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Sustainability for a real innovative world

The impact of innovation on the relationship between corporate social responsibility and financial performance: A temporal contingency perspective.



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“*Sanpo-yoshi* is an old Japanese merchant’s principle which translates as “good for three parties,” here meaning the seller, the buyer, and society. Broken down, *sanpo* refers to the *urite* (= seller), the *kaite* (= buyer), and *seken* (= society) and *yoshi* means “good” in Japanese.”
(Tanimoto, 2013; p. 2107)

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Abstract

Despite the vast research on the link between corporate social responsibility (CSR) and financial performance (CFP), little is known about long-term implications. The overall research consensus points toward a positive relationship taking a short-term perspective. However, this study argues that CSR activities require time until the company can reap benefits from their social and environmental involvement. Moreover, this work sheds light on this link by including innovation activities as a mediator. It argues that companies can utilize the full potential of CSR by complementary investments in both CSR and innovation. A CSR score for the period from 2006 to 2011 with data provided by KLD was calculated. Additionally, data from Compustat was used to create short-term (2012) and long-term (2013-2015) financial performance indicator, as well as, an innovation activity indicator. The sample consists of 297 U.S. publicly traded firms. The results provide evidence that CSR takes effect in the long-term but not in the short-term. On the other hand, innovation improves financial performance in the short- and long-term. Another outcome from the study shows that there exists a sequential relationship between CSR, innovation and CFP. It implies that CSR should be considered an integral part of strategy development since it pays off financially in the long-run. Innovation may be an important driver in the development of specific skills and capabilities which helps to translate positive social and environmental performance into superior financial performance. In the future, companies are advised to invest in mutual value creation with stakeholders, stressing the importance of its stakeholders and society at large. By creating mutual value, companies are allowed to satisfy societal needs while exploiting business opportunities.

Keywords: Corporate social responsibility, corporate financial performance, innovation, stakeholder theory, resource-based view, sustainability

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1. Introduction

In the history of human development, resource exploitation has been recognised as the fundamental element for societal improvement. Today's world is characterized by a growing global population that seeks for improved living conditions while exploiting the earth's finite resources. Last year the Global Footprint Network (2016) reported that, if the world's population continues to consume natural resources at the current rate, 1.6 planets are required to meet the global annual natural resource demands. In many cases, environmental problems are intertwined with social challenges. More specifically, by damaging the environment through increased pollution and deforestation, as well as, natural resources exploitation from underdeveloped or developing regions of the world, consequences such as illness poverty and hunger have been identified, leading to overall reduced living opportunities for many worldwide populations. (WWF, 2016). In 1987, the World Commission on Environment and Development (WCED) recognized these societal and environmental consequences providing a necessary normative definition of sustainability. The commission defined sustainability as "development that meets the needs of the present generation without compromising the ability of future generations to meet their needs" (United Nations General Assembly, 1987). Accordingly, in the resulting report *Our Common Future* (1987), proposed the concept of sustainable development relating economic aspects of sustainability to social and ecological consequences necessary due to growing global economy. In other words, sustainability describes the long-term objective while sustainable development comprises of the means to achieve this goal. The latter issue has received increased considerable critical attention, over the years. Hence, the question arises, how can businesses play an active role in contributing to sustainable development balancing their going concern while creating value? It has to be said that, multinational corporations (MNC) account for 25% of the

world's gross domestic product (UNCTAD, 2000). Ergo, they hold a responsibility towards society and assume a key role in contributing to their stakeholders. Considering their technological advantages, resources and global reach transnationally operating firms are well equipped to play at the forefront of sustainable development (Hart, 2010).

The integration of social and environmental aspects into corporate activities aimed at sustainability, referred to as corporate social responsibility (CSR), has become increasingly more important within business organizations. Recent evidence suggests that, within many business organizations, sustainability activities are no longer mere compliance matter and a “nice-to-have” add-on. Nowadays, companies become more proactive in responding to societal demands of sustainability (Hatch and Mirvis, 2010). Organizations have recognized the inherent long-term strategic dimension of sustainability and pursue business models of value creation and win-win scenarios of shared value – for the company, for its stakeholders and society at large (Porter and Kramer, 2011).

A considerable amount of management literature has been published on the matter. These studies have noticed that 75% of CEOs agree that responding and satisfying a wide scope of stakeholder needs, together with preserving the needs of future generations, is important (PwC, 2014). According to the McKinsey's Global Sustainability Survey (2011), a few firms strongly focus on sustainability and derive substantial value by taking a long-term strategic stance and by viewing sustainability elements as a starting point. Successful companies integrate sustainability in crucial value creation activities, adapting their processes accordingly. The study (McKinsey, 2011), discovered that companies can reap benefits from integrating social and environmental sustainability aspects in their business model by focusing on three main areas: return on capital (e.g. investment decisions), risk management (e.g. reputation) and growth (e.g. innovation). A

step further, are Benefit-Corporations or firms focusing on circular economy, which institutionalized sustainability and consider environmental and social responsible activities as the driver of their profitability and growth.

Moving on to a business case perspective which applies to the arguments that support the rationale why businesses should foster activities around CSR (Carroll & Shabana, 2010). There are several ways to describe the concept of sustainability as well as the fundamental related term of corporate social responsibility (CSR). The most suitable definition in the analysis of the company has been put forward by Carroll (1991). The author contributes by specifying the economic responsibility of the firm in the sustainability and CSR framework: “The social responsibility of business encompasses the economic, legal, ethical and philanthropic expectations that society has of organizations at a given point in time” (Carroll, 1991; p.560). By providing goods and services, businesses not only follow their profit-generating mission but also share wealth with society, including the voluntary recognition of stakeholder concerns both internal and external to the firm’s operations. Following an instrumental stakeholder approach, stakeholder-regarded behaviour must create outcomes that are valuable for them in order to enhance firm performance (Jones, 1995). On an institutional level, predictors of CSR are examined within two broad dimensions: stakeholder pressure and regulations and standards. Stakeholder pressure aims to convince the firm to engage in CSR through stakeholder actions. Different roles are apparent, such as, customers who exert influence through their evaluations, product purchases, monitoring and sanctions. Firms are pressured by stakeholders facing impacts of potential revenues and detrimental effects of corporate reputation. Additionally, regulation present standards and certifications are further incentives for firms to adopt CSR strategies. Interestingly, actions and policies regarding CSR appear to diminish companies’ focus on CSR,

since firms attempt to merely meet the minimum given sustainability requirements (Aguinis & Glavas, 2012).

Turning to an organizational level of analysis, firms engage in CSR for two reasons. The first motive stems from normative reasoning anchoring elements of CSR in the company's values and vision. Some companies feel the responsibility towards society following a sense of stewardship. Secondly, purely instrumental reasons are present aiming at improved financial outcomes (Aguinis & Glavas, 2012). Nevertheless, the latter, has been found in an on-going debate on whether CSR activities pay off financially for the firm (Vance, 1975; Griffin & Mahon, 1997; Roman et al., 1999; Margolis & Walsh, 2003; Orlitzky et al., 2003). Up to now, Vance (1975), has investigated the relationship between CSR and corporate financial performance (CFP), based on the assumption that CSR activities deviate from the firm's core responsibility of generating profits for its shareholders, discovering a negative relationship. On the contrary, Margolis and Walsh (2003) conducted a meta-analysis reviewing 127 empirical studies identifying a link between CSR and CFP. The authors concluded that the findings suggest the existence of a positive association between the two variables while the evidence for a negative correlation is little. Further evidence is provided by Orlitzky et al. (2003). The authors' meta-analysis assessed 52 empirical studies and reported that social, as well as, environmental responsibility pay off financially. Concluding, most studies provide evidence for the existence of a positive relationship between corporate social responsibility (CSR) and firm performance. It remains vague whether CSR positively influences the financial performance of the firm. These ambiguous results can be attributed to methodological differences and misspecifications (McWilliams and Siegel, 2000). Next to financial benefits, CSR activities have external and internal positive effects which are further outlined in the following.

Research has shown several external effects for the firm that impact the relationship between CSR and CFP. A positive corporate reputation fosters the relationship to external stakeholders, such as customers, communities, investors and society at large. This is important since it determines whether the constituents either grant or withhold support (Gray and Balmer, 1998). More specifically, customers derive higher satisfaction from a product or service that is sourced and produced socially and environmentally sustainable because of their membership to society and their consequent responsibility to it (Luo & Bhattacharya, 2006). Subsequently, CSR activities can lead to increased revenues because of their positive and improved reputation from satisfied customers (Weber, 2008). Moreover, CSR is beneficial for lower capital constraints. As a matter of fact, Cheng et al. (2014) found that improved stakeholder engagement and transparency with regard to CSR performance are important drivers to lower the access barrier to finance. This is due to the reduced agency costs and informational asymmetry. By being able to convince the public eye that the company aims to improve social and environmental standards, less monitoring and more flexible regulations may follow (Kramer & Pfitzer, 2016).

On the other hand, speaking of the internal effects, companies that are perceived to be socially and environmentally responsible is able to attract larger volumes of job applicants. This allows companies to select among the most qualified workforce and fruit from their knowledge and innovative input (Greening and Turban, 2000). Additionally, a workforce that identifies with the values of the company increases the likelihood that the employees identify opportunities that contribute to the value creation of the company (Korshun, Bhattacharya and Swain, 2014). Thus, aligning company culture with employee attitudes can be a source of a competitive advantage since it enhances organizational learning (Orlitzky et al., 2003) and fosters employee motivation and commitment leading to a more productive workforce (White, 2006). Indeed, CSR may have

an impact on the firm's processes. Efficiency gains, improved productivity, less compliance costs and new products and services are possible due to inclusion of ideas of pollution prevention that are based on continuous improvement activities (Hart, 1995). Furthermore, stakeholders play an essential part in the framework of corporate social responsibility. Interaction with stakeholders not only fosters mutual understanding and bases for cooperation (Eccles, Ioannou and Serafeim, 2014), it also allows gaining access to insights, skills and resources which impact the innovation process (Gould, 2012). Thus, establishing mutual trust and cooperation among stakeholders and having a long-term rather than short-term orientation may facilitate revenue-generating potentials for the firm (Chen et al., 2014).

Even though, innovation has been mentioned to be concerned by CSR, the impact of innovation on the relationship between CSR and CFP remains understudied. Innovation refers to "the effort to create purposeful, focused change in an enterprise's economic or social potential" (Drucker, 2002, p.6). Hence, innovation activities are important to create or endow resources to establish wealth creation potential representing an important driver of firm performance in the CSR-CFP link. Hull & Rothenberg (2008) carried out influential research on how innovation influences this relationship. The authors asserted that CSR positively influences CFP, being moderated by both innovation and the level of differentiation. Concretely, low-innovation firms are able to improve their financial performance by differentiating themselves from competitor through increased investment in CSR. On the other hand, highly differentiated environments, where high levels of innovation are demanded, CSR has a less strong effect on financial performance. In other words, investments in CSR are sufficient to increase innovativeness of the company.

Despite this, Hull & Rothenberg's (2008) approach was based on innovation as a moderator which is contrary to scholars that claimed that financially successful firms have a strategy with

including innovation and sustainable development (Hall & Vredenburg, 2003). Thus, it can be affirmed that complementary investments in social and environmental sustainability and innovation, lead to high levels of differentiation (Reinhardt, 1998). For example, Hart (2010) argues that institutionalized CSR facilitates innovation of the firm. At the same time, Fowler and Hope (2007) found empirical evidence for this claim concluding that corporate vision focused on sustainable development is found to drive innovation. The purpose of this thesis is to contribute to the already existing literature by examining the sequential relationship between CSR, innovation and CFP. It is argued that CSP might be a driver of innovation shedding light on the mis-specified analyses of the relationship between CSR and CFP (McWilliams & Siegel, 2000). Furthermore, the present study is relevant inasmuch it adds a contingency perspective by differentiating between short-term and long-term firm performance allowing observation on the influence of CSR on CFP. Drawing upon this relationship, it attempts to examine whether the impact is immediate or requires longer time-frame.

The objective of this master thesis is to revisit the relationship between CSR and CFP on the bases of the underlying logic that CSR is founded on stakeholder management creating bridges of communication and cooperation between society and firms. The theoretical approach for this study is founded on the Using the resource-based view. Following, a CSR vision and strategy is argued as the foundation for the firm to facilitate the creation of a competitive advantage through innovation opportunities and participation in sustainable development. In order to do so, the following research question attempts to be answered:

What is the effect of corporate social responsibility on corporate financial performance among US publicly traded companies listed on the S&P500, in order to contribute to long-term strategic implications for the promotion of sustainable development?

For this purpose, the following sub-questions need to be identified:

- 1) *From a temporal perspective, does the impact of CSR on CFP vary between the short-term and long-term?*
- 2) *What is the impact of innovation on short-term and long-term CFP?*
- 3) *Do complementary investments in CSR and innovation improve CFP?*

My thesis is composed of four themed chapters. Firstly, the thesis will elaborate on the definition of corporate social responsibility drawing from stakeholder theory followed by the hypotheses development. The subsequent chapter contains the statistical analysis including univariate, bivariate and multivariate analyses. The final chapter discusses the results and provides implications for scholars and managers.

The present study aims at filling the gap in previous literature by conducting a multivariate hierarchical regression analysis to the test, not only on the relationship between CSR and CFP, but also on the mediation effect of innovation.

This investigation makes use of the KLD Research & Analytics, Inc. (KLD) database to construct a weighted average score of corporate social responsibility for years 2006 through 2011. This dataset is extended with financial data from the Compustat database. After matching the both databases the final sample of companies comprised of 297 U.S. publicly traded firms. Understanding the link between CSR and CFP mediated by the role of innovation will help to fill the gap in the literature by conducting a multivariate hierarchical regression analysis.

This thesis is solely based on secondary data lacking managerial perceptions on the issue of CSR and innovation suggesting for further research to collect primary data. Furthermore, the KLD database does not include innovation activities of the company. The innovation variable was is

based R&D expenditures and sales. In future, more varieties of innovation should be included to verify the results of this study.

My interest in this area developed while I was enrolled in the Sustainable Development course at Maastricht University that allowed me to reflect on my one-year long volunteering service in Bethlehem, Palestine. Reflecting upon the difficult situation of poverty in this region made me think about how multinational corporations may be able to improve the situation.

2. The business case of corporate social responsibility

2.1 Corporate social responsibility and instrumental stakeholder theory

Over the past decades, several different definitions of CSR have been proposed. However employing Carroll's (1979) definition of CSR is the most suitable in the analysis of company activities. The author explains CSR along four dimensions that describe the firms' responsibilities: "*The social responsibility of business encompasses the economic, legal, ethical and philanthropic expectations that society has of organizations at a given point in time*" (Carroll, 1979, p. 500). This definition is useful because it specifies the economic responsibility within the definition. By providing goods and services, businesses not only follow their mission of profitability but also share wealth with society. Additionally, it allows for a more precise examination of different firm actions (Carroll and Shabana, 2010). This expansion includes the notion that economic and legal responsibilities are implied while ethical responsibilities are expected and philanthropic expectations are desirable. Adding the latter two dimension stress the broader and social contract between business and society. In other words, CSR has to be regarded beyond the necessary requirement of economic and legal responsibility in order to emphasize the ethical and philanthropic obligations of the firm (Carroll and Shabana, 2010). Responsibility in this definition is demanded by corporate stakeholders and society at large and CSR by this

definition is the voluntary recognition of stakeholder concerns both internal and external to the operations of business. Thus, recognizing the stakeholder aspect is important because it “*personalizes social [...] responsibilities by delineating the specific groups or persons business should consider in its CSR orientation*” (Carroll, 1991, p.43). Already a few years earlier, Freeman (1984) shed light on the importance of stakeholder groups within the strategic management literature, later referred to the stakeholder theory.

The central theme of his work highlights that firms have the responsibility not only to shareholders but to several constituents. The firms’ obligations are extended to any party that is impacted by the companies’ actions meaning that managers can be held accountable in case of detrimental actions (Greenwood and van Buren, 2010). In his line of reason, the firm serves as a nexus of stakeholders who represent “*any group or individual who can affect or is affected by the achievement of the organization*” (Michell et al., 1997, p.854). It implies that the interaction between the business and stakeholder is two-directional and crucial to operationalize corporate social responsibility.

Beyond that, stakeholder theory can be further broken down in three distinct approaches in order to understand to better understand the relationship to CSR (Jones, 1995). The first approach focuses on the *descriptive* formulations of the theory and elaborates on how the firm engages with different stakeholders. The *normative* approach purports to examine stakeholders’ interests and provide guidance on how the firm should engage based on moral grounds. Finally, the *instrumental* approach is concerned with stakeholders needs. However, it includes the organizational performance aspect and analyses the results from embracing stakeholder interests. The important distinction concerning the instrumental formulations of stakeholder theory is the fact that it establishes a relationship between stakeholder-related activities and firm performance

(Freeman, 1999). In order to enhance firm performance, stakeholder-regarded behavior must create outcomes that are valuable for stakeholders (Jones, 1995).

These reciprocal relationships to various groups of constituents hold strategic benefits for the company. Porter and Kramer (2011) posit the shared value creation approach which allows companies to innovate and grow by simultaneously creating societal, as well as, economic value. In order to be successful, collaboration will play an essential part in the process because external insights, skills and resources are valuable in order to create joint company and stakeholder wealth. Overall, stakeholder management allows companies to gain insights about their stakeholders and adapt strategies to their needs in order to create win-win situations. However, the integration of stakeholders can also cause challenges for the organization since several stakeholders have diverse demands towards the organization. Thus, effective stakeholder management is crucial in order to balance the different expectations of organizational stakeholders (Eccles and Serafeim, 2013).

2.2 Corporate social responsibility and corporate financial performance

In the literature on corporate social responsibility, the resource-based view (RBV) takes a prominent role to explain the advantages of following a sustainability strategy and deriving a competitive advantage (e.g. Hart, 1995; Russo and Fouts, 1997; Hillman & Keim, 2001; Bansal, 2005; Porter and Kramer, 2011). Essentially, the resource-based view describes the application and exploitation of a firm's valuable tangible and/or intangible resources builds the foundation of a company's competitive advantage (Wernerfelt, 1984). In order to determine the competitive potential of resources, they have to fulfill four criteria. First, the resource must be valuable and provide the company with a value creating strategy that enables the firm to outperform its competitors. Second, in order to be valuable the resource must be rare. Third, possessing a

valuable and rare resource may create a competitive advantage. However, to sustain this competitive advantage the resource must be in-imitable in order to avoid that competitors are able to duplicate the resource perfectly. Finally, if the resource fulfills the previously mentioned three criteria, non-substitutability is equally important. When competitors are able to substitute the resource, the power of the resource could be countered and destroys the potential sustainable competitive advantage (McDowell et al., 2009). Increasing the strength of in-imitability can be achieved in three ways (Barney, 1999; Bowman and Ambrosini, 2003):

- Path dependency (highly specialized resources that have been developed throughout the company's history),
- Causal ambiguity (the creation of the resource is not fully understood) and
- Social complexity (resources, such as corporate culture, are difficult to imitate in the short term)

Additionally, Makadok (2001) stresses the distinction of the encompassing construct of resources into resources and capabilities since tangible or intangible resources are not able to create value by itself. The author emphasizes that resources are tradable and non-firm-specific while capabilities are firm-specific and represent the organization's ability to exploit those resources. In other words, capabilities represent activities that use resources facilitated by the firm in order to create value and achieve its objectives. Therefore, capabilities can be seen as the result of organizational learning established by the individual members of the organization. Capabilities must ensure the integration and facilitation the learning of its members (Mathews, 2003), thus represent organizational processes that are steadfast over time despite member turnover (Wright et al., 2001).

Overall, the resource-based view has two advantages to exemplify the link between corporate social responsibility and corporate financial performance. First, it recognizes path dependent intangible resources, such as corporate culture or reputation, which are essential when analyzing the impact on corporate social responsibility policies on the company performance (Russo and Fouts, 1997). Additionally, the final outcome of the RBV is the competitive advantage which represents a value-creating strategy that is currently more superior than the one of the firm's competitors. Combining CSR with the resource-based view makes sense because it not only impacts the financial performance and demands investments in new resources, but it also enables the firm to create resource-based creations (Bansal, 2005).

However, it is important to consider the specific timeframe when analyzing the relationship between CSR and CFP. Companies that have decided to introduce more environmentally friendly products and services are often exposed to higher costs of production which is, in turn, reflected in higher costs for the consumer (Marcus and Fremeth, 2009). Most of consumers are not willing to pay premium prices and buy less environmentally friendly products which are sold at cheaper prices (Marcus, 2005). It does not only take time to develop markets for socially and environmentally sustainable products and services but also reaching a level of production costs that translate into prices for consumer they are willing to pay. Hence, investing in resources that are concerned with product and service development may be negatively correlated to short-term corporate financial performance. Furthermore, relationships to different stakeholders play an important role in optimizing the production and processes since they also need to adapt to the changes which requires patience. Over time, competencies are developed within the company aiming that aim to bundle several stakeholder capabilities which become more complex. This interdependency among stakeholders becomes more valuable and imitable over time providing a

source for a competitive advantage (Marcus and Fremeth, 2009). Overall, corporate social responsibility is a long-term oriented strategic management aspect which cannot be obtained easily in the short-term. The following hypothesis is derived:

H1a: Corporate social responsibility (CSR) negatively impacts short-term corporate financial performance (CFP).

When looking at the long-term effects of CSR on firm performance, Brammer & Millington (2008) found that the relationship between a firm's social performance and long-term financial performance is positive. This observation is supported by the notion that a proactive implementation of an environmentally friendly strategy helps to create valuable organizational capabilities which in turn may serve as a source of sustained differentiation (Hart, 1995). This is congruent with Porter's (1985) arguments of competitive advantage that proposes that superior financial performance can be reaped from high levels of differentiation. Hence, strategic CSR is a way for the firm to differentiate it from competitors. In addition to strategic implications, excellent stakeholder relations positively influence financial returns. For example, improved work place quality may boost the morale of employees. Satisfied employees are more willing to "go the extra mile" and make greater efforts for the firm resulting in higher productivity. Furthermore, positive community relationships may generate perks in form of tax breaks, municipal investments in the education system, or deregulation. Overall, these incentives allow firms to reduce costs and increase profits (McWilliams & Siegel, 2000). Most importantly, reciprocal dialogue with stakeholders helps firms to gather insights about stakeholder demands and allows developing capabilities that are able to efficiently exploit existing resources and establish a unique value-creating strategy that may lead to higher sales. Additionally, an overall positive corporate image may also help to push financial performance. Conscious consumers who

value high quality products that have been sourced sustainably may be more inclined to purchase socially and environmentally friendly products and create customer loyalty. Positive customer perceptions may lead to increased sales and decreased stakeholder management costs. However, investing in CSR may take time since strategy has to be developed and implemented, stakeholder relations be developed and reputation be earned. Hence, this thesis hypothesizes the following:

H1b: Corporate social responsibility positively impacts long-term corporate financial performance (CFP).

2.3 Innovation and corporate financial performance

Since Schumpeter's (1934) influential work on "creative destruction", innovation has been recognized as an important component of a successful competitive strategy. It is argued that innovation not only creates a competitive advantage but also aids to sustain the competitive edge (Tidd, 2001). Hence, research and development (R&D) investments are crucial to foster the generation and improvement of resources based on knowledge and know-how advancements. Eventually, innovation can be achieved by establishing, utilizing or reconfigure resources and capabilities (Drucker, 2002) improving products, services and processes or, in general, create value. Hence, effectiveness and efficiencies gains are created resulting in greater market shares and higher sales (McWilliams and Siegel, 2000). In other words, successful innovation has the power to generate enhanced financial performance if it also delivers additional value to the customer and rare, difficult to be imitated and there is no substitution (Barney, 1991). Porter (1991) proposes that tight environmental legal requirements foster innovation and the efficient use of resource, since companies will try to reduce costs and risk by not abiding to environmental and social demands. Hence, firms develop competitive strategies that may lead to a competitive advantage due to spurred innovation and a better market position. Innovation has been accepted

as a crucial ingredient for financial performance and was discussed by many authors (Cooper & Kleinschmidt, 1987; Damanpour & Evan, 1984; Yiu & Lau, 2008; Hull and Rothenberg, 2008). Innovation allows creating more commercially performing products (Cooper and Kleinschmidt, 1987) and the superior competency helps to reconfigure existing resources (Yiu & Lau, 2008).

Since this study aims to add a temporal perspective, the influence of innovation on short-term and long-term CFP was to be regarded. Thus, innovative companies can be successful in the short run due to first-mover advantages, major market share gains and establishing a loyal customer base. In the long-term, innovative firms are able to establish favorable relations to legislators lobbying for favorable legislations, increase brand equity and superior customer relationships and recruit a quality and innovative workforce. Subsequently, innovation will positively influence the short-, as well as, the long-term corporate financial performance:

H2a: Innovation positively affects short-term corporate financial performance (CFP)

H2b: Innovation positively affects long-term corporate financial performance (CFP)

2.4 The interaction of innovation with CSR and its effect on CFP

CSR can be driver of innovation since it demands the rethinking of products, processes and organizational values which enables the firm to find solutions to existing environmental and social problems. For example, General Electrics (GE) launched the “Ecomagination” sustainable growth strategy in 2005 (GE, 2016). The strategy is based on the premises to reduce energy consumption and tackle environmental problems. The goal of the strategy is to integrate an environmental responsible mind-set in product development activities and overall processes to create cleaner technologies for their customers. By including an environmental conscious aspect into strategy, GE was able to reconfigure their resources and exploit them in order to respond to

changing societal and customer needs. After one decade of Ecomagination, GE spent more than \$17 billion on R&D while generating revenues of \$232 billion reducing their greenhouse gas emissions by 12% and freshwater use by 17% (GE, 2016).

Without the involvement of stakeholders in the innovation process, however, the success of GE's sustainability program would not have been possible. The company brings together industry leaders, communities, entrepreneurs and academia to steer the innovation process. Engaging stakeholders facilitates the knowledge exchange and generates important insights for the company. Additionally, open-innovation plays an important part in the strategy since the firm actively invites the global innovation community to solve certain environmental challenges and a co-creating process. Finally, GE supplies funds to venture that are environmentally sustainable in the energy sector.

Moreover, CSR not only foster value creation by having an effect on external stakeholders but also nourishes from internal stakeholder engagement. A company following a CSR strategy attracts a specific workforce that is able to exploit organizational capabilities (Turban and Greening, 1997) and, hence, influences the innovation performance of the company. Additionally, potential employees self-select themselves based on overlapping beliefs and values (Kirchhoff, 2000) leading to a more dedicated workforce that is intrinsically motivated to create sustainable wealth.

Overall, companies that that want reap superior financial performance from CSR must develop a "strategy that integrates the goals of innovation and sustainable development" (Hall and Vredenburg, 2003, p.63), utilizing fruitful stakeholder relationships. Hence, firms have to simultaneously invest in both CSR and innovation to enable the firm to differentiate itself from its competitive environment. Hart (2010) supports this line of reasoning and views CSR and

innovation as sequential. The author argues that social responsibility is the foundation for companies in the future to create successful innovations. Fowler & Hope (2007) supported his claim by providing empirical evidence by analyzing Patagonia's strategic CSR strategy. The authors concluded that the commitment to sustainable development guided the organizational and technology innovations. Thus, institutionalizing principles of sustainability may dictate innovation direction within organizations with implications for technology, administration and strategy. Consequently, innovation has the potential to clarify the relationship between corporate social responsibility and corporate financial performance:

H3a: The negative effect of corporate social responsibility (CSR) on short-term corporate financial performance (CFP) is mediated by innovation

H3b: The positive effect of corporate social responsibility (CSR) on long-term corporate financial performance (CFP) is mediated by innovation

2.5 Complete Research Model

The previous chapter provided a synthesis of the literature concerning the investigated variables. Several relationships are proposed and six hypotheses were derived. To recap, the objective of this thesis is to investigate whether corporate social responsibility influences corporate financial performance and whether the time frame is an important factor to consider. Furthermore, it explores whether innovation mediates the link between CSR and CFP. Figure 1 shows an overview of the hypothesized relationships.

The following chapter will elaborate on the research methodology including a description of the sampling data and sources. In addition, the measures are described in detail and the analysis plan will be explained.

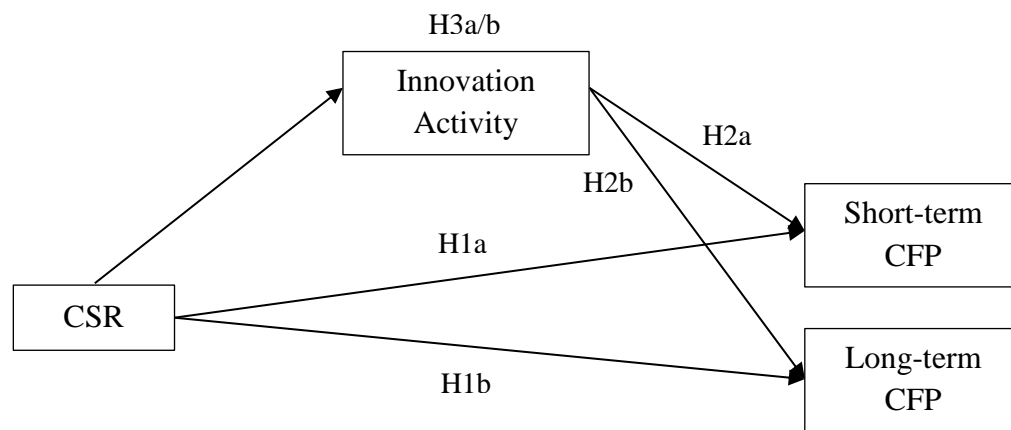


Figure 1: Conceptual Model

3. Research methods and design

3.1 Sampling data and sources

In order to construct a measurement for CSR, data was extracted from the MSCI ESG KLD STATS (KLD) provided by MSCI KLD Research Inc. The KLD database was adopted in many studies in the field of corporate social responsibility (Waddock and Graves, 1997; Russo and Fouts, 1997; Hull and Rothenberg, 2008) and provides annual assessments on CSR since 1991. The database provides several advantages for CSR-oriented research. One advantage is the fact that an independent rating agency solely focuses on the provision of CSR assessment data and covers all publicly traded companies of the S&P500. Additionally, the data has been shown to be providing robust construct validity (Shiu and Yang, 2016). The companies are assessed on seven qualitative issues areas related to CSR covering approximately 80 indicators: community, corporate governance, diversity, employee relations, environment, human rights, and product. Additionally, the data provides information for the engagement in controversial business issues: alcohol, gambling, tobacco, firearms, military, and nuclear power. Each dimension is annually assessed on strengths and concerns. For example, the qualitative issues area diversity consists of nine strength indicators (e.g. board of directors – gender, work-life benefits) and five concern indicators (e.g. workforce diversity, non-representation). Each indicator is rated on a simple

binary model. If a company meets the assessment criteria established for an indicator, then this is signified with a “1”, otherwise “0”. The financial and non-CSR data was extracted from the Compustat database to establish a single database. The database began its service in 1962 and provides financial, statistical and market information on global companies.

3.2 Dependent variable

Corporate financial performance (*CFP*) constitutes the dependent variable of this research and measured by using Tobin’s q. The dynamic firm performance indicator reflects expectations of the stock market regarding the firm’s profitability and growth potential. Additionally, it factors in internal efficiency metrics like equity and assets (Kor & Mahoney, 2005). Since this study aims to examine the impact of CSR and innovation on the firm’s short- and long-term economic performance Tobin’s q is the appropriate measure (Wernerfeldt & Montgomery, 1988). When comparing to accounting-based measures, such as return on assets (ROA), it is unclear whether returns of investments in CSR-related resources and innovation are depicted in the balance sheet and the company’s market value. Both parameters are important in order to reflect economic value creation (King & Lenox, 2002). The Tobin’s q was calculated by the following equation (1) (Chung & Pruitt, 1994):

$$Tobin's\ q_t = \frac{Equity\ (market\ value)_t + Book\ value\ of\ longterm\ debt_t + Net\ current\ liabilities_t}{Total\ assets_t} \quad (1)$$

The research question and hypotheses are formulated to investigate temporal effects, therefore a short- and long-term measure of financial performance was calculated. The CSR and innovation variables are measured for the years 2006-2011. Hence, the short-term CFP dependent variable was operationalized the first year after this period (2012). Following the conceptualization of Tosi et al. (2000) who operationalized a long-term CFP measure by taking an average of long-

term return on equity over five years, the long-term measure of CFP is measured by taking the weighted average of the Tobin's q for the period (2013-2015). This period begins in the second year after investments in CSR and innovation (2006-2011).

3.3 Independent variable

The operationalization of the independent variable *CSR* was adapted from Servaes and Tamayo's (2013) broad measure of CSR. As outlined above, the KLD database comprises of 13 categories regarding CSR activities. However, controversial business issues and corporate governance dimensions are excluded. Basically, the indicators around the corporate governance dimensions assess the mechanisms that allow shareholders to reward and exert control on the managers. As previously mentioned, CSR deals with social goals and a wider stakeholder understanding than just shareholders, therefore, the corporate governance dimension is removed from the measure.

For dimension and year KLD provides a number of strengths and concerns. For example, in year 2006, the category environment contained six strengths and seven concerns. However, over the years the number of strength and concern indicators fluctuates. Therefore, it does not allow comparing results across years. Since this thesis is interested in cross-sectional and time-series implications for CSR, a scaled measurement for each year of strengths and concerns was applied. This resulted in strength and concern indices for each dimension and year ranging from 0 to 1. This is done by dividing the number of concerns (strengths) for each firm each year within each CSR dimension by the possible number concerns (strengths) in each dimension year. Then, a net CSR index is calculated by subtracting the concern index from the strengths index. The net CSR index ranges from -1 to +1 in each year. Finally, the category indices community, diversity, employee, environment, human rights, product are added up and operationalize an overall CSR

measure ranging from -6 to +6. In order to construct an overall CSR measure for the period from 2006 to 2011 the weighted average of the yearly overall CSR score was used.

For example, in 2006, United Technologies Corporation had strengths in four areas of environment dimension out of a maximum of six, resulting in a strengths score of 0.5 (3/6). In the same year, United Technologies Inc. had concerns in two out of seven indicators of the environment category, resulting in a concerns score of 0.29 (2/7). Hence, United Technology's net CSR score in 2006 in the environment category is 0.21 (0.5-0.29). An overview of the different categories and their number of strengths and concerns can be found in Appendix A.

3.4 Mediating variable

The second independent variable and mediating variable *innovation* is based on the study of McWilliams and Siegel (2000). Furthermore, the variable will also be treated as a control variable when testing the direct relationship between CSR and CFP. The measure was operationalized by the following formula (2):

$$Innovation_t = \frac{R\&D\ expenditure_t}{Sales_t} \quad (2)$$

Additionally, the weighted average for the period 2006 to 2011 was calculated to average out for annual fluctuations in innovation investments.

3.5 Control variables

As Hull & Rothenberg (2008) suggested the following control variables are important because they both affect CSR and company performance. First, *firm size* is important because large companies are able to make higher investments in CSR and they are more observable by stakeholders and, thus, more prone to their pressure. This variable is operationalized by

calculating the weighted average of its total assets. The second control variable is the *firm's risk* measured by the ratio of debt to asset. The authors argued that a relatively higher debt to asset ratio indicates that firms have fewer resources to spend on innovation and on CSR activities. The last control variable is the *firm's industry* based on standard industrial classification (SIC) code in the year 2006. It is argued that not only profitability of the firm's industry is likely to affect CSR and performance but also visibility is an important factor to take into account. The two former control variables are operationalized as the weighted average of the period 2006 to 2011.

3.6 Overview of variables per Hypothesis

The following table provides an overview of the conceptualizations of the variables combined with the hypothesis (Table 1). From left to right, the table presents the hypotheses, dependent variable, independent variable, mediator variable and control variables.

Table 1. Overview of hypotheses and variables

Hypothesis	Dependent Variable	Independent Variable	Mediator Variable	Control Variables
H1a: There exists a negative relationship between CSR and short-term CFP.	• Short-term CFP	• CSR	-	• Size • Risk • Industry • Innovation
H1b: There exists a positive relationship between CSR and long-term CFP.	• Long-term CFP	• CSR	-	• Size • Risk • Industry • Innovation
H2a: The relationship between innovation and short-term CFP is positive	• Short-term CFP	• Innovation	-	• Size • Risk • Industry
H2b: The relationship between innovation and long-term CFP is positive	• Long-term CFP	• Innovation	-	• Size • Risk • Industry
H3a: The negative relationship between CSR and short-term CFP is mediated by innovation	• Short-term CFP	• CSR	• Innovation	-
H3b: The positive relationship between CSR and long-term CFP is mediated by innovation	• Long-term CFP	• CSR	• Innovation	-

3.7 Analysis Plan

The statistical investigation in the following chapter starts with the descriptive sample statistics. In order to confirm whether the data does not violate the conditions of regression analyses which could impact the interpretation of the results, the assumptions for regression analyses are tested. Third, the empirical relationships between the variables are determined with the bivariate analysis in form of a correlation matrix. Fifth, the hierarchical multivariate regression analysis statistically investigates the proposed hypotheses resulting in seven total regression models. Model 1 (short-term CFP) and Model 6 (long-term CFP) test hypotheses H1a and H1b, respectively. In other words, the models investigate the direct relationship between CSR (IV) and the short-term CFP and long-term CFP (DVs), respectively. Model 2 and 7 test the impact of innovation on the firm's financial performance testing hypotheses H2a and H2b. In order to examine the mediation effects of H3a and H3b further models have to be specified in order to follow Baron and Kenny's (1986) steps for mediation. Model 3 and Model 8 test the direct relationship between CSR and CFP without controlling for other variables. Model 4 comprises of the regression analysis between innovation as a dependent variable and CSR as an independent variable. Furthermore, in Model 5 and 9 CFP is regressed against both innovation and CSR.

3.8 Wrap-up

The previous chapter provided information on the study design, data sampling and sources, and the operationalization of the variables. Consequently, the variables that are necessary to test the hypotheses were explained and the implementation of the analyses was outlined. Hence, the execution of the analysis plan follows in the succeeding section.

4. Analysis and Results

4.1 Descriptive Statistics

4.1.1 The sample

The sample consists of 297 (N=297) U.S corporations that are traded on the S&P500. The sample consists of 260 manufacturing firms, 20 service firms, five transportation firms, four mining firms, three wholesale firms, two finance firms, two retail firms and one agricultural firm. The average CSR performance is 0.02 with Exxon Mobil (XOM) receiving the worst rating of -1.6. On the other end, Intel (INTC) was rated the highest in the period from 2006 until 2011 with a score of 1.89. Furthermore the mean of the innovation variable is 0.18. The average of the short- and long-term Tobin's q is 1.39 and 1.84, respectively. Table 2 provides descriptive statistics for all variables used on the study. In the following the sample will be analyzed to determine whether the data is suitable for this parametric test. To be able to make inference about the data the conditions are checked on the following order: (1) Normal Population Assumption and (2) Equal Variance Assumption (Sharpe et al., 2010). The assumption of independence is likely to hold, since the data is cross-sectional (Tabachnick & Fidell, 2013).

Table 2. Variable descriptives

Variable	N	Mean	SD
1. Size	297	10624.45	27874.07
2. Risk	297	0.21	0.15
3. CSR	297	0.02	0.49
4. Innovation	297	0.18	1.02
5. Short-term CFP (Tobin's q 2012)	297	1.39	1.33
6. Long-term CFP (Tobin's q 2013-2015)	297	1.84	1.5

4.2 Assumptions of regression analysis

4.2.1 Assumption of normality: Univariate analysis

Skewness and Kurtosis

Skewness and kurtosis provide information about the distributional symmetry and peakness of the variables, respectively. Therefore both measurements are a first indicator to assess normality (Sharpe et al., 2010). In order to provide evidence that the sample is normally distributed the coefficients of skewness and kurtosis must range between -2 and +2. However, the results in Table 3 show a very high positive skewness of the innovation, short-term CFP and long-term CFP variables. Only CSR falls into the threshold range. The same variables also display high levels of kurtosis called leptokurtic. This time CSR also deviates from the threshold and deviates slightly above +2 violating the kurtosis requirement. In order to improve the analysis of relationships the variables innovation, short-term CFP and long-term CFP are transformed by the natural logarithm function to improve the symmetry of the variable distributions. The skewness and kurtosis coefficients after the transformation are shown in Table 4. The results show that the logarithmic transformation improved the symmetry of the variable distributions and decreased the level of kurtosis. However, LNInnovation kurtosis coefficient is still slightly higher than +2.

Table 3. Descriptives (Skewness and Kurtosis)

Variable	Skewness		Kurtosis	
	Statistic	SE	Statistic	SE
CSR	1.035	0.141	2.307	0.282
Innovation	8.518	0.141	75.066	0.282
Short-term CFP	6.684	0.141	69.245	0.282
Long-term CFP	5.079	0.141	42.539	0.282

Table 4. Logarithmic Transformation Descriptives (Skewness and Kurtosis)

Variable	Skewness		Kurtosis	
	Statistic	SE	Statistic	SE
LNInnovation	0.622	0.141	2.057	0.282
LNShort-term CFP	0.108	0.141	1.443	0.282
LNLong-term CFP	0.403	0.141	1.082	0.282

Kolmogorov-Smirnov Test (non-parametric)

The Kolmogorov-Smirnov Test (K-S) test compares the scores of a sample to a normal distribution with the same mean and standard deviation. A test outcome resulting on a Z-score smaller than 1.65 ($Z < 1.65$, $p < 0.05$) would provide evidence for the null hypothesis stating that the observed distribution is normally distributed. In other words, a low Z-value would indicate that the sample is normally distributed (Reference). Table 5 provides the outcomes of the K-S test. The untransformed variables display a high Z-Value which is greater than the threshold of 1.65 indicating that these variables are non-normal. However, the outcomes for transformed variables all result in a Z-Value below 1.65 finding evidence for the null hypothesis that the observed distribution is normally distributed. Congruent with the kurtosis coefficient, the independent variable CSR is non-normally distributed, however, is rather usual for business research (Blumberg et al., 2008). Additionally, in large samples statistically significant kurtosis does not differ enough from normality to conclude a difference in the analysis (Tabachnick & Fidell, 2013). Consequently, the normality assumption is fulfilled.

Table 5. Results Kolmogorov-Smirnov Test

Variable	Kolmogorov-Smirnov	
	Z-Value	Sig.
CSR	2.479	0.000
Innovation	7.427	0.000
LN Innovation	1.245	0.090
Short-term CFP	3.541	0.000
LN Short-term CFP	1.039	0.231
Long-term CFP	15.556	0.033
LN Long-term CFP	0.975	0.298

4.2.2 Assumption of homogeneity

The second assumption depicts the requirement that the variances between groups of the sample have to be equal. First, parametric test in form of the one-way ANOVA are used, followed by the non-parametric Kruskal-Wallis test with regard to the different industries the firms of the sample operate in. The transformed variables were used to performance the one-way ANOVA and the Kruskal-Wallis test.

One-way ANOVA (Parametric)

The assumption of equal variances is holds when a difference of variances among the industry groups is significantly absent. Since there are eight different industry groups, the one-way ANOVA is the appropriate parametric test which compares the means of the groups. The null hypothesis states that the variances are equal. Hence, the existence of non-significant results ($p > 0.05$) of the Levene's outcome would imply that the homogeneity is present with regard to the industry groups. The results of the One-way ANOVA are presented in Table 6. The results display that all variables have insignificant results providing evidence for assumption the variances are equal among the groups.

Table 6. Parametric test for Homogeneity of Variances (industry)

Variable	Levene's Test	
	Statistic	Sig.
CSR	0.848	0.534
Innovation	1.030	0.406
Short-term CFP	0.719	0.634
Long-term CFP	1.474	0.187

Kruskal-Wallis one-way analysis of variance (Non-Parametric)

The Kruskal-Wallis test is the non-parametric equivalent to the one-way ANOVA and compares at least two independent samples of equal or different sample size. The null hypothesis states that all independent samples are equal assuming normality of the residuals. Thus, significant results

would indicate that there exist differences amongst the groups. Table 7 shows the results of the Kruskal-Wallis test. Surprisingly, the results display completely different results than the One-way ANOVA. All of the tested variables are significant indicating that there exists a significant difference between the groups. Since the variables are normally distributed, Levene's test provides evidence that the variables are equally distributed.

Table 7. Non-parametric test for Homogeneity of Variances (industry)

Variable	Kruskal-Wallis Test	
	Chi-square	Sig.
CSR	16.946	0.018
Innovation	22.556	0.002
Short-term CFP	14.092	0.050
Long-term CFP	15.556	0.033

4.3 The correlation analysis: Bivariate Analysis

Correlation analysis provides information about linearity because it investigates the strength and direction of relationships between different variables. The correlation value can range from -1 to +1, where -1 is total negative linear correlation, 0 indicates no linear correlation and +1 a positive linear correlation. Since the data is interval and ratio data, the Pearson correlation measurement is useful (Sharpe et al., 2010).

Table 8. Correlation matrix of research variables

Variables	1	2	3	4	5	6
1. Firm Risk	1					
2. Firm Size	-0.081	1				
3. Short-term CFP	0.118*	-0.005	1			
4. Long-term CFP	0.119*	-0.041	0.853**	1		
5. CSR	-0.029	0.126*	0.161**	0.169**	1	
6. Innovation	-0.030	-0.029	0.350**	0.368**	0.252**	1

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

The values from the table indicate the absence from multicollinearity since all correlation coefficients are smaller than 0.9 (Sharpe et al., 2010). The outcome displays (Table 8) that all variables are significantly positively related. In particular the correlations between independent variables and dependent variables are interesting. CSR is positively correlated to long-term financial performance ($r = 0.169$, $p < 0.001$). In addition, the corporate social responsibility variable also positively related to short-term CFP ($r = 0.161$, $p < 0.001$) providing encouragement for the proposed investigation. Furthermore, the innovation variable is positively correlated to both long-term ($r = 0.368$, $p < 0.001$) and short-term CFP ($r = 0.350$, $p < 0.001$). Additionally the Spearman's test was performed (Appendix B) adjusting for potential outliers, also indicates that multicollinearity is absent.

4.4 Regression analyses: Testing the hypotheses

Despite the evidence for relationships between the independent and dependent variables through correlations, the relationships have to be analyzed further by using multiple regression. This study conducts a hierarchical multiple regression analysis which indicates that the order of how the variables are entered into the model is crucial based on theoretical reasoning. Table XXX provides an overview of the regression equations that were used to test the hypotheses. The following equations function depicts the base model

$$Y = \beta_0 + \beta_1 * x_{CSR} + \sum_{ij} (\beta_{ij} * x_{ij}) + \varepsilon$$

Y describes the dependent variable corporate financial performance (CFP), β_0 denotes the constant, β_i represents the coefficients for the independent variable. $\sum_{ij} (\beta_{ij} * x_{ij})$ indicates the sum of the control variables and ε is the error term. An overview of the different models and equations is found in Table 9. The input variables in the model are the logarithmically transformed variables for CFP and innovation.

Table 9. Overview of regression equations

Model	Equation	Hypothesis
1 ^a	$Y_{ST-CFP} = \beta_0 + \beta_1 x_{CSR} + \sum_{ij} (\beta_{ij} * x_{ij}) + \varepsilon$	H1a
2 ^b	$Y_{ST-CFP} = \beta_0 + \beta_1 x_{Innovation} + \sum_{ij} (\beta_{ij} * x_{ij}) + \varepsilon$	H2a
3	$Y_{ST-CFP} = \beta_0 + \beta_1 x_{Innovation} + \varepsilon$	H3a
4	$Y_{Innovation} = \beta_0 + \beta_1 x_{CSR} + \varepsilon$	H3a, H3b
5	$Y_{ST-CFP} = \beta_0 + \beta_1 x_{CSR} + \beta_2 x_{Innovation} + \varepsilon$	H3a
6 ^a	$Y_{LT-CFP} = \beta_0 + \beta_1 x_{CSR} + \sum_{ij} (\beta_{ij} * x_{ij}) + \varepsilon$	H1b
7 ^b	$Y_{LT-CFP} = \beta_0 + \beta_1 x_{Innovation} + \sum_{ij} (\beta_{ij} * x_{ij}) + \varepsilon$	H2b
8	$Y_{LT-CFP} = \beta_0 + \beta_1 x_{Innovation} + \varepsilon$	H3b
9	$Y_{LT-CFP} = \beta_0 + \beta_1 x_{CSR} + \beta_2 x_{Innovation} + \varepsilon$	H3b

^aControl variables include: Innovation, Firm risk, Firm size, Industry ^bControl variables include: Firm risk, Firm size, Industry

Hypothesis 1a: This hypothesis proposed that CSR would have a negative effect on short-term CFP. The results from the Model 1 ($F = 5.785$, $p < 0.05$, adjusted R^2 (aR^2) = 0.151) show a positive but insignificant relationship between CSR and short-term CFP ($\beta = 0.087$, $p > 0.1$). Hence, hypothesis 1a is rejected.

Hypothesis 1b: The second direct effect of CSR on long-term financial performance was tested with Model 6 ($F = 6.528$, $p < 0.05$, adjusted R^2 (aR^2) = 0.201). The model provided evidence for the hypothesis and results in a positive relationship between CSR ($\beta = 0.094$, $p < 0.1$) and long-term financial performance. Hence, hypothesis 1b was supported.

Hypothesis 2a: The study hypothesized that the relationship between innovation and short-term firm performance is positive. Model 2 ($F = 6.102$, $p < 0.01$, adjusted R^2 (aR^2) = 0.147) regressed the innovation variable against short-term financial performance. The results provide evidence

for hypothesis 2a and prove a significant positive relationship between innovation ($\beta = 0.359$, $p < 0.01$) and short-term CFP. Hypothesis 2a was supported.

Hypothesis 2b: Following the approach of hypothesis 2a, the innovation variable was regressed against long-term financial performance. Model 6 ($F = 6.858$, $p < 0.01$, adjusted R^2 (aR^2) = 0.165) provided evidence for the hypothesized relationship. The innovation coefficient ($\beta = 0.374$, $p < 0.01$) provides significant evidence for a positive link between innovation and long-term financial performance.

Hypothesis 3a: Following Baron and Kenney's (1986) widely accepted approach to test mediation, there are four steps which must be satisfied in order to provide evidence for a mediation effect. The first condition requires a relationship between the independent variable CSR and the dependent variable short-term CFP (Path C). Model 3 ($F = 7.835$, $p < 0.05$, adjusted R^2 (aR^2) = 0.023) found a positive and significant relationship. The second requirement revolves around the existence of a relationship between the independent variable CSR and the mediating variable innovation treating the mediator as an outcome variable (Path A). Model 4 ($F = 19.992$, $p < 0.01$, adjusted R^2 (aR^2) = 0.06) finds a significant relationship between the two variables. A third regression analysis has to be conducted regressing both the independent variable CSR and the potential mediation variable against short-term financial performance. Model 5 ($F = 21.617$, $p < 0.01$, adjusted R^2 (aR^2) = 0.122) tested this relationship and found significant results for a positive influence of innovation ($\beta = 0.331$, $p < 0.01$) on short-term CFP (Path B). However, relative to the results in Model 3 the coefficient of CSR ($\beta = 0.168$, $p < 0.01$) increased which indicates the absence of an indirect relationship. Hence, there is no support that innovation functions as a mediation variable in the CSR-CFP link and H3a does not find support. The graphical representation in Figure 2 summarizes the findings.

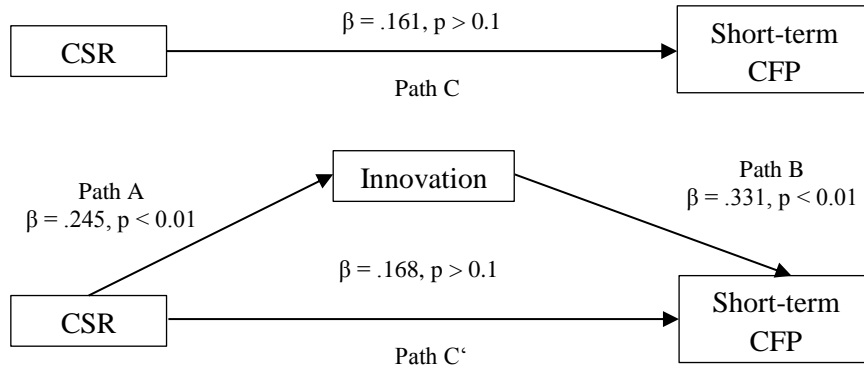


Figure 2. Mediation model short-term CFP

Hypothesis 3b: The approach by Baron and Kenny (1984) was again utilized to investigate whether innovation mediates the relationship between CSR and long-term CFP which is displayed in Figure XXX. At first the direct relationship between CSR and innovation (Path A) is positive and significant ($\beta = 0.252$, $p < 0.05$) measured by Model 4 ($F = 19.992$, $p < 0.01$, adjusted R^2 (aR^2) = 0.06). Additionally the direct relationship between innovation and long-term financial performance (Path B) is also positive and significant ($\beta = 0.347$, $p < 0.01$). Furthermore, the relationship between CSR and CFP in the long-term (Path C) is positive and significant ($\beta = 0.169$, $p < 0.01$) which was tested with Model ($F = 8.711$, adjusted R^2 (aR^2) = 0.025). While testing the correlation between the two variables CSR and firm performance, it must be controlled for innovation (Patch C'). Model 9 ($F = 24.201$, $p < 0.01$, adjusted R^2 (aR^2) = 0.136) is significant. The insignificance of the CSR coefficient ($\beta = 0.082$, $p > 0.1$) provides support for the fourth requirement of mediation that posits that the relationship between the independent and dependent variable must be significantly weakened. Additionally, the Sobel test was conducted which measures the magnitude of the mediation effect based on the following formulas (3) & (4):

$$t = \frac{(\alpha * \beta)}{SE} \quad (3)$$

$$SE = \sqrt{(\alpha^2 * SE_{\beta}^2 + \beta^2 * SE_{\alpha}^2 + SE_{\beta}^2 * SE_{\alpha}^2)} \quad (4)$$

, where α denotes the unstandardized beta of the innovation variable on long-term financial performance and β the unstandardized value coefficient of CSR on long-term financial performance from Model 9. The results of the Sobel test ($t = 3.609$, $p < 0.01$) provide evidence for the existence for innovation as a mediator between the relationship between CSR and long-term CFP. Thus, innovation does mediate the CSR-CFP link in the long-run and hypothesis 3b is supported. The mediated model of CSR, Innovation and long-term CFP is displayed in Figure 3.

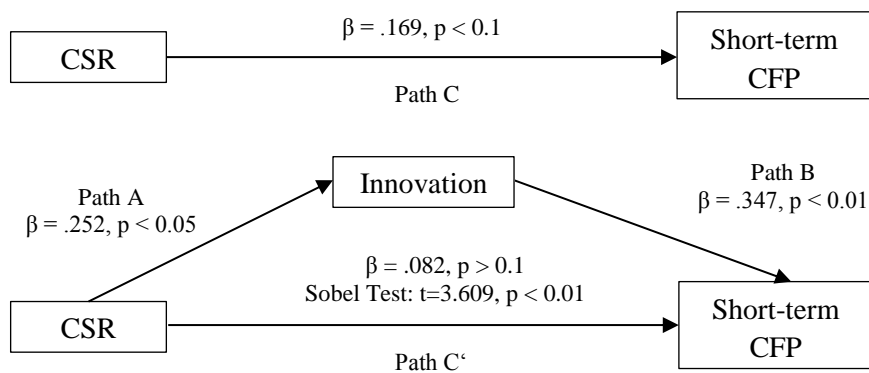


Figure 3. Mediation model long-term CFP

Table 10 provides an overview of the tested hypotheses the outcome of the respective regression analyses. The table highlights that four out of the six hypotheses were supported. Table 11 displays the regression coefficients of the nine models with their respective significance level.

Table 10. Overview of results

No.	Hypothesis	Outcome
H1a	There exists a negative relationship between CSR and short-term CFP.	Not supported
H1b	There exists a positive relationship between CSR and long-term CFP.	Supported
H2a	The relationship between innovation and short-term CFP is positive	Supported
H2b	The relationship between innovation and long-term CFP is positive	Supported
H3a	The negative relationship between CSR and short-term CFP is mediated by innovation	Not supported
H3b	The positive relationship between CSR and long-term CFP is mediated by innovation	Supported

Table 11. Regression results

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Dependent Variable	Short-term CFP	Short-term CFP	Short-term CFP	Innovation	Short-term CFP	Long-term CFP	Long-term CFP	Long-term CFP	Long-term CFP
Constant	0.482	0.512	0.103	-3.666	0.610	0.793	0.827	0.415	0.896
Firm Size	0.000	0.012				-0.043	-0.029		
Firm Risk	0.132	0.131				0.126**	0.125**		
Innovation	0.337***	0.359***	0.161***		0.331***	0.351***	0.374***		0.347***
CSR	0.087			0.252***	0.168***	0.094*		0.169***	0.082
Sample	297	297	297	297	297	297	297	297	297
F-statistic	5.785	6.102	7.835	19.992	21.617	6.528	6.858	8.711	24.201
R ²	0.183	0.176	0.026	0.063	0.128	0.201	0.193	0.029	0.141
Adjusted R ²	0.151	0.147	0.023	0.060	0.122	0.170	0.165	0.025	0.136
*** p < 0.01; ** p < 0.05; * p < 0.1									

4.5 Comparing short-term CFP and long-term CFP results

Among the objectives of this thesis was to examine the temporal differences of CSR, innovation and CFP. Therefore, the following section will compare the results of the short-term CFP and long-term CFP analysis. While the relationship between CSR and CFP was positive and significant in the long-term ($\beta = 0.94$, $p < 0.1$), the link was insignificant in the short-run ($\beta = 0.087$, $p > 0.1$). The regression analyses outcomes provide standardized coefficient that can be directly compared. The comparison reveals that between long-term CFP and short-term CFP exist a positive 0.853 difference in the coefficients. The difference points to the conclusion that over time the impact of CSR on firm performance becomes increasingly stronger. Additionally, the coefficients of the link between innovation and CFP were compared resulting in a positive difference between long-term ($\beta = .347$, $p < 0.01$) and short-term ($\beta = .359$, $p < 0.01$) of 0.015. This indicates that the magnitude of the relationship between innovation and firm performance increases over time.

Finally, the indirect relationships are compared. While there exists no significant mediated relationship in the short-term, the mediation becomes significant in the long-term. That provides support for the proposition that over time innovation becomes a mechanism by which CSR affects CFP. The non-significance of the CSR-CFP in the short-term may indicate that investments in CSR and innovation negatively affect firm performance, but long-term oriented innovation mediates the CSR-CFP link and improves financial performance.

4.6 Post-hoc tests: Reassessing the assumptions

In the following sections we reassess the regression assumptions because univariate normal variables may not be necessarily follow a multivariate normal distribution (Tabachnick and Fidell, 2013). Hence, post-hoc analysis of the normality and homoscedasticity assumptions are

analyzed interpreting the residual scatterplots. Furthermore, the Normal P-P plots are investigated to assess the multivariate normality. If the sample is normally distributed, the points should line up along a diagonal line starting in the lower left corner to the upper right corner. Some minor deviations are acceptable due to random processes (Tabachnick & Fidell, 2013). In all cases the scores for the cases roughly fall along the diagonal line supporting the multivariate normality assumption. Furthermore, the assumption of homogeneity of variances was analyzed by plotting the standardized predicted values against the standardized residuals. In order to meet the condition of homoscedasticity the residuals must be “roughly rectangular distributed, with most of the scores concentrated in the center (Pallant, 2011, p.159). The scatterplots displays a distribution around the center without a specific pattern but rather taking on a vertical band. Thus, the assumption of homogeneity of variances might not hold. An additional remark is the detection of outliers (i.e standardized residuals with a value outside -3 to +3). However, a few outliers are not unusual in large samples. In other words, no sample reconfigurations are necessary (Pallant, 2011). Nevertheless, it has to be noted that the interpretation of residual scatterplot is rather subjective. Therefore, the outcomes have to be treated with caution. These results of the post-hoc tests indicate that the assumption of normality holds while the assumption of equal variance is violated. These findings are considered in the discussion.

4.7 Wrap-Up

In the current chapter comprises of several pre-tests and reasoning for the use of different statistical techniques. The main objective of this section was the statistical investigation of the hypotheses by conduction hierarchical multiple regression analyses. Most of the hypotheses have been supported. However, for others no statistical evidence could be provided due to the fact that statistical results highlighted evidence that the direction of the relationship was the opposite.

Figure 4 shows the research model including the outcomes of the study. The empirical results of the study are discussed on the final chapter including the provision of theoretical and managerial implications, as well as, the presentation of the limitations.

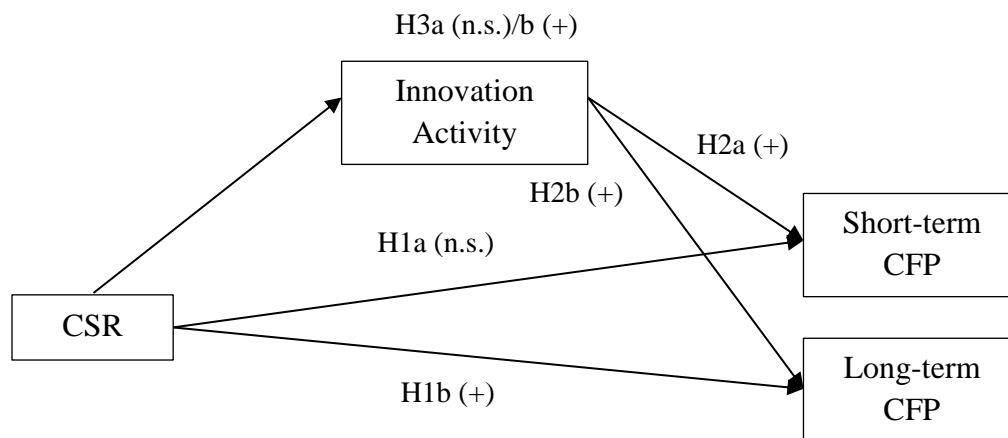


Figure 4. Conceptual model with results

5. Discussion of the Findings

In reviewing the literature, innovation as the mediator of the relationship between CSR and CFP has been understudied. Instead, innovation has been so far analyzed as a moderator in the relationship. The aim of the research was to extend the question on whether improvement on CSR pays off adding an innovation dimension. This objective has been investigated in terms of time of the pay off. More specifically, this study has been performed through a contingency perspective to identify whether there is difference between a short-term pay-back period or a long-term one.

The current study found that, non-significant result of Hypothesis 1a adds to the ambiguous results concerning the CSR-CFP link that has been discussed in the literature (Margolis & Walsh, 2003; Orlitzky et al., 2003). Concerning the relationship of CSR and CFP in the short-term, no evidence was found. On the other hand, in the long-term period this relationship was found to be significant (Hypothesis 1b). It is interesting to note that, the change in significance between short-term and long-term period, provides evidence that a temporal perspective on the CSR-CFP

relationship is existent. Therefore, it can be concluded that the relationship between CSR and CFP, is dependent on time. The findings are consistent with data obtained by Pelozo (2009). The author proposed that the relationship between CFP and CSR may be an inverse U-shaped relationship. The author has shown an initial negative impact in the investment of social responsibility on firm financial performance, with a consequent positive result when studied overtime.

The problem of generalization of results concerning the relationship between CFP and CSR may also be attributed to the short-term focus of many studies. On the contrary, a long-term perspective on CSR investments appears to create positive returns. Russo and Fouts (1997) suggested that proactive environmental strategies foster the development of valuable organizational capabilities. Since the establishment of these capabilities requires time, positive financial returns are rather expected in the long-term. Although proactive CSR strategies generate positive returns in the long-term, “once the low hanging fruit has been harvested” (Hart & Ahuja, 1996; p.32), improving financial performance becomes increasingly more complicated. This occurs when CSR investments exceed costs savings or the imitating of strong stakeholder relationship by competitors. This study has been able to demonstrate and add to the literature by shedding light on the ambiguous reported results of the CSR-CFP relationship including a temporal perspective.

Looking at the impact of innovation on CFP, the results clearly point to the inference that there exists a positive relationship between the two variables (innovation and CFP) in the short-term, as well as, in the long-term. However, the strength of the relationship seems to increase over time when comparing the standardized coefficients. This effect might be attributed to the very nature of the influence of innovation. When observing the relationship over time, innovativeness is

dependent on the establishment of organizational capabilities that help to fully exploit the potential of the organization. For example, co-creation of innovation activities requires strong relationships with stakeholders demanding time to be able to exploit the full potential. Additionally, the identification of stakeholder needs is a time consuming activity and rather pay off in the long-run. Overall, the results suggest that investments in innovation are generally positive for firm performance which increases over time.

Finally, the results of the mediation hypotheses (H3a/b) shed light on the effects between CSR, innovation and CFP. In contrast to the short-term, innovation happens to mediate the relationship between CSR and CFP in the long-term. As outlined above, financial performance might diminish over time, simultaneously, investments in CSR and innovation may help to avoid this development and lead to superior firm performance, as well as a sustainable competitive advantage. Consequently, it can be affirmed that, innovation may be a vehicle through which investments in CSR can be exploited and foster considerable improvements of financial performance.

5.1 Implications

The results of the research suggest that CSR activities are not detrimental to the firm's primary concern of generating profits. By paying attention to different CSR domains it is most likely possible to increase the strength of relationships to stakeholders. For example, excellent relations to the employees might boost productivity, satisfaction and decrease turnover rates. Good relations to local communities might lead to tax-breaks or favorable regulations. A positive reputation among customers, who evaluate products and services based on its social and environmental implications, increasingly becomes important in terms of buying decisions. A strong and proactive stakeholder relationship with the company or organization becomes the

foundation for competition and allows the firm to explore new grounds. Additionally, CSR activities can be a mean of differentiation. Especially, in highly differentiated industries, the focus on social and environmental performance might provide the competitive edge among rivals. This thesis provides evidence that allocating resources towards CSR activities might be beneficial for the firm. Therefore, it becomes clear how CSR has to be included on the corporate agenda. The results suggest that CSR is more than a philanthropic activity. Instead, it holds concrete strategic implications for managers since it turns out to be financially positive in the long-run. Thus, CSR should be treated as an integral part of strategy development.

Following the reap benefits from a strengthened relationship to stakeholders; the changing nature of innovation has to be considered when developing long-term strategies that include CSR domains. According to the OECD's report *New Nature of Innovation* (OECD, 2009), innovation has in the past been driven by technology. However, in the future technology will serve as a mean for innovation. This development becomes already apparent, for instance, in the exploitation of big data during the provision of customized services. These developments have also implications for the domain of CSR. Since not only relationships to stakeholders are to be strengthened, the latter also are and represent fruitful opportunities for the organization and (or) company. Therefore, CSR may function as an enabler for innovation. This is congruent with the three main drivers of innovation in the future (OCED, 2009), that are going to be further explained. The first driver is found to be co-creation. It is the collaborative development of products and services through the inclusion of stakeholders, which not only strengthens the relationship with stakeholders, but also ensures that the created value is shared with society. This co-creation provides the opportunity to gain insights and tap into tacit knowledge and receive a better understanding of needs and challenges encountered, contrary to the previously internally-centered

business strategies. 2012 Heineken, for example, who kicked-off its co-creation platform Heineken Ideas Brewery, invited environmentally conscious consumers to submit ideas to increase the sustainability of its packaging. The winning idea was a device that incentivized customers to return their bottles with the chance of winning \$1,000.

Moving onto the second driver, the opening of competition and the innovation process become relevant. By reaching out to companies operating in different industries helps to exchange knowledge regarding specific challenges and trends. The Cambridge Service Alliance, for example, is a platform that aims to facilitate partnerships among academia and several non-competitive organizations. The latter, are invited to join forces with other companies and exchange insights on current issues concerning several topics on service innovation. Additionally, the close connection to Cambridge University allows participants to acquire new tools and techniques to further improve their products and service offerings. Another possible approach is the creation of a partnership with governments. Public and private partnerships ensure the contractual collaboration between public institutions and organizations from the private sector. The private company facilitates the efficient provision of value, while the public sector entities guarantee the satisfaction of common welfare goals. Yara International, a Norwegian chemical company specialized on nitrogen fertilizers encountered several challenges when trying to reach Tanzanian smallholder farmers. It is established in a corrupt and protectionist government, ailing infrastructure and illiterate farmers who often were not able to access credits, preventing Yara from growing in this country (Kramer & Pfizer, 2016). While international aid was able to reduce hunger in the short-term, underlying mechanisms were not challenged. In 2009 Yara gathered 68 organizations to found the Southern Agricultural Growth Corridor of Tanzania (SAGCOT) which included MNCs, the local government and international aid organizations. The objective was to

establish an agricultural corridor covering the entire country. Among others, the aim was to improve infrastructure, facilitate farmer cooperatives and enable better access to finance. The 20-year project was already up and running after three years and Yara's sales increased by 50% in this region (Kramer & Pfizer, 2016). It becomes clear that, collaboration holds many opportunities for businesses to create sustainable innovation for all stakeholders.

Finally, the third driver is identified in the global challenges impacting the nature of innovation. Increasing poverty, wealth inequality and environmental degradation have become increasingly pressing within societies. These challenges present numerous business opportunities by providing and creating sustainable solutions. However, this scenario demands a rethinking of business processes and a departure from the firm centric view, by creating and facilitating stakeholder's interdependencies that open up innovation processes. Nevertheless, the introduction of innovations for people located at the bottom of the pyramid (BoP) entails the risk of their non-adoption. Despite the positive intentions, sustainability innovations may not stick without being co-designed with local customers. Indeed, not grasping the bigger picture by neglecting local networks and business ecosystems, increases risk of failed adoption. Therefore, customer interdependencies have to be acknowledged to improve legitimacy and facilitate adoption within their local networks. The local business ecosystem needs investments to support the development and maintenance of sustainability oriented innovations. For example, ethnographic design is based on diving deep into what it means to live in poverty allowing challenge of common assumptions and the adaptation of current solutions. This approach is similar to customized and personalized innovation approach in developed countries. Thus, embedding the innovations locally by managing the customer networks and supporting the business ecosystems there is the

possibility to present a way to increase adoption rates for innovations that intent to be sustainable (Khavul & Bruton, 2013).

In the future, the development of new business models that integrate both CSR domains as well as drivers of innovation will enable firms to increase their competitiveness. Innovation with CSR as the focal point must become a problem-solving mechanism which actively listens to the knowledge that their stakeholders hold. The aim is to develop a product or service that helps to tackle certain social and environmental challenges, such as the improvement of human welfare or environmental protection. In order to establish an edge from sustainable innovations, CSR has to become an essential component of the company's strategy. Nevertheless, integration sustainability within vision and strategy is insufficient. Processes, structures and performance measurements systems have to be altered in order to sufficiently execute strategies. Therefore, employees and future leaders need to be taught skills and practices that ensure corporate thinking towards sustainable value creation. Finally, companies must consider the new developments of innovation by facilitating partnerships and collaboration with various stakeholder groups. In other words, the needs of the different stakeholders are the foundation of value propositions and creation leading consequently to increased innovation activities. Creating such innovations is similar to conventional product and service development and requires the same organizational capabilities. However, companies must learn about social and environmental challenges and embrace partnerships and collaboration. Overall, strategy, structure and process changes and the acquisition of learning capabilities require time. Companies have to allow innovation projects to be experimental. However, a business model that promotes shareholder and other stakeholder equality seems challenging due to the conflicting interests of stakeholders and the firm's purpose of generating profits. In some cases, meaning sacrificing profits for social value seems not

feasible in the current capitalistic system. A system that is built on antagonism and self-interest rather than cooperation, extraction of resources instead of regeneration and the accumulation of wealth rather than the creation of universal well-being.

Overall, the results of this study allows for the deduction of the following general strategies focusing on the short-term and the long-term. First, the implications for the short-term fit into the frame of a short-term profit maximization strategy. Managers are presented the challenge whether to invest in resources that fosters the enhancement of CSR, or rather in innovation in the short-term. On the one hand, investments in resources concerning innovation in terms of eco-efficiency and emission reduction can be acquired at low cost. The World Business Council of Sustainable Development (WBCSD), a business network that fosters the development of sustainability projects, provides tools and techniques that have a high impact in terms of sustainability. This puts managers in the position to consider this trade-off and assess whether to invest in CSR-related or innovation-oriented resources. On the other hand, sophisticated investments in CSR strategies demand substantial managerial efforts and costs. Overall, when the focus lies in profit maximization in the short-term, it is advisable to invest in resources that enhance and foster the innovativeness of the firm, such as improving the learning capabilities and skills of the employees. This will also pay off financially in the long-run because innovation processes are established further accelerating in the long-run.

Instead, from a long-term perspective, innovation has to be considered as an essential ingredient in leveraging the full potential of CSR investments with regard to financial performance. More specifically, simultaneous investment in CSR and innovation are substantial when aiming at creating long-term societal value. Hence, in order to enhance long-term financial performance, innovative organizations are advised (or likely) to alter product, services and processes based on

the underlying focus on corporate social responsibility. Treating CSR and innovation as complementary elements, facilitates the exploitation of full potential of social and environmental responsibility, creating shared value as key, inasmuch as it incorporates the stakeholders needs while adequately responding to the constraints of the natural and social environment. Consequently, directing resources towards both CSR and innovation will enable firms to achieve a competitive advantage. Indeed, it aims to improve long-term performance rather than providing a “quick fix”. Furthermore, the complementary nature of the two elements fulfils the expected and desired ethical responsibilities that organizations have towards society.

5.2 Limitations

The first limitation of this study revolves around the limited ability to draw generalizable inferences from the results. Before the regression analysis, violations of the univariate regression assumptions have been found. Despite the transformation of the innovation variable it still displayed high levels of kurtosis similar to the normality violations of the CSR variable. Additionally, the assumption of homogeneity is violated since the multivariate variances are often heterogeneous. Nevertheless, regression analyses have been performed. The different regression models displayed low levels of R^2 and adjusted R^2 . In other words, high amounts of variance in the different models are unexplained and need further investigation. Furthermore, cross-sectional data in general faces the problem of causal inference problems since several different confounding variables have to be included which unlikely to be possible (McWilliams and Siegel, 2000). Subsequently, the above mentioned points are a reminder that the outcomes of the study have to be interpreted with caution.

Additionally, the present study is solely based on secondary data which has been collected for a different purpose other than the objective of this study. Hence, managerial perceptions towards

CSR and its diffusion throughout the business organization cannot be sufficiently assessed. Furthermore, the current study lacks a distinction of different forms of innovation which would be helpful to identify more complex relationships. Future studies should be based on longitudinal primary data in order to discover subjective reasons that influence managerial decision making. This approach would also enable researchers to draw better inferences about the complex interactions among the different variables.

Furthermore, the time period that was covered has been heavily impacted by a financial crisis. Implications about this time interval appear to be difficult. In addition, the sample only covers U.S. companies that are traded on the S&P500 which makes it difficult to generalize the findings globally, Europe.

5.3 Conclusion

The present study was designed to determine whether CSR activities pay off financially based on a temporal perspective by distinguishing between a short-term and long-term perspective. The second aim of this study was to draw inferences on the role of innovation in the relationship between CSR and firm financial performance. The results suggest that CSR should become an integral part in strategy development since it creates long-term financial benefits for the firm. Complementary investments in the innovations of the firm and in sustainability activities of the firm improve competitiveness and ensure longevity of the firm. The current study highlights that CSR can be a source of a competitive advantage, implying that environmental and social responsible aspects need to be included on the corporate agenda. Therefore, the research question is answered.

Innovation is an important driver in the development of specific skills and capabilities, helping to translate positive social and environmental performance into superior financial performance. It is advised that companies rather invest more on mutual value creation, stressing the importance of its stakeholder and society at large. The creation mutual value allows companies to satisfy societal needs while exploiting business opportunities. Social challenges and inequalities can be overcome with a stronger sustainability focus from entities that are moving the global economy, establishing thresholds and potentials, moving human welfare, influencing and defining health statuses as well as contributing to environmental protection in resource exploitation. Social and environmental awareness through larger and intensified cooperation and collaboration is crucial for sustainable innovation providing present generations with their needs, without undermining those of the future ones.

6. References

- Aguinis, H., & Glavas, A. (2012). What we know and don't know about corporate social responsibility: A review and research agenda. *Journal of Management*, 38(4), 932-968. doi:10.1177/0149206311436079
- Bansal, P. (2005). Evolving sustainably: A longitudinal study of corporate sustainable development. *Strategic management journal*, 26(3), 197-218.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management*, 17(1), 99-120.
- Barney, J. B. (1999). How a firm's capabilities affect boundary decisions. *MIT Sloan Management Review*, 40(3), 137.
- Blumberg, B., Cooper, D. R., & Schindler, P. S. (2008). *Business research methods*. London: McGraw-Hill Higher Education.
- Bowman, C., & Ambrosini, V. (2003). How the resource-based and the dynamic capability views of the firm inform corporate-level strategy. *British Journal of Management*, 14(4), 289-303. doi:10.1111/j.1467-8551.2003.00380.x
- Carroll, A. B. (1979). A three-dimensional conceptual model of corporate performance. *The Academy of Management Review*, 4(4), 497-505. doi:10.2307/257850
- Carroll, A. B. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons*, 34(4), 39-48. doi:10.1016/0007-6813(91)90005-g
- Chung, K. H., & Pruitt, S. W. (1994). A simple approximation of tobins-q. *Financial Management*, 23(3), 70-74.
- Carroll, A. B., & Shabana, K. M. (2010). The business case for corporate social responsibility: A review of concepts, research and practice. *International Journal of Management Reviews*.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, 51(6), 1173.
- Brammer, S., & Millington, A. (2008). Does it pay to be different? An analysis of the relationship between corporate social and financial performance. *Strategic Management Journal*, 29(12), 1325-1343.
- Cooper, R. G., & Kleinschmidt, E. J. (1987). New products: what separates winners from losers?. *Journal of product innovation management*, 4(3), 169-184.

- Cheng, Beiting, Ioannis Ioannou, and George Serafeim. "Corporate social responsibility and access to finance." *Strategic Management Journal* 35.1 (2014): 1-23.
- Damanpour, F., & Evan, W. M. (1984). Organizational innovation and performance: the problem of "organizational lag". *Administrative science quarterly*, 392-409.
- Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. *Management Science*, 60(11), 2835-2857.
- Eccles, R. G., & Serafeim, G. (2013). The performance frontier. *Harvard business review*, 91(5), 50-60.
- Fowler, S. J., & Hope, C. (2007). A critical review of sustainable business indices and their impact. *Journal of Business Ethics*, 76(3), 243-252.
- Freeman, R. E. (1984). *Strategic management: A stakeholder approach*.
- Freeman, R. E. (1999). Divergent stakeholder theory. *The Academy of Management Review*, 24(2), 233-236. doi:10.2307/259078
- General Electric (GE). (2016). Ecomagination. Retrieved from <http://www.ge.com/about-us/ecomagination>
- Global Footprint Network. (2016, July 12). August 8th is Earth Overshoot Day this year. [Press Release] [Oakland]. Retrieved from <http://www.overshootday.org/newsroom/press-release-english/>
- Gould, W. R. (2012). Open innovation and stakeholder engagement. *Journal of technology management & innovation*, 7(3), 1-11.
- Gray, E. R., & Balmer, J. M. (1998). Managing corporate image and corporate reputation. *Long range planning*, 31(5), 695-702.
- Greening, D. W., & Turban, D. B. (2000). Corporate Social Performance As a Competitive Advantage in Attracting a Quality Workforce. *Business & Society*, 39(3), 254-280. doi:10.1177/000765030003900302
- Greenwood, M., & Van Buren III, H. J. (2010). Trust and stakeholder theory: Trustworthiness in the organisation-stakeholder relationship. *Journal of Business Ethics*, 95(3), 425-438. doi:10.1007/s10551-010-0414-4
- Griffin, J. J., & Mahon, J. H. (1997). The corporate social performance and corporate financial performance debate. *Business & Society*, 36.
- Hall, J., & Vredenburg, H. (2003). The challenge of innovating for sustainable development. *MIT Sloan Management Review*, 45(1), 61.

- Hart, S. L. (1995). A natural-resource-based view of the firm. *Academy of management review*, 20(4), 986-1014.
- Hart, S. L. (2010). *Capitalism at the crossroads: Next generation business strategies for a post-crisis world*. Upper Saddle River, NJ: Wharton School Pub.
- Hart, S. L., & Ahuja, G. (1996). Does it pay to be green? An empirical examination of the relationship between emission reduction and firm performance. *Business strategy and the Environment*, 5(1), 30-37.
- Hatch, M. J., & Mirvis, P. H. (2010). Designing a positive image: corporate branding and CSR. In *Positive design and appreciative construction: from sustainable development to sustainable value* (4th ed.). NY: Emerald.
- Hull, C. E., & Rothenberg, S. (2008). Firm performance: The interactions of corporate social performance with innovation and industry differentiation. *Strategic Management Journal*, 29(7), 781-789.
- Jones, T. M. (1995). Instrumental stakeholder theory: A synthesis of ethics and economics. *The Academy of Management Review*, 20(2), 404-437. doi:10.2307/258852.
- Khavul, S., & Bruton, G. D. (2013). Harnessing innovation for change: Sustainability and poverty in developing countries. *Journal of Management Studies*, 50(2), 285-306.
- King, A., & Lenox, M. (2002). Exploring the locus of profitable pollution reduction. *Management Science*, 48(2), 289-299. doi:10.1287/mnsc.48.2.289.258
- Kirchhoff, S. (2000). Green business and blue angels: A model of voluntary overcompliance with asymmetric information. *Environmental & Resource Economics*, 15.
- Kor, Y. Y., & Mahoney, J. T. (2005). How dynamics, management, and governance of resource deployments influence firm-level performance. *Strategic Management Journal*, 26(5), 489-496. doi:10.1002/smj.459
- Korschun, D., Bhattacharya, C., & Swain, S. D. (2014). Corporate Social Responsibility, Customer Orientation, and the Job Performance of Frontline Employees. *Journal of Marketing*, 78(3), 20-37. doi:10.1509/jm.11.0245.
- Kramer, M. R., & Pfitzer, M. W. (2016). The ecosystem of shared value. *Harvard business review*, 94(10), 80-89.
- Luo, X., & Bhattacharya, C. B. (2006). Corporate social responsibility, customer satisfaction, and market value. *Journal of marketing*, 70(4), 1-18.
- Marcus, A. A. (2005). *Management strategy: Achieving sustained competitive advantage*. New York: McGraw-Hill Irwin.

- Marcus, A. A., & Fremeth, A. R. (2009). Green management matters regardless. *The Academy of Management Perspectives*, 23(3), 17-26.
- Makadok, R. (2001). Toward a synthesis of the resource-based and dynamic-capability views of rent creation. *Strategic management journal*, 22(5), 387-401.
- Margolis, J. D., & Walsh, J. P. (2003). Misery loves companies: social initiatives by business. *Administrative Science Quarterly*, 48.
- Mathews, J. A. (2003). Competitive dynamics and economic learning: an extended resource-based view. *Industrial and Corporate Change*, 12(1), 115-145.
- McDowell, M., Thom, R., Pastine, I., Frank, R. H., & Bernanke, B. (2009). *Principles of economics*. London: McGraw-Hill Higher Education.
- McKinsey & Company. (2011, October). The business of sustainability: McKinsey global survey results. Retrieved from <http://www.mckinsey.com/business-functions/sustainability-and-resource-productivity/our-insights/the-business-of-sustainability-mckinsey-global-survey-results>.
- McWilliams, A., & Siegel, D. (2000). Corporate social responsibility and financial performance: correlation or misspecification? *Strategic Management Journal*, 21.
- Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a theory of stakeholder identification and salience: defining the principle of who and what really counts. *The Academy of Management Review*, 22(4), 853. doi:10.2307/259247
- Organisation for Economic Co-operation and Development (OECD). (2009). *Nature of innovation*. Retrieved from <http://www.novitasinnovation.com/beesite/upload/newnatureofinnovationrapport.pdf>
- Orlitzky, M., Schmidt, F. L., & Rynes, S. L. (2003). Corporate social and financial performance: a meta-analysis. *Organization Studies*, 24.
- Pallant, J. (2011). *SPSS survival manual: A step by step guide to data analysis using SPSS for Windows*.
- Peloza, J. (2009). The challenge of measuring financial impacts from investments in corporate social performance. *Journal of Management*.
- Porter, M. (1991). America's green strategy. *Scientific American*, 164(4).
- Porter, M. E. (1985). *Competitive advantage: Creating and sustaining superior performance*. New York, NY: Free Press.
- Porter, M. E., & Kramer, M. R. (2011). Creating shared value. *Harvard Business Review*.

- PWC. (2014). *17th annual global CEO survey - Summary: sustainability* (17). Retrieved from <http://www.pwc.com/gx/en/sustainability/ceo-views/assets/pwc-ceo-summary-sustainability.pdf>
- Reinhardt, F. L. (1998). Environmental product differentiation: implications for corporate strategy. *California Management Review*, 40(4), 43-73. doi:10.2307/41165964
- Roman, R. M., Hayibor, S., & Agle, B. R. (1999). The relationship between social and financial performance. *Business & Society*, 38.
- Russo, M. V., & Fouts, P. A. (1997). A resource-based perspective on corporate environmental performance and profitability. *Academy of management Journal*, 40(3), 534-559.
- Schumpeter, J. A. (1934). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle* (Vol. 55). Transaction publishers.
- Servaes, H., & Tamayo, A. (2013). The impact of corporate social responsibility on firm Value: The role of customer awareness. *Management Science*, 59(5), 1045-1061. doi:10.1287/mnsc.1120.1630
- Sharpe, N. R., De, V. R., & Velleman, P. F. (2010). *Business statistics*. Boston: Addison Wesley.
- Shiu, Y., & Yang, S. (2016). Does engagement in corporate social responsibility provide strategic insurance-like effects? *Strategic Management Journal*. doi:10.1002/smj.2494
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics*. Boston: Pearson/Allyn & Bacon.
- Tanimoto, K. (2013). Sanpo-yoshi and CSR. In *Encyclopedia of Corporate Social Responsibility* (pp. 2107-2114). Springer Berlin Heidelberg.
- Tidd, J. (2001). Innovation management in context: environment, organization and performance. *International Journal of Management Reviews*, 3(3), 169-183.
- Tosi, H., Werner, S., Katz, J. P., & Gomez-Mejia, L. R. (2000). How much does performance matter? A meta-analysis of CEO pay studies. *Journal of Management*, 26(2), 301-339. doi:10.1016/s0149-2063(99)00047-1
- Turban, D. B., & Greening, D. W. (1997). Corporate social performance and organizational attractiveness to prospective employees. *Academy of Management Journal*, 40(3), 658-672. doi:10.2307/257057.
- United Nations Conference on Trade and Development. (2000). *World Investment Report: Cross-border Mergers and Acquisitions and Development*. The United Nations.

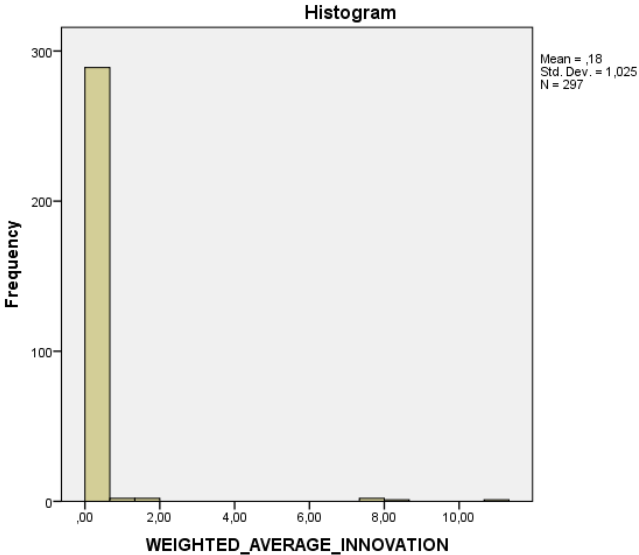
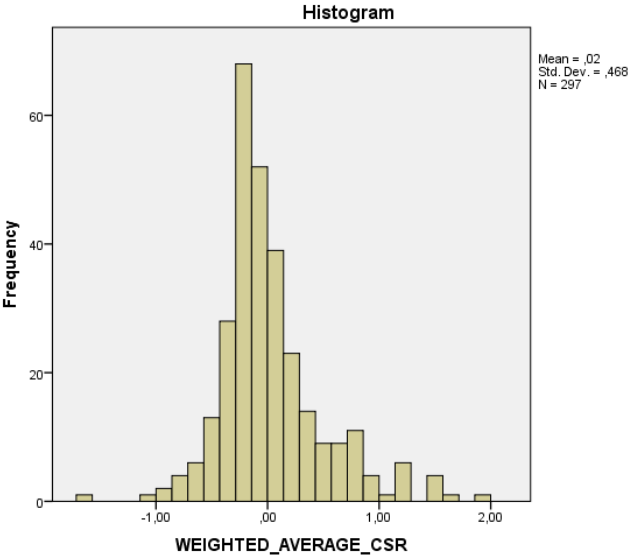
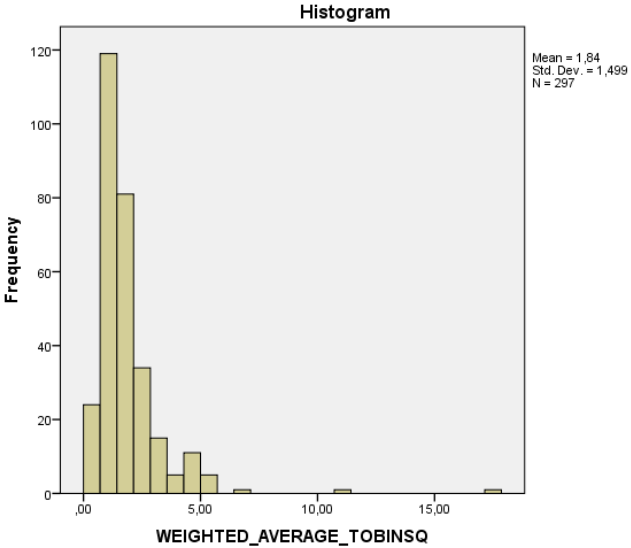
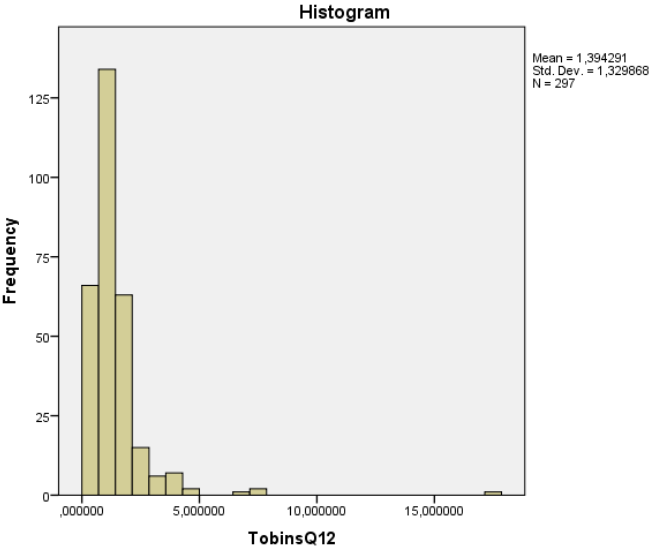
- United Nations General Assembly. (1987). *Report of the World Commission on Environment and Development: Our common future*. Transmitted to the General Assembly as an Annex to Document A/42/427 – Development and International Co-operation: Environment.
- Vance, S. G. (1975). Are socially responsible corporations good investment risks? *Management Review*, 64(8), 18-24.
- Waddock, S. A., & Graves, S. B. (1997). The corporate social performance-financial performance link. *Strategic Management Journal*, 18(4), 303-319.
doi:10.1002/(sici)1097-0266(199704)18:4<303::aid-smj869>3.3.co;2-7
- Weber, M. (2008). The business case for corporate social responsibility: A company-level measurement approach for CSR. *European Management Journal*, 26(4), 247-261.
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic management journal*, 5(2), 171-180.
- Wernerfelt, B., & Montgomery, C. A. (1988). Tobin's q and the importance of focus in firm performance. *The American Economic Review*, 246-250.
- White, A. L. (2006). *Business brief: CSR and intangibles*. Business of Social Responsibility.
- Wright, P. M., Dunford, B. B., & Snell, S. A. (2001). Human resources and the resource based view of the firm. *Journal of management*, 27(6), 701-721.
- WWF. (2016). Fighting poverty and making sustainable development. Retrieved from http://www.wwf.org.uk/what_we_do/making_the_links/
- Yiu, D. W., & Lau, C. M. (2008). Corporate entrepreneurship as resource capital configuration in emerging market firms. *Entrepreneurship Theory and practice*, 32(1), 37-57.

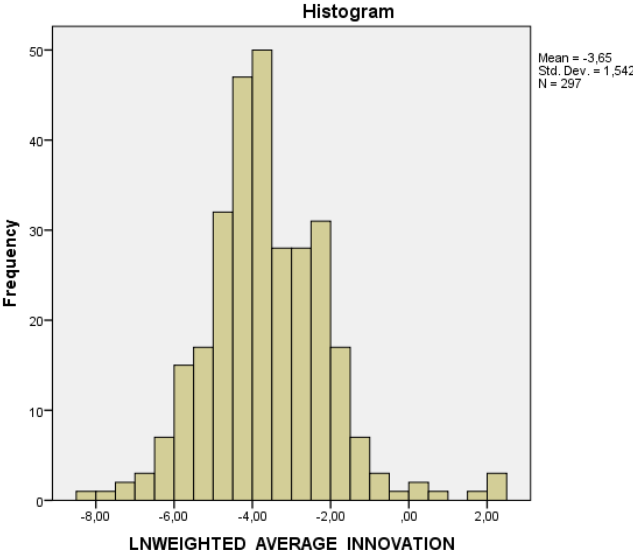
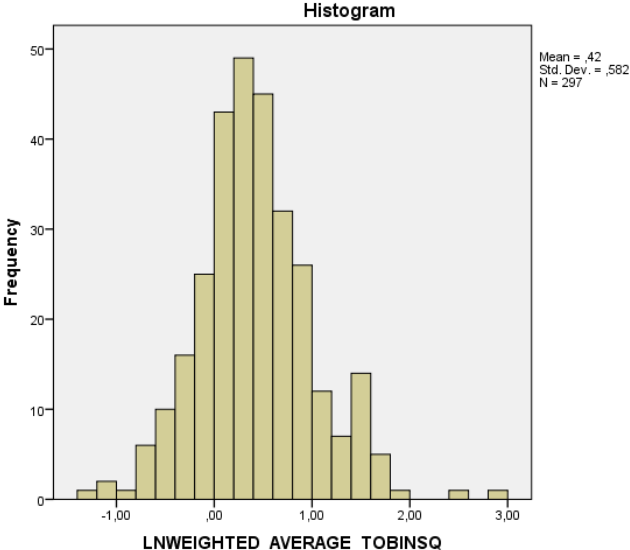
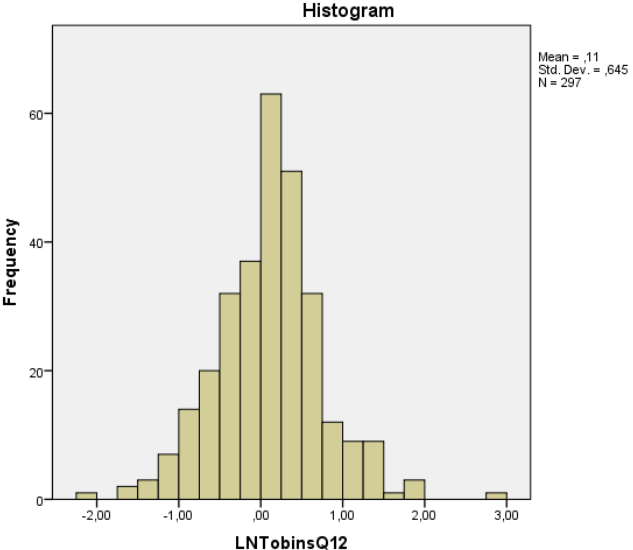
7. Appendix

7.1 Appendix A: KLD dimensions

Environmental Strengths	Environmental Concerns
<ol style="list-style-type: none"> 1. Environmental Opportunities (from 1991) 2. Waste Management (from 1991) 3. Packaging Materials & Waste (from 1991) 4. Climate Change (from 1991) 5. Environmental Management Systems (from 2006) 6. Other strengths (from 1991) 	<ol style="list-style-type: none"> 1. Hazardous waste (1991-2009) 2. Regulatory Compliance (from 1991) 3. Ozone Depleting Chemicals (1991 – 2009) 4. Toxic Spills & Releases (from 1991) 5. Agricultural Chemicals (1991 – 2009) 6. Climate Change (from 1991) 7. Impact of Products & Services (from 2010) 8. Biodiversity & land use (from 2010) 9. Operational waste (from 2010) 10. Other concerns (from 1991)
Community Strengths	Community Concerns
<ol style="list-style-type: none"> 1. Charitable giving (1991 – 2011) 2. Innovative Giving (from 1991) 3. Support for Housing (1991 – 2009) 4. Support for Education (1991 – 2009) 5. Non-US Charitable giving (1994 – 2009) 6. Volunteer Programs (2005 – 2009) 7. Community Engagement (from 2010) 8. Other Strengths (1991 -2011) 	<ol style="list-style-type: none"> 1. Investment controversies (1991-2009) 2. Community Impact (from 1991) 3. Tax disputes (from 1991) 4. Other concerns (1991 – 2009)
Diversity Strengths	Diversity Concerns
<ol style="list-style-type: none"> 1. CEO (1991 – 2009) 2. Promotion (1991 – 2011) 3. Board of Directors - Gender (from 1991) 4. Work-Life benefits (1991 – 2011) 5. Women and minority contracting (from 1991) 6. Employment of disabled (1991 – 2009) 7. Gay and lesbian policies (1995 – 2011) 8. Employment of underrepresented groups (from 2010) 9. Other strengths (from 1991) 	<ol style="list-style-type: none"> 1. Workforce diversity (from 1991) 2. Non-representation (from 1993 – 2011) 3. Board of Directors – Gender (from 1991) 4. Board of Directors – Minorities (from 1991) 5. Other Concerns (1991 – 2009)
Employee Strengths	Employee Concerns
<ol style="list-style-type: none"> 1. Union relations (from 1991) 2. Cash profit sharing (from 1991) 3. Employee involvement (from 1991) 4. Retirement benefits (1991 – 2009) 5. Employee health and safety (from 2003) 6. Supply chain labor standards (from 2002) 7. Other strengths (1991 – 2011) 	<ol style="list-style-type: none"> 1. Union relations (from 1991) 2. Employee Health & Safety (from 1991) 3. Workforce reductions (1991 – 2009) 4. Retirement benefits (1992 – 2009) 5. Supply Chain (from 1998) 6. Other Concerns (from 1991)
Human Rights Strengths	Human Rights Concerns
<ol style="list-style-type: none"> 1. Indigenous peoples relations (from 2000) 2. Labor rights (2002 -2009) 3. Human rights policies & initiatives (from 1994) 	<ol style="list-style-type: none"> 1. Labor rights concern (1998 – 2009) 2. Indigenous peoples relations (2000 – 2009) 3. Operations in Sudan (2010 – 2011) 4. Support for controversial regimes (from 1994) 5. Other concerns (from 1994)
Product strengths	Product concerns
<ol style="list-style-type: none"> 1. Quality (from 1991) 2. R&D, Innovation (1991 – 2009) 3. Social opportunities (from 1991) 4. Access to finance (from 1991) 5. Other strengths (from 1991) 	<ol style="list-style-type: none"> 1. Product quality & safety (from 1991) 2. Marketing & advertising (from 1991) 3. Anticompetitive practices (from 1991) 4. Other concerns (from 1991)

7.2 Appendix B: Distribution of variables





7.3 Appendix C: Spearman's Rho

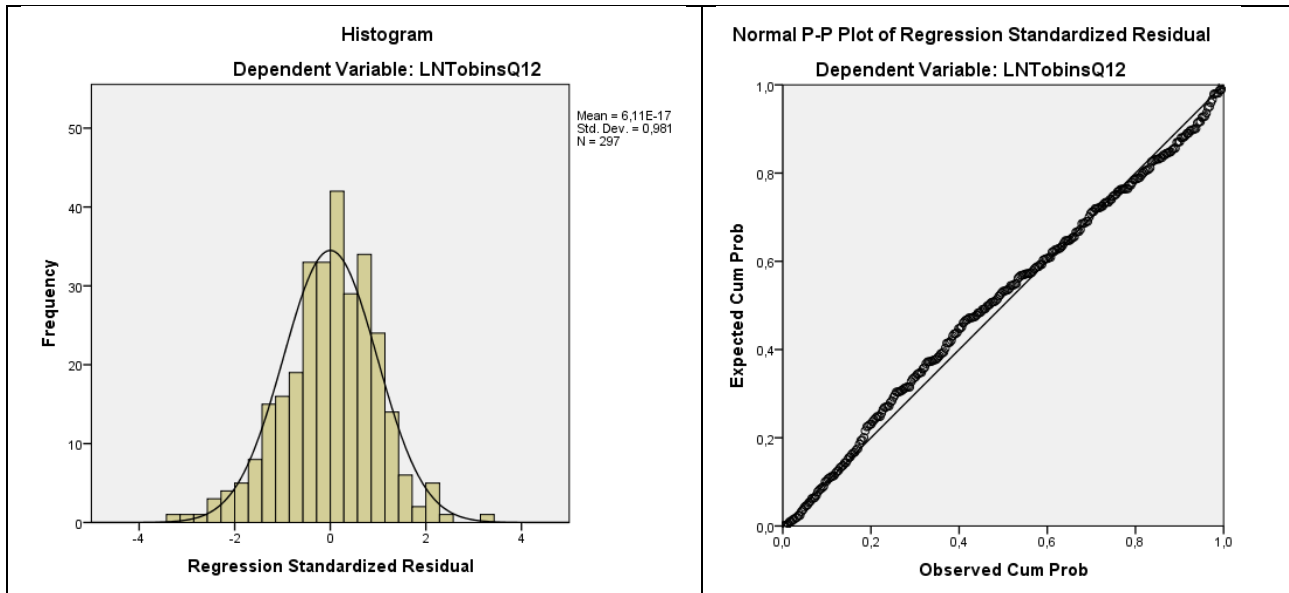
Variable	1	2	3	4	5	6
1. Firm Risk	1					
2. Firm Size	0.131*	1				
3. Short-term CFP	0.067	-0.051	1			
4. Long-term CFP	0.056	-0.011	0.854**	1		
5. CSR	-0.030	0.271**	0.233**	0.259**	1	
6. Innovation	-0.158**	-0.061	0.209**	0.240**	0.268**	1

**Correlation is significant at the 0.01 level (2-tailed).

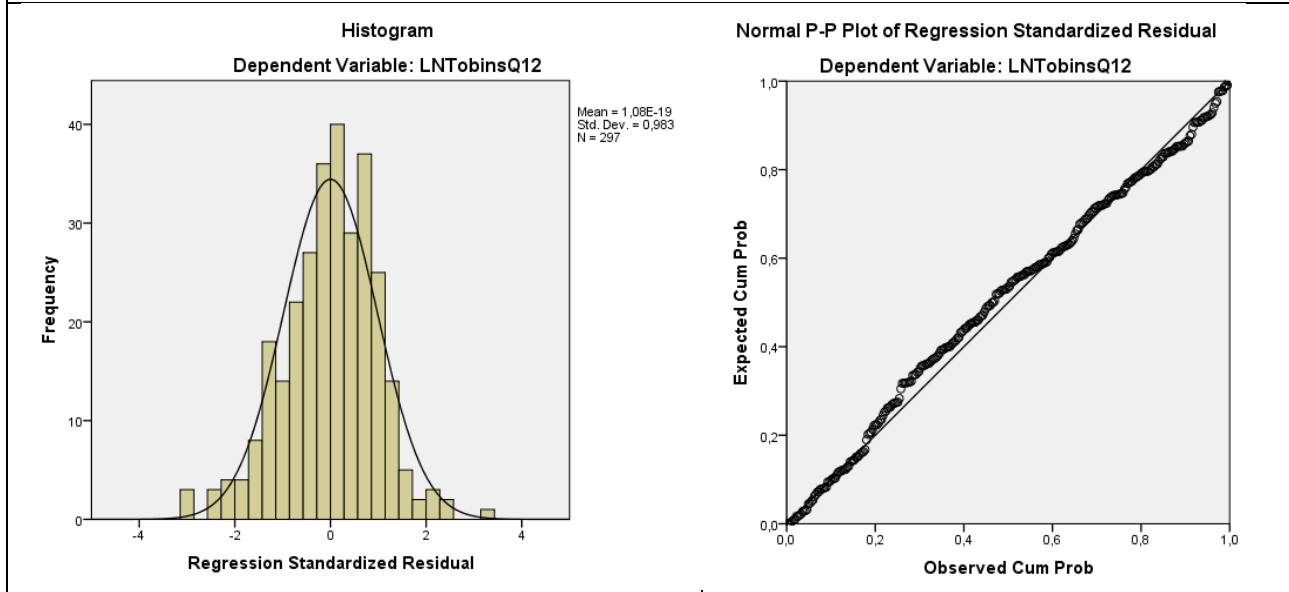
* Correlation is significant at the 0.05 level (2-tailed).

7.4 Appendix D: Post-hoc analysis

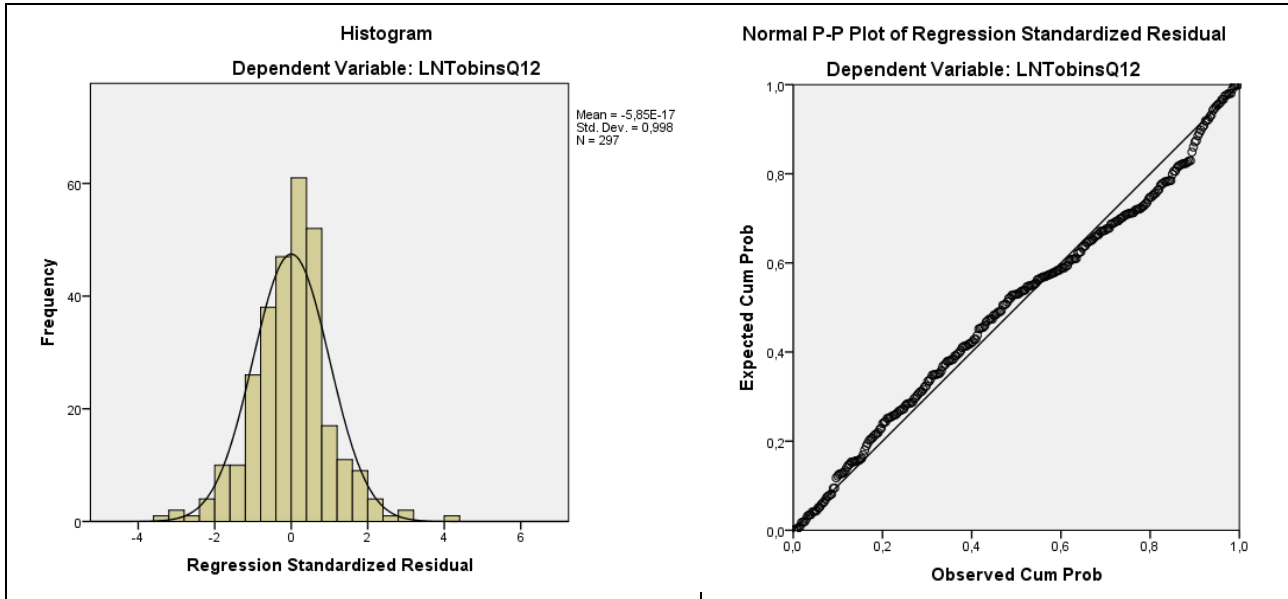
Normality (Histograms + P-P Plot)



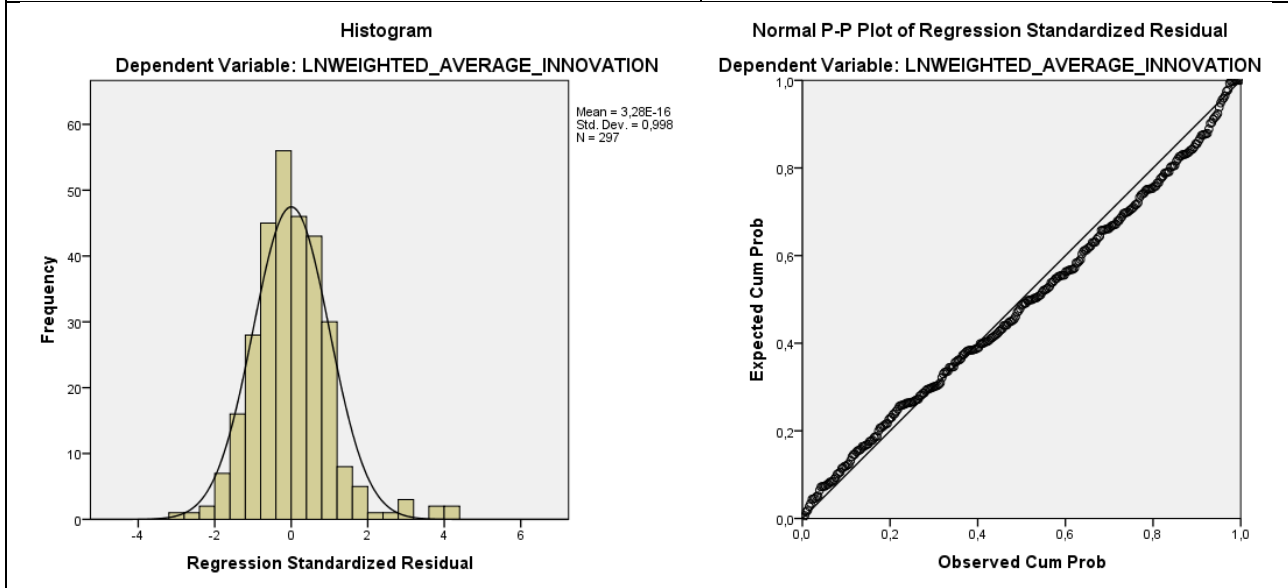
Model 1



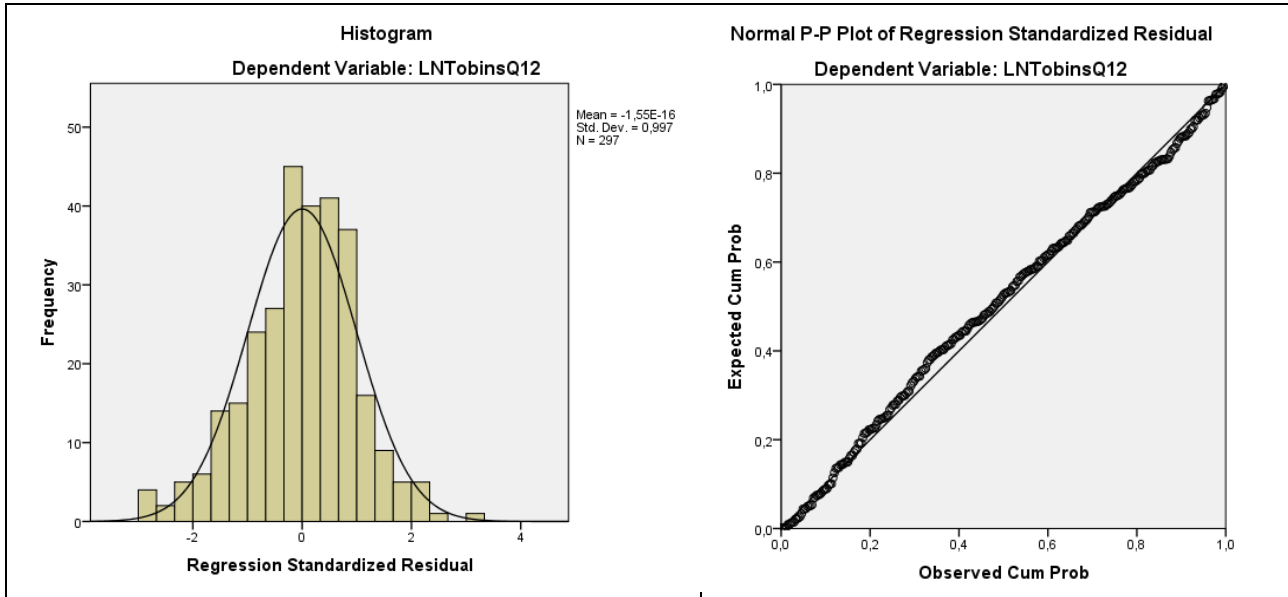
Model 2



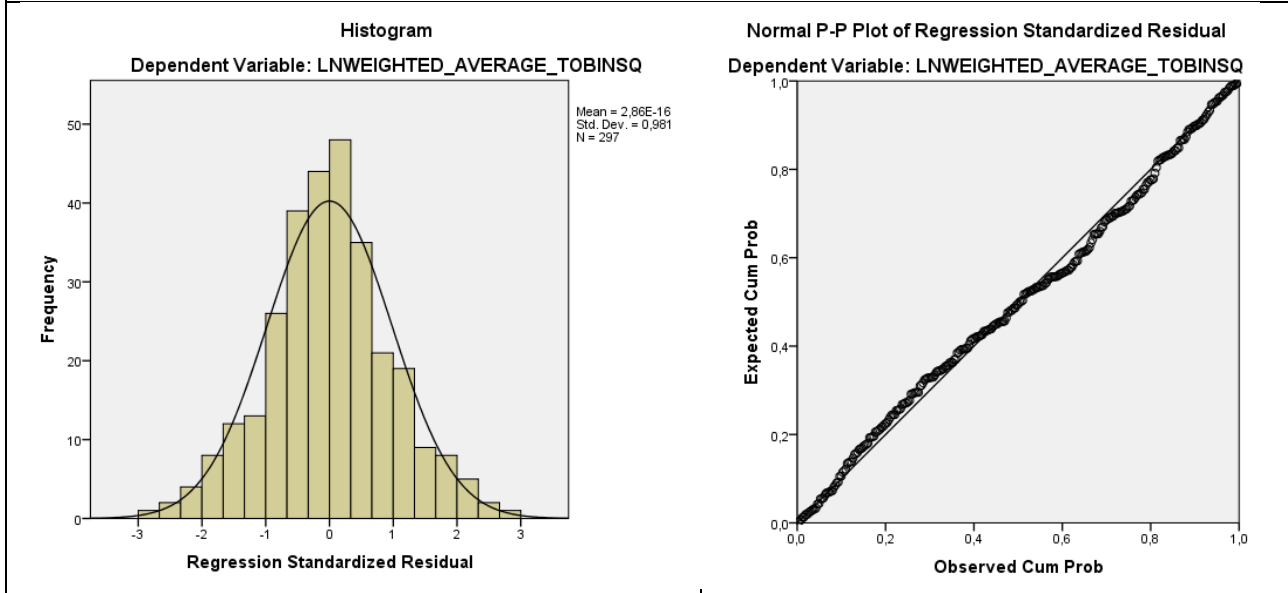
Model 3



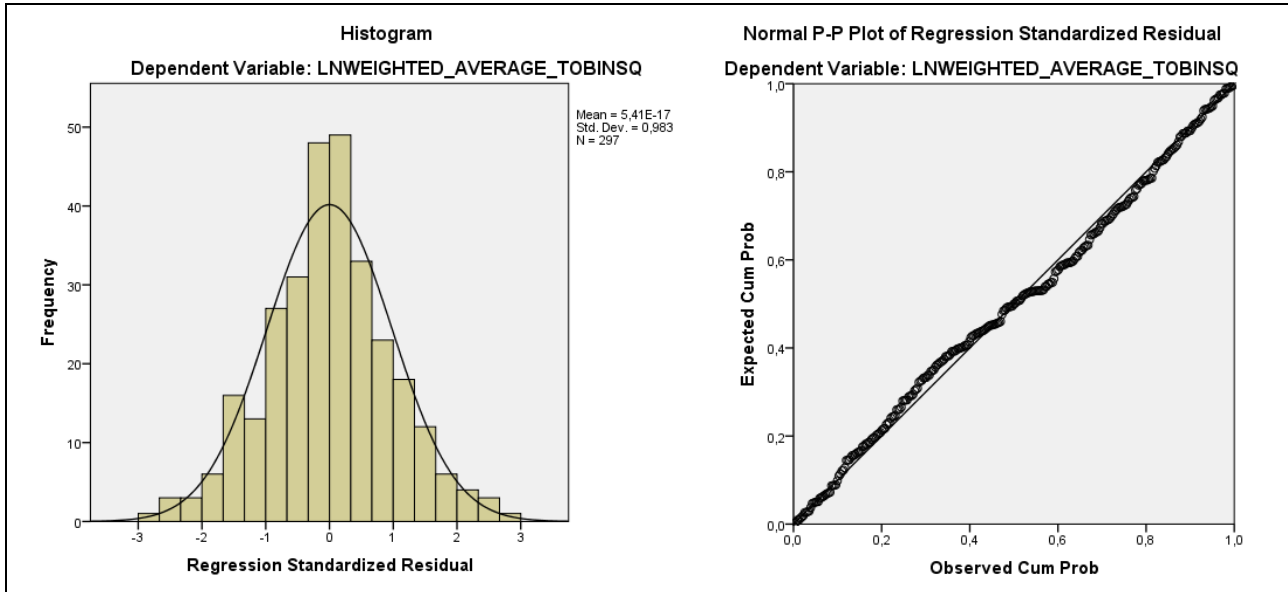
Model 4



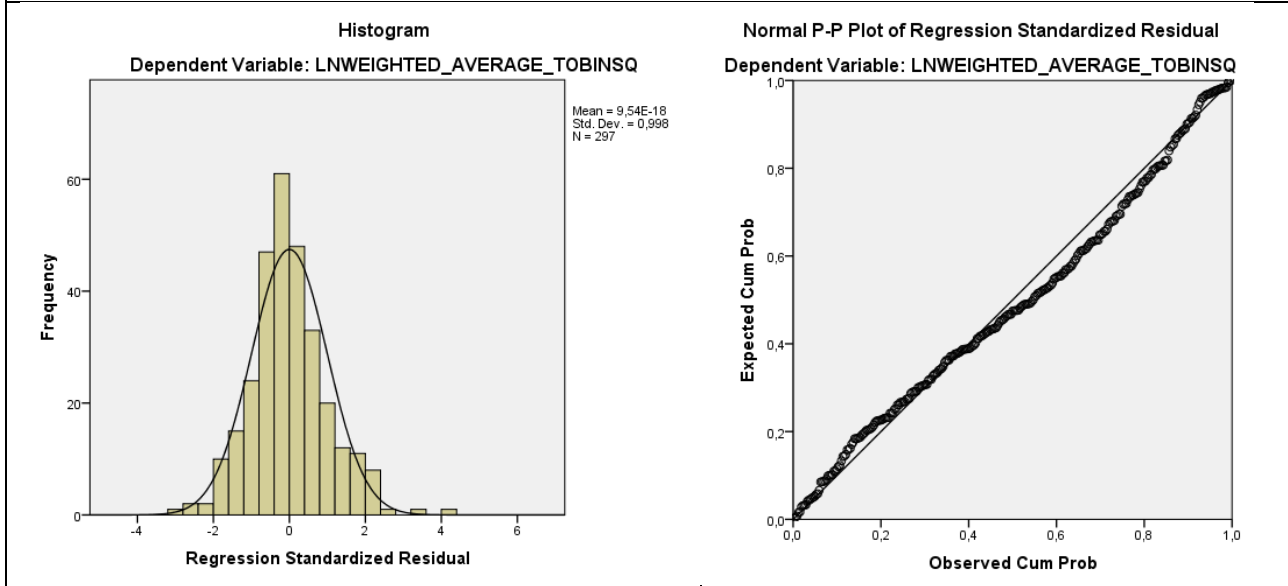
Model 5



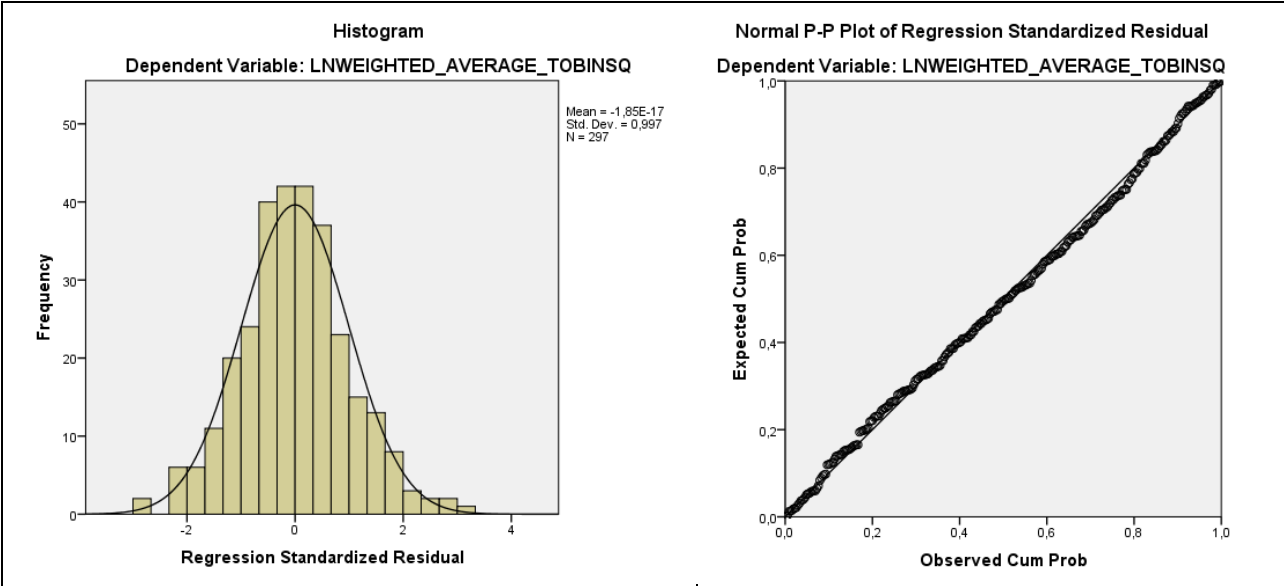
Model 6



Model 7



Model 8



Model 9

The histograms and the normal probability plots in the table above point to the conclusion that the variables are normally distributed.

Equal variances (Scatterplots)

