the model. The largest influence on the model was seen with case 127, which had a Mahalanobis distance value of 60.30, and a Cook's distance of .09, centered leverage value of .43, and a covariance ratio of 1.77. The outlier cutoff value for this analysis was 27.877 ($p < .001$) (Tabachnick & Fidell, 2013). There were a total of six cases with Mahalanobis distance's that violated this cutoff, ranging from 32.53 – 60.30, with Cook's distances ranging from .00 – .19, indicating no influence on the model. Tabachnick and Fidell (2013) warned that Mahalanobis distance can be an unreliable indicator of outliers in the presence of multicollinearity.

Average leverage for the model was .071, with three times the average leverage (.214) used as a cutoff. Three cases had centered leverage values exceeding the cutoff: case 27 (.234), case 32 (.306), and case 75 (.328). Covariance Ratios for this analysis should be between 0.79 – 1.21. Seventeen cases violated the upper and lower limits, but in all cases the Cook's distance values were below 1, indicating these cases were not influential in the model. Twelve cases had covariance ratios exceeding the upper limit, ranging from 1.23 – 1.77, and five cases violated the lower ratio, ranging from .54 – .75. Again the Cook's distance values for these cases were well below 1, indicating non-influence.

Graphical Analysis – H4. Regression assumptions were tested through a visual examination of residual graphs and plots shown in Figure 15. The scatterplot shows the assumptions of linearity and homoscedasticity were met. The histogram illustrates a near normal distribution, with evidence of positive skewness and kurtosis. The P-P plot indicates slight skewness and kurtosis. These graphs are supported by a skewness of -.385 (z-score = -1.89), and kurtosis 1.08 (z-score = 2.65, $p < 0.01$) for the standardized residual. These skewness and kurtosis values indicated the assumption of normality was met.

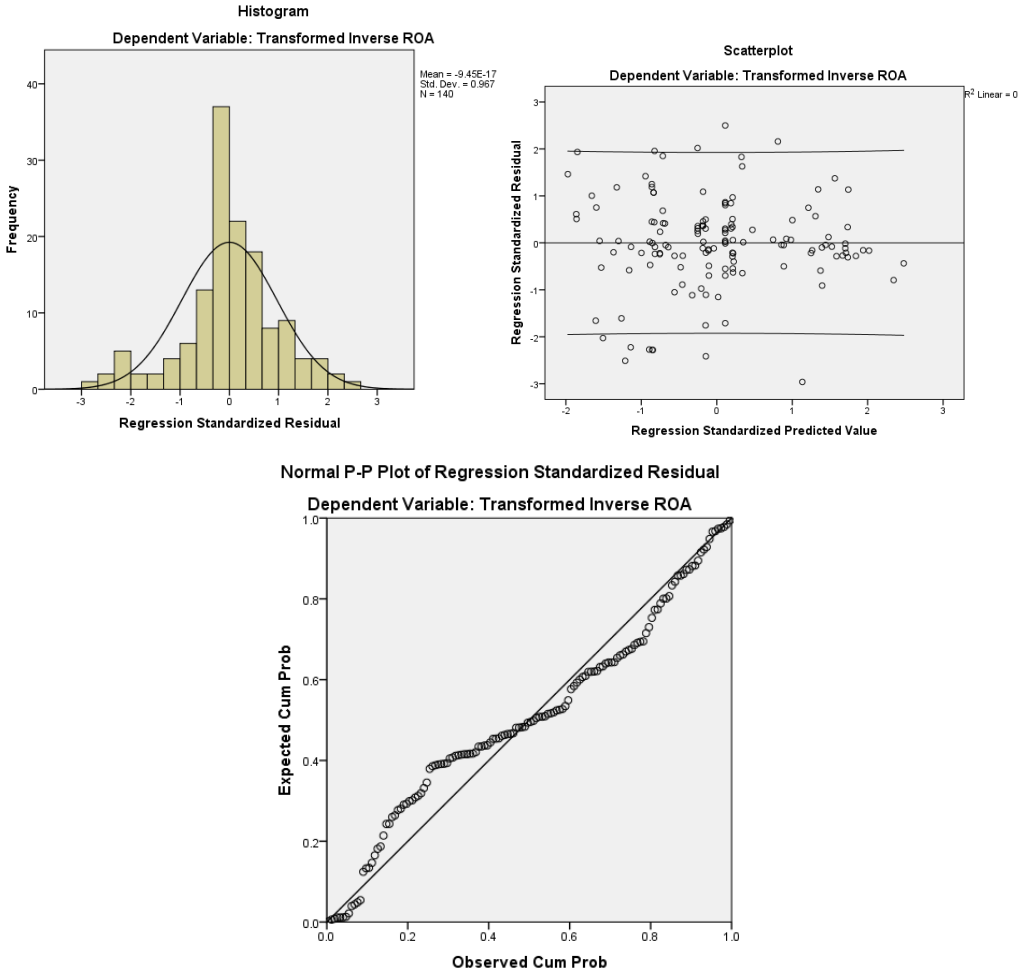

Figure 15. Normality Charts – Hypothesis 4 - Corporate Strategy Performance (ROA) Residual

Conclusion – Hypothesis 4. The regression analysis results could not reject the null hypothesis $H_0$4. Testing of assumptions revealed the inclusion of interaction terms in the model increased the levels of multicollinearity between the independent variables. The assumption of independence of errors was met. Residual analysis revealed four cases violating the Mahalanobis distance cutoff, three violating the average leverage cutoff, and seventeen violating upper and lower covariance ratio thresholds. With all

Cook's distance levels below 1, these figures were not considered influential. A graphical analysis indicated the regression assumptions were met. The results could not reject the hypothesis that firm size does not influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry. The model showed indications of multicollinearity and bias.

Hypothesis 5

Hypothesis five tested the ability of firm size to influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry.

The results of the regression analysis in Table 14 show an R^2 of .029, indicating that the interaction of firm size with the four identified ECSR indicators accounts for 2.9% of the variation in the measure of corporate accounting performance. The adjusted R^2 value was -.039, a distance of .068 from the actual R^2 value. Goodness-of-fit was tested using the ANOVA test in SPSS®. The results, shown in Table 15, indicated that interaction of firm size with the four identified indicators of ECSR could not explain a significant proportion of the variance of a measure of corporate accounting performance (ROE), F (9, 130) = .424, p = .920. As seen in Table 16, no individual indicator significantly predicted a measure of corporate accounting performance. The results could not reject the null hypothesis $H_0$5.

Table 14. Regression Model Summary – Hypothesis 5

Model Summary[b]

Model	R	R^2	Adj. R^2	SE of the Estimate
1	.169[a]	.029	-.039	.25083

a. Predictors: (Constant), TRIN_ECSR_OV * TRIN_FIRM_SIZE, Transformed Inverse ECSR-GV, Transformed Inverse ECSR-EP, Transformed Inverse ECSR-CR, Transformed Inverse Firm Size, Transformed Inverse ECSR-OV, TRIN_ECSR_CR * TRIN-FIRM_SIZE, TRIN_ECSR_EP * TRIN_FIRM_SIZE, TRIN_ECSR_GV * TRIN_FIRM_SIZE.

b. Dependent Variable: Transformed Inverse ROE.

Table 15. ANOVA – Hypothesis 5

ANOVA[a]

Model		Sum of Squares	df	Mean Square	*F*	Sig.
1	Regression	.240	9	.027	.424	.920[b]
	Residual	8.179	130	.063		
	Total	8.419	139			

a. Dependent Variable: Transformed Inverse ROE.

b. Predictors: (Constant), TRIN_ECSR_OV * TRIN_FIRM_SIZE, Transformed Inverse ECSR-GV, Transformed Inverse ECSR-EP, Transformed Inverse ECSR-CR, Transformed Inverse Firm Size, Transformed Inverse ECSR-OV, TRIN_ECSR_CR * TRIN-FIRM_SIZE, TRIN_ECSR_EP * TRIN_FIRM_SIZE, TRIN_ECSR_GV * TRIN_FIRM_SIZE.

Table 16. Summary of Multiple Regression Coefficients – Four Identified Indicators of ECSR, Firm Size, Interaction Terms, and Corporate Accounting Performance

Coefficients[a]							
						95.0% Confidence Interval for *B*	
	B	SE	β	t	Sig.	LL	UL
(Constant)	.193	.092		2.095	.038	.011	.376
Trans. Inv. ECSR-GV	-.133	.141	-.146	-.946	.346	-.412	.146
Trans. Inv. ECSR-CR	-.128	.223	-.182	-.575	.566	-.570	.313
Trans. Inv. ECSR-EP	-.030	.174	-.040	-.175	.861	-.375	.314
Trans. Inv. ECSR-OV	.162	.285	.228	.570	.570	-.401	.725
Trans. Inv. Firm Size	-590.872	620.636	-.976	-.952	.343	-1818.727	636.982
TRIN_ECSR_GV* TRIN_FIRM_SIZE	462.202	540.717	.760	.855	.394	-607.542	1531.946
TRIN_ECSR_CR* TRIN-FIRM_SIZE	186.146	378.740	.302	.491	.624	-563.146	935.437
TRIN_ECSR_EP* TRIN_FIRM_SIZE	458.456	581.486	.666	.788	.432	-691.946	1608.857
TRIN_ECSR_OV* TRIN_FIRM_SIZE	-528.039	635.152	-.757	-.831	.407	-1784.611	728.533

a. Dependent Variable: Transformed Inverse ROE.

Testing Assumptions – H5. The assumption of independence of errors was tested using the Durbin-Watson statistic, resulting in an acceptable coefficient of 1.81. This value is within Garson's (2012b) acceptable range of 1.5-2.5. The assumption of no multicollinearity between independent variables and singularity were tested using Pearson *r* correlations, Tolerance (1-SMC), and VIF statistics. According to Tabachnick

and Fidell (2013), coefficients over .9 cause an increase in standard regression. There was a significant correlation between firm size and the interaction of firm size with ECSR-Governance ($r = .984$, $p < .001$). There was also a significant correlation between firm size and the interaction of firm size with ECSR-Credibility ($r = .933$, $p < .001$). There was also a significant correlation between the interaction of firm size with ECSR-Governance, and the interaction of firm size with ECSR-Credibility ($r = .948$, $p < .001$). An additional significant correlation was found between the interaction of firm size with ECSR-Credibility, and the interaction of firm size with ECSR-Overall ($r = .926$, $p < .001$). The model indicated multicollinearity.

A substantial increase in collinearity was also found in the examination of Tolerance and VIF statistics. Only transformed inverse ECSR-Governance (Tolerance = .312), and transformed inverse ECSR-Environmental Performance (Tolerance = .145) exhibited a Tolerance values between .10 and .20. These two variables also had acceptable VIF statistics with transformed inverse ECSR-Governance (3.21), and transformed inverse ECSR-Environmental Performance (6.91). All other variables had Tolerance values ranging between .007 – .074, violating the low cutoff of .10. Additionally, all other VIF values ranged from 13.46 – 140.75, well over the cutoff value of 10 (Field, 2009). The model indicated serious multicollinearity problems. Eigenvalues for Firm size (92%), the interaction of firm size with ECSR-Governance (67%), the interaction of firm size with ECSR-Environmental Performance (83%), and the interaction of firm size with ECSR-Overall (79%) showed a high percentage of variance loading on dimension 10. These statistics indicated a high level of

multicollinearity in this model. According to Field (2009), the best solution for multicollinearity is to report it. Therefore, the interaction of firm size with the four identified indicators of ECSR led to an increase in the multicollinearity of all predictors with the exception of transformed inverse ECSR-Governance (Tolerance = .312, VIF = 3.2), and transformed inverse ECSR-Environmental Performance (Tolerance = .145, VIF = 6.9).

Residual Analysis – H5. The residuals from the regression analysis for Hypothesis 5 resulted in only one case (112) with a score over ± 2.58 *SD*s, and no cases over ± three *SD*s, which is within acceptable limits. All Cook's distance values were below 1, indicating there were no individual cases exhibiting undue influence on the model. The largest Mahalanobis distance was seen with case 127, which had a value of 60.30, and a Cook's distance of .09, centered leverage value of .43, and a covariance ratio of 1.77. The Mahalanobis distance cutoff value for this analysis was 27.877 ($p < .001$) (Tabachnick & Fidell, 2013). There were a total of six cases with Mahalanobis distance's that violated this cutoff, ranging from 32.53 – 60.30, with Cook's distances ranging from .00 – .13, indicating no influence on the model. According to Tabachnick and Fidell (2013), Mahalanobis distance can be an unreliable indicator of outliers in the presence of multicollinearity.

Average leverage for the model is .071, with three times the average leverage (.214), used as a cutoff. Covariance Ratios for this analysis should be between 0.79 – 1.21. The same six cases exceeding Mahalanobis distance cutoffs also had centered leverage values exceeding the cutoff ranging from .234 – .434. Covariance Ratios for

this analysis should be between 0.79 – 1.21. Nineteen cases violated the upper and lower limits, but in all cases the Cook's distance values were below 1, indicating these cases were not influential in the model. Fourteen cases had covariance ratios exceeding the upper limit, ranging from 1.23 – 1.78, and five cases violated the lower ratio, ranging from .64 – .77. Again the Cook's distance levels for these cases were well below 1, indicating non-influence.

Graphical Analysis – H5. Regression assumptions were tested through a visual examination of residual graphs and plots shown in Figure 16. The scatterplot shows the assumptions of linearity and homoscedasticity have been met. The histogram and P-P plot indicated a slight skewness and kurtosis but a normal distribution. These graphs are supported by a skewness of .284 (z-score = 1.38), and kurtosis .359 (z-score = .88) for the standardized residual. The visual inspection along with the skewness and kurtosis values indicated the assumption of normality has been met.

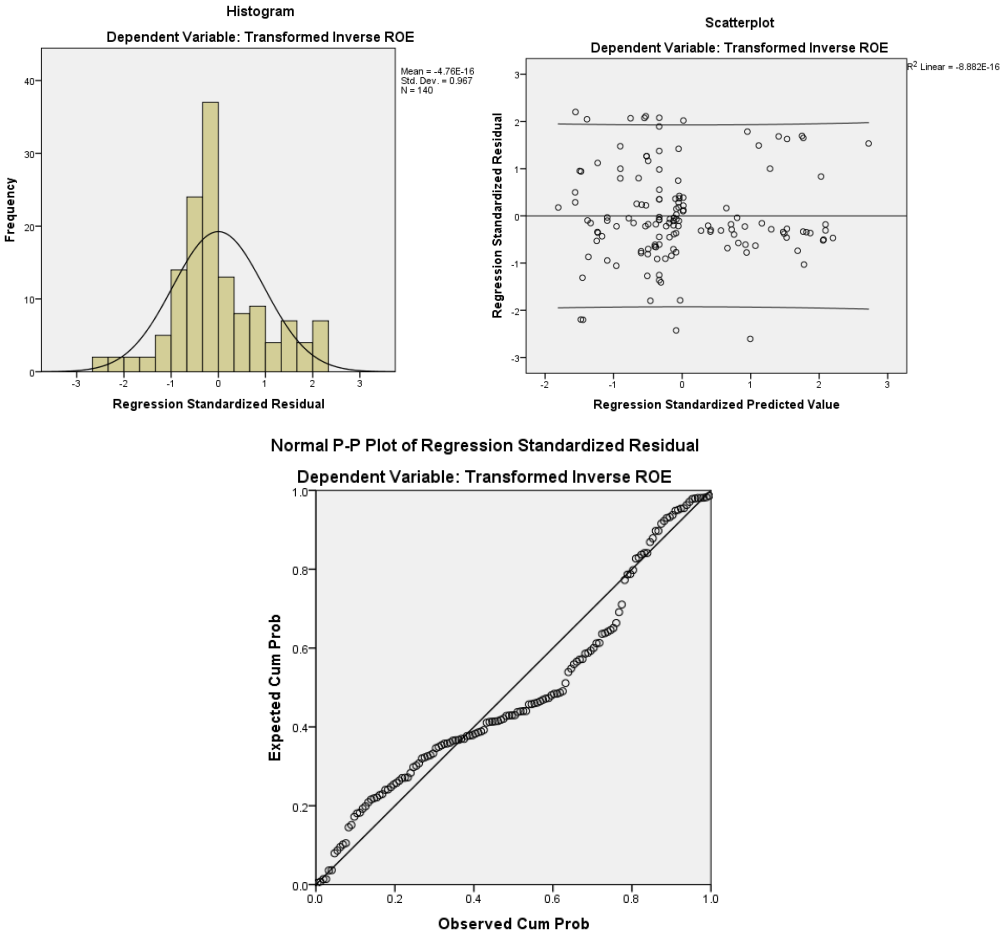

Figure 16. Normality Charts – Hypothesis 5 - Corporate Accounting Performance (ROE) Residual

Conclusion – Hypothesis 5. The regression analysis results could not reject the null hypothesis $H_0$5. The analysis revealed increased the levels of multicollinearity between the independent variables. The assumption of independence of errors was met. Residual analysis showed violations of the Mahalanobis distance cutoff, average leverage cutoff, and covariance ratio thresholds. However, all Cook's distance levels were below 1, and the violations were not considered influential. A graphical analysis indicated the

regression assumptions of linearity, homoscedasticity, and normality were met. The results could not reject the hypothesis that firm size does not influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry. The model showed indications of multicollinearity and bias.

Hypothesis 6

Hypothesis six tested the ability of firm size to influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate risk in the U.S. hotel industry.

The results of the regression analysis in Table 17 show an R^2 of .143, indicating that the interaction of firm size with the four identified ECSR indicators accounted for 14.3% of the variation in the measure of corporate accounting performance. The adjusted R^2 value = .083, a distance of .06 from the actual R^2 value. Goodness-of-fit was tested using the ANOVA test in SPSS®. The results, shown in Table 18, indicated that interaction of firm size with the four identified indicators of ECSR significantly explained a proportion of the variance of a measure of corporate risk (DEBT), F (9, 130) = 2.41, p = .015. As seen in the summary of coefficients in Table 19, ECSR-Credibility significantly predicted a measure of corporate risk, β = .607, t (130) =2.04, p < .05, 95% CI [0.00, 0.03]. The null hypothesis $H_0$6 was rejected, and the alternate hypothesis, H_A6, was accepted.

Table 17. Regression Model Summary – Hypothesis 6

Model Summary[b]

Model	R	R^2	Adjusted R^2	SE of the Estimate
1	.378[a]	.143	.083	.00791

a. Predictors: (Constant), TRIN_ECSR_OV * TRIN_FIRM_SIZE, Transformed Inverse ECSR-GV, Transformed Inverse ECSR-EP, Transformed Inverse ECSR-CR, Transformed Inverse Firm Size, Transformed Inverse ECSR-OV, TRIN_ECSR_CR * TRIN-FIRM_SIZE, TRIN_ECSR_EP * TRIN_FIRM_SIZE, TRIN_ECSR_GV * TRIN_FIRM_SIZE.
b. Dependent Variable: Transformed Inverse DEBT.

Table 18. ANOVA – Hypothesis 6

ANOVA[a]

Model		Sum of Squares	df	Mean Square	*F*	Sig.
1	Regression	.001	9	.000	2.406	.015[b]
	Residual	.008	130	.000		
	Total	.009	139			

a. Dependent Variable: Transformed Inverse DEBT.
b. Predictors: (Constant), TRIN_ECSR_OV * TRIN_FIRM_SIZE, Transformed Inverse ECSR-GV, Transformed Inverse ECSR-EP, Transformed Inverse ECSR-CR, Transformed Inverse Firm Size, Transformed Inverse ECSR-OV, TRIN_ECSR_CR * TRIN-FIRM_SIZE, TRIN_ECSR_EP * TRIN_FIRM_SIZE, TRIN_ECSR_GV * TRIN_FIRM_SIZE.

Table 19. Summary of Multiple Regression Coefficients – Four Identified Indicators of ECSR, Firm Size, Interaction Terms, and Corporate Risk

Coefficients[a]

						95.0% CI for *B*	
	B	SE	β	t	Sig.	LL	UL
(Constant)	.017	.003		5.924	.000	.011	.023
Transformed Inverse ECSR-GV	-.001	.004	-.018	-.121	.904	-.009	.008
Transformed Inverse ECSR-CR	.014	.007	.607	2.038	.044	.000	.028
Transformed Inverse ECSR-EP	-.007	.005	-.282	-1.323	.188	-.018	.004
Transformed Inverse ECSR-OV	-.006	.009	-.272	-.723	.471	-.024	.011
Transformed Inverse Firm Size	-15.827	19.562	-.779	-.809	.420	-54.528	22.873
TRIN_ECSR_GV* TRIN_FIRM_SIZE	4.636	17.043	.227	.272	.786	-29.081	38.353
TRIN_ECSR_CR* TRIN_FIRM_SIZE	-.745	11.937	-.036	-.062	.950	-24.362	22.872
TRIN_ECSR_EP * TRIN_FIRM_SIZE	15.517	18.328	.672	.847	.399	-20.742	51.777
TRIN_ECSR_OV* TRIN_FIRM_SIZE	.880	20.019	.038	.044	.965	-38.726	40.485

a. Dependent Variable: Transformed Inverse DEBT.

Testing Assumptions – H6. The assumption of independence of errors was tested using the Durbin-Watson statistic, which resulted in an acceptable coefficient of 2.05, below Garson's (2012b) upper cutoff value of 2.5. The assumption of no multicollinearity between independent variables and singularity were tested using Pearson *r* correlations, Tolerance (1-SMC), and VIF statistics. According to Tabachnick and Fidell (2013), correlation coefficients over .9 cause an increase in standard

regression. There was a significant correlation between firm size and the interaction of firm size with ECSR-Governance ($r = .984$, $p < .001$). There was also a significant correlation between firm size and the interaction of firm size with ECSR-Credibility ($r = .933$, $p < .001$). There was also a significant correlation between the interaction of firm size with ECSR-Governance, and the interaction of firm size with ECSR-Credibility ($r = .948$, $p < .001$). An additional significant correlation was found between the interaction of firm size with ECSR-Credibility, and the interaction of firm size with ECSR-Overall ($r = .926$, $p < .001$). These statistics indicated multicollinearity of predictors.

The inclusion of interaction terms in this analysis caused a substantial increase in collinearity, found in the examination of Tolerance and VIF statistics. Tolerance levels below .10 are considered problematic (Field, 2009). Only transformed inverse ECSR-Governance (Tolerance = .312), and transformed inverse ECSR-Environmental Performance (Tolerance = .145) exhibited Tolerance values above .10. These two variables also had acceptable VIF statistics with transformed inverse ECSR-Governance (3.21), and transformed inverse ECSR-Environmental Performance (6.91). All other variables had Tolerance values ranging between .007-.074, violating the low cutoff of .10. Additionally, all other variables had VIF values ranged from 13.46 – 140.75, well over the cutoff value of 10 (Field, 2009). The model indicated serious multicollinearity problems.

Eigenvalues for firm size (92%), the interaction of firm size with ECSR-Governance (67%), the interaction of firm size with ECSR-Environmental Performance (83%), and the interaction of firm size with ECSR-Overall (79%) showed a high

percentage of variance loading on dimension 10. These statistics further supported the indication of multicollinearity in this model. According to Field (2009), removing any specific independent variable in the presence of multicollinearity has theoretical consequences and the best solution is to report it. Therefore, the interaction of firm size with the four identified indicators of ECSR led to an increase in the multicollinearity of all predictors with the exception of transformed inverse ECSR-Governance (Tolerance = .312, VIF = 3.2), and transformed inverse ECSR-Environmental Performance (Tolerance = .145, VIF = 6.9).

Residual Analysis – H6. There were no residual cases from the regression analysis for Hypothesis 6 exceeding ±2.58 *SD*s, and therefore no indication of outliers. There were no individual cases exerting undue influence on the regression model, as all Cook's distance values were below 1. The largest influence on the model was seen with case 127, which had a Mahalanobis distance value of 60.30, and a Cook's distance of .02, centered leverage value of .43, and a covariance ratio of 1.90. The outlier cutoff value for this analysis is 27.877 ($p < .001$) (Tabachnick & Fidell, 2013). There were a total of six cases with Mahalanobis distance's that violated this cutoff, ranging from 32.53 – 60.30, with Cook's distances ranging from .00 - .04, indicating no influence on the model. Tabachnick and Fidell (2013) warned that Mahalanobis distance can be an unreliable indicator of outliers in the presence of multicollinearity.

Average leverage for the model was .071, with three times the average leverage (.214), used as a cutoff. Covariance Ratios for this analysis should be between 0.79 – 1.21. The same six cases exceeding Mahalanobis distance cutoffs also had centered

leverage values exceeding the cutoff ranging from .234 – .434. Covariance Ratios for this analysis should range between 0.79 – 1.21. Fifteen cases violated the upper and lower limits, but in all cases the Cook's distance values were below 1, indicating these cases were not influential in the model. Twelve cases had covariance ratios exceeding the upper limit, ranging from 1.23 – 1.89, and three cases violated the lower ratio, ranging from .66 – .72. Again the Cook's distance values for these cases were well below 1, indicating non-influence.

Graphical Analysis – H6. Regression assumptions were tested through a visual examination of residual graphs and plots shown in Figure 17. The scatterplot shows the assumptions of linearity and homoscedasticity were met. The histogram and P-P plot indicated a slight skewness and kurtosis but a normal distribution. These graphs were supported by a skewness of .752 (z-score = 3.67, $p < .001$), and kurtosis -.088 (z-score = -0.22) for the standardized residual. The visual inspection along with the skewness and kurtosis values indicated the assumption of normality had been met. The z-score for skewness was slightly significant; indicating the generalization of the results is limited.

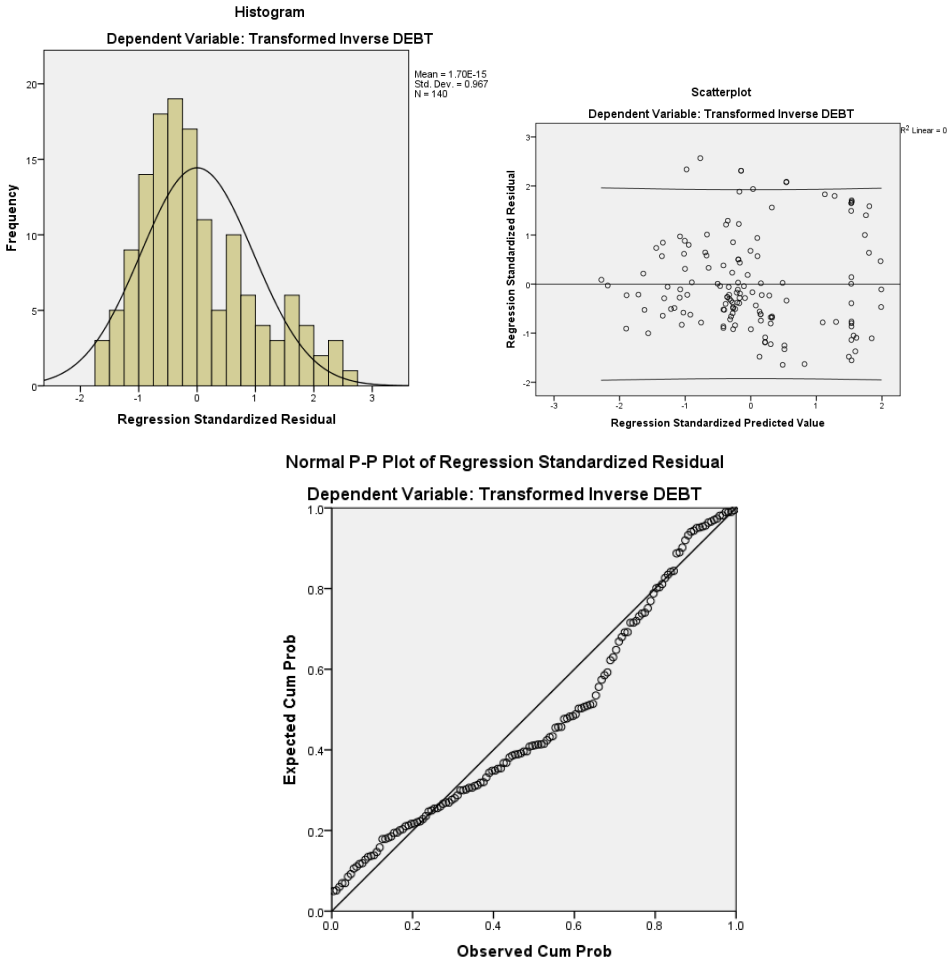

Figure 17. Normality Charts – Hypothesis 6 - Corporate Risk (DEBT) Residual

Conclusion – Hypothesis 6. The regression analysis results rejected the null hypothesis $H_0$6. The assumption of independence of errors was met. The model showed evidence of multicollinearity between the independent variables. Residual analysis revealed violation of the Mahalanobis distance cutoff, average leverage cutoff, and covariance ratio thresholds. With all Cook's distance levels below 1, these figures were not considered influential. A graphical analysis indicated the regression assumptions of

linearity, homoscedasticity, and normality were met. The results rejected the hypothesis that firm size does not influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate risk in the U.S. hotel industry. The four identified indicators of ECSR significantly explained a proportion of the variance of a measure of corporate risk, with ECSR-Credibility significantly predicting a measure of corporate risk. The results are limited as the model showed indications of multicollinearity and bias.

Summary

This chapter presented the results of the data retrieval activity, the statistical analyses, and interpretation of six hypotheses. Data retrieved through a combination of secondary data and content analysis was explored to assess conformity with the assumptions of multiple regression. Hypothesis testing was performed through statistical analyses to determine the existence of relationships between four identified indicators of ECSR, two measures of corporate performance, and a measure of corporate risk. The results of each individual regression and subsequent residual analysis were presented. Also presented were results of the statistical analyses investigating firm size as a moderator in these relationships. The results indicated the existence of a significant relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate risk in the U.S. hotel industry. The results also indicated firm size as a moderator in this relationship. Table 20 shows a summary of the hypothesis testing results.

Table 20. Summary of Hypothesis Testing

Null Hypothesis		Result
$H_0$1	There is no relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry.	Accepted
$H_0$2	There is no relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry.	Accepted
$H_0$3	There is no relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ESCR) and a measure of corporate risk in the U.S. hotel industry.	Rejected
$H_0$4	Firm size does not influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry.	Accepted
$H_0$5	Firm size does not influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry.	Accepted
$H_0$6	Firm size does not influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate risk in the U.S. hotel industry.	Rejected

CHAPTER 5. DISCUSSION, IMPLICATIONS, RECOMMENDATIONS

Introduction

The hotel industry is a key global contributor of energy consumption and wastes (Roller & Dombrovski, 2010), and represents a significant environmental impact (Han et al., 2011). The hotel industry must continue to be competitive while addressing issues associated with environmental impacts (Han et al., 2011). The industry uses ECSR to address these issues. The problem is that no previous studies examined the relationship between ECSR performance, corporate performance, and corporate risk in the hotel industry. Researchers have called for additional research into the relationship between CSR and performance within single industries (Welter, 2011), and specifically within the hotel industry (Sprinkle & Maines, 2010). Additionally, Segarra-Oña et al. (2012) called for research investigating ECSR and performance in the United States hotel industry. The current study addressed these calls for research, expanded Segarra-Oña et al.'s (2012) research, and reduced two gaps in the literature. Researching the relationship between indicators of ECSR, measures of firm performance, and a measure of firm risk in the U.S. hotel industry reduced one gap. Exploring the moderating effect of firm size on these relationships diminished a second.

The following chapter summarizes and discusses the results of the study. The chapter also analyzes the implications of the results, and discusses the limitations of the study. Recommendations for future research are also presented.

Summary of the Results

The primary purpose of this quantitative research was to build on existing literature by performing a robust examination of the relationships between each of four identified indicators of environmental corporate social responsibility (ECSR), measures of corporate performance, and a measure of corporate risk among public hotel and motel firms in the United States. The purpose was not to investigate the interrelations between the independent variables or those between the dependent variables, but the strength and direction of the relationships between each of the independent and dependent variables. To increase the comprehensive and robust nature of the study, a secondary purpose was to investigate the moderating influence of firm size on these relationships.

To fulfill these objectives, the study developed six hypotheses from a combination resource-based theory, natural resource-based theory, strategic management theories, and theories of the firm. Literature reviewed in Chapter 2 illustrated the inconclusive nature of the research results into ECSR and measures of corporate performance and risk.

The proposed study used a quantitative, causal comparative design. The study design was non-experimental and focused on the years 2010-2012. The SEC's EDGAR database of 428 publicly held hotels and motels provided the sampling frame. The sample included all companies listed in the EDGAR database with data for the years 2010-2012. The study employed a census sampling procedure. Hotels without annual report information or physical locations were not included, resulting in a sample size of

140. Information regarding the ECSR indicators was retrieved using content analysis of publicly available information.

Quantitative analyses included descriptive statistics, multiple linear regressions, and moderated multiple regression analysis. Inverse transformations were performed on all variables to normalize the data, to reduce the influence of extreme cases, and to reduce Type I errors.

The results of the statistical analysis were used to reject or fail to reject the hypotheses. The results of the current study could not reject $H_0$1 and $H_0$2, indicating that there is no significant relationship between the four identified indicators of ECSR and two measures of corporate performance. The results also could not reject $H_0$4 and $H_0$5, indicating that firm size did not have an influence on the relationship between four identified indicators of ECSR and two measures of corporate performance. The results rejected $H_0$3, accepting the alternative H_A3, indicating there is a significant relationship between each of the four identified indicators of ECSR and a measure of corporate risk. The results also rejected $H_0$6, accepting the alternative H_A6, indicating firm size significantly influences the relationship between each of the four identified indicators of ECSR and a measure of corporate risk.

Discussion of the Results

Analysis of the descriptive statistics indicated non-normal data distributions. The data showed right-handed skewness. This implies that the firms in this study were smaller in size, and had lower ECSR values. The potential scores for the ECSR variables

ranged from 5-26. In this data sample, the mean scores ranged from .45 – 3.38. The implication of a heavier concentration of smaller sized firms was evidenced with a firm size mode of 2826. An observation during data retrieval was made indicating that some hotels will implement higher levels ECSR once they are required. Secondly, it was observed that hotels were only beginning to implement environmental reporting, with few reports dating prior to 2010.

Research Question 1

RQ1. Is there a relationship between Environmental Corporate Social Responsibility (ECSR) and corporate performance in the U.S. hotel industry?

The study separated the concept of corporate performance into two dependent variables and developed $H_0$1 and $H_0$2. These hypotheses had a theoretical foundation in Strategic ECSR. There is currently a theoretical controversy in which some academics (Porter & Kramer, 2006; Siegel, 2009; L. Lee, 2012) feel that strategically applying ECSR will gain companies competitive advantage, while others (Orlitzky & Whelan, 2007) feel that companies will seek balance between ECSR and profits. Additionally, the applicability of strategic ECSR in the hotel industry is questioned due to monopolistic competition (McWilliams et al., 2006; Siegel, 2009)

Hypothesis 1. To investigate Research Question 1, Hypothesis 1 proposed:

$H_0$1: There is no relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry.

H_A1: There is a significant positive relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry.

This study measured corporate strategy performance as ROA. The results of the analysis could not reject H_01, and the alternative H_A1 was rejected. There was no significant relationship between relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry from 2010-2012. One of the theoretical foundations of this hypothesis was Wernerfelt's (1984) resource-based theory that a firm has identifiable valuable resources that can be used strategically to increase profits. Also, Schmidt and Keil (2013) proposed that valuable resources lead to performance bolstered by market position. The contention was that higher ECSR scores are indicative of higher resource value, which should lead to greater competitive advantage and performance in the U.S.

This implies that either the contention that strategic ECSR is inapplicable to the hotel industry is correct, or strategic ECSR is new to the industry. Research in the Spanish hotel industry disputes the contention of inapplicability. Rodriguez & del Mar Armas Cruz (2007) found statistical evidence of a relationship between ECSR indicators and ROA in Spanish hotels as early as 2001. Their study of 114 Spanish hotels utilizing resource-based theory, found a 7% rise in relative ROA for each increment of ECSR (Rodriguez & del Mar Armas Cruz, 2007). As indicated in the results, an observation

was made that many hotels in this study were only beginning to engage in ECSR activities. Therefore, ongoing research should include trend analysis.

Theories of the firm such as Lyon and Maxwell's (2008) cautioned that firms will only engage in ECSR to the level demanded by the market. Low mean ECSR scores in the results of this study indicated that hotels and motels in this sample are not experiencing the level of market demand to significantly view ECSR as a valuable resource capable of increasing profits. Further research is recommended including private hotels and motels during the same time period, and additional research in the public sector going forward.

Hypothesis 2. Also investigating Research Question 1, Hypothesis 2 proposed:

$H_0$2: There is no relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry.

H_A2: There is a significant positive relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry.

This study measured corporate accounting performance as ROE. The regression analysis results could not reject $H_0$2, therefore H_A2 was rejected. Results indicated there is no significant positive relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry from 2010-2012.

These results support theory and research involving public firms. As mentioned in the discussion for Hypothesis 1, the data in this study indicate a lower demand for ECSR in public U.S. hotel and motel firms from 2010-2012. The results of the current study also support Kang et al.'s (2010) findings. Kang et al.'s (2010) study of four travel and hospitality industries in the U.S. from 1991-2007, included the hotel industry. The study investigated the effect of positive CSR activities, and effect of reducing negative CSR activities on firm performance within each of the industries. CSR activities were measured using the KLD STATs database. ROA, ROE, and Price-Earnings ratio were used to operationalize profitability as measures of firm performance. The regression of CSR activities on ROA (n = 46) and ROE (n = 44) was not found to be significant in the hotel industry. Therefore, the similar results in the current study using four identified indicators of ECSR point to public firms U.S. hotel industry assigning lower strategic value to ECSR. Also supported was McWilliams and Siegel's (2001) conclusion that inconsistent research results are indicative of industry equilibrium, where the benefits of CSR on profits are neutralized. But the inconsistency occurs in foreign markets.

The results of this study are contrary to research in the Spanish hotel industry. Research in the Spanish hotel shows significant relationships between ECSR indicators and corporate performance measures. Carmona-Moreno et al.'s (2004) study found financial performance significantly lower ($p < .01$) in companies indifferent to environmental management. In a second study, Rodríguez and del Mar Armas Cruz (2007) found a significant ($p < .05$) positive relationship between measures of ECSR and ROA. Additionally, Segarra-Oña et al. (2012) found significant improvement ($p < .05$) in

financial performance indicators for ECSR managed hotels. The implications are that the Spanish hotel industry has a higher demand for ECSR, and applies more value to it than the U.S. public hotel industry. Further researcher is need including U.S. private hotels, as well as in other foreign countries.

The results of the current study indicated that there is no relation between four identified ECSR indicators and two measures of corporate performance in the U.S. public hotel industry from 2010-2012. ECSR is not being strategically applied at a statistically significant level in this sample. Implications are that market demand and government regulation in the U.S. is not yet high enough for strategic ECSR application in public hotel and motel firms. The data's right-handed skewness, with the presence of outliers, indicated higher concentration of smaller firms with lower ECSR scores. Outliers were evidenced as higher values as seen in the figures in Chapter 4, Figure 4 – Figure 8. These outliers may be an indicator of first-mover advantage, and the beginning of a trend. Additional ongoing research is needed.

Research Question 2

RQ2. Is there a relationship between Environmental Corporate Social Responsibility (ESCR) and corporate risk in the U.S. hotel industry?

Hypothesis 3. To investigate this question, Hypothesis 3 proposed:

$H_0$3: There is no relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ESCR) and a measure of corporate risk in the U.S. hotel industry.

H_A3: There is a significant negative relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ESCR) and a measure of corporate risk in the U.S. hotel industry.

This study used a firm's debt ratio (total assets/total debt) as a measure of corporate risk. The regression analysis results rejected the null hypothesis H_03, and the alternative, H_A3, was accepted. The results indicated a significant relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry. The four identified ECSR indicators significantly predicted a measure of Corporate Risk $R^2 = .105$, $F\ (5, 134) = 3.14$, $p = .01$. However, no individual indicator exhibited a significant ability to predict a debt ratio as measure of corporate risk. Therefore, there is a significant statistical relationship between Environmental Corporate Social Responsibility (ESCR) and corporate risk in the public U.S. hotel and motel industry 2010-2012.

The results indicated that as ECSR-Credibility declined, debt ratio declined. Therefore higher levels of ECSR Credibility are associated with higher debt ratios. This does not support Orlitzky and Benjamin's (2001) research which found that higher Corporate Social Performance was associated ($p < .05$) with negative firm risk. Additionally, Newbert's (2008) study found that the value and rareness of combinations of resources had significant ($p < .01 - p < .001$) influence on competitive advantage. His study indicated the more valuable ECSR is to a corporation, the more likely it will be to apply it strategically in an effort to improve corporate performance and reduce risk. The

data from the current study showed that an increase in the levels of ECSR significantly F (5, 134) = 3.14, p = .01 increased the level of corporate risk. The results of the current study are contrary to this finding, showing that as ECSR indicators scores increase, debt ratio increases.

The results of this study imply a potential economic turnaround. Brigham and Houston (2012) pointed out that in a good economy, higher debt ratios can lead to higher profit, but in poor economies, the risk of bankruptcy increases. The current economic downturn began domestically in 2007 (Federal Reserve Bank of St. Louis, 2011). However, The World Bank (2012, para. 6) projected the beginning of a turnaround with a 2.5% growth increase in global GDP in 2013. Additionally, Marketline (2012b) is projecting a nearly 40% increase in the hotel and motel industry by 2016. The results of this study indicate that U.S. public hotel and motel firms are taking increasing corporate risk in order to engage in ECSR. This implies that they are projecting positive results from their investments, and expecting higher profits. This is another indicator of the newness of ECSR as a valuable resource in the industry.

Research Question 3

The following two research questions dealt with firm size as a moderator in relationships between variables.

RQ3. Does firm size influence the relationship between Environmental Corporate Social Responsibility (ECSR) and corporate performance in the U.S. hotel industry?

The concept corporate performance was separated into two dependent variables, and the following two hypotheses were developed to investigate this question. The discussion for both hypotheses is presented following Hypothesis 5.

Hypothesis 4. To investigate Research Question 3, Hypothesis 4 proposed:

$H_0$4: Firm size does not influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry.

H_A4: Firm size has a significant positive influence on the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in the U.S. hotel industry.

The regression analysis results could not reject the null hypothesis $H_0$4. Therefore, this study found that firm size did not influence the relationship between Environmental Corporate Social Responsibility (ECSR) and a measure of corporate strategy performance in U.S. public hotel and motels from 2010-2012.

Hypothesis 5. Additionally investigating Research Question 3, Hypothesis 5 proposed:

$H_0$5: Firm size does not influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry.

H_A5: Firm size has a significant positive influence on the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in the U.S. hotel industry.

The regression analysis results could not reject the null hypothesis $H_0 5$. Therefore, this study found that firm size did not influence the relationship between Environmental Corporate Social Responsibility (ECSR) and a measure of corporate accounting performance in U.S. public hotel and motels from 2010 – 2012.

The data in this sample indicated a higher concentration of smaller sized firms, with a mode of 2,826. Hart's (1995) natural resource-based theory indicated that larger firms would have greater pollution prevention. Additionally, Siegel and Vitaliano (2007) designated hotels as an experience service and found industries in this category have no significant correlation with CSR. Their study also found firm size did not influence a company's decision to engage in CSR. However, they found that experience service industries such as hotels are significantly ($p < .114$) likely to be included in the 2002 KLD Large Cap Social Index and that there is a significant likelihood ($p < .001$) that this is related to sales.

The results of the current study did not show any significant influence of firm size on corporate performance, supporting Newberg's (2008) study, which found firm size of no significant influence. The current study did not support Dixon-Fowler et al.'s (2013) meta-analytic research which found that small firm size influences ($p < 0.05$) corporate environmental performance (CEP) in its relationship with corporate financial performance (CFP) measured as ROE. However, research specific to the hotel industry (Claver-Cortés et al., 2007; Segarra-Oña et al., 2012) found larger firms more influential.

The data for this study had a non-normal distribution, with a high concentration of smaller firms. Expanding the study to include private U.S. hotels and motels may

increase the number of larger firms, and reduce the right-handed skewness of the data. Extending the current study to investigate more years may increase in the significance of firm size as a moderator. Therefore, further investigation of firm size as a moderator is recommended.

Research Question 4

RQ4. Does firm size influence the relationship between Environmental Corporate Social Responsibility (ECSR) and corporate risk in the U.S. hotel industry?

Hypothesis 6. To investigate this question, Hypothesis 6 proposed:

$H_0$6: Firm size does not influence the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate risk in the U.S. hotel industry.

H_A6: Firm size has a significant negative influence on the relationship between each of the four identified indicators of Environmental Corporate Social Responsibility (ECSR) and a measure of corporate risk in the U.S. hotel industry.

The regression analysis results rejected the null hypothesis $H_0$6. The results indicated that interaction of firm size with the four identified indicators of ECSR significantly explained a proportion of the variance of a measure of corporate risk (DEBT), F (9, 130) = 2.41, p = .015. The variable ECSR-Credibility significantly predicted a measure of corporate risk, β = .607, t (130) = 2.04, p < .05, 95% CI [0.00, 0.03]. Therefore, this study found that firm size influences the relationship between Environmental Corporate Social Responsibility (ECSR) and corporate risk in the U.S. hotel industry from 2010 – 2012.

ECSR Indicators

ECSR was investigated as a multidimensional construct in this study. Indications of multicollinearity were present in the data. The investigation of the relationships between independent variables was beyond the scope of this study and is recommended. However, the multidimensionality of the construct was supported, and provided support for current research.

While the results of the current study do not support a relationship between ECSR and corporate performance, they do support the multidimensionality of ECSR indicators. Similar results have occurred in recent research. Yahya and Ha's (2013) study of 261 Malaysian service and manufacturing organizations investigated the relationship between ECSR indicators and corporate performance. Corporate performance was measured as a multidimensional construct including growth in sales and market sales among other constructs. The results of their SEM analysis showed a significant fit GFI (0.947), and CFI (0.958) of the model, with one ECSR indicator being significant ($p \leq 0.05$) (Yahya & Ha, 2013). In the current study, results for Hypothesis 3 showed that a model can be significant ($p = .01$) while no individual indicator presence significance. Results for Hypothesis 6 indicated that the model along with the variable ECSR-Credibility was significant.

The implications from a stakeholder theory perspective are that U.S. public hotels and motels do not currently find ECSR a significant stakeholder in profit maximization and are not using ECSR as a normative core. These firms are following Friedman's (1970) logic that the goal of public firms is solely profit maximization. It is felt that the

postulation in Lyon and Maxwell's (2008) theory of the firm that ECSR levels are contingent on demand is supported. However, indications in this study are that ECSR is only just beginning to be reported in public U.S. hotels and motels. Therefore, it is felt that ECSR is too new to the hotel industry to support McWilliams and Siegel's (2001) contention that industry equilibrium will neutralize the impact on profits.

The data in this study showed indications of required transformation to improve normality. The data also had indications of multicollinearity. Further investigation of the relationships between the independent variables in the current study is recommended. Implications include the need for management to become more transparent in reporting of environmental programs. Future research is recommended investigating the relationship between ECSR indicators within the industry, and the resulting practical and theoretical implications.

Implications for Management

The current research adds significantly to academic research. It fills a gap providing insight into the relationship between four identified ECSR indicators, a measure of corporate strategy performance, a measure of corporate accounting performance, and a measure of corporate risk in the U.S. hotel industry for the years 2010-2012. These results have supported previous research (Orlitzky & Benjamin, 2001) indicating a relationship between ECSR and firm risk.

One of the assumptions of this research was that companies use ECSR as a strategic resource. The theoretical foundation for this assumption was the strategic management theories indication that mangers use resources to improve financial

performance (Nag et al., 2007), and good management theory's indication that managers use resources to reduce risk (Waddock & Graves, 1997). The results of this study showed that higher levels of ECSR predicted higher levels of corporate risk. The implication is that companies are beginning to invest in ECSR with the promise of an economic turnaround. Outliers seen at the upper end of ECSR levels and firm size are an implication of first mover advantage in large firms.

This research has provided results that directly affect the industry and recommendations concerning the strategic application of ECSR. The implications are that public firms in the U.S. hotel and motel industry engaging in ECSR are willing to take higher financial risks, even though these risks may not increase profits. Brigham and Houston (2012) pointed out that in a good economy, higher debt ratios can lead to higher profit, but in poor economies, the risk of bankruptcy increases. A second implication from the current study is that the economy is on the rebound. The willingness of a service industry to incur higher debt ratios along with higher levels of ECSR is an indication that ECSR may lead to higher future profits. A long term study is recommended.

For management, the challenge is to channel the benefits of ECSR to improve profits in light of the higher financial risks. Managers need to increase the levels of ECSR reporting in the U.S. hotel industry. In contrast to findings in the Spanish hotel industry (Rodriguez & del Mar Armas Cruz, 2007), this study indicated lower strategic value of ECSR in U.S. hotels and motels during 2010–2012. Consumers looking to invest in U.S. public hotel and motel companies will question the value of a set of

resources that increase risk, but do not improve profits. Higher levels of ECSR transparency will increase consumer awareness and informed decision making.

This study has also offered management within the U.S. hotel and motel industry a tested instrument for measuring ECSR in their organizations. Reliability testing of the ECSR instrument resulted in a Cronbach's alpha score of $\alpha = .850$, indicating a good level of reliability. This is the first ECSR instrument to be tested in the U.S. public hotels and motel industry. It is recommended that managers use Rahman and Post's (2012) instrument as a tool for investigating the value of ECSR within their organizations.

Limitations

One of the limitations of the study was using secondary data, which may be incomplete (Robson, 2011) or problematic (Trochim & Donnelly, 2008). Evidence of this limitation was found in the EDGAR database. All hotels listed in the database do not have records for the years under investigation, and not all firms have physical locations. This limitation led to a reduction in sample size to 140 firms.

There were a total of 140 public hotel and motel companies in the United States during the years 2010-2012. While small, the sample was comparable to other research in the industry including Claver-Cortés et al.'s (2007) study of 114 Spanish hotels, and Rodríguez and del Mar Armas Cruz's (2007) sample of 114 managers from 80 Spanish hotels. An observation was made during data retrieval that many companies began reporting ECSR activities during the 2010–2012 time frame. Therefore, ECSR may be a new strategic resource within this industry.

A related limitation was using a single industry and publicly owned companies. This narrowed the focus and posed a threat to the study's generalizability (Trochim & Donnelly, 2008). One example is Hilton Hotels, which is one of the largest companies in the hotel industry (Marketline, 2012a). Because it became a privately held firm and submitted no SEC documentation after 2008, Hilton Hotels was not included in the study.

A fourth limitation was excluding investigation between independent variables. Multicollinearity can lead to bias in the results. It is recommended that future research develop new hypotheses incorporating removal of variables and retesting of the data. Including privately held hotels in future research will also help reduce this limitation.

Recommendations

In addition to those outlined above, the following recommendations are presented. To improve generalizability, future research should include an investigation of public and privately held U.S. hotels and motels. It is also recommended that future research perform ongoing updates to the current study. This would provide longitude to the research, and provide a platform for trend analysis.

The results of this study indicated that an increase in ECSR leads to higher levels of risk in U.S. public hotels and motels. This implies potentially high levels of bankruptcy, which would be evidenced in a reduction of public hotels. Another indication is the onset of the projected (Marketline, 2012b) improving hotel economy. Expanding the study to include private hotels and motels would improve the sample size and provide added insight into the topic. Additional studies including private U.S. hotels

and motels are recommended to increase the sample size, and to offer an investigation between the two groups.

The results of this study differed from others in the Spanish and Caribbean hotel industries. Further research is recommended in the hotel industry in other large geographic regions such as Asia and South America. A comparison between the U.S. and other regions is also recommended.

Extending the research to include additional years from the public hotel industry is recommended. There were indications in the data that many companies had only recently adopted ECSR strategies. Therefore, the data collected would be from 2013 forward.

Conclusion

This paper explored questions concerning the relationship of four identified indicators of ECSR, two measures of corporate performance, and a measure of corporate risk. Two additional questions explored the moderating influence of firm size on these relationships. Six hypotheses were developed to investigate these questions. The findings indicated that public hotels and motels in the U.S. during 2010–2012 were not applying ECSR strategically to improve a measure of corporate strategy performance and a measure of corporate accounting performance. Firm size was not found to influence these relationships. The results also indicated that higher ECSR levels significantly predicted higher levels of a measure of corporate risk. Firm size was found to influence

the relationship by providing ECSR-Credibility the ability to significantly predict a measure of corporate risk.

The sample of 140 public hotel and motel companies was retrieved from the U.S. Securities and Exchange Commission's EDGAR database for the years 2010–2012. Variable data was also retrieved from this database. The two measures of corporate performance included corporate strategy performance (ROA) and corporate accounting performance (ROE). Additionally, a firm's debt ratio was retrieved, and used as a measure of corporate risk. Firm size was measured as number of hotel rooms and was retrieved from the EDGAR database, or from corporate websites. The ECSR variable information was retrieved from corporate and public websites and was scored using Rahman and Post's (2012) instrument.

Quantitative analysis included descriptive statistics, multiple linear regressions, and moderated multiple regression analysis. Separate multiple regression analyses were run for each hypotheses. The results of the statistical analysis were used to reject or accept each hypothesis. The results have provided managers in the U.S. hotel industry statistical evidence concerning U.S. public hotels and motels during 2010–2012. It is recommended they use these results when determining the value of ECSR for their companies. Future research expanding the study to include U.S. private hotels and motels, expanding the time frame of the research, and intensifying investigations of the variables is recommended.

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APPENDIX A. TABLES OF CHANGED VALUES

Table A1. Summary of Changed Values for Transformed Inverse Firm Size

Case	Original Value	Changed Value
3	0.0047	0.001215
9	0.014	0.001218
13	0.00156	0.001213
14	0.00225	0.001214
16	0.00249	0.001215
32	0.00279	0.001216
50	0.005	0.001215
56	0.014	0.001218
60	0.00280	0.001216
61	0.00255	0.001214
63	0.00249	0.001215
78	0.00279	0.001216
98	0.00239	0.001214
102	0.014	0.001218
107	0.00155	0.001213
108	0.00294	0.001217
110	0.00249	0.001215
125	0.00279	0.001216

Table A2. Summary of Changed Values for Transformed Inverse Corporate Strategy Performance Measure

Case	Original Value	Changed Value
51	-3.12	-1.6
62	-2.08	-1.6
78	6.25	1.7
82	-1.96	1.6
112	-16.67	-1.8
125	-25.00	-1.8
128	-2.63	-1.6
129	-4.17	-1.6

Table A3. Summary of Changed Values for Transformed Inverse Corporate Accounting Performance Measure

Case	Original Value	Changed Value
4	.70	.55
6	1.64	.56
18	1.30	.55
34	1.01	.55
36	1.92	.56
49	2.33	.57
51	-1.09	-.55
64	2.38	.57
80	3.70	.57
94	1.12	.55
99	.70	.55
112	-.99	-.55
120	1.64	.56
135	-.96	-.55

Table A4. Summary of Changed Values for Transformed Variable Corporate Risk

Case	Original Value	Changed Value
9	0.058	0.0360
43	0.044	0.0358
56	0.066	0.0361
63	0.040	0.0358
90	0.050	0.0359
102	0.052	0.0360
108	0.142	0.0362
135	0.071	0.0361
136	0.066	0.0361

APPENDIX B. STATEMENT OF ORIGINAL WORK

Statement of Original Work and Signature

I have read, understood, and abided by Capella University's Academic Honesty Policy (3.01.01) and Research Misconduct Policy (3.03.06), including the Policy Statements, Rationale, and Definitions.

I attest that this dissertation or capstone project is my own work. Where I have used the ideas or words of others, I have paraphrased, summarized, or used direct quotes following the guidelines set forth in the APA *Publication Manual*.

Mentor name and school: Dr. Tiffany Green, School of Business and Technology

Learner signature and date: Kathryn M. Kozlowski 12/7/13