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Master's Thesis

CSR in the IT Field: Creating a Framework for
Strategic Management

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ABSTRACT

Corporate Social Responsibility (CSR) has become one of the key concepts in the global business world. Business organizations face growing pressure to act ethical and sustainable ways besides aiming to generate profits for the shareholders. Because IT industry is one of the main actors that change the world nowadays, CSR should also be a key concept in strategic management amongst IT organizations.

This research aims to contribute to the existing CSR discussion by focusing on the issue of managing CSR in the IT industry. The goal is to understand CSR as a strategic concept and bring the concept into the context of the global IT industry. The research aims to create an insight of how CSR could be managed more strategically in the IT field and point out the field-specific characteristics that should be taken into consideration when building a CSR strategy for an IT organization. Finally, a preliminary CSR management framework based on mixed methods research and discussion within scholars is developed.

The results state that an IT company should focus especially on employees in CSR strategy and in creating communication about CSR philanthropy with its stakeholders both internally and externally. By engaging communication, CSR can be developed towards more fit in all dimensions.

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Yritysvastuu on noussut yhdeksi keskeisimmistä keskustelunaiheista kansainvälisessä liiketoimintaympäristössä. Sen lisäksi, että voittoa tavoittelevien organisaatioiden tulee tuottaa arvoa osakkeenomistajille, niiden odotetaan toimivan myös eettisesti ja kestävän kehityksen periaatteiden mukaisesti. Nykyään IT-ala muokkaa maailmaa kiihtyvällä tahdilla ja siksi myös IT-alalla toimivien organisaatioiden tulee huomioida yritysvastuu strategisessa johtamisessa.

Tämän tutkimuksen tavoitteena on luoda näkökulma yritysvastuusta ja sen johtamisesta kansainvälisellä IT-alalla. Tutkimus pyrkii antamaan näkemyksen siitä, miten yritysvastuuta voi johtaa paremmin osana strategiaa sekä osoittaa tyypillisiä piirteitä, jotka tulee ottaa huomioon suunniteltaessa yritysvastuustrategiaa IT-organisaatiolle. Lopputulemana tehdään ehdotus viitekehyksestä, joka auttaa IT-organisaatioita johtamaan yritysvastuuseen liittyviä dimensioita. Yritysvastuuta IT-organisaation strategiana ei ole tutkittu laajasti, joten tutkimus pyrkii täyttämään kyseisen tutkimusaukon. Tutkimustulosten mukaan IT-organisaation tulee keskittyä yritysvastuustrategiassaan erityisesti työntekijöihin ja samalla luoda tiivistä viestintää yritysvastuusta sisäisten ja ulkoisten sidosryhmien kanssa. Näin IT yrityksen yritysvastuustrategia voi kehittyä vastaamaan sekä organisaation että sidosryhmien toiveita.

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1. INTRODUCTION

Global political, societal and economic environments have changed during the past decades. At the same time, the liberalization of international trade and the dilution of the public and private sector have increased the power of private businesses. (Kudlak, Szocs, Krumay and Martinuzzi, 2018, 290; Blowfield and Murray, 2014, 3-6) This means that business organizations are facing an increasing pressure to engage socially responsible activities voluntarily to be able to answer the numerous issues that are arising in today's society (Torugsa, O'Donohue & Hecker, 2013, 384).

The concept of Corporate Social Responsibility (CSR) explains this phenomenon. CSR focuses on the activities where a business organization considers the interests of the society by taking responsibility for its impact of activities on stakeholders; consumers, employees, shareholders, communities, and environments. During the last years, CSR has changed to be a mainstream business activity rather than exclusive or add-on above the actual business. (Timpere, 2008)

Also, the world changes. The development the technology is one of the primary forces to create new global disruptions that create the change; technology creates new industries and transforms existing ones. Within 25 years, new industries born include wireless telephony, online financial services, and 3D printing. One transforming industry is the telecommunication, which has changed completely after the innovation of wireless technologies and the internet. Also, the social lives of people have changed due to social networking platforms such as Facebook and Twitter. (Grant & Jordan, 2015, 194)

These kinds of disruptive technologies appear strongly in the field of Information Technology (IT). In general, IT is an information service industry that uses intelligent methods and innovative approaches from various types of resources to create products and services (Chaffey, 2015, 12). IT focuses on hardware, software, telecommunications and all the other information systems that require the facilitation of communication (Technopedia, 2018).

Since the IT field is global by nature (Weber, 2012, 634) and has the power to make a difference in the world (Salb, Friedman & Friedman, 2011, 2), the field faces a pressure to make contributions to the society which go beyond the profits (Morfit, 2014). In other words, CSR is no longer voluntary for IT firms. However, CSR is not only suggested but also useful. It is claimed that CSR may also help the business to succeed (Tewari, 2010, 23): CSR investments may affect positively into the financial results (Surroca, Tribo & Waddock, 2010, 482-483), improve loyalty among employees and employee satisfaction (Surroca, Tribo & Waddock, 2010, 482-483). Hence, CSR implementation gains interest as a multidimensional ethical process also in the IT field (Weber, 2012, 634).

This research focuses on the issue of managing CSR in the global information technology industry. The goal is to understand the CSR as a concept and bring the concept into the context of IT field. It is under an interest what are the industry-specific characteristics that should be considered in the CSR management and what are the most important CSR dimensions for an IT organization. Furthermore, the research aims to give an insight into how to be both responsible and successful actor in the IT field. As a conclusion, a preliminary conceptual model for strategical CSR management within the IT field is created.

1.1.   Background of the Research

It is no longer voluntary to act responsibly. There are at least five main reasons why CSR is increasingly relevant today. *Firstly*, the growing affluence pushes companies to adopt CSR. The burden to be socially responsible organization grows as the affluence increases. (Werther & Chandler, 2011, 20) CSR tends to gain foothold especially in the societies where people have jobs, savings, security and can afford the luxury of choosing what to consume (Chandler, 2017, 23). *Secondly*, globalization and operating in multiple countries is challenging because to succeed; an organization needs to face the needs and preferences of the local community (Werther & Chandler, 2011, 209).

Thirdly, the free flow of information ensures that CSR failings or unethical behavior are brought up in the attention of the worldwide public. (Werther & Chandler, 2011, 20-21) Today, information spreads fast through social media and unpleasant news and disclosures may destroy the whole business. Also, one of the greatest challenges is that CSR is said to be used mostly as a marketing tool (Kudlak et al. 2018, 286). The term *greenwashing* was created to describe a phenomenon where an organization is trying to cover its environmentally or socially damaging activities. It is linked to the manipulation of the image of the business organization. (Benn & Bolton, 2011, 115) Customer misgivings can lead to reduced revenue streams or even boycotts (Rönnegard, 2013).

Fourthly, because there is a growing pressure about the environment, business organizations are expected to operate ecologically sustainable ways. (Werther & Chandler, 2011, 20-21) There is a 95% certainty that human activity is the cause of climate change and without a doubt, the climate change is one of the most noticeable issues that has affected the discussion of CSR and pressure to implement responsible actions (Blowfield & Murray, 2014, 227-338). *Fifthly*, all four reasons are creating a brand image for a company and are fundamentals of an organization's reputation (Werther & Chandler, 2011, 22). Hence, responsibility is increasingly expected for business organizations.

CSR influences all aspects of an organization's operations. Consumers, suppliers, employees, investors, partners and other stakeholders want to collaborate with an organization that can be trusted, well managed and seeking solutions for common issues. (Chandler, 2017, 23) Furthermore, businesses of the modern globalization era need to understand the meaning of the being responsible today. There is a limited set of global governance mechanisms, weakened national governments, and greater power within the private business sector. CSR can be seen as a force for a system of global governance without the global government. (Blowfield & Murray, 2015, 99)

These reasons should also be seen relevant for the IT industry to become aware of the importance of strategic CSR management. Comparing to the manufacturing industries, the CSR is not a natural add-on. Within manufacturing, the productions process outlines the basis of the responsibility measures. Thus, the production itself is developing responsible strategies. This clarity does not exist in the IT field because the nature of the field is increasingly intangible. Also, the labor protection of programmer is much different from a line worker. (Morfit, 2014)

Hence, there are multiple studies concerning on CSR within mining industry (Littlewood, 2014; McDonald, & Young, 2012; Kamp, Owen & van de Gaaf, 2011) healthcare industry (Chapin, 2016; Kutscher, 2015; Babor & Robaina, 2013), automobile and transportation industry (Upadhaya, Munir, Blount & Su, 2018; Soltani, Syed, Liao & Iqbal, 2015; Parast & Adams, 2012). Also, studies of CSR within the gambling industry (Leung & Snell, 2017; Grougiou, Dedoulis &Leventis, 2016; Vong & Wong, 2013) have been made. These industries are examples of controversial industry sectors that by nature face a pressure to increase the level of responsibility (Lindgreen, Yani-De-Soriano, Maon & Reast, 2012).

Studies focusing on IT field and responsible actions include Weber (2012) who has provided a framework for IT organization to help CSR implementation, Dhanesh (2014) has investigated socially responsible IT companies in India and Jin and Drozdenko (2010) who have studied the IT professionals and their relationship to the responsible organization. Furthermore, Hilty (2008) and Hilty, Lohmann, and Huang (2011) discuss technology and sustainability in the IT industry. Also, Salb, Friedman, and Friedman (2011) have focused on technology that helps in fulfilling the CSR strategies which also provides a somewhat relevant theory for this research. Also, researchers focusing on green IT (Mingay, 2007) are seen value adding to include in the research. One relevant research conducted in 2010 by Tewari states that the IT field is advanced in the CSR adoption compared to traditional industries. This evidence raises up interest for the further research within the IT field and the development of a scientific framework for CSR management within the IT field.

A new contribution to existing CSR discussion within scholars requires a focused view of the concept of CSR, understanding the field characteristics and IT field's role as a global trailblazer. The existing discussion about the CSR needs to be used as the basis of the discussion and as the context where the research within the IT field takes place.

1.2.   The Background of the Corporate Social Responsibility

Traditionally, prosperity is measured by economic growth and enhanced with higher productivity and cost reductions. The pressure for prosperity growth increases the demand for natural resources, cheap labor, and new markets. Some criticize this phenomenon since it links to human right abuses, environmental risks, and poverty. At the same time, some say the growth creates new jobs, stimulates local economies and raises living standards. (Blowfield & Murray. 2014, 4) To solve the debate, the concept of Corporate Social Responsibility (CSR) was brought up in the discussion in 1950-1960's (Wang, Tong, Takeuchi & George, 2016, 1; Benn & Bolton, 2011). However, still, the best practices and the definition of CSR are argued by different parties.

The triple bottom line of CSR consists of *financial*, *social* and *environmental* outcomes that have effects beyond the shareholders (Benn & Bolton, 2011, ix). It is stated that the ubiquity of the term CSR is a threat to its meaning (Sheehy, 2015, 635). CSR has many definitions and practices, and the way the CSR is understood depends highly on the company and the country of operations (Financial Times Lexicon, 2018). Furthermore, CSR has a long history with no consensus since industry participants, academics and other parties see CSR from a different point of views. (Sheehy, 2015, 635)

For example, for a retailing company *H&M,* CSR means choosing sustainable materials and reducing "*what ends up in the cutting room floor*" (H&M, 2018). At the same time the European Union defines CSR as "*when companies take responsible actions for their impact on society; sustainability, competitiveness and innovations*" (European Commission, 2018 and Financial Times refer that "*CSR is a business approach that contributes to sustainable development by delivering economic, social and environmental benefits for stakeholders*" (Financial Times Lexicon, 2018). One general definition for CSR within academics is that "*CSR is international private business self-regulation.*" (Sheehy, 2015, 635).

Thus, the definitions vary and also the concept of CSR has changed over time. In the early days of CSR, in 1950's, the legality of corporate philanthropy was questioned, and there was a concern that it violates the businesses' responsibilities to the shareholders (Benn & Bolton, 2011, ix). CSR was seen rather as an individual's than the business' responsibility. It was claimed that stakeholder's equity suffers if executive or CEO acts as "civil servant" spending the stockholders', customers' or employees' money into social responsibility purposes. In this approach, the company's goodwill to make socially responsible actions was justified as a company's self-interest to adapt the environment's demands. (Friedman, 1970, 213-214). However, the interest around the issue arose, and the big question was, whether and how the business could *"do good"* in society so that it would also benefit from these actions. (Benn & Bolt, 2011, ix)

Even today it can be stated, that one of the fundamentals of economics is the belief that capitalism itself is a way to meet human needs, improve efficiency and creates jobs (Porter & Kramer, 2011). However, at the same time, stakeholders require responsible actions from the businesses (Blowfield & Murray, 2014, 4,10). In today's business environment there is a growing pressure to engage CSR, and in addition to the regulatory compliance, the organizations are also encouraged to go beyond the laws and take a more active role in meeting societal and environmental needs (Torugsa, O'Donohue & Hecker, 2013, 383).

Customers' expectations, growing concerns in environment and society, growing social awareness and expectations, political reasons, companies' ethical attitudes and self-commitment, pressure from regulations, employees and recruits' expectations, globalization and fast information flow are some of the reasons that push organizations to practice CSR (Kudlak, Szocs, Krumay & Martinuzzi, 2018, 286). Also, public opinion is becoming intolerant for misdemeanors of businesses and even expecting the business organizations to come up with solutions into today's main social and environmental challenges (Blowfield & Murray, 2014, 5). Some parties have even gone to another extreme with this statement claiming that businesses should engage CSR that goes beyond the legal requirements whereas business becomes a political actor in society. (Scherer & Palazzo, 2012, 15-17, 37-40)

Nowadays, many organizations aim to exceed stakeholder expectations and policies by engaging CSR actions that for example, minimize waste and reduce energy consumption and by initiating progressive human resource management programs (Padgett & Galan, 2010, 415). One possibility is that public policies would include incentives for organizations that implement measures beyond legal compliance, support the development of CSR and promote CSR as a relevant topic to study in business schools (Kudlak, Szocs, Krumay & Martinuzzi 2018, 288). Especially IT professionals have the right skills to make changes that also have a positive effect on society. Nowadays IT is a powerful field in making the world a better place and help in restoring the faith in capitalistic business thinking. (Salb, Friedman & Friedman, 2011, 8)

It is claimed that CSR is not as powerful concept as it is argued and that is why laws and regulations are needed to solve environmental and social issues. It is also stated other economic issues are more important, for an organization and CSR is used mostly as a marketing tool. Thus, the reasons to decrease the importance of CSR are also financial and economic concerns. (Kudlak, Szocs, Krumay & Martinuzzi, 2018, 286) It is noteworthy, that CSR is facing a dilemma where it must act as a civil servant to some extent but at the same time promote capitalism as a solution to the key social and environmental issues of the era (Blowfield & Murray, 2014, 6).

There is no straightforward answer how a business should engage CSR. (Blowfield & Murray. 2014, 10) Examining conflicts among different stakeholder groups, company's and stakeholder's motives behind CSR, the shapes of CSR in different environments and the role of individuals that lead stakeholders to evaluate firms' social activities differently may help in the research of the complex and still undefined concept of CSR. (Wang & Tong, Takeuchi & George, 2016, 13-120)

1.4. The IT Field as a Research Context

Information Technology (IT) is an information service industry that uses intelligent methods and innovative approaches to develop and use various types of resources to create products and value (Chaffey, 2015, 12). Information industry has gradually become a pillar for economic development in multiple countries. Also, in the international context, information has an increasingly higher contribution to economic growth. (Chaffey, 2015, 9)

For example, the IT sector is the major growth and innovation driver in Europe. In Europe, 5% of total GDP is related to the IT sector. Also, 20% of the productivity growth of other industries in Europe is based on the development of IT. (Martinuzzi, Kudlak, Faber & Wiman, 2011, 1) Technologies have been applied to the organizational context since the first website was created. Nowadays, the most disruptive technologies are based on internet and wireless communication. (Chaffey, 2015, 4)

Information industry can be divided into *hardware* side and *software*. Hardware includes computers, electronics and high-speed information networks when software presents the software development, systems integration, and telecommunications. (Chaffey, 2015, 12) The IT services have 80% share when the IT manufacturing represent the 20% of the sector. However, in the case of large companies, this division is blurred as they are engaged in both. (Martinuzzi, Kudlak, Faber & Wiman, 2011,1, 4)

The IT sector can be described as very heterogenous and complex. The main reason for heterogeneity is the short lifecycles of many IT products that mature and become standardized in a short time. (Martinuzzi, Kudlak, Faber & Wiman, 2011,1, 4) IT includes various operations, but all of them has something to do with data – the valuable information. Keeping information systems and data secure, keeping networks and data running, the input of the data, managing databases and programming are all examples of IT operations. IT also gains a whole new meaning when combined with the internet. (Technopedia, 2018) Overall, the main goal of the information industry is to intellectualize high technology and make it universal. Also, IT penetrates and integrates with other industries as a service. Thus, its development has a multiplier effect on the economy. (Chaffey, 2015, 9)

As mentioned, the IT sector is changing continuously and in in the center of the industry are online platforms and services rather than physical devices and hardware (Morfit, 2014). Hence, IT is rather becoming an information service and developing information resources and content utilization (Chaffey, 2015, 12). Next trends that will dominate in the IT industry on the becoming years are stated to be as following: Technologies that *blur the real world* which means a seamless conversation with devices. *Artificial Intelligence and machine learning* that can create increasingly powerful data. A*lgorithms* that act as gatekeepers between marketing and brands creating more personalized and preference-based services. R*obots* that will replace people and require the organization to reshape the jobs. The t*ransparency* that requires organizations to prove that they can be trusted. B*usiness ethics* that drive companies to take more political stances on issues of general concern and the *rise of the user interface* and user experience-based thinking. (Fjord Trends, 2018)

1.5. Research Questions and Framework

The research focuses on CSR within the IT sector. The interest lays on defining what the CSR could offer for the IT company and how an IT company should approach CSR to implement it into the business strategy successfully. The main goal of the research is to develop a conceptual framework that could give an insight into the CSR management in the IT sector. At the same time, the research aims to contribute to the discussion among the scholars about the CSR within the IT field. Also, the research aims to give interest for further research about CSR in the IT field in general and the strategical role of CSR within the IT field.

In this research, it is under an interest how an IT organization could make CSR implementation more strategic and manage CSR activities and investments efficiently together with other strategic focus areas. Thus, it is not questioned that CSR is not adopted within the IT field. Rather, the interest lays on how the CSR could be managed more strategically so that the CSR investments benefit the organization best ways possible.

Hence, the main research question is defined as follows:

How could CSR be managed strategically in the global IT field?

To goal is to create a framework that can answer the main research problem and give an insight into the global IT organization about the strategical management of CSR. The sub-questions that help in proceeding to the main research question are:

1) *How has the CSR engagement developed in the IT field?*

2) *What is the emphasis dimensions of CSR bring value for an IT company?*

3) *What IT industry-specific characteristics of CSR can be recognized?*

4) *How to develop CSR strategy forward with stakeholders in the IT field?*

The sub-questions help in proceeding to the main question. Before answering the main research question, the actual benefits of CSR within the IT field need to be investigated. What are the benefits of CSR? Which dimensions should an IT organization acquire into strategy? These questions are aiming to provide an answer on which CSR activities an IT company should focus on in its CSR strategy that the CSR becomes beneficial.

Also, to build a trustworthy answer to the main question, the special characteristics of CSR within the IT field needs to be considered. This means the characteristics that play a significant role when creating a CSR management strategy for an IT company. Also, because CSR strategy needs to be developed over time, it is under an interest, is it possible to interact with stakeholders about CSR strategy and this how to develop the strategy to fit the stakeholder's interest.

Figure 1 visualizes the framework of the research. The research takes place in the global context and within the IT industry. The sub-question 1 (1. Q) is focusing on the development of CSR in the IT industry, in other words how are IT companies engaging CSR. The sub-question 2 (2. Q) is aiming to figure out the CSRs' effects to the IT company's market value. The sub-question 3 aims to give an insight into what the IT field specific characters in engaging CSR are. Sub-question 4 (4. Q) is focusing on the communication of the CSR activities and aims to contribute to the stakeholder engagement strategies. Finally, the outcomes of the research are concluded to a framework (Main Q), in other words, a field-specific model that helps in managing CSR within the IT field in a global context.
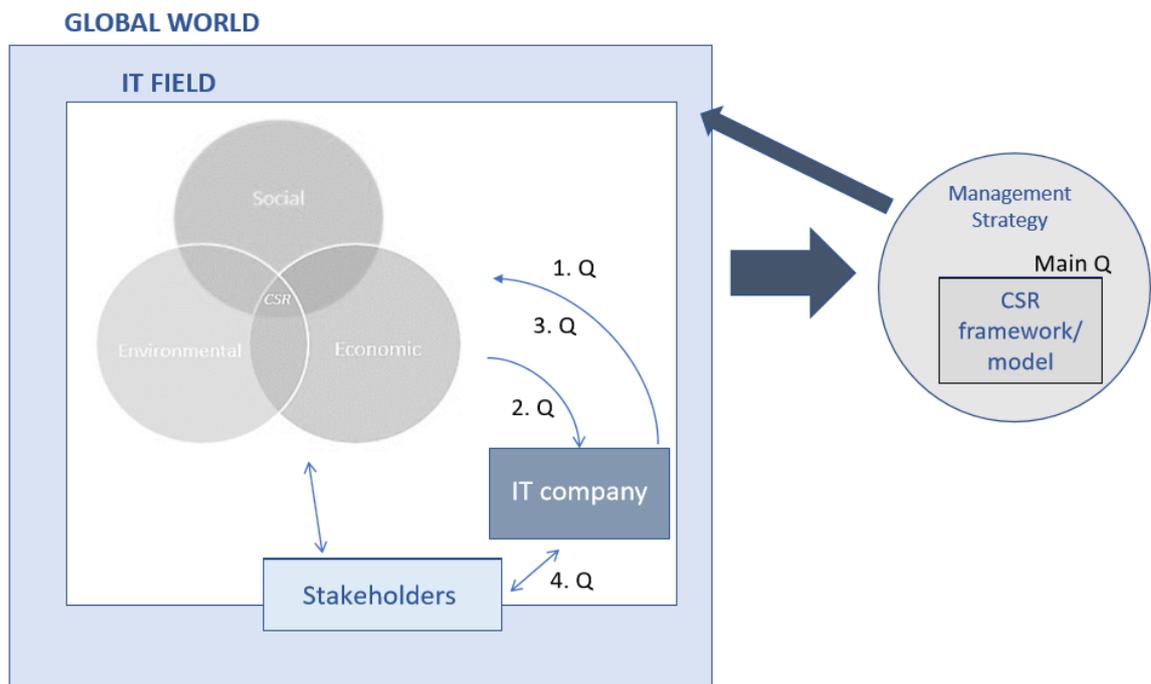
Figure 1: The Framework of the Research

1.6. Limitations, Exclusions and Assumptions

There are some limitations, exclusions, and assumptions that needs to be bored in mind before proceeding to the research. The original CSR data used in the research has been obtained from CSR Hub (CSR Hub, 2018a) which is a database that provides ratings for companies about the CSR activities and investments. No other data is used in the research to provide CSR related ratings or scores.

The regression analysis of the research is conducted with 30 sample companies that are picked from CSR Hub data and are within the top 130 CSR performers in the IT field in the year 2017. These sample companies are chosen to represent the IT sector since their company profile is global, their share prices are available for public, and they present CSR scores in all CSR dimension from 2013 to 2017. With these assumptions and exclusions, it is possible to conduct research that can be redone if desired.

Also, because CSR in the IT field do not have a strong scientific background within the scholars, it is assumed that general CSR theory can be applied in the CSR discussion within the IT field. However, the concept of CSR has been a significant issue among scholars for decades, and there is a vast amount of scholarly literature available about CSR in the databases. In this research, the focus has been in theory that could bring value for the strategical framework creation for the IT industry in the future.

Thus, the major theoretical implication is assumed to be the concept definition that creates understanding the CSR as a business model, the employee dimension, the economic dimension and business benefits, the environment and the communication with stakeholders. Also, the theory of CSR implementation is excluded since the goal of the research is to create a strategic framework, not an implementation strategy. In addition to the key assumption, exclusions and limitation, some more specific limitations and assumptions are made in the empirical part of the research. These limitations are introduced clearly before proceeding further in the research.

1.7. Methodology and Structure of the Research

The research consists of 5 parts. First part is the theory that aims to create understanding about the CSR as a concept and CSR as a strategical element for the business organization with possible implications from IT-specific discussion. After the theoretical part, the empirical research is presented.

The empirical research is done by using mixed methods. Mixed method research combines the qualitative and quantitative methods in the same study. The mixed method research in business studies is seen to develop the business field because different methods used together can provide deeper understanding of the business problem. (Molina-Azorin, 2016, 37)

The first part of the mixed method research in empirical part includes two analyses that aim to answer sub research question 1 and 2. In the first part, the quantitative analysis is made within the original data set of IT companies from CSR Hub (2018a) database. The data is described within certain time frames, and CSR score's correlations with global economy development are tested. The goal is to define, how the CSR engagement has developed in the IT field.

On the second part, the sub research question 2 is analyzed with the panel regression method called fixed effects. The fixed effects model can be built for a periodic structured data that has one record for each period for each variable (Allison, 2009, 38). This method is considered to give insight to the issue, how each of the CSR dimensions bring value for an IT organization. Thus, it is under an interest how different CSR dimensions can predict the stock price.

After the quantitative research, the qualitative research is conducted. Also, the qualitative research consists of two parts. The first part focuses on the research question 3 and aims to give an insight on what IT industry-specific characteristics of CSR can be recognized. The thematic analysis focuses on identifying patterns of themes within qualitative data. The goal is to find patterns that are important and interesting from the research questions' point of view. (Maguire & Delahunt, 2017, 3352-3353)

On the second part of the qualitative research, the social media content in Facebook sites of the sample companies is analyzed. With the content analysis, the goal is to create an understanding of how IT companies that score highest within CSR create interaction with stakeholders in the social media. With the analysis, the goal is to identify best practices and pitfalls of social media communication and answer the sub-question 4: how to develop CSR strategy forward with stakeholders in the IT field? In the fourth part, the results from the empirical research are analyzed and reflected. Finally, in the fifth part, the analysis of the key findings is provided, and the suggestion of an IT field specific framework is given. Also, the research aims to answer the main question by defining how CSR could be managed strategically in the global IT field. In the end, the conclusions are given, and the pathways for further research are defined.

1.8. Definitions of the Key Terms

There are some terminologies that are used as following in the research:

CSR engagement – Explains the strategical meaning of the CSR for an IT organization. If the company makes CSR actions, it is engaging CSR in its strategy. There may be a small engagement or active engagement.

Stakeholders – All the possible people that an IT organization is affecting into. This includes consumers, employees, shareholders, communities, and environments. CSR focuses on the activities where a business organization considers the interests of the society by taking responsibility for its impact on activities on stakeholders (Timpere, 2008).

Strategy – Strategy explains how an organization can achieve its objectives that refer to certain specific goals and allocating resources successfully. Also, the strategy includes consistency, integration, and cohesiveness. (Grant & Jordan, 2015, 11)

Strategic Management – Focuses on creating a competitive advantage for a business organization (Grant & Jordan, 2015, 369) In this research, also, referring to the usage of CSR as one of the creators of competitive advantage.

IT organization - Business organizations that produce products and services as hardware or software (Martinuzzi, Kudlak, Faber & Wiman, 2011).

IT field – Includes all the IT organizations. The field can be divided into according to different locations, hardware, software, and other characteristics. In this research, the interest is on the IT companies that operate in the global level.

Industry-specific characteristics – In this research industry-specific characteristics mean the CSR activities that are relevant to the IT companies operating in the IT industry.

2. CSR AS MANAGEMENT CONCEPT IN THE IT FIELD

The theory consists of three parts. Firstly, the main concepts of CSR as a concept is defined and an overview of CSR related actions are explained. The goal is to create an understanding about the concept and define the commonly known frameworks that create the basis for the further analysis. After this, the CSR as a strategical framework is presented and brought to the context of IT. The theory creates a basis for the empirical research and credibility for the analysis.

2.1. Understanding the CSR as a Concept

The triple bottom line of CSR consists of *financial*, *social* and *environmental* outcomes that have effects beyond the shareholders (Benn & Bolton, 2011, ix). The framework is visualized in figure 2. The three outcomes can also be understood as proactive CSR engagement meaning the actions that go beyond the laws and regulations (Torugsa, O'Donohue & Hecker, 2013, 384).
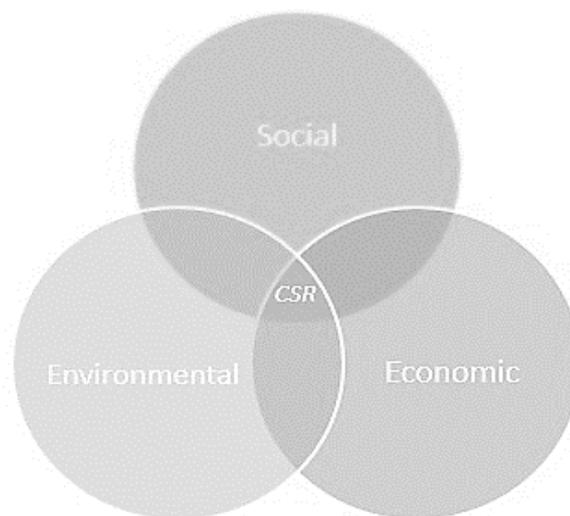
Figure 2: Triple Bottom Line of CSR Dimensions

The economic dimension comprises the actions that help in defeating the issues that might arouse in interaction with customers, stakeholders, and suppliers. This can include, for example, customer satisfaction, product quality, safety and supply chain management (European Commission, 2003, 11).

The environmental dimension of CSR includes the environmental concerns. A desired goal with the environmental dimension is that the organization would integrate the environmental concerns in their business operations and the interaction with stakeholders without losing its economic performance. (Nik Ramli Nik Abdul Rashid, Nor Irwani Abdul Rahman & Shaiful Annuar Khalid, 2014, 499)

In the social dimension, CSR has the focus on the workplace and the community. The aim is to create social cohesion and equity in the internal and external social environments by promoting health, safety, and well-being, for example, offering employees training and development opportunities and being a good citizen in a community. (European Commission, 2003, 5)

Furthermore, CSR has different levels that must be covered. Otherwise, the level of proactive CSR cannot be achieved. The levels can be understood as a pyramid (figure 3) where the most fundamental responsibility of a business organization is placed on the bottom. When moving up on the pyramid, the more discretionary the responsibilities are. It is stated that to be socially responsible; all four responsibilities must be encompassed within the culture, values and daily operations. (Carrol, 1991, 42)

Firstly, a business must be economically responsible and produce acceptable returns for the shareholders and investors. (Carrol, 1991, 42) This refers to the agency theory which means that the managers have delegations on behalf of the owners and responsibility to make rational actions to maximize the economic welfare (Benn & Bolton, 2011, 1). Without the economic responsibility, the organization cannot exist (Carrol, 1991, 42). On *Second,* are the legal responsibilities. Legal responsibilities mean that an organization needs to act according to the laws and regulations that are set by the governments and other juridical parties. (Carrol, 1991, 42)

Figure 3: The Pyramid of Social Responsibility (Carroll, 1991, 42)

Thirdly, an organization must be ethically responsible meaning that it must not harm its stakeholders within the environment it operates (Carrol, 1991, 42). Each organization must identify the stakeholders that construct the operating environment and then prioritize the strategic importance. If the stakeholders are not considered, there is a risk to lose the societal legitimacy. (Chandler, 2017, 5)

On the top of the pyramid is the discretionary responsibility which represents the proactive behavior of an organization. These philanthropic actions benefit not only the organization but also the society. (Carrol, 1991, 42) This refers to the concept of *shared value* which means that CSR should be a concept of creating economic value in a way that also creates value for the society (Porter & Kramer, 2011).

2.2. The Main Groups of CSR Activities

The outcomes of CSR actions can be classified into *external* outcomes and *internal* outcomes. This classification is based on the object of the CSR action. (Aguinis & Glavas, 2012, 951) Thus, CSR affects primarily external stakeholders or internal stakeholders. Internal stakeholders include the organization's employees when the external environment covers community, environment, and consumers (Farooq, Rupp & Farooq, 2017)

In practice, CSR activities can be divided into seven main groups. These groups are following the mainstream CSR guidelines and descriptions including Business in Community's Corporate Responsibility Index and CSR Europe's SME Key. (Ashridge Centre for Business and Society, 2005, 1-2). The meaning of CSR will always be context specific and colored by the organization specific characteristics. (Cramer, Jonker & van der Heijden, 2004, 218-220) This means that some organizations may emphasize some CSR activity groups over others and engage in CSR activities that suit them best.

1) *Leadership, Vision, and Values*

CSR in leadership means that CSR is taken into consideration in an organization's purpose. For example, CSR can be compounded into values, vision and mission of an organization (Ashridge Centre for Business and Society, 2005, 4) or corporate direction, ethics and performance (CSR Hub, 2018b).

The purpose of CSR needs to be translated into practice into policies, procedures, board independence and diversity, executive compensation, attention to stakeholder concerns and evaluation of company's culture and ethical leadership of the company (CSR Hub, 2018b). One chance to succeed in this is to involve relevant stakeholders such as employees to decide the organization's purposes or to gain commitment from key managers and employees. In practice, for example, a CSR focused training might be offered to the staff or bonuses could be given for making a CSR suggestion or innovation. (Ashridge Centre for Business and Society, 2005, 4-6)

Also, CSR oriented organizations should engage in practicing ethical leadership. Ethical leadership includes lobbying transparency and sharing good practices with other organizations as well as fighting against corruption, tax-avoidance and defining a clear position in political contribution. (Ashridge Centre for Business and Society, 2005, 4-6)

2) *Marketplace Activities*

Marketplace activities in the field of CSR include responsible customer relations, responsibility what it comes to products, ethical competition, and fair markets. More specifically, responsible customer relations include the customer rights, good customer relations, and responsible marketing. This also states that customer should be able to give feedback. (Ashridge Centre for Business and Society, 2005, 8)

Products responsibility means ensuring that the products and services are safe and environmental throughout the whole product life cycle. Furthermore, this includes protecting misuse and vulnerable customers. Considering social and environmental impacts into product and service innovation when updating and designing new products are also part of product responsibility. (Ashridge Centre for Business and Society, 2005, 8)

3) *Workforce activities*

Employees are an important stakeholder group for an organization since they have the potential for advocating, complying, participating and even leading the CSR engagement (Rupp, Williams, & Aguilera, 2011). CSR engagement may have a positive association with the organizational identification of employees, loyalty boosterism, interpersonal helping and personal industry behavior (Farooq, Rupp & Farooq, 2017, 980). Thus, CSR needs to be in the hearts of the people in the organization. By this CSR may develop a company-specific meaning and engage with emotional, functional and practical values. (Cramer, Jonker & van der Heijden, 2004, 218-220)

An example on workforce activities is promoting diversity and creating chances for employees to develop professional skills to maximize their potential. Also, employees should be listened. They should be involved in surveys and communication between managers and employee should be promoted. Employees can also be consulted about strategy and other key business activities. (Ashridge Centre for Business and Society, 2005, 11-12)

Also, the organization should pay fairly salary, ensure equal benefits and promote diversity by ensuring equal opportunities for everyone. Help to balance work responsibilities with private life by offering flexible working hours and stress management support could be offered. (Ashridge Centre for Business and Society, 2005, 15)

4) Supply Chain Activities

Producing products and services with the assistance of suppliers is common. The environmental status of suppliers affects the final product. By collaborating with suppliers, it is possible to engage CSR throughout the supply chain. (Ashridge Centre for Business and Society, 2005, 16)

In practice, this may mean driving sustainable standards through the supply chain by working with the suppliers to implement acceptable social and environmental performance. Also, ensuring fair pricing, promoting fair trade and promoting social and economic inclusion are considered as CSR engagement within the supply chain. (Ashridge Centre for Business and Society, 2005, 16-17)

5) Stakeholder Engagement

Stakeholders are people and organizations that can be affected by the organization or can influence activities of the organization. The stakeholder engagement includes mapping the key stakeholders and prioritizing the key stakeholders. CSR engagement can also include stakeholder consultation which means that to understand concerns of stakeholders better or to define the concerns stakeholders have. (Ashridge Centre for Business and Society, 2005, 25)

Stakeholder engagement also includes transparent reporting with the stakeholders interested or affected by the organization through appropriate communication channels, demonstrating openness and transparency and using guidelines in CSR reporting. (Ashridge Centre for Business and Society, 2005, 21)

6) Community Activities

Community activities promote the health and wellbeing of the local, national and global communities the organization operates. Company citizenship, charity, and volunteerism are examples of community activities. Also, this category covers the human right actions and other impacts on the society. (CSR Hub, 2018b)

Some practical examples of community activities are the financial donations to the schools, sports clubs and NGO's and charity. Also, being a neighbor and corporate citizen and for example, liaising with local communities, promoting social cohesion and minimizing adverse effects of local operations. (Ashridge Centre for Business and Society, 2005, 24)

7) Environmental Activities

This group covers the organization's interaction with the environment including the use of natural resources, effects on the ecosystem and environmental performance. (CSR Hub, 2018b) The organization should consider the resource and energy usage, pollution and waste management, product responsibility from the environmental perspective and transportation planning in the local and global environment. (Ashridge Centre for Business and Society, 2005, 27)

Organizations need to understand the impacts of business activities on the environment. Environmental engagement should be included into strategy, risk management and compliance of control systems through policy, operational performance, and reporting. (Ashridge Centre for Business and Society, 2005, 26)

2.3. The Meaning of CSR for an IT Business Organization

CSR has become a relevant topic for business organizations to acquire. The public, governments and the stakeholders of the organization are creating a growing pressure to implement CSR activities. (Blowfield & Murray, 2015, 3-6) Because the IT industry is global (Weber, 2012, 634) and has the power to make a difference in the world (Salb, Friedman & Friedman, 2011, 2), the field faces a pressure to make contributions to the society that goes beyond the profits (Morfit, 2014). CSR is no longer voluntary for IT firms. Next, the

2.3.1. CSR as an Indicator for Better Employee Relationship

Employees are a major asset for a business organization in the IT field (Salb, Friedman & Friedman, 2011, 3). Right people and right infrastructure are driving the IT sector forward (Tewari, 2010, 23). This makes it essential for IT companies to be able to attract and retain employees.

Investments into human capital innovations and organization culture may improve loyalty among employees and increase employee satisfaction (Surroca, Tribo & Waddock, 2010, 482-483). Relating to this, it is stated that as a relationship-maintenance strategy, CSR may strengthen the relationship between organization and employees in trust, control mutuality, commitment, and satisfaction. CSR is said to create positive attitudes and higher retentions rates. Also, as a management strategy, CSR may strengthen the relationship between an organization and employees. (Dhanesh, 2014, 14) It is argued that there are strong, significant and positive associations between CSR and organization-employee relationship in legal, ethical and philanthropic dimensions of CSR. (Dhanesh, 2014, 2)

Ethical and *legal* aspects of CSR are stated to play the biggest role in building the relationship inside an organization. The *ethical* engagement helps in building the trust within the organization and the commitment. Satisfaction is most strongly associated with the organizations' adherence to the *laws.* (Dhanesh, 2014, 16-17) From *philanthropic* CSR actions, the employees may gain a sense of control mutuality. For example, organizations having employees' volunteering programs are stated to be deriving by the sense of control mutuality since it gives employees feeling that their opinions and inputs are taken into consideration. This enhances the perceptions of control with the organization. (Dhanesh, 2014, 1-154)

To create internal CSR investments successfully among IT professionals, it is suggested that the organization structure has less conflict in their value orientations with higher social values and democratic norms than in bureaucracies (Jin & Drozdenko, 2010, 354). Hence, organizations must understand what it requires to be a learning organization that can transform itself (Salb, Friedman & Friedman, 2011, 2, 4). This requires that CSR need to be in the hearts of the people of the organization. Only this how, CSR gets a company-specific meaning and engages with its emotional, functional and practical values. (Cramer, Jonker & van der Heijden, 2004, 215, 218)

CSR as a concept needs to be communicated in a very concrete language that is specific and collectively understood inside an organization. Also, by reflecting the CSR activities an organization has done to the broader perspective, an organization can develop a focused view of CSR that is shared by organization's members. (Cramer, Jonker & van der Heijden, 2004, 215, 218) It is stated that external stakeholder focus may enhance the perceived prestige among the employees when the inner focus enhances the perceived respect. Both, the prestige and respect are argued to influence employees' organizational identification but affect differently to the employee citizenship. (Farooq, Rupp & Farooq, 2017, 954)

Employees with high *cosmopolitan orientation* build the identification through external CSR via external admiration, prestige. Employees with strong *local orientation* need internal CSR to gain respect. Prestige and respect influence the identification and subsequent behaviors of the employees. Employees that value collectivism needs the prestige to develop loyalty when employees that value individualism needs respect for the identification. When managed right, CSR may be a successful creator for competitive advantage via developing the more loyal workforce. (Farooq, Rupp & Farooq, 2017, 977-979) Thus, it is argued that the CSR contributions to the external environment may also affect the behavior of internal stakeholders.

However, internal social engagement on CSR such as employee diversity and firm relationship with employees may increase the firm value even more than external social engagement such as community relations and environmental concerns (Jo & Harjoto, 2011, 375). It is suggested that CSR may be strengthened by an organic core value orientation which promotes power-sharing, open information sharing, demographic ideology, socially responsibility and ethics within the employees. To make this possible, also the managers' attitudes and perceptions about ethics and CSR are related to the mechanic and organic core values of the organization. (Jin & Drozdenko, 2010, 356). This is visualized in figure 4.

Figure 4 illustrates how organizational outcomes are created through the interaction of IT professional's attitudes on ethics on the personal and organizational level, IT professionals' attitudes on social responsibility and investments on community and IT professional's core values in the organization. The organizational ideologies are core values and cognitive components of CSR engagement when ethical attitudes affect the CSR attitudes and vice versa. These attitudes and values together affect the organizational outcome such as profits, market share, and non-financial outcomes. (Jin & Drozdenko, 2010, 345)
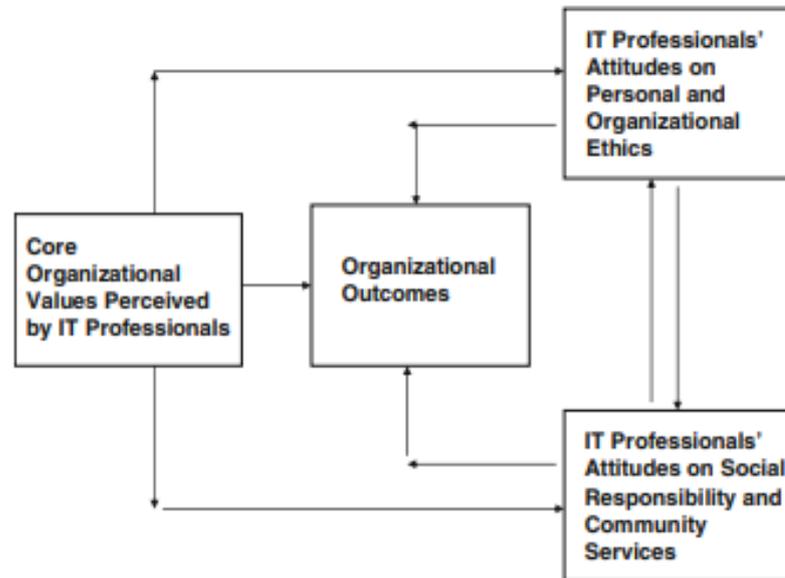
Figure 4: Mechanic and Organic Values Core Values among IT professionals (Jin & Drozdenko, 2010)

2.3.2. The Effects of CSR for the Business Performance

CSR may be economically useful for an IT organization. In general, managers are seeing that CSR is helping both the society and the business itself to succeed (Tewari, 2010, 23). Investments into CSR stimulate the development of intangible resources which affect positively into the financial results (Surroca, Tribo & Waddock, 2010, 482-483).

As stated earlier, organization's core values are indirectly related to the organizational performance, and successfully socially responsible organization tends to have better outcomes in profitability, market share and non-financial measures such as organizational commitment and effectiveness, customer satisfaction and system implementation success. By this, there is evidence that socially responsible organizations are more likely to be successful (Jin & Drozdenko, 2010, 356)

It is argued that organizations that engage internal and external CSR actions are more likely to achieve better performance (Hawn & Ioannou, 2016, 2584). This may occur since CSR is affecting indirectly into the financial performance of an organization. (Surroca, Tribo & Waddock, 2010, 482-483) Also, CSR engagement is positively associated with *firm value*. The impact of CSR intensity on firm value is statistically and economically significant which states that CSR intensity plays an important role to increase the firms' value. (Jo & Harjoto, 2011, 351) Also, CSR contributes to cost savings and risk management because it optimizes the resources. Less wasteful resources save money (Rönnegard, 2013).

Furthermore, intangible resources are invisible and difficult to acquire by competitors (Grant & Jordan, 2015, 91). Thus, intangible resources help in creating competitive advantage and better business performance (Surroca, Tribo & Waddock, 2010, 482-483). Hence, the intangible resources are argued to be the main reason for the diverge between companies' book values and stock market valuations (Grant & Jordan, 2015,91).

Investments into CSR are stimulating the development of intangible assets which are said to affect positively into the financial results (Surroca, Tribo & Waddock, 2010, 482-483). When discussing an IT organization, it is noteworthy that also technology is an intangible asset because it is mostly based on intellectual property such as defined by patents, copyrights, trade secrets and trademarks (Grant & Jordan, 2015, 92).

To give more insight, CSR can be compared to Research & Development (R&D) - operations: CSR and R&D both require intangible resources which are difficult to imitate and substitute. CSR and R&D are consistent with Resource-Based View's theory which marks these intangible resources as important factors to achieve competitive advantage and at the same time, benefits society. (Padgett & Galan, 2010, 414-415)

CSR and IT consume organizational resources are said to develop competitive advantage separately. (Andersen, Hong, Zhang, 2011, 107) When following differentiation strategies by making investments into R&D and CSR, the investments into R&D may allow an organization to manage costs more efficiently and help in considering if the CSR activities are necessary to meet stakeholder expectations. (Padgett & Galan, 2010, 416) However, as intangible resources, IT and CSR investments are both associated with profitable performance. Organizations may be able to create valuable intangible assets with CSR, improve relations with stakeholders and also the use of IT can positively impact competitive advantage. (Andersen, Hong, Zhang, 2011, 107)

Relating to this, the managers should focus more on managing intangible resources because the responsibility and financial performance are linked together through intangible resource management. These managerial practices may include culture improvement programs and human resource programs that improve the involvement of the employees (Surroca, Tribo & Waddock, 2010, 483) Also when an organization is aware of their core competencies they can identify new opportunities in their external environment. Thus, competence is creating value by solving certain problems and identifies new problems that can be solved. Thus, new opportunities are created. (Rönnegard, 2013)

Also, CSR is said to be helpful in the organization's efforts to foster effective corporate governance and at the same time to ensure the organization's sustainability via actions that promote accountability and transparency. (Jo & Harjoto, 2011, 351) One of the fundamentals in creating governance that works is the *information transparency*. In this goal, the CSR may be helpful. It is stated that there is a connection between CSR and the Information asymmetry (Lu & Chueh, 2015, 119-120). Information asymmetry occurs when one party in an economic transaction possesses greater knowledge than the other party, for example, the seller of service has better knowledge than the buyer (Investopedia, 2018a).

Hence, it is stated that organizations with higher CSR have lower information asymmetry compared to those organization who do not invest on CSR and there is even a negative relationship between CSR and information asymmetry: the gap between bid-ask to spread on the markets is lower for those who practice CSR. (Lu & Chueh, 2015, 119-120) This happens mostly because the financial analysts are giving more value to the firms that engage in CSR. Thus, CSR is also in the interest of shareholders, practitioners and government regulations. (Jo & Harjoto, 2011, 375)

Also, the excess returns are lower when CSR is practiced. CSR organizations compensate fewer excess returns to an investor than non-CSR organizations when higher information asymmetry exists. (Lu & Chueh, 2015, 120) Excess return means the abnormal rate of return of the portfolio not explained by the overall market rates' return. Rather, it is generated by the skill of the investor or portfolio manager (Investing Answers, 2018). Also, CSR organizations have less overreaction than when the book to market effect and intangible information are considered (Lu & Chueh, 2015, 120). Book to market means book value compared to market value (Investopedia, 2018b).

2.3.3. How is IT industry Seeing the Environment and Community?

IT has contributed to the business innovation and wealth generation significantly during the last decades. Technological contributions affect the overall global economy: business organizations, societies, and nations. (Elliot & Binney, 2008) Also, it is stated that 5 percent of total GDP growth is related to the IT sector. Furthermore, 20% of the productivity growth of other industries in Europe are based on the development of IT which makes the IT sector is the major growth and innovation driver in Europe. (Martinuzzi, Kudlak, Faber & Wiman, 2011, 1)

Yi and Thomas (2007) explain the positive environmental effects of the software industry are mostly indirect. The environmental benefits are based on the digitalization of the products and services, effects on production, inventories, the effectiveness of logistics, increased transparency and speed of transactions. Also, the third order effects are seen environmentally beneficial.

Third order effects mean the situation when a large number of people use the IT service, the impacts, and opportunities of the product aggregate. This increases the productivity. (Yi & Thomas, 2007) Thus, through the structural change and economic growth, the change in lifestyles and value systems the IT gives positive impact into the society and communities (Berkhout & Hertin, 2004). The environmental impacts of IT are dependent on the IT applications' performance when human actions and behavior become an important factor (Hilty, Lohmann & Huang, 2011, 16-17).

However, during the history, IT has also been one of the major sources of environmental contamination. Direct environmental impacts of IT are mostly related to the production process of the IT equipment (Berkhout & Hertin, 2004). Hardware technology's whole lifecycle: design, manufacturing, operation, and disposal produce toxic substances, natural resources, waste and environmental hazards are caused by the technology sector. (Elliot & Binney, 2008) This also relates to the sustainable sourcing. Sustainable standards through supply chain should be promoted by working with the suppliers to implement acceptable social and environmental performance across the supply chain (Ashridge Centre for Business and Society, 2005, 16-17).

The software side of the IT represents the immaterial resources. This kind of immaterial value creation is one potential driver for the decoupled economy in the future (Lohmann & Huang, 2011, 16) since it may foster the transition to the less material intensive economy (Hilty, 2008). During the last decades, the idea of IT as a sustainable service has emerged. (Hilty, Lohmann & Huang, 2011, 16-17) Hence, the IT sector can offer applications that have positive effects on the natural environment. Few examples are digitalization of information, dematerialization of transport and reduction of warehouse and office space (Yi & Thomas, 2007) IT can be used to improve sustainability as following:

Environmental informatics have been supported by applications in the monitoring systems, databases and information systems, analytical and simulation models, spatial information processing and other kinds of applications for environmental research. Based on shared data, the environmental informatics and the consensus on environmental strategies and policies have increased. (Hilty, Lohmann & Huang, 2011, 16-17)

Green in IT has become a hype in the hardware side of the IT. Green IT stands for closing the material loops by recycling electronic waste and the reduction of CO2 emissions caused by power generation. Similarly, Green by IT refers to the fact that IT is seen as an enabling technology to improve or to be substituted for processes in other sectors. Thus, IT can modify the lifecycle of other products in case of design, production, usage, end-of-life treatment and the demand for another product by substituting or increasing the demand. (Hilty, Lohmann & Huang, 2011, 17-19)

Sustainable human-computer interaction. The sustainable concept interaction explains the idea that the interaction with the technology should be seen value adding for a longer period. This covers both, the material and system design aspects. (Hilty, Lohmann & Huang, 2011, 20-21) Furthermore, *sustainable through design -concept* supports the idea that the technology itself can promote sustainable lifestyle and behavior but sustainable in design makes the design last over time. (Hilty, Lohmann & Huang, 2011, 20-21)

Hence, the IT sector creates fundamentally positive outcomes for the society which can be called an *offensive* approach int CSR. With the offensive approach, the companies are offering their solutions to the emerging problems. (Blowfied & Murray, 2014, 132) However, in hardware side, direct and higher order impacts need to be considered before making strategic decisions related to CSR. (Martinuzzi, Kudlak, Faber & Wiman, 2011,1, 4) Also *defensive* should also be taken into consideration. The defensive approach means the attempt to maintain the company's reputation and avoiding legal liabilities when a company is seeking ways to resolve the problem of their actions within the community. (Blowfield & Murray, 2014, 132) Thus, CSR provides an opportunity to contribute to the social capital of their communities. CSR situates the organization in the context that includes risk and uncertainty. (Kent & Taylor, 2016, 66)

2.3.4. Increasing Stakeholder Engagement with CSR

An organization will generate the highest returns when the processes and procedures integrate CSR, and these CSR investments are communicated to the key capital market participants. (Hawn & Ioannou, 2016, 2584) It is stated that by using the *engagement* strategy in communication, better positive effect on employees, community and business goals may be achieved (Lim & Greenwood, 2017, 768, 774, 775) At the same time, the lack of alignment between internal and external CSR actions, the gap between CSR investments and communication, diminishes transparency and accountability to the investors, community, and effects and affects organization's valuation negatively. (Hawn & Ioannou, 2016, 2584)

If CSR investments are not communicated, a risk for market value decrease occurs. If the gap between CSR investments and communication is as its most significant, the market value is associated to be 26,5 percent lower than the on the mean level of the gap. If the gap between CSR investments and communication is equal to 0, the market value of the organization is 36,5 % higher than the average. If the external actions are exceeding the internal ones, the market value is 45% higher than on the average. (Hawn & Ioannou, 2016, 2584) Thus, it is highly suggested to communicate CSR investments to the stakeholders.

Two contemporary CSR communication strategies are *stakeholder engagement* and *corporate social responsiveness*. These two communication strategies reflect the changing role of the CSR is moving the focus from traditional corporate image building to managing issues of reputation-based boundary spanning. Notably, the stakeholder engagement strategy seems to be effective in achieving all three goals: business, employee and community goals from a managerial perspective. (Lim & Greenwood, 2017, 768)

Stakeholder engagement is also crucial in the implementation CSR activities Stakeholder engagement means the process of understanding stakeholder's needs and interests. CSR actions should be designed to meet the expectations of the stakeholders because otherwise, it is impossible to design an effective CSR program. (Lock & Seele, 2016, 186) Thus, it can be stated that by engaging stakeholders not only effective communication, but also better CSR investments can be made.

Engaging communication may be helpful in finding better CSR fit with the stakeholders. Especially marketing actions such as cause-related marketing and corporate social marketing require high stakeholder engagement (Abitbol & Lee, 2017, 797). In this, authenticity is the key element: IT needs to be defined when an organization's CSR activities are most likely to be perceived *authentic* by stakeholders. To be authentic, CSR activities need to be aligned with the core mission, vision, and values. In Figure 5, the four windows of stakeholders' perceptions about CSR are visualized. The two dimensions of distinctiveness and social connectedness are illustrated. The four windows reflect the perceptions of stakeholders of an organization's CSR efforts: authentic, inauthentic, disingenuous and misguided. Social connectedness reflects the fact to which extent the organization's CSR efforts are embedded in the social context. (Mazutis & Slawinski, 2015, 137)
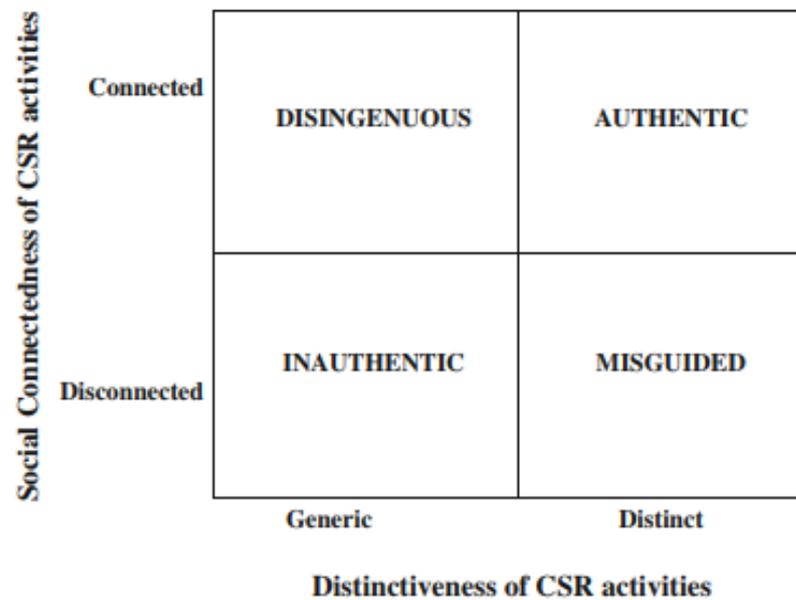
Figure 5: The Stakeholder perceptions of the authenticity of CSR efforts (Mazutis & Slawinski, 2015, 144)

In figure 5, *the Authentic* perception requires the CSR efforts must be distinctive and socially connected. This enables an organization to engage with its stakeholders. *Inauthentic* window explains the situation where an organization is not connected to the social context, and the CSR activities ignore the stakeholder goals. *Disingenuous* CSR occurs when social connection works and stakeholders can determine the CSR action, but these efforts are not tied to the core values of the firm. *Misguided* CSR, on the other hand, means that an organization has a strong value focus and tie the CSR into these values but are lacking the stakeholder engagement. (Mazutis & Slawinski, 2015, 143-146)

Also, investments into facilitating technology that helps innovating and other activities that help in building a good reputation may improve the internal stakeholder satisfaction. (Surroca, Tribo & Waddock, 2010, 482-483) Also, new technologies can be used to enhance the workplace, create adaptations for disabled employees, create educational opportunities that bridge the digital divide, improve ethics and help society. (Salb, Friedman & Friedman, 2011, 8)

Also, the communication and engagement with stakeholders must be done consistently and credibly. Especially the external audience may assume that the firm is not engaging the CSR if it is not communicated. (Hawn & Ioannou, 2016, 2584) For the customers, the reputation is a key factor because customer misgivings about corporate conduct cause lower revenue streams or customers can even boycott the company's products. (Rönnegard, 2013) There is a growing need for business organizations to make CSR investments. However, multiple barriers need to be conquered including globalization that disconnects organizations from places and makes the communication difficult (Mazutis & Slawinski, 2015, 148)

As mentioned earlier, there is an evidence that in most of the companies' internal and external actions are not in sync. Organizations are not realizing the full benefits of internal actions because these actions are not externally communicated to key stakeholders and the investors. In general, organizations tend to contribute to the society increasingly but are not communicating and complementing these activities through their external actions strategically. (Hawn & Ioannou, 2016, 2569-2570)

It is stated that the lack of external actions is the number one mistake organizations are making in practicing CSR because their CSR engagement value is not being reflected in their market performance. (Hawn & Ioannou, 2016, 2569-2570) There is an increasing stakeholder skepticism towards organizations' CSR efforts and not adequate attention to the perceptions of stakeholders is not given. Thus, the stakeholders are not understanding the forms CSR activities and are also unable to evaluate the activities. (Mazutis & Slawinski, 2015, 139)

2.3.5. CSR Reporting

CSR reports are often obtaining mistrust and skepticism from stakeholders and scholars. CSR reporting is seen as strategic communication and not credible. Organizations are claimed to adopt CSR only as a response for the external pressures rather than working on the nature of their responsibilities. It is argued that CSR lives up to the claims of public practitioners. (L'etang, 1994, 111)

First CSR reports were constructed 1970's, but on that time, the reporting was not seen as the value-adding tool itself but were used in marketing. The information was unreliable, useless and inconsistent. (Tschopp & Huefner, 2015, 575) Still today, CSR reporting is not seen fully credible: For example, with research conducted in 11 European countries including 237 CSR reports, it is concluded that European CSR reports have room for improvement and are scoring mediocre on credibility. (Lock & Seele, 2016, 186)

In 1990's the stronger demand for CSR reporting was created because of the environmental activism, sustainability movements, and social activism. (Tschopp & Huefner, 2015, 575) Also, it is stated that nowadays a credible CSR report is a crucial facilitator of understanding between organization and stakeholders. (Lock & Seele, 2016, 186, 194) Nowadays, credibility is central in CSR reporting. Credibility means that the content is high quality and standardized. Even the external factors such as length, the format regarding stand-alone or combined reports, the size of the organization, reporting experience, industry, and regulatory context are stated to be important. (Lock & Seele, 2016, 187)

During the recent years, CSR reporting has developed to a point where it will not vanish but rather become a major part of the accounting reporting framework. (Tschopp & Huefner, 2015, 565) The challenge is that there are no standards that cover the needs of all stakeholders. Organizations see reporting standards either overly rule-based, inappropriate, too costly and useless for their stakeholders' point of view or too open to interpretation. Also, different stakeholders and reporting organizations have different motives. (Tschopp & Huefner, 2015, 574) Thus, CSR reporting is not accepted side by side with financial reporting. However, there is strong evidence that development regarding reporting standards will occur and the level of CSR reporting will increase in the future. (Tschopp & Huefner, 2015, 576)

At first, the report needs to be understandable. After that, it should tell the truth to be sincere and appropriate. If the standardization is done voluntarily and believed to improve the credibility of the report. (Lock & Seele, 2016, 186, 193-194) Organizations should be placed the reporting in the broader context that makes it possible to act according to business ethics, conduct responsible behavior and make clear consequences of business operations for society. (Kudlak et al., 2018, 288) Harmonization of reporting standards seems to be a long process. As a marketing mechanism, it is important that CSR report be comparable and consistent are necessary. (Tschopp & Huefner, 2015, 574) Although, CSR is seen as a strategic tool for many organizations, the challenges in measuring make the adoption difficult. One possibility to develop measurement system is that public policies would include incentives for organizations that implement measures beyond legal compliance, support the development of CSR and promote CSR as a relevant topic to study in business schools. Kudlak et al. (2018, 288)

Also, policymakers could create levels for CSR reporting regulation (Lock & Seele, 2016, 186, 194). Currently, CSR reporting has three commonly recognized reporting standards: Global Reporting Initiative (GRI) G3 standards, Account Ability (AA1000) Series, and the United Nations (UN) Global Compact's Communication on Progress (COP). Furthermore, there are hundreds of domestic CSR reporting principles, guidelines, regulations, and standards as well as other global initiatives. Two of the most well-known global initiatives are Economic Cooperation and Development (OECD) guidelines and the International Organization for Standardization (ISO) Standards. (Tschopp & Huefner, 2015, 566)

2.3.6. CSR and Social Media Presence

The interests of stakeholders might go beyond the organizations' self-interest. That is why modern companies act more interactive, collaborative and mutually engaged with stakeholders. The shift from previously introduces *responsiveness* communication strategy to the *engagement* communication strategy reflects the interest to plan and implement CSR programs and to increase the CSR communication with stakeholders. With the engagement approach, community and business goals can be achieved together with attracting and retaining talented employees. (Lim & Greenwood, 2017, 768, 774, 775)

Nowadays, the internet is an important tool because it can help to build long lasting and mutually beneficial with the customers. (Salb, Friedman & Friedman, 2011, 5-6) Today, organizations all over the world conduct CSR campaigns and use social media as a tool to tell their CSR story. However, the strength of the social media in relationship building is not realized because CSR activities are often communicated unidirectionally in a monolog. (Kent & Taylor, 2016, 60) The infrastructure of current social media platforms is not facilitating relationship building of CSR activities. (Du, Swaen, Lindgreen & Sen, 2013, 165) Moreover, current practices show that social media is primarily used in marketing and advertising. This has prevented organizations from fully integrating social media into real CSR efforts. (Kent & Taylor, 2016, 62-63)

An important feature in social media is that it is relational and involves real-time feedback. (Kent & Taylor, 2016, 62-63) To build CSR relationship via social media, the public relations should be moved away from advertising, marketing, and brand promotion and focus on the human aspect of communication. The dialogic use of social media yields more committed organization-public relationship and shift focus on communication rather than advertising (Kent & Taylor, 2016, 66)

Dialog strategy in social media may help in navigating new terrains, building new relationships and learn from the followers and experts and help the organization to meet public expectations. (Kent & Taylor, 2016, 66) To use social media more effectively, the organizations should meet three requirements: (1) the engagement of stakeholders, (2) recognition of the value of other and (3) empathy with stakeholders and stake seekers. (Kent & Taylor, 2016, 64-65)

1) The most important requirement is to engage individuals and interact with them with genuine dialogue. This also includes private dialogue not only public social media. One chance could be creating smaller and closed discussion groups that could empower people to participate in the discussion. (Kent & Taylor, 2016, 64-65)

2) Most organizations want to become better corporate citizens. Dialogue partners trust one and another, and that is why there should not be secrets. Although it might seem risky to be too transparent, the organization should respect its dialogue partner and reflect why it should keep secrets if what it is doing is good for people. (Kent & Taylor, 2016, 64-65)

3) Empathy means the ability to put yourself to the shoes of others. In dialogue, there should be an open atmosphere for ideas and opinions and value what the others say. (Kent & Taylor, 2016, 64-65)

Thus, organizations should use marketing to provide an appropriate organizational context for CSR practices. Stakeholder orientation in marketing may also encourage organization's members to care about the stakeholder's welfare and drive for creative thinking to solve the stakeholder issues. With stakeholder-oriented marketing, an organization can develop the whole organization culture to support CSR activities. (Du, Swaen, Lindgreen & Sen, 2013, 165)

Furthermore, interactive marketing gives cross-functional support for transformational leadership. Transformational leaders should build and leverage complimentary capabilities that facilitate socially responsible actions such as marketing. (Du, Swaen, Lindgreen & Sen, 2013, 165) Using one specific social media page for a certain topic is stated to lead stakeholders to be more active and interested in the content. Also, the public most likely interacted with the posts that were highly relevant for the organization's business, mission, and values. Furthermore, if aiming for the two-way dialogue public was mostly interacting with posts that included multimedia and call to action. Abitbol & Lee, 2017, 803)

In the CSR dedicated company, Facebook pages the *company-cause fit -strategy* is stated to be an effective messaging strategy. This means most of the topics covered in the messages must be congruent with the company' mission. For engineering and technology organization, the most public engagements occurred when posting about R&D and business development. Also, *the two-way dialogic* messaging strategy is stated to be effective. The posts that include multimedia formats: links, photos, graphics, and interactive message to ask the public to make some action on social media, may engage the most interactions. Usually, many followers of CSR dedicated Facebook pages are employees of the company or individuals that are interested in the well-being of the company's employees. Employee and workplace engagement significantly increase the engagement. (Abitbol & Lee, 2017, 802)

Despite the followers on CSR dedicated Facebook pages may be more interested to discuss CSR programs or stories, other company related information was considered self-serving. (Abitbol & Lee, 2017, 802) However, media, such as blogs, podcasts, social networking platforms, and virtual environments are some of the possibilities that provide organizational learning. (Salb, Friedman & Friedman, 2011, 2, 4) Especially for internal communication, blogs are a powerful tool that can be used internally in problem-solving because they enable to share and acquire knowledge (Salb, Friedman & Friedman, 2011, 5).

3. RESEARCH METHODS

The empirical research is done by using mixed methods. Mixed method research combines the qualitative and quantitative methods in the same study. The mixed method research in business studies is seen value adding because different methods used together can provide deeper understanding about the business problem that is under an interest. (Molina-Azorin, 2016, 37)

The mixed method research is conducted with data from CSR Hub. CSR Hub provides consistent ratings of CSR performance in different business fields. CSR Hub's ratings are based on rating sources of different topics that the organizations release. This includes, for example, the amount of money used, and programs launched to promote certain CSR dimension. Sources vary depending on the industries which mean the scores within the same field are comparable. Also, the scores are always given to the parent company. The goal of the CSR Hub is to remove the bias and inconsistency from CSR data sources. This is done by dividing CSR into 12 categories that are measured and after the evaluation presented in 4 dimensions.

Furthermore, all measurements are converted into a numerical scale from 0-100, 100 expressing the best possible outcomes. Each source of information is also aggregated with credibility score, the ratings that have not enough information available are dropped, and scores from different data sources for the same company are compared to achieve an adjusted non-biased score. (CSR Hub, 2018c)

The original data set used in the research includes 680 IT business organizations. The data is taken from CSR Hub by choosing the technology industry and IT & Network Services as a specification field. The original data present scores in overall CSR engagement and different dimensions of CSR engagement. The original data set includes CSR ratings over time starting from December 2008 ending to the April 2017. There are software companies, hardware companies and companies that produce both technological solutions included in the data. The quantitative research begins with the data description conducted with the whole data set that expresses the CSR development of the IT sector and different dimensions.

3.1. The Research Description

The structure of the research is visualized in figure 6. The quantitative research is done with the focus on the sub-questions 1 and 2. The goal is to create an understanding of the IT sector's CSR engagement and most valuable CSR dimensions for the IT field. The quantitative research contributes to the main research question by creating an overview of the industry development within CSR and by concluding which dimensions an IT organization should engage from the business perspective. The original data set from CSR Hub is used in the description part. With this, the goal is to answer into sub research question 1.

The fixed effects test aims to give an insight into the sub research question 2 and aims to explain which dimension bring the most value to the IT company. The 30 IT companies chosen into the quantitative research regression test are among the top 130 in overall CSR rated companies in the year 2017. Also, it is required that the company has stock prices available in the public stock market and the stock price data is provided daily from 2013 to 2017. Most importantly, sample companies are chosen by requiring that all CSR values in all dimensions are available on each year. The CSR values are average values from the monthly data provided during each year.

The qualitative research is done by focusing on the sub research questions 3 and 4. Thus, the goal is to get an insight about the IT industry-specific characteristics of the CSR engagement and to focus on how the stakeholders are engaged in developing better CSR strategy. The 6 IT companies chosen to the qualitative part of the research are among top 25 CSR performers in the year 2017. These companies were also required to have CSR reports available online and Facebook pages that are updated regularly.

The qualitative research is done in two parts. The first part includes the analysis of CSR reports of sample companies. The analysis is conducted with a thematic analysis research method. The thematic analysis aims to give an insight into the sub research question 3. Finally, the content of each company's Facebook page is analyzed. With this, the goal is to create an understanding of the interactive communication with stakeholders. The content analysis aims to give an insight into the sub research question 4. The sample companies in content analysis are the same as in the thematic analysis. It is assumed that these 6 companies represent the top CSR performer in the IT field that can be benchmarked to give valuable insight into the research.
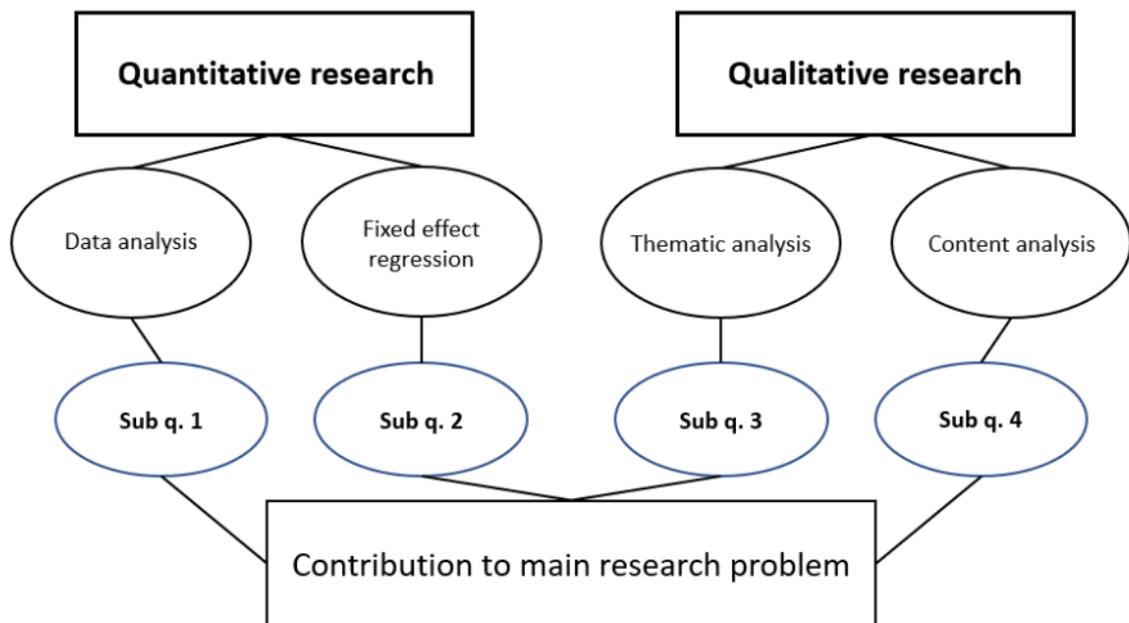
Figure 6: The Structure of the Research

3.2. Quantitative Research

At first, the data description and key figures are explained by using the original data set within the time range from 2008 to 2017. Because in 2008 the CSR data lacked some information, mostly the year 2009 is used as a beginning year in the analysis. The data analysis is followed by a panel regression test called the fixed effects method.

3.2.1. Key figures from the CSR Data

Figure 7 explains the development of overall CSR ratings in the IT sector. In 2008 only 31 IT companies were rated with an overall CSR score. Within the years the amount of rated companies has grown, and in 2017, 356 companies CSR activities were rated. Thus, the growth rate is 10,50 which means the amount of IT companies rated has increased tenfold.
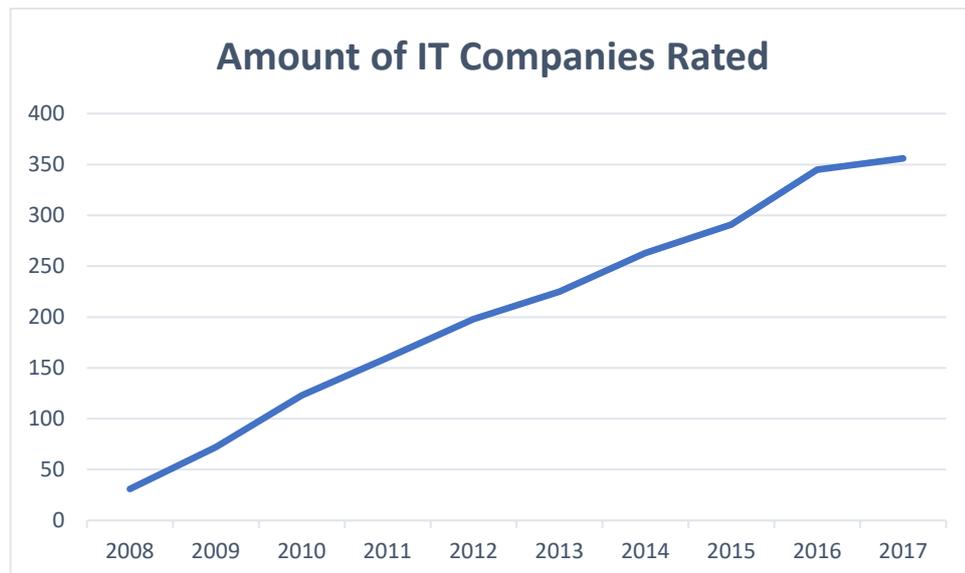
Figure 7: Amount of IT Companies Rated

Figure 8 visualizes the overall CSR score development of the IT companies monthly from 2009 to 2017. The average is the central value of the data set when the median is the middle value of the data set. Both graphs follow the same trend. It can be stated that the monthly development is inconsistent. There is a drop in CSR scores in 2013 when values are below 50. However, after the drop, there is a strong improvement in scores in 2015, and both scores arise near 58. After 2015, both graphs begin to decrease again and continue the drop near to the starting point in 2009. In 2017 both score values are between 50 and 52.
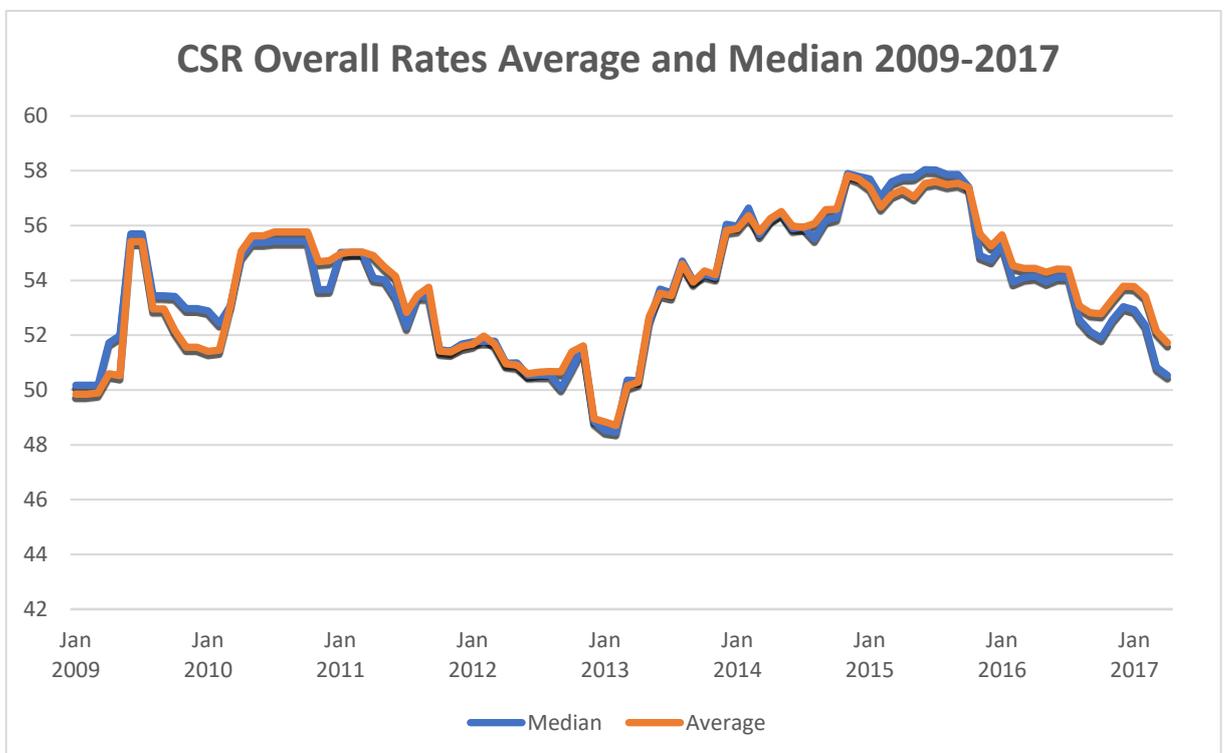
Figure 8: IT Sector's CSR Scores Average and Medians Monthly from 2009-2017

Monthly values give a relatively unstable picture of the overall CSR score development, but when looking at the year averages, the development is more stable. Figure 9 explains the monthly values of the overall CSR scores and each dimension. Figure 10 explains the median values of the CSR scores development.

Comparing the annual values and (Table 1 & 2) to the monthly values (figure 8) it can be stated that the trend of the overall CSR scores' development is stable, but scores may differ monthly. It can be concluded that there is a minor improvement in average and median values from 2009 to 2017 which is also visible in figure 8. During the eight years, the improvement in average values is +1,3 and in median values +0,26.

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Overall	49,62	49,59	49,77	50,05	50,43	50,44	50,45	50,69	50,92
Community	49,89	50,55	51,28	51,85	52,38	52,24	52,10	52,16	52,21
Environment	51,53	52,16	52,77	53,01	53,39	53,11	52,83	52,78	52,73
Governance	53,29	53,49	53,76	53,88	53,95	53,79	53,64	53,58	53,52
Employees	52,91	52,95	53,27	53,31	53,37	53,17	52,98	52,95	52,93

Table 1: CSR Scores Averages 2009-2017

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Overall	51,30	51,10	51,01	50,92	51,29	51,36	51,42	51,49	51,56
Community	48,76	49,08	49,53	49,94	50,36	50,06	49,76	49,93	50,10
Environment	51,28	51,44	51,61	51,61	51,72	51,55	51,38	51,40	51,43
Governance	56,10	56,10	56,15	56,15	56,17	56,03	55,89	55,88	55,86
Employees	54,97	54,92	55,08	54,79	54,51	54,03	53,54	53,21	52,87

Table 2: CSR Scores Medians 2009-2017

Because the overall CSR scores development is slightly positive but may vary monthly, it is under an interest whether an external factor may affect the CSR score development. It is worth analyzing how the development of the global economy influences the CSR Scores. When comparing the Global GDP (2018) year average values (The World Bank, 2018) to the CSR overall average score's development, it can be stated that both graphs follow the same trend (Figure 9). In the correlation test, the correlation reaches 0,4 which states that the CSR is slightly dependent on Global GDP growth. Thus, it can be stated that there is a small correlation between global GDP and CSR overall score development. The correlation test data is available in appendix 1.
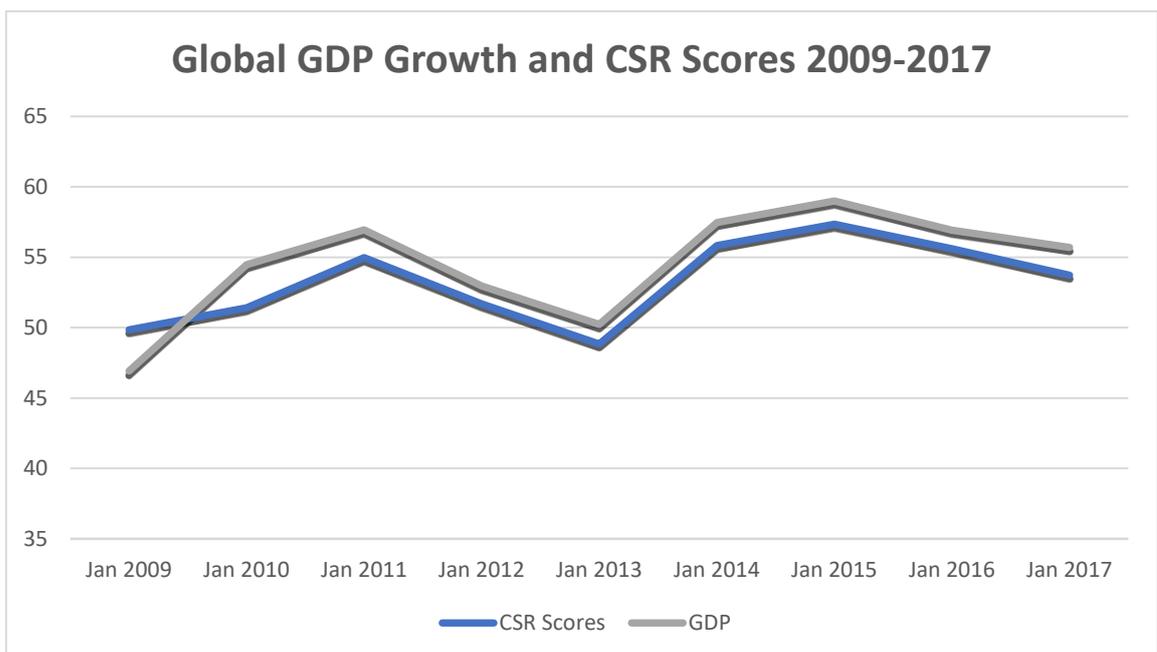
Figure 9: Global GDP and CSR Scores in 2009-2017

When looking at the CSR dimensions' individual scores in Figure 10, it can be stated that the development of the different dimensions varies. Especially after 2013, the graphs perform strong differences in scores. Also, it can be stated that the overall CSR score is not the average of the other dimensions.

When zooming in to the time window of 2013-2017, the differences between dimensions can be seen more clearly (figure 11). After 2013 the Community scores the highest when the governance has the weakest score. Environment and Employees score in between the two other dimensions. However, after 2014, employee scores approximately two scores higher than the environment. The dimension scores with the change rate (growth %) are available in table 3.
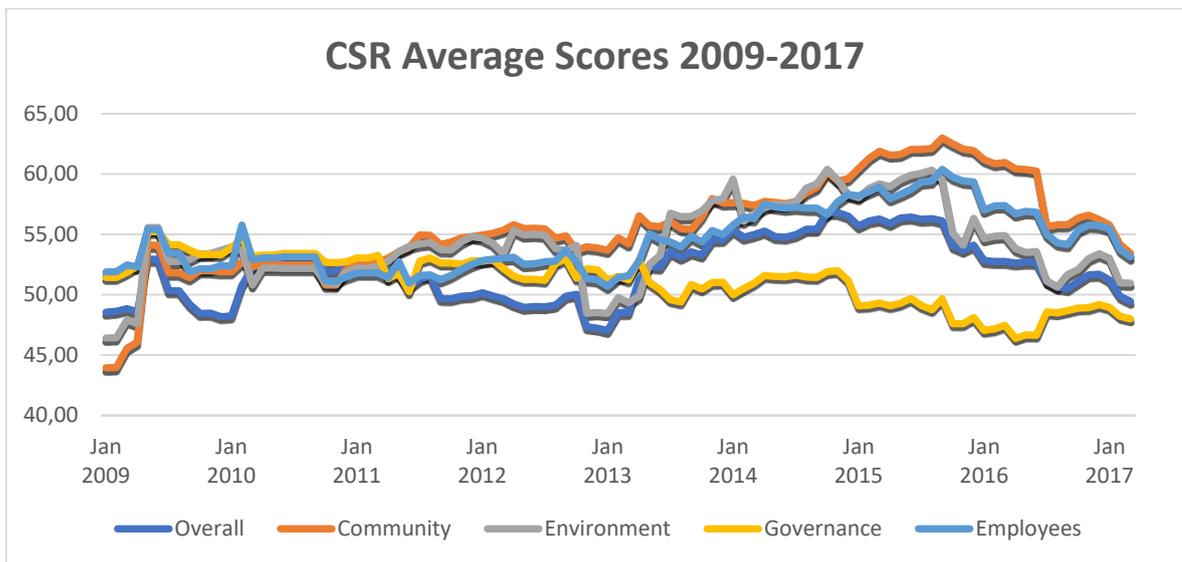
Figure 10: CSR Average Scores for All Dimensions 2009-2017
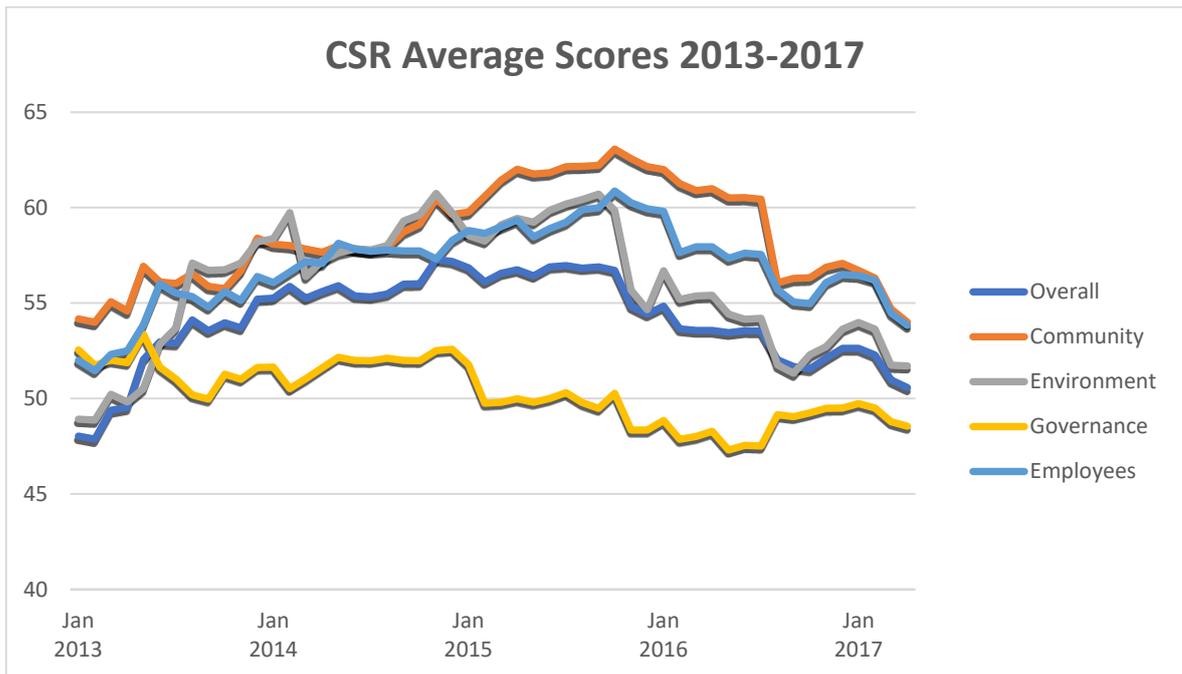
Figure 11: CSR Average Scores for All Dimensions 2013-2017

	CSR	Community	Environment	Governance	Employees
2009	49,62	48,76	51,28	56,10	54,97
2010	49,59	49,08	51,44	56,10	54,92
2011	49,77	49,53	51,61	56,15	55,08
2012	50,05	49,94	51,61	56,15	54,79
2013	50,43	50,36	51,72	56,17	54,51
2014	50,44	50,06	51,55	56,03	54,03
2015	50,45	49,76	51,38	55,89	53,54
2016	50,69	49,93	51,40	55,88	53,21
2017	50,92	50,10	51,43	55,86	52,87
Growth %	2,6 %	2,7 %	0,3 %	-0,4 %	-4,0 %

Table 3: CSR Scores and Growth Rate 2009-2017

In table 3, the change rate concludes the development of the CSR dimensions during the eight years. The overall score and community score have increased, and the environment score has remained the same. Governance score and employees score perform negative development during the years even though, there is a small increase in governance scores during 2011-2013 and employee score in 2011.

3.2.2. Fixed Effects Panel Regression

Fixed-effects regression is a quantitative research method used in the context of causal inference and can be used with multiple-level data. The data usually includes lower-level units and higher-level groups. In the test, the lower-level units will be nested within higher-level groups. (Brüderl & Ludwig, 2015) Fixed effects model uses the individual as its control. Thus, two data requirements hold when using fixed effects regression: The dependent variable must be measured at least in two occasions, and the predictor variables must change in value across the multiple occasions for some substantial portion or sample. (Allison, 2009, 9)

Issues in fixed effects model are that the estimates may have larger standard errors than other regression models, which leads to the higher p values and wider confidence intervals. This occurs because fixed effects use individual differences to create the estimates. Hence, if predictor values vary on the wide range but have little variation over time for each, the fixed effects test becomes imprecise. (Allison, 2009, 11)

The basic model of fixed effects panel regression is:

$$y_{it} = \mu_t + \beta x_{it} + \gamma z_i + \alpha_i + \varepsilon_{it}$$

The $_{it}$ is the dependent variable. There are set of predictor values that vary over time which represent the x_{it} and another set of predictor variable which represent the z_i single variables that do not change over time. μ_t represents the intercept that may be different of each period. β and γ represent the vectors of coefficients. α_i represents the error across individuals and ε_{it} represent the errors that at each point of time. (Allison, 2009, 14)

Also, it is necessary to set a dummy variable into the test. However, many statistical packages can set dummy variable automatically (Allison, 2009, 23-24). This panel regression test is conducted by using the statistical program XLSAT (2018), which provides an add-on for Excel. The program can handle dummy variable automatically, which is why the dummy variable is not included in the panel regression test data (appendix 3).

It is assumed that only the scores from 2013 are valuable for the research. This is because the individual dimension scores seem to have more significant differences after the year 2013 which arises interest to exclude the historical data and focus on predicting the future with the latest trend. The annual average values of each dimension during the research time window from 2013 to 2017 are available in appendix 2. The sample data of 30 companies for fixed effects regression (appendix 2) consists of sample companies on time range 2013 to 2017.

The measurement scale is standardized and represents units in currency. The level of significance in the test is 0,05. In the research, variable Y represents the stock value or stock price of the 30 IT companies' stocks during the five years from 2013 and in 2017. The null hypothesis, the fact that is tested with a regression model in the research is: *CSR score affects the market price of stocks.*

Quantitative variables X1-X5 represent the CSR scores of the 30 sample companies in the time frame between 2013 and 2017. Table 4 explains the test variables Y and X. Because the dimension scores do not differ from each other notably and the correlation between dimensions is high (table 5), each dimension is tested independently with fixed effect regression test.

	Y = Stock price
	X1 = CSR Overall
	X2 = Community
	X3 = Environment
	X4 = Employees
	X5 = Governance

Table 4: Test Variables

	Overall	*Community*	*Environment*	*Governance*	*Employees*
Overall	1				
Community	0,862966545	1			
Environment	0,609219285	0,92046036	1		
Governance	0,249075244	0,686962546	0,910990186	1	
Employees	-0,0710577	0,374344184	0,686158954	0,91298021	1

Table 5: Correlation Between CSR Dimensions

R Squared represents the relationship between the dependent variable and independent variable. The R values for each test are collected into the table 6. It can be concluded that in overall, community and governance score the 1,5% of the variance in stock price is explained by the model. In environment and governance, 0,2% of the variance in stock price is explained by the model.

	R Squared
X1	0,015
X2	0,015
X3	0,002
X4	0,002
X5	0,015

Table 6: Goodness of Fit Statistics

F-statistics tests in table 7 summarize the significance of the test. The p values are higher than the significance level (0,05) which states the tests are not significant and they are not providing enough evidence or fit for the null hypothesis. Thus, it can be concluded that CSR dimensions cannot estimate stock prices. Also, the coefficients test (table 8) is not presenting fit (p > 0,05). Because the test is made independently with all dimensions, results in F statistics and Coefficients are the same. Thus, the null hypothesis with the CSR dimensions is rejected. Coefficient estimate express results for the fixed effects regression. It can be concluded that variables X1-X5 cannot estimate effects on variable Y. The CSR dimensions: overall, community, employees, environment, and governance cannot estimate the stock price in the 5-year time frame. The overall test results are available in appendices 4-8.

	p.value.F
X1	0,187
X2	0,186
X3	0,594
X4	0,644
X5	0,189

Table 7: F Statistics

Coefficients:

	Estimate	Std. Error	t-value	Pr(>|t|)
X1	2,544	1,917	1,327	0,187
X2	1,806	1,357	1,331	0,186
X3	0,580	1,084	0,535	0,594
X4	-0,587	1,267	-0,463	0,644
X5	1,504	1,138	1,322	0,189

Table 8: Coefficients

3.3. Qualitative Research

The first part of the qualitative research is conducted with thematic analysis. The method is not tied into epistemology or theoretical perspective. Thus, it is a flexible method and fits into many different research contexts. (Maguire & Delahunt, 2017, 3352-3353) The second part of the research is focusing on the social media strategies of the sample companies. The sample companies' posts in the Facebook pages are evaluated, and CSR related posts are calculated for further analysis.

3.3.1. Thematic Analysis of the CSR Reports

The thematic analysis focuses on identifying patterns of themes within qualitative data. The goal is to find patterns that are important and interesting from the research questions' point of view. The thematic analysis aims to make sense of the data rather than summarizing what has been said. (Maguire & Delahunt, 2017, 3352-3353)

The analysis of the data is done in six steps in accordance with to Braun and Clarke (2016): (1) Becoming familiar with the data, (2) generating initial coding, (3) searching for themes, (4) reviewing themes, (5) defining themes and (6) writing up the report. After getting familiar with the data, the data needs to be organized systematically. This is done by coding pieces of the dataset with meaning, in other words, with the focus on the research questions. The coding is done with open coding meaning that codes are modified throughout the analyzing process. (Maguire & Delahunt, 2017, 3354)

A theme is characterized by its significance (Braun & Clarke, 2006). A theme means a pattern that includes interesting information about the data and research question. Finally, themes are organized into broader themes that seem to provide specific information about the research question. Reviewing themes means modifying and developing preliminary themes by considering do they make sense. The reviewing is done by gathering all the relevant data assigned for each theme and considering does the theme make sense, does the data support the theme and is there a real fit for the theme and data. In case of an overlap, the datasets can be combined. There can also be subthemes under the themes. During this analysis, the changes can be made. (Maguire & Delahunt, 2017, 3356-3359)

Finally, the themes are defined by identifying the essence of each theme (Braun & Clarke, 2006, 92). The focus is on (1) what is the meaning of each theme, (2) how do themes interact with each other and (3) how do subthemes relate to the main theme. As a result, a thematic map of the relations and meanings is created. (Maguire & Delahunt, 2017, 33511)

Thematic analysis is conducted with 6 sample companies whose CSR reports are examined. The sample companies included in the research are *Microsoft, SAP, Indra, Wipro, Walters Kluwer, and IBM*. These companies score in the top 25 in 2017, and it can be assumed that the top performers give the best insight into the issue that is under an interest. The focus is on the research's sub-question 3. Thus, the thematic analysis of the CSR reports aims to identify the special characteristics of CSR of the IT sector. What IT industry-specific characteristics of CSR can be recognized? Because the data is based on online reports, the human voice and emotional analysis are excluded from the research.

Firstly, the reports were coded, and six main themes were created. After reviewing the preliminary themes' connections and similarities between the six themes were recognized. With modification, three themes are recognized to go in line with the research question. These themes are: (1) the presence of technology, (2) investing in employees and (3) involving stakeholders. Themes are visualized in table 9. Themes are seen to reflect the CSR within the IT field based on the CSR reports. Each of the three themes includes sub-themes that interact with the main theme. The research Next, the themes and subthemes are defined. Finally, the thematic map that visualizes the interaction of different themes is drawn (figure 12).

When looking at the thematic map (figure 12), it can be concluded that themes interact with each other. Theme 1 affects all the other dimensions because technology is present in all the other dimensions. Also, theme two is linked to the sub-themes educating CSR and involving stakeholders mostly because employees are one of the stakeholders.

	Theme 1	Theme 2	Theme 3
	The Presence of Technology	Investing in Employees	Collaborating with Stakeholders
Subtheme 1	Technology as a Solution	Creating Career Opportunities	Educating CSR
Subtheme 2	IT Sector as a Gamechanger	Promoting Diversity	Involving Stakeholders
Subtheme 3	Data Protection as a Human right	Promoting Better Health	

Table 9: The Final Themes and Subthemes of the Thematic Analysis
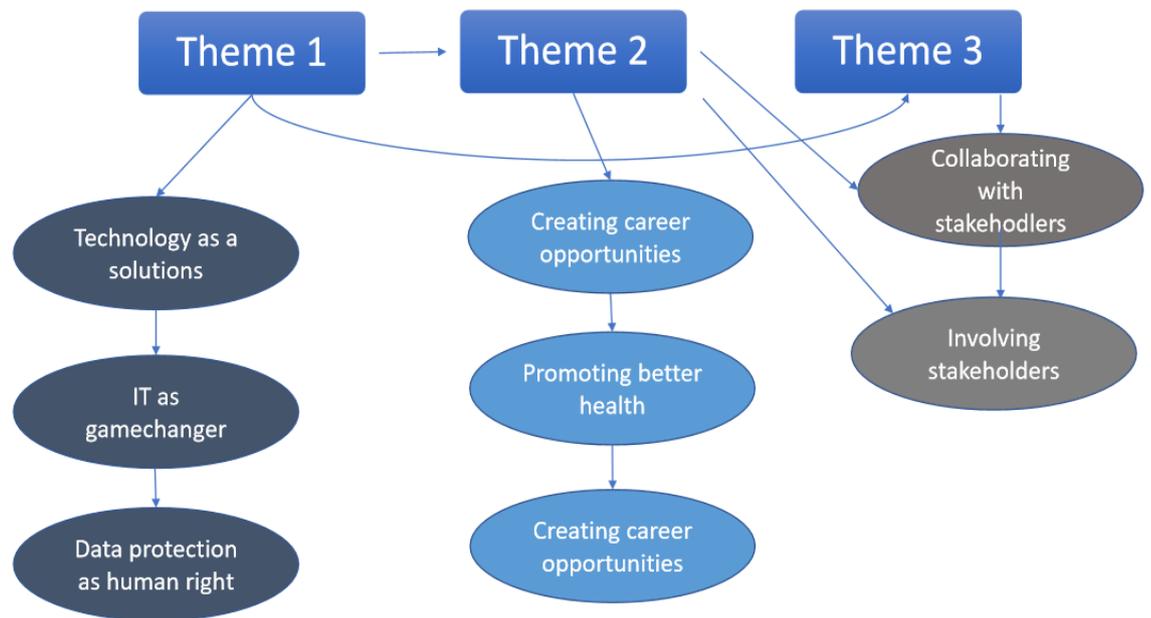
Figure 12: The Thematic Map of Themes

Theme 1: The Presence of Technology

The core business of the IT companies is producing and developing technological services and products in the forms of hardware and software. This core business is playing a significant role consistently in their CSR engagement strategy. The companies are relying on the technology in their CSR strategy and explain the benefits that their core business is offering for the environment, society, stakeholders, and future. Relating to this, the two sub-themes are considered to interact with the main theme.

"We approach corporate responsibility as we do any engagement, by applying our talent and technology to develop innovative solutions for key societal issues."

– IBM, 2017, 5

Subtheme: Technology as a Solutions

The companies are seeing that fundamentally, their business is developing their customers' social wellbeing. Depending on the business, the customer of the company may be another business, private individuals or both. The solutions that companies are providing are stated to create efficiency, savings, and growth. Furthermore, the companies are raising up that they are the providers that allow customers to acquire the latest technology into usage.

> *"Our focus on expert solutions means combining specialized technology*
> *and services with deep domain knowledge to deliver analytics,*
> *productivity, and value for our customers and society."*
>
> *– Wolters Kluwer, 2017, 5*

Also, the companies take responsibility for the environment. It is claimed that the technological solutions based on software are environmentally friendly and solution towards a greener world. They also see the technology as a solution to build sustainable development in the future.

> *"New technology solutions such as virtualization also reduces*
> *dependence on physical servers and leads to energy savings."*
>
> *– Wipro, 2017, 6*

Subtheme: IT Sector as a Gamechanger

Technology itself is stated to be the gamechanger in the globally, and all the sample organizations understand the responsibility to promote responsible global changes.

> *"The breadth and depth of our mission unlock unprecedented*
> *opportunity as technology transforms every industry and has the power*
> *to make a difference in the lives of everyone."*
>
> *– Satya Nadella, Microsoft, 2017, 4*

The especially highlighted issue is the supply chain management within the IT industry and convince their actions to be responsible and environmentally considered. The themes that stay consistent in the discussion about the supply chain are transparency, protection of human rights and code of conduct.

> *"The Code of Ethics and Legal Compliance reflects Indra's commitment*
> *(and therefore, the commitment it demands from its supply chain) with*
> *the principles related to the rights established in the International Labor*
> *Organization's Declaration and the principles of the United Nations*
> *Global Compact."*
>
> *– Indra, 2017, 99*

Also, companies are seeing the responsibility as a way promote the development of the technological innovations since again, the technology itself is highlighted to be the gamechanger and driving force in the global world. The companies understand their responsibility as a global player and a forerunner for change towards a better world. All companies present how they support innovation creation within the organization and how they are sponsoring development of technology in external organizations such as in universities and research labs.

"Science, Technology, Engineering, and Mathematics (STEM)
professionals made time in 2016 to work with youth. The STEMpact
2020 program engages STEM professionals in mentoring youth."

– Wolters Kluwer, 2017, 43

Subtheme: Data Protection as Human Right

Data privacy is a fundamental requirement of acting responsibly within the IT industry. Because the technology is present everywhere, it is consistently mentioned that technology providers need to act responsibly when handling the customer data. Thus, data privacy is seen as a key element in their business which is driven by transparency and customers' control of the information.

"The magnitude of data to be handled by today's organization is
gigantic. This abundance of data opens the door to many opportunities
in all spheres of life- economic, social, and political. However, with 'big
data' which can create 'big impacts' comes big responsibilities."

– Wipro, 2017, 137

Development towards a digitalized world creates opportunities but also new threats. One threat for IT industry is the cybersecurity. The companies highlight the cyber security awareness within the organization. The awareness of cybersecurity is seen as a cultural element that needs to be in the heart of the people working in the organization. Also, the systems against cyber-attacks are constantly developed. These investments are seen to be mandatory if a company wants to act responsibly within the IT industry.

"Because threats continuously evolve, each of IBM's employees is
required to complete annual cybersecurity and privacy course that is
regularly updated with new insights on the latest types of attacks and
security best practices."

– IBM, 2017, 55

Theme 2: Investing in Employees

Employees are seen to be the driving force for the success in the IT field among all the sample IT companies. They are all seeing the employees and human capital as their greatest asset to increase the number of innovations, to reach higher profit and better competitive advantage. The employees need to be engaged to their work and to the company for a long run to create long-term success. Thus, companies are making major investments into the employees. Companies are creating engagement by providing career opportunities. Promoting better a diverse culture is the sub-themes all sample companies are seen worth implementing in their CSR strategy.

"Our employees are our most valuable asset. We acknowledge that sustainable company performance can only be delivered by the best workforce."

– Wolters Kluwer, 2016, 16

Subtheme: Creating Career Opportunities

All six sample companies are highlighting the meaning of the career opportunities as one of the most significant investments to engage employees in the long run. Because IT industry is driven by the skillful professional, new opportunities need to be offered. It is a significant concern that otherwise IT professionals are seeking challenges and next career steps elsewhere.

"People are at the core of a knowledge-based organization like ours. We firmly believe that we cannot build a great business without nurturing talent from within."

-Wipro, 2017, 76

Career coaching and career planning programs are seen to build employees engagement to the organization. Building career paths are seen to create motivation for work, lust to develop professional skills and engage employees in the long run,

> *"The internal service uses workforce predictive analytics to produce a list of jobs currently available in IBM based on the employee's location, level, job role and experience."*
>
> *– IBM, 2017, 35*

Subtheme: Promoting Better Health

Another essential way to engage employees is to invest in the employees' wellbeing. This is done in two ways. Firstly, offering good working facilities and ensuring throughout the supply chain that the working environments are safe and reach to the standards. This is seen as a fundamental right for the employees and a primary bottleneck to be solved in attracting the employees.

> *"Ensuring that all Indra employees, regardless of their business area, geography or activity (ranging from office staff to personnel on fieldwork) can work safely is a challenge for which numerous actions are taken and to which the company is committed."*
>
> *– Indra ,2017, 91*

Secondly, the additional investments into the employees are made to create extra value for employees. These investments cover all the additional healthcare benefits and recreational promotions. These investments are made to tell employees that everybody is an individual that needs to be taken care off. Work and life balance are understood to have a significant effect in the wellbeing of employees and attractiveness of workplace. Furthermore, a healthy employee is also more valuable for the business than unhappy and.

> *"IBM received the American Heart Association Gold Designation for a healthy workplace, achieving double the average score."*
>
> *– IBM, 2017, 35*

Subtheme: Promoting Diverse Culture

All IT companies highlight the importance of diversity within their employees. Also, for promoting responsible action, diversity is seen as an asset towards a more inclusive company that is able promotes the business success. Thus, diversity is also seen as an asset for the organization to reach better outcomes. This may be because of the technological revolution that continuously reached a bigger audience. Innovations need to be created, and diversity raises up a new point of views, ideas, and opportunities to innovate.

> *"We nurture an open environment where people are encouraged to learn, share and grow. We embrace the diversity of thought, of cultures, and of people."*
>
> *– Wipro, 2017, 34*

Also, the diversity is seen as gender equality within all sample companies. Since there are fewer women working in the technology sector than men, it is worth investing to employ more women. Gender equality is also seen a beneficial for the business as SAP states below:

> *"Studies show that companies with a high level of gender diversity outperform companies with an average level in terms of return on equity (11.4% versus an average of 10.3%); operating results (EBIT 11.1% versus 5.8%); and stock price increases (64% versus 47% over the period 2005–2007) (McKinsey, 2007).25 It is therefore likely that having a higher share of women in management positions will result in higher profit for SAP."*
>
> *– SAP, 2017, 229*

Theme 3: Collaboration with Stakeholders

CSR is not only seen as a conceptual phenomenon but rather a practical tool to engage stakeholders in creating a better world. Thus, for the sample companies, CSR is not only a framework that is managed from the top down. CSR is brought near stakeholders by involving people to engage with responsible activities and get an education about CSR related issues.

Subtheme: Educating CSR

In all organization, CSR has seen a cultural element that needs to be in the hearts of the employees. That is why training about CSR related issues is given to the employees from various subjects. Also, company ethics, compliances, and codes of conducts are seen worth educating so that everyone in the organization is aware of the values and prepared to act responsibly.

> *"All Microsoft employees must complete annual training on our*
> *Standards of Business Conduct (about ethical business decision*
> *making). The training course is available in 16 languages. In FY17, as in*
> *previous years, we achieved a completion rate for the course of greater*
> *than 99 percent."*
>
> *– Microsoft, 2017, 28*

Subtheme: Involving Stakeholders

Also, involving stakeholders in CSR activities is a meaningful way to create meaning for the CSR strategy within the organization. Some companies refer to the project groups that are focusing on specific CSR related issues. Also, charity events that employees can take part in are provided.

> *"Our global CSR policy offers all SAP employees the opportunity to*
> *volunteer for up to eight working hours each year at a CSR event."*
>
> *– SAP, 2017, 237*

Also, charity is offered by involving people in the community to participate in CSR action. By this, companies are aiming to create long-lasting value for the community.

> *"In 2017, IBM launched the "Digital — Nation Africa" (DNA) initiative to build digital skills for the 21stcentury workforce in Africa."*
>
> *– IBM, 2017, 2017, 14*

3.3.2. Analyzing the Interactive Communication

The analysis of six sample companies' Facebook pages was conducted on 25th of August 2018. Thus, the analysis of sample companies represents one specific time window of companies' social media actions. The goal of the analysis is to get an insight of the of CSR communication within the IT sector in an interactive platform.

The Facebook pages analyzed in the research are the official company pages of each company. Companies Facebook pages that relate to the business but represent a specific operational or stakeholder group are excluded from the research. The Facebook pages are global except, Microsoft's page which is provided by location. In this research, the Microsoft's page location is Finland. The number of followers is reported on the research date given, and the amount of CSR related posts is calculated by analyzing the 30 most recent posts from each company. It is assumed that if CSR is part of the communication strategy, CSR related post should have been made within 30 posts.

The number of followers means the number of people that follow the Facebook page. This is seen to be a valid number to be included in the analysis since the followers represent the actual number of people who see the Facebook post in their feed (Facebook, 2018a). The CSR posts represent posts that are CSR related focusing at least one of the three CSR dimensions: environmental, societal and economic actions. The external links shared in the posts are not included in the research. CSR in posts means that the perspective in the post is responsibility.

However, it must be mentioned that when analyzing posts that are business-related and also sign responsibility in the text, the CSR relation is obscure and also dependent on the tone of the text in the post. Thus, the posts may include facts about the services and products, but they must be placed in the context of CSR philanthropy. Likes, comments, and shares are calculated from the CSR related posts. The goal is to create an understanding of how the CSR engagement is communicated to the public and stakeholders. The research aims to answer the subquestions 4: *How to develop CSR strategy forward with stakeholders in the IT field?*

Table 10 visualizes the amounts of CSR related posts of each sample company. It can be stated that there are significant differences in the amounts of CSR related posts between the companies. Indra presents the most CSR focused communication strategy by posting 87% of the content related to CSR as Wipro's posts include 10% CSR related information. The average percent of CSR related posts among the sample companies is 44%. The number of likes, shares, and comments are also varying which might be a cause of followers and social media strategy conducted during the years. However, the amount of comments represents only 2,6% of the overall engagements.

	Microsoft	IBM	Indra	Wipro	Walters Kluwer	SAP	
Facebook page	Microsoft Finland (2018)	IBM (2018)	Indra (2018)	Wipro Limited (2018)	Wolters Kluwer(2018)	SAP (2018)	Average
Followers	13 389 297	1 006 898	18 678	1 452 876	22 407	1 040 921	2 821 846
Posts	30	30	30	30	30	30	30
CSR Posts	7	17	26	3	17	9	13
CSR Posts %	23 %	57 %	87 %	10 %	57 %	30 %	44 %
Likes	473	3253	488	92	669	247	870
Comments	7	133	20	1	24	3	31
Shares	12	1320	148	9	137	37	277
Overall Engagement	492	4 706	656	102	830	287	1 179

Table 10: CSR Related Posts on Company Facebook Pages

The average amounts of interaction per posts are calculated in table 11. The average numbers are presenting the typical number of engagements a CSR related post could achieve on Facebook in the IT industry. However, the analysis has limitations, and more trustworthy results would require a more significant sample data. However, the companies are amongst the top 25 global IT companies, and this analysis gives somewhat an insight into the expectations of the Facebook post.

	Microsoft	IBM	Indra	Wipro	Walters Kluwer	SAP	Average
Likes	68	191	19	31	39	27	70
Comments	1	8	1	0	1	0	2
Shares	2	78	6	3	8	4	19
Overall Engagement	70	277	25	34	49	32	91

Table 11: Average Interactions in one Facebook Post

The common factor for all the Facebook posts is that they include a picture in the posts in the form of photo or video and link to an information source which can be in the external page or company's websites. Some posts include a call to action or statement that encourages to like the post or follow the link. Overall, the CSR relate posts are following the same standards as other Facebook posts. However, CSR related posts that are focusing on employees usually include a picture of the company's employees in real action or an event.

4. DISCUSSION

In this part of the research, the results are analyzed by reflecting them into the theory. The goal in this part is to answer the research question by relying on the theory and the empirical research results.

4.1. Outcomes of the Quantitative Research

Answering the sub-question 1: How the CSR engagement has developed in the IT field?

The research results in the quantitative part indicate that CSR is becoming increasingly important within the IT field. This goes in line with the scholars and raises the evidence for further research (Werther & Chandler, 2011). Within nine years, the amount of IT companies whose CSR activities are rated has increased by ten times. It can be stated that IT field is taking a more responsible approach to the global CSR related issues. The pressure to implement CSR comes somewhat from external sources. Business organizations are facing an increasing pressure to engage socially responsible activities voluntarily to be able to answer the numerous issues that are arising in today's society (Torugsa, O'Donohue & Hecker, 2013, 384).

Consumers, suppliers, employees, investors, partners, and other stakeholders want to collaborate with an organization that can be trusted, well managed and seeking solutions for common issues (Chandler, 2017, 23). Also, business organizations are expected to operate ecologically sustainable ways (Werther & Chandler, 2011, 20-21). Their external factors are a strong trigger for IT organization because the fundamentals of an organization's reputation is a good brand image among the stakeholders (Werther & Chandler, 2011, 22).

However, the research reveals that within nine years, the monthly CSR engagement scores seem to develop a relatively unstable way (figure 8). Also, even though the CSR engagement in the IT field has increased, the overall increase of the average scores is only 1,3 within eight years. Thus, it can be stated that the quality of the CSR engagement is not increasing over time even though more companies start to engage CSR.

One reason for this is found when testing the correlation between CSR development and the development of the global economy. It can be stated that CSR engagement in the global IT field is slightly dependent (0,4) on the development of the global GDP development. This goes in line with the theory that states that CSR represents 5% of the GDPs in Europe (Martinuzzi, Kudlak, Faber & Wiman, 2011). This gives an insight into the fact that as a global business field, the IT field needs to adjust in changes; ups and downs in the global business world. Even though, socially responsible organization is said to have better outcomes in profitability, market share and non-financial measures such as organizational commitment and effectiveness, customer satisfaction and system implementation success (Jin & Drozdenko, 2010, 356), it can be concluded that the CSR investments are adjusted into the economic context to reflect the situation of the global economy.

When analyzing the scores of different CSR dimensions, it can be stated that one of the dimensions, the community dimension, is improving in the IT field better than others (figure 11 & figure 12). When comparing the growth rates of the dimensions, the community seems to have the highest growth rate by scoring 2,7%, when environment and governance dimensions present growth close to 0% and employees dimension drops -4%. With the research, it can be stated that either the community has been the most important dimension for the IT companies and lot of investments have been made to develop the CSR activities within the community, or it has been easier to develop better outcomes in the community than in other dimensions. One cause for the increase in community scores could be that technology has this a unique position to give back to society compared to other industries (Morfit, 2014), which makes it contribute to the society alongside with the technological development.

Answering the subquestion 2: What is the emphasis different dimensions of CSR bring value for an IT company?

It is stated that the impact of CSR intensity on firm value is statistically and economically significant stating that CSR increases the firms' value (Jo & Harjoto, 2011, 351). However, based on the fixed effects regression test, it may be concluded that within the IT field, this proposition does not hold.

With the fixed effects panel regression test, it can be concluded that engaging into CSR cannot estimate the stock price development within the IT field. When testing the regression between the stock prices and each CSR dimension, the dimension-specific results achieved are not significant. With the result, it cannot be concluded which are the most valuable CSR dimensions for the stock price development and more broadly, the firm value.

This may be because the nature of the IT field is increasingly intangible (Morfit, 2014). Technology itself is an intangible asset because it is mostly based on intellectual property. Intangible resources are argued to be the main reason for the diverge between companies' book values and stock market valuations. (Grant & Jordan, 2015, 91-92) CSR and R&D both require intangible resources which are difficult to imitate and substitute (Padgett & Galan, 2010, 414-415). Thus, the IT organization has high intangible assets by nature, and it may be that other economic phenomena in the global context affect IT companies' stock prices more than CSR investments.

Furthermore, because the meaning of CSR will always be context specific and colored by the organization specific characteristics (Cramer, Jonker & van der Heijden, 2004, 218-220), it may be suggested that when aiming to increase economic results, such as stock price, CSR should be managed based on the individual characteristics of each IT company. Dimension or dimensions that bring the most value to the company must be found individually.

The test has its limitations. With 30 data samples and 5-year time frame, the results cannot be generalized into a broader context. However, the test gives an insight of the CSR's effects on the top CSR performers in the IT field which gives evidence for the further analysis.

4.2. Outcomes of the Qualitative Research

Answering the sub-question 3: What IT industry-specific characteristics of CSR can be recognized?

The thematic analysis within a sample organization's CSR reports gives an insight into the themes (table 9) that are valuable for an IT organization and should also be emphasized in the CSR management framework.

When analyzing the results, it can be stated that most of the CSR actions made are corporate philanthropy. Philanthropic actions must not benefit only the society but also the organization itself. (Carrol, 1991, 42) This refers to the concept of *shared value* (Porter & Kramer, 2011) which means that CSR should be seen as a concept creating economic value in a way that also creates value for the society (Porter & Kramer, 2011). When looking at figure 3, which visualizes the CSR hierarchy, it can be concluded that many of the CSR investments are also aiming to create better business results at the same time with CSR related investments (Carrol, 1991).

Notably, in the theme 1, the philanthropy is present. The *technology as a solution -* subtheme includes the idea that fundamentally the business is developing social wellbeing in the community, efficiency, create savings, environmentally friendly solutions and embraces the growth. This how, IT can contribute to the business innovation and wealth generation that affect business organizations, societies, and nations (Elliot & Binney, 2008).

In the theme 2, *investing into employees*, all sub-themes can be considered to represent philanthropy with regarding the benefits of the organization. Also, all companies state that employees are the most valuable asset for the organization. Companies are promoting diversity, creating career opportunities and promoting better health. They are trying to affect the employee positively, but also another reason is that the good treatment of employees may develop and maximize their potential for the organization (Ashridge Centre for Business and Society, 2005, 11-12.) Also, the sample companies state a caring organization attracts professionals and increase the employee engagement which is crucial for the business success.

In the theme 3, *the collaboration with stakeholders*, when involved in the CSR, the employees can use their potential for advocating, complying, participating and even leading the CSR engagement (Rupp, Williams, & Aguilera, 2011). All sample companies are involving both internal and external stakeholders into CSR actions to create engagement and also to develop the level of use of technology, skills of technology or innovations. Better engagement may have a positive association with employees' organizational identification, loyalty boosterism, interpersonal helping and personal industry behavior (Farooq, Rupp & Farooq, 2017, 980). Also, organizations having employees' volunteering programs are stated to be deriving by the sense of control mutuality because it gives employees feeling that their opinions and inputs are taken into consideration. This enhances the perceptions of control with the organization. (Dhanesh, 2014, 1-154)

Thus, in addition to the themes that are relevant for CSR in the IT industry, it can be stated that the industry is making philanthropic investments into CSR. However, there are also themes that can be set in between the economic and philanthropic stages in the CSR hierarchy pyramid (figure 3). The data protection is seen as a human right which represents the ethical responsibility in the pyramid (figure 3), but at the same time, legal responsibilities hold. It is not voluntary neither from the legal or ethical point of views to do business. Thus, investing in data protection is field specific and must do, before investing in the philanthropy.

Answering the sub-question 4: How to develop CSR strategy forward with stakeholders in the IT field?

The interests of stakeholders might go beyond the organizations' self-interest, which is why modern companies have become increasingly involved in interactive, collaborative and mutually engaged relationships with stakeholders to develop CSR strategy further. (Lim & Greenwood, 2017, 768, 774, 775) Especially marketing actions such as cause-related marketing and corporate social marketing require high stakeholder engagement (Abitbol & Lee, 2017, 797). Furthermore, stakeholder engagement as a communication strategy seems to be effective in achieving three CSR goals: business, employee and community goals from a managerial perspective. (Lim & Greenwood, 2017, 768) Thus, the sub-question four was investigated by analyzing the companies' CSR posts and amounts of interactions on Facebook.

In Facebook, the amount of CSR related posts is high. On average, 44% of the posts are related to the CSR issues which state a relatively good presence of the CSR communication in the social media. Even though the number of CSR posts is high, the sample companies on the IT field are facing difficulties to engage followers into an interactive conversation. The average of the comments per post is two which cannot be considered as an interactive communication that could provide an insight for the further CSR strategy development.

Also, the amount of post likes is relatively low. If the average number of followers 2 million, and one posts reach 70 likes on average, the engagement rate drops to near 0. The number of shares is eight times higher than the number of comments which states that people are not interested in sharing their point of views with the company itself but rather with their friends and followers. The interactions in the shared posts are not included in the research.

It seems that even though there is a growing need for business organizations to make CSR investments, there are multiple barriers that need to be conquered in communication. One challenge is globalization that disconnects organizations from places and makes the communication difficult (Mazutis & Slawinski, 2015, 148) Microsoft has tried to conquer this issue by creating local Facebook pages and engaging local communities with local language and local focus.

At the moment, most of the posts also link to the information source either on the company's websites or external websites. By analyzing the social media posts on Facebook. It can be concluded that all the Facebook posts have visual and text content that promote a CSR related activities or engagement. Also, new communication strategies could be implemented to create interactive discussion with stakeholders. By using social media more effectively, the IT organizations should meet three requirements: (1) the engagement of stakeholders, (2) recognition of the value of other and (3) empathy with stakeholders and stake seekers (Kent & Taylor, 2016, 64-65).

One emerging trend of CSR communication is setting up CSR dedicated social networking websites with the goal to share information about CSR initiatives (Abitbol & Lee, 2017, 797). This was excluded from the content research, and the focus was only on the main company Facebook pages. Usually, many followers of CSR dedicated Facebook pages are employees themselves and employee and workplace-related posts significantly increase the engagement in social media (Abitbol & Lee, 2017, 802). Also, it is suggested that to build ethical CSR relationship via social media; the communication should be moved away from advertising, marketing, and brand promotion and focus on the human aspect of communication. (Kent & Taylor, 2016, 66) Thus, it can be concluded that the social media posts should focus on employees to gain more interaction and avoid "greenwashing."

The research is giving somewhat biased results because the engagement of the IBM is manipulating the averages numbers of engagements. However, the research reflects the diversity of the social media strategy. IBM has fewer followers than Microsoft (Finland), Indra and SAP but scores the best in the post engagement. Thus, the success in creating engagement with the followers is significantly higher in IBM than in other organizations.

5. CREATING A CSR FRAMEWORK FOR IT INDUSTRY

In this part of the research, the results are discussed more carefully to develop the final framework for the strategical CSR management in the IT field. In the second part, the framework is drawn and explained more carefully.

5.1. Discussion of the Results

Social Dimension

With the data description and the framework of the triple bottom line of CSR (Benn & Bolton, 2011, ix) it can be stated that both successful investments and unsuccessful investments in the social dimension have been made.

Employees

In social dimension the CSR has focus on workplace and the community and aims to affect internal and external environments by promoting responsible actions (European Commission, 2003, 5). Because the score of the employee engagement has dropped (-4%) even though overall CSR score has grown (2,4%), it can be concluded that despite the investments into CSR have increased and better quality in CSR actions is achieved yet still, this has not reflected into the employee dimension. However, the community dimension scores the highest (2,7%) which means almost all successful investments are made in the community dimension. Nonetheless, the successful CSR should also be achieved within the employee dimension.

The thematic analysis revealed that employees are seen as one of the primary assets for the IT organization. This goes in line with the scholars stating that major asset for today's organization are the employees (Salb, Friedman & Friedman, 2011, 3). Thus, based on the research results, the IT organizations are facing a dilemma. The internal CSR investments into employees seem to be the most important dimension for success, but at the same time, the CSR scores of the employee dimension are decreasing compared to the community dimension. The question is, how to find fit between the CSR and employees?

One chance to find a better fit with employees and CSR is to evaluate the employee profile. It is stated that different kind of CSR affects a different type of employees' satisfaction in the workplace. Employees with high cosmopolitan orientation build the identification through external CSR via prestige value external CSR investments. Employees that have strong local orientation need internal CSR to gain respect. (Farooq, Rupp & Farooq, 2017, 977, 979) By this, it can be assumed that the employees within the IT companies are representing employees that value individualism over collectivism. This would require a stronger focus on CSR inside the organization. This preliminary statement would require more investigation.

Hence, to enhance employee satisfaction, it needs to be understood what it requires to be a learning organization that can transform itself (Salb, Friedman & Friedman, 2011, 2, 4). Even though the employees are involved in the CSR actions for example, through volunteering programs and educated by the CSR codes of conducts it needs to be ensured that the organization remains organic. Especially among IT professionals, the organic organization is stated to have less conflict in the value orientations where the social values and democratic norms are high (Jin & Drozdenko, 2010, 354). At the moment, based on the results of the thematic analysis, the CSR programs are involving the employees to do good, not letting employees create, reshape and fundamentally affect the CSR strategy. Thus, efforts should be put more on letting employees manage the CSR strategy, not only by involving and engaging them.

The IT organization should focus on the core values that promote power-sharing, open information sharing, demographic ideology, socially responsibility and ethics that are stated to strengthen the CSR engagement. (Jin & Drozdenko, 2010, 356). Figure 4 visualizes the interaction between the core values among organization and IT professionals. It can be concluded that CSR can be strengthened by enhancing the interaction between the core values of organization and employees' ethical values and attitudes towards CSR and voluntary services. (Jin & Drozdenko, 2010, 345)

Another way to succeed might be increasing the employee engagement with communication. CSR needs to be in the hearts of the people of the organization. Only this how, CSR gets a company-specific meaning and engages with its emotional, functional and practical values. (Cramer, Jonker & van der Heijden, 2004, 215, 218) Thus, the CSR education programs are suggested to be continued. Also, operating in multiple countries is challenging because to succeed, an organization needs to face the needs and preferences of the local community (Werther & Chandler, 2011, 209). Also, this could be considered more carefully.

Based on this, the core values of the organization should be one of the fundamentals in the CSR framework. The core values should be in line with the focus on internal CSR actions. Also, the local preferences should be considered. This could make it possible to find ways to engage employees with a better fit to achieve also better CSR ratings. Furthermore, to succeed, the governance strategy needs to promote the self-managing methods and organic structure in the organization.

Community

Through the mixed methods research, it can be concluded that the community seems to have positive CSR score development but also, that not very much strategical efforts are made to gain better community scores. The community score is based more on the philanthropy that also promotes the business itself. This is because technology is seen to create good outcomes for the society. Additional philanthropic investments into the community are being made by involving stakeholders. Thus, it is better the consider community as corporate philanthropy that follows the principles of Porter and Kramer (2011) concept shared value: The company should focus on making CSR that also benefits the business.

A key feature in social media is that it is relational and involves real-time feedback. (Kent & Taylor, 2016, 62-63) Thus, an important factor is the CSR communication that should be one element in the CSR management framework. The IT companies present relatively high social media presence in CSR related posts (44%) but low interaction in commenting (average two comments). Thus, there is evidence that the authenticity of the communication is misguided at the moment (Mazutis & Slawinski, 2015, 144).

Since it was concluded that IT company's own business is close to the CSR strategy, there may be a danger that the also the CSR related posts in Facebook seem more marketing than philanthropy. The themes of the CSR related posts were not analyzed, but the thematic analysis arouses evidence for this outcome stating that business-focus is high in the CSR related themes. Thus, the CSR might be misguided (Mazutis & Slawinski, 2015).

Misguided CSR means that an organization has a strong value focus and tie the CSR into these values but are lacking the stakeholder engagement. In the figure 5, the stakeholder perceptions of the authenticity of CSR efforts are visualized. Authentic perception requires the CSR efforts must be distinctive and socially connected. Thus, the CSR needs to be aligned better with the core mission, vision, and values and embedded in the social context. Through this, it is possible to engage stakeholders. (Mazutis & Slawinski, 2015, 143-144, 146)

Economic Dimension

At first, a business must be economically responsible and produce acceptable returns for the shareholders and investors (Carrol, 1991, 42). Otherwise, it cannot exist. Also, the economic dimension covers the actions that focus on the issues that might arise in interaction with customers, stakeholders and suppliers including, for example, customer satisfaction, product quality, safety and supply chain management (European Commission, 2003, 11). Thus, the economic dimensions focusing on the core business and tries to balance CSR with the economic limitation.

The quantitative research concluded that the global economy is affecting the CSR engagement of the IT sector. The scores were correlating slightly (0,4) with the global GDP. Relating to this CSR might help in balancing with the global economy. With the fixed effects regression, it is concluded that CSR engagement cannot estimate stock prices in the IT field. However, it is stated that socially responsible organization tends to have better outcomes in profitability, market share and non-financial measures such as organizational commitment and effectiveness, customer satisfaction and system implementation success (Jin & Drozdenko, 2010, 356). Engage internal and external CSR actions is stated to face better performance (Hawn & Ioannou, 2016, 2584)

Also, the thematic analysis revealed that the economic dimension is valuable for an IT organization. Again, the CSR is philanthropy benefits also the business. When thinking the hardware side of the IT, it is stated that CSR contributes to cost savings and risk management because it optimizes the resources. Less wasteful resources save money (Rönnegard, 2013). In the software side, investments into CSR are claimed to stimulate the development of intangible assets which affect positively into the financial results. (Surroca, Tribo & Waddock, 2010, 482-483)

Communication is said to play a role in the economic dimension. Highest returns are generated when the processes and procedures are integrating CSR and communicate these actions effectively to the key capital market participants. (Hawn & Ioannou, 2016, 2584) For example, making the CSR report credible may affect positively. A credible report needs to be understandable, true, sincere, appropriate and standardized. (Lock & Seele, 2016, 186-187, 194)

Also, when investing into the new technologies, the goal of the IT companies is to benefit both the business of the company and at the same time society. Especially when following differentiation strategies by making investments into R&D and CSR, the investments into R&D may allow an organization to manage costs more efficiently and help in considering if the CSR activities are necessary to meet stakeholder expectations. (Padgett & Galan, 2010, 416)

Environmental Dimension

In the thematic analysis, it was concluded that technology is playing a significant role consistently in their CSR engagement strategy. The companies are relying on the technology in their CSR strategy and explain the benefits that their core business is offering for the environment. This goes in line with the theory. It is stated that IT has contributed to the business innovation and wealth generation significantly. These contributions affect business organizations, societies, and nations and enhance sustainability. (Elliot & Binney, 2008)

During the last decades, the IT as a sustainable service have emerged. (Hilty, Lohmann & Huang, 2011, 16-17) This can be seen in the figures 11 and 12: the environmental dimension has improved from 2013 to 2016. However, after 2016, the dimension drops. In the thematic analysis, it was stated that the solutions that companies are providing are stated to create efficiency, savings, and growth.

Furthermore, the companies are raising up that they are the providers that allow customers to acquire the latest technology into usage. For example, *Green in IT* has become a hype in the hardware side of the IT. Green IT stands for closing the material loops by recycling electronic waste and the reduction of CO_2 emissions caused by power generation. (Hilty, Lohmann & Huang, 2011, 17-19)

Also, in the thematic analysis, it was revealed that the supply chain has been a major responsibility issue within the IT industry. The themes that stay consistent in the discussion about the supply chain are transparency, protection of human rights and code of conduct. In practice, this may mean driving sustainable standards through the supply chain by working with the suppliers to implement acceptable social and environmental performance across the supply chain. Also, ensuring fair pricing, promoting fair trade and promoting social and economic inclusion are considered as CSR engagement in supply chain activities. (Ashridge Centre for Business and Society, 2005, 16-17)

5.2. Framework for Strategical Management of CSR in the IT field

With the analysis of the mixed method research results strengthened by applicable theory, a framework for strategical management in the IT field is developed. This framework is also an outcome of the main research question: *How CSR could be managed strategically in the global IT field?* The full framework that is developed based on the research is available in figure 13. The basis of the framework is the core values of the company. The company is surrounded by thee CSR dimensions: social, economic and environmental. The social dimension includes two main stakeholder groups: because employees are concluded to have different meanings for an IT organization, they are visualized separately. Also, the data protection is presented to be one of the key legal aspects of companies in the IT field need to conduct. The sourcing is excluded from the model, because it is seen more as a hardware side issue that needs to be solved otherwise.

The CSR dimensions' sizes reflect the importance of the dimension. Thus, the employee dimension is marked as the biggest. However, because the economic dimensions are connected to the fundamental existence of the company (Carrol, 1991), it is drawn partly inside the company limits. Other dimensions can be considered as philanthropy to which business is also connected. The framework takes place in the global business world where the global economy affects the CSR engagement and vice versa. This was concluded with a correlation test in including global GDP development and CSR scores over eight years' time window.

Inside the global perspective is the local perspective. These perspectives are not excluding each other, but rather local perspective is part of the global dimension each other. Thus, the local perspective locates inside the global perspective. Also, the communication perspective is included in the framework since the communication is seen valuable for IT organization in the CSR strategy development (Hawn & Ioannou, 2016). The communication is affecting both local and global stakeholders, and it needs to be engaging (Lim & Greenwood, 2017), authentic (Mazutis & Slawinski 2015) and includes credible CSR reporting (Lock & Seele, 2016)
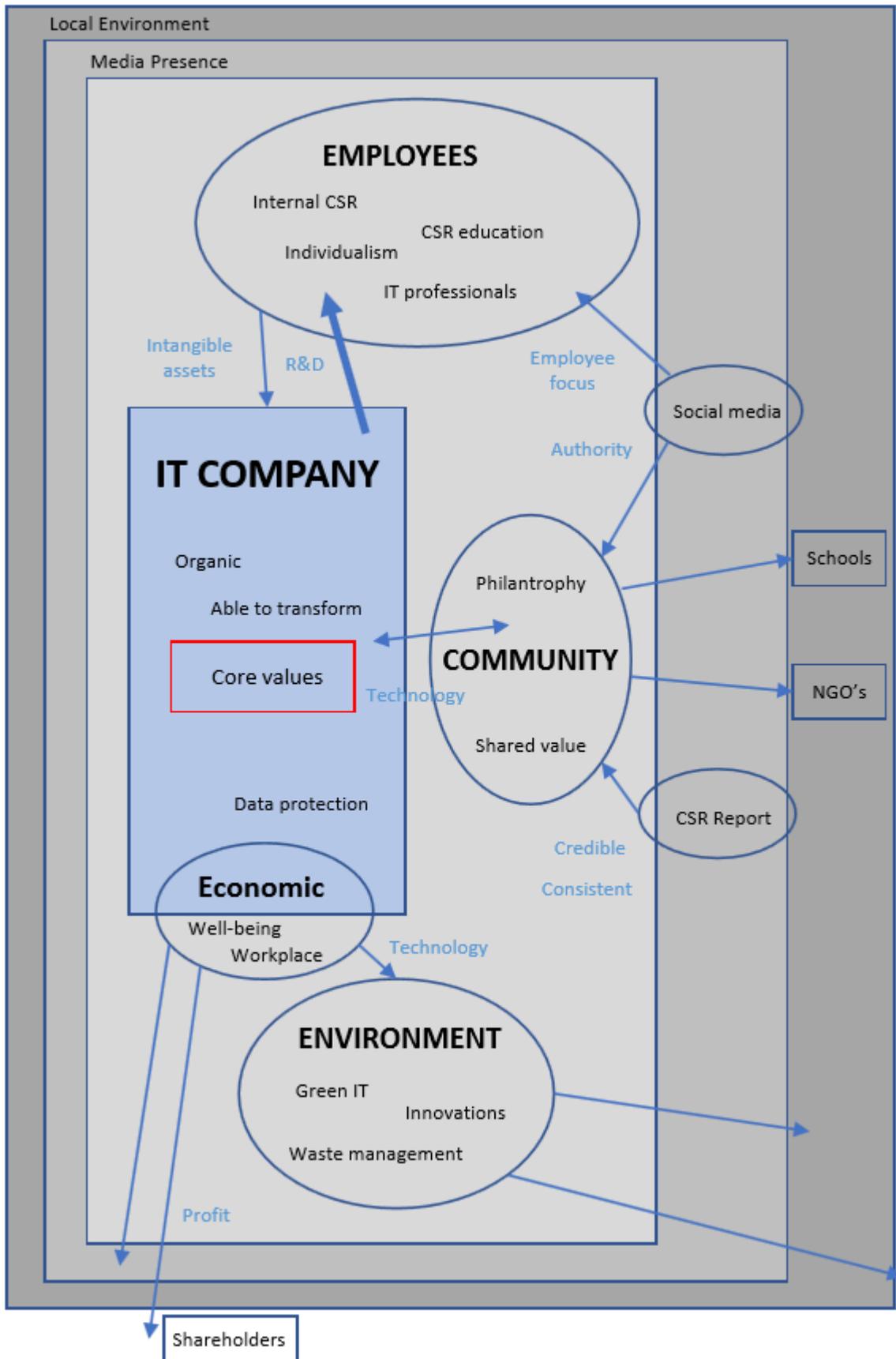
Figure 13: CSR Management Framework for IT Organizations

Through the thematic research conducted, it can be stated that *employees* are the key dimension in the CSR strategy. To achieve employee engagement, the IT organization must be organic (Jin & Drozdenko, 2010) and able to transform together with the IT professional employees (Salb, Friedman & Friedman, 2011). The employees are a major asset for the IT organization since they are one the key intangible assets and innovate new technology that creates a competitive advantage for the IT company.

There is a strong interaction between IT professionals and company's values (Jin & Drozdenko, 2010, 345) and to create effective CSR as well as other business outcomes, this connection needs to be evaluated and heard continuously. To gain employee satisfaction and successful CSR within employees, the focus should be on internal CSR (Farooq, Rupp & Farooq, 2017). Thus, CSR communication should focus on employees themselves to create interaction. The interaction is essential because this how, the IT organization can develop the CSR further with the employees (Lim & Greenwood, 2017). This makes the CSR more fit for employees.

Within the community dimension, the CSR is mostly done with philanthropy by focusing simultaneously on the business benefits of technological development. Effective CSR actions could be made in the local community or the global community by for example involving schools, NGO's or developing countries to develop new technology, learn about technology or innovate together with the company about subjects that also benefit the IT organization. To find a better fit with the CSR actions and to gain a better reputation within the community, the CSR should be communicated actively and in an authentic way (Mazutis & Slawinski, 2015). Marketing and greenwashing should be avoided (Abitbol & Lee, 2017).

The best way is to create interactive communication through media with the stakeholders (Lim & Greenwood, 2017; Salb, Friedman & Friedman, 2011). In this, social media is an excellent platform (Kent & Taylor, 2016), but according to the social media analysis, communication needs to be developed. Communication needs investments and special CSR strategies so that it can engage stakeholders into the interactive discussion. Also, the CSR report of the company should be credible and consistent over time to benefit the organization so that the stakeholders can evaluate the company's CSR outcomes throughout (Lock & Seele, 2016.

The economic dimension is fundamentally important for an IT organization because, without business action, the organization cannot exist (Carrol, 1991; Porter & Kramer, 2011). The IT company is always responsible for the shareholders and aims to generate profits to stay on the market without agency problems (Benn & Bolton, 2011). The economic dimension is fundamentally creating well-being to the communities in forms of workplaces and economic stability (Nik Ramli Nik Abdul Rashid, Nor Irwani Abdul Rahman & Shaiful Annuar Khalid, 2014; Porter & Kramer, 2011).

Also, based on the thematic analysis it can be stated that economic dimension drives IT company to innovate to stay on the game within the markets. From innovations, also environmental and social outcomes are created. For example, green IT solutions can be created, and new disruptive technologies can be spread to the lives of people around the world (Grant & Jordan, 2015; Chaffey, 2015, 12). Thus, with the thematic analysis it can be concluded that also in the environmental dimension, the outcomes are mostly based on the technological development both in global and local level.

The framework seems complicated which is why a simpler framework is concluded based on the full model. The simple model for CSR management in the IT field is visualized in the figure 14. In this framework, the focus is on the employee dimension's management and communication. Other dimensions: environment, community, and economic dimension, are concluded to be engaged and developed further together with business actions and philanthropy. Thus, the IT company should focus especially on employees and in creating communication about CSR philanthropy with its stakeholders both internally and externally. This is because the employees are the organizational asset that can develop also the business. Also, with engaging communication, the CSR can be developed towards more fit in all dimensions.
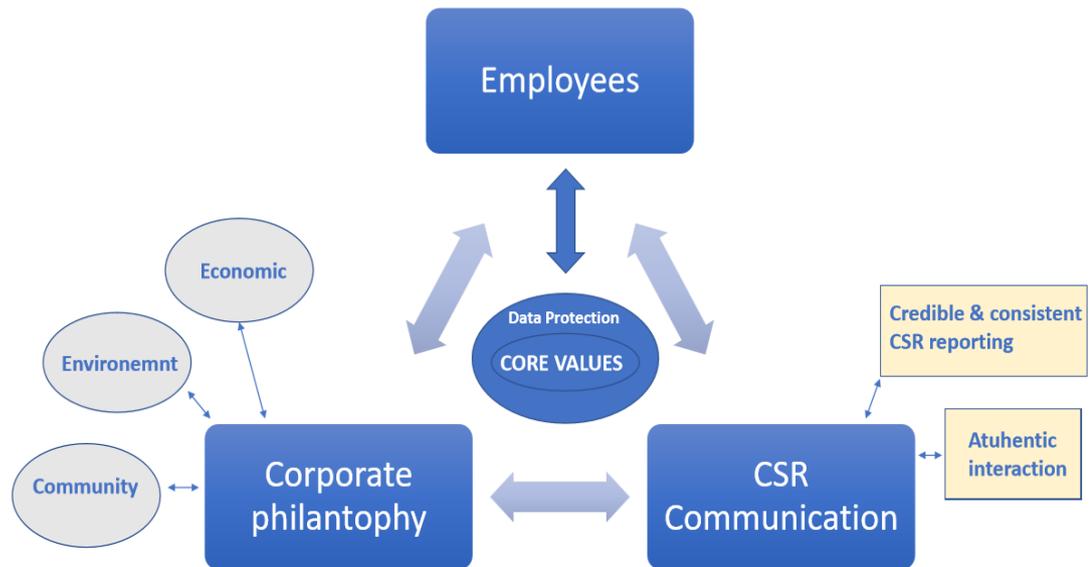
Figure 14: CSR Management Model for IT Organizations

6. CONCLUSIONS

In this part, the research is summarized. The main outcomes are concluded, and key findings are introduced. Also, the relevancy of the research is analyzed. Finally, the implications of the research for academic discussion are defined, and suggestions for further research are given.

6.1. Summary of the Research and Key Findings

The goal of the research is to create deeper understanding of CSR as a management strategy within the IT field. It is no longer voluntary to act responsible in the global business world, and CSR is increasingly relevant today (Werther & Chandler, 2011). The literature review within scholars reveals that there is a research window about CSR in the IT industry. Also, Tewari (2010) states that IT field is advanced in the CSR adoption compared to traditional industries which raise up interest for the further research within the IT field. A new contribution to existing CSR discussion within scholars requires a focused few to the concept of CSR, understanding the field characteristics and IT field's role as a global trailblazer. The existing discussion about the CSR is used as the basis of the discussion and as the context where the research takes place.

The goal of the research is to develop a scientific framework for the strategic management of CSR within the IT field. The main research question is as following: How CSR could be managed strategically in the global IT field? With the analyses, the complete view of the CSR and IT field's relationship is developed. To guide the research, the sub research questions are created: *(1) How the CSR engagement has developed in the IT field? (2) What is the emphasis different dimensions of CSR bring value for an IT company? (3) What IT industry-specific characteristics of CSR can be recognized? (4) How to develop CSR strategy forward with stakeholders in the IT field?* The research is done with mixed methods, which means that both qualitative and quantitative methods are used in the empirical part of the research.

In the qualitative part of the research, the focus is on sub questions 1 and 2. At first, the original research data from CSR Hub is analyzed. With the analysis, it can be stated that CSR is becoming increasingly important within the IT field and it can be stated that IT field is taking a more responsible approach to the global CSR related issues. However, the quality of the CSR engagement is not increasing over time even though more companies start to engage CSR. With a correlation test it can be stated that CSR engagement in the global IT field is slightly dependent (0,4) on the development of the global GDP development.

When comparing the growth rates of the four dimensions which hare *employees*, *community*, *environment,* and *governance*, the community seems to have the highest growth rate scoring 2,7%, when environment and governance dimensions present growth close to 0% and employees dimension drops -4%. With the research, it can be stated that the community has been the most important dimension for the IT companies and a lot of investments have been made to develop the CSR activities within the community, or it has been easier to develop better outcomes in the community than in other dimensions.

With the *fixed effects panel regression test* conducted, it cannot be concluded that engaging into one CSR dimension statistically significant for the stock price development. It is concluded that CSR should be emphasized context specifically.

In the qualitative part of the research, the focus is on sub questions 3 and 4. The same sample companies are used in the analysis, and the research is done by using thematic research method. Themes that arouse from the research are: (1) the presence of technology, (2) investing in employees and (3) involving stakeholders. It can be stated that most of the CSR actions made are corporate philanthropy. Philanthropic actions must not benefit only the organization but also the society. (Carrol, 1991, 42) This refers to the concept of *shared value* (Porter & Kramer, 2011) which means that CSR should be seen as a concept creating economic value in a way that also creates value for the society (Porter & Kramer, 2011). All companies state that employees are the most valuable asset for the organization. Also, legal responsibility includes the data protection.

With a content analysis in Facebook, the amount of CSR related posts is high. On average, 44% of the posts are related to the CSR issues which state a relatively good presence of the CSR communication in the social media. Even though the number of CSR posts is high, the sample companies on the IT field are facing difficulties to engage followers into an interactive conversation. The average of the comments per pos is two which cannot be considered as an interactive communication that could provide an insight for the further CSR strategy development.

After the empirical research, the framework of the IT industry-specific management strategy is developed. The results of the research are discussed and reflected on the theory. It is concluded that an IT company should be surrounded by thee CSR dimensions: social, economic and environmental. Data protection is presented to be one of the key legal aspects of companies within the IT field need to conduct. Based on the fixed effects research results, all the CSR dimensions should be implemented in the management strategy framework.

Through the thematic research conducted, it can be stated that *employees* are the key dimension in the CSR strategy. There is a strong interaction between IT professionals and company's values (Jin & Drozdenko, 2010, 345) and to create effective CSR as well as other business outcomes, this connection needs to be evaluated and heard continuously. In this, the interaction is important because this how, the IT organization can develop the CSR further with the employees (Lim & Greenwood, 2017). However, it must be bored in mind that CSR should be engaged company context specifically so that it fits for the organization.

Within the *community* dimension, the CSR is mostly done with philanthropy by focusing simultaneously on the business benefits of technological development. Based on the thematic analysis it can be stated that *economic* dimension drives IT company to innovate to stay on the game within the markets. The economic dimension is fundamentally important for an IT organization because, without business action, the organization cannot exist (Carrol, 1991; Porter & Kramer, 2011).

The *communication* perspective is seen important since the communication is valuable for an IT organization in the CSR strategy development (Hawn & Ioannou, 2016). The communication is affecting both local and global stakeholders and it needs to be engaging (Lim & Greenwood, 2017), authentic (Mazutis & Slawinski 2015) and include credible CSR reporting (Lock & Seele, 2016) The best way is to create interactive communication through media with the stakeholders (Lim & Greenwood, 2017; Salb, Friedman & Friedman, 2011).

Finally, a simple model for the CSR Management in IT field is concluded. In the framework, the focus is on the *employee* dimension's management and *communication*. Other dimensions: *environment*, *community,* and *economic* dimension, are concluded to be engaged and developed further together with business actions and philanthropy. Thus, the IT company should focus especially on employees and in creating communication about CSR philanthropy with its stakeholders both internally and externally. This is because the employees are the organizational asset that can also develop the business. Also, with engaging communication, the CSR can be developed towards more fit in all dimensions.

6.2. Limitations, Implications to Scholars and Suggestions for Further Research

The research has limitations related to the empirical research. Because the research was conducted by using certain amount of sample companies in the research, the results indicate a relatively limited picture of the IT field. However, the companies that were chosen as sample companies are within top global performers in the IT field and have been engaging CSR as a complete strategical section at least over nine years. This makes the companies worth analyzing: what are they making right and what still needs to be developed.

Also, the outcome of the research, the CSR management model for IT organizations is concluded based on relatively small analysis within the IT field. The model is providing an insight into the CSR within an IT field but is not suggested to be used in the business context as such in practice or without further testing, questioning and deeper reflection to the scholars. However, the model can give an insight to the CSR and understanding what the emphasis in the CSR strategy could have within the IT field.

The research takes part into the scholarly discussion in a relatively specific research context: CSR in the IT field. The research window of the CSR in the IT field was recognized, and research aims to fill this gap as an early stage discussion opener. More specifically, the research is aiming to fill the gap within the framework of CSR in an industry-specific environment of IT as a management tool. CSR in the IT field requires further research because the importance of the technology industry on a global scale is growing continuously (Grant & Jordan, 2015).

Also, since company values' connection to employee engagement is seen important factor in employee dimension's success, but the scores of the employee dimension are stating a decrease between 2016 and 2017. Thus, it is under an interest what new CSR activities could be practiced increasing the employee CSR score? Furthermore, a deeper social media content analysis could be conducted to give an insight into how to increase the engagement into the CSR specific communication.

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APPENDICES

Appendix 1: Correlation Test Data: Global GDP averages and CSR Scores

			Jan 2009	Jan 2010	Jan 2011	Jan 2012	Jan 2013
CSR Scores Average	CSR Scores	CSR Scores	49,847332	51,414114	54,976145	51,674297	48,835719
GDPR growth	GDP	GDP	-2,929	3,058	1,973	1,287	1,393

Correlation test

GDP	CSR
0,568	49,83
-2,929	55,320914
3,058	63,209175
1,973	59,67202
1,287	56,524047
1,393	61,188515
1,637	49,478344
1,651	59,754421
1,313	59,870439
1,971	60,125323

	GDP	CSR
GDP	1	
CSR	0,40	1

Appendix 2: Fixed Effects Sample Data (CSR Hub, 2018)

Companies with best CSR overall scores in 2017						
All CSR values availabe						
CSR values year averages						
All stock values available in the public stock market						
Stock values year's last price and closing price						
Assuming that CSR Overall Score is fixed score						
CSR Scores from CSR Hub (2018)						
1						
Microsoft	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013	37,41	62,23	60,83	77,89	71,03	58,36
2014	46,45	64,49	61,97	74,75	70,67	60,03
2015	55,48	65,39	64,39	69,83	69,64	60,50
2016	62,14	66,63	66,81	71,36	70,11	62,58
2017	85,54	68,29	67,58	73,00	70,42	63,58
Reference: Nasdaq (2018a)						
2						
SAP AG	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013	87,14	62,62	66,42	59,61	66,94	58,44
2014	70,40	65,84	68,19	65,61	70,33	59,89
2015	80,15	67,67	71,17	67,75	73,39	58,92

2016	86,43	66,84	69,94	64,53	74,44	59,61
2017	112,36	67,18	68,50	67,42	73,50	60,25
Reference: Nasdaq (2018b)						
3						
Wipro	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013	6,33	65,31	72,39	61,83	71,50	57,31
2014	5,67	66,82	67,61	67,36	74,08	58,81
2015	5,77	67,79	69,86	72,03	74,19	55,25
2016	4,84	66,06	65,08	70,17	69,97	58,58
2017	5,47	66,77	65,42	72,17	68,50	60,17
Reference: Nasdaq (2018c)						
4						
Wolters Kluwer	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013	24,50	59,88	55,86	51,36	67,44	66,19
2014	24,50	62,28	59,25	59,00	69,28	62,44
2015	31,04	63,60	60,97	65,28	67,19	60,67
2016	34,13	65,28	64,06	67,92	65,42	63,28
2017	43,27	64,77	63,50	67,50	64,42	63,08
Reference: Nasdaq (2018d)						
5						
IBM	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance

2013	187,57	61,75	59,44	63,11	68,81	55,69
2014	160,44	61,92	58,33	66,03	68,28	54,31
2015	137,62	61,90	61,75	63,81	67,72	54,53
2016	165,99	62,50	64,33	60,36	70,33	55,97
2017	153,42	63,44	65,25	62,92	70,17	56,33
Reference: Nasdaq (2018e)						
6						
Indra Sistemas SA	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013	15,25	61,28	63,06	54,33	70,83	58,61
2014	10,20	65,50	65,64	64,11	72,36	60,47
2015	9,92	66,49	67,69	67,81	71,11	59,67
2016	10,20	68,99	67,25	70,61	73,17	64,56
2017	14,60	65,19	59,33	67,92	68,75	64,00
Reference: Nasdaq (2018f)						
7						
EMC Corporation	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013	20,41	59,55	61,22	59,78	61,25	56,14
2014	23,64	62,71	61,86	66,36	65,08	57,08
2015	25,30	64,37	63,81	68,33	68,36	56,67
2016	30,01	65,27	63,47	67,81	72,11	57,36
2017	28,69	65,44	61,75	68,42	73,08	58,42
Reference: Nasdaq (2018g)						

	8					
	TIETO Oyj	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
	2013	16,44	61,84	66,33	52,75	72,64	58,31
	2014	21,57	66,41	66,19	62,69	74,58	63,08
	2015	24,72	67,63	67,81	66,75	74,94	61,47
	2016	26,01	66,33	62,72	68,08	71,42	62,64
	2017	25,98	65,12	60,67	68,00	67,17	64,17
	Reference: Nasdaq (2018h)						
	9					
	Adobe Systems	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
	2013	59,88	56,68	57,11	54,11	63,14	53,64
	2014	72,70	59,47	56,97	63,14	60,94	56,19
	2015	93,94	58,75	57,03	65,94	56,75	53,75
	2016	102,95	60,51	60,44	65,94	60,47	54,39
	2017	175,24	62,51	63,08	68,00	63,08	55,25
	Reference: Nasdaq (2018i)						
	10					
	Infosys Technologies	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
	2013	7,08	61,95	65,06	58,92	61,36	63,19
	2014	7,87	61,01	63,56	60,50	58,97	61,39
	2015	8,38	63,18	65,75	61,83	62,86	62,50

2016	7,41	64,87	66,00	63,31	65,89	64,36
2017	8,11	65,28	64,83	67,00	63,92	65,08
Reference: Nasdaq (2018j)						
11						
Google Inc	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013	556,73	55,70	60,81	54,64	64,94	43,97
2014	526,40	57,66	58,42	61,39	63,25	47,78
2015	758,88	58,02	58,72	63,42	59,67	49,53
2016	771,82	59,61	60,25	62,72	64,00	51,08
2017	1 046,40	61,37	63,58	63,58	67,17	51,17
Reference: Nasdaq (2018k)						
12						
Oracle Inc	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013	38,26	55,18	60,61	53,19	60,03	47,89
2014	44,97	58,29	60,61	62,94	60,33	48,58
2015	36,53	60,17	61,81	64,83	62,69	50,94
2016	38,45	61,29	61,22	65,28	66,39	51,75
2017	47,28	62,46	62,42	67,83	66,83	52,25
Reference: Nasdaq (2018l)						
13						
Fidessa Group	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance

2013						
	33,60	63,74	58,17	61,00	66,61	69,44
2014						
	37,95	65,67	59,58	63,75	70,56	68,56
2015						
	37,95	63,23	59,31	58,03	69,83	66,67
2016						
	34,55	62,43	58,78	59,19	68,61	63,86
2017						
	32,75	62,42	58,33	58,50	67,83	66,00
Reference: Nasdaq (2018m)						
14						
Symantec	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013						
	23,58	62,00	68,42	54,33	66,83	60,39
2014						
	25,66	64,72	67,94	62,11	68,39	61,56
2015						
	21,00	64,48	68,22	65,31	64,72	60,17
2016						
	23,89	63,26	65,64	62,25	66,75	58,81
2017						
	28,06	63,89	64,58	64,25	67,00	60,17
Reference: Nasdaq (2018n)						
15						
Autodesk Inc	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013						
	50,32	58,09	56,97	54,61	65,94	55,50
2014						
	60,06	61,90	60,86	62,25	66,64	58,14
2015						
	60,93	65,54	66,17	68,44	64,50	62,58
2016						
	74,01	65,05	65,86	68,53	64,22	60,69
2017						
	104,83	62,95	65,42	67,58	63,17	55,25
Reference: Nasdaq (2018o)						

16						
Dassault Systemes	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013	62,15	58,73	59,50	58,53	62,19	55,06
2014	61,00	61,02	61,58	66,22	63,97	51,78
2015	80,15	62,89	63,11	69,61	66,47	51,69
2016	76,40	63,51	61,44	69,22	68,69	53,97
2017	106,04	62,51	59,50	68,33	68,00	53,50
Reference: Nasdaq (2018p)						
17						
Gemalto NV	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013	111,95	55,83	55,03	50,11	63,83	55,50
2014	81,68	61,40	57,31	61,36	68,86	57,94
2015	59,09	63,04	58,72	63,64	69,86	60,06
2016	56,82	63,76	60,28	63,17	70,44	61,58
2017	59,95	62,73	58,17	62,42	69,42	61,25
Reference: Nasdaq (2018q)						
18						
Intuit Inc	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013	76,32	52,50	55,94	47,00	56,92	51,72
2014	92,19	56,77	57,50	57,11	57,78	55,03
2015	96,50	57,75	57,31	60,64	57,69	54,86

	2016					
		114,61	58,77	59,03	61,72	59,03	54,97
	2017					
		157,78	61,72	63,08	65,17	59,75	58,00
	Reference: Nasdaq (2018r)					
	19					
	Amadeus IT	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
	2013					
		42,75	53,89	58,47	47,56	57,33	54,19
	2014					
		39,55	58,98	62,00	59,14	60,06	54,89
	2015					
		44,18	60,95	62,39	63,78	62,75	54,81
	2016					
		45,73	61,67	61,78	60,94	68,50	55,89
	2017					
		72,33	61,64	59,92	62,17	68,33	56,92
	Reference: Nasdaq (2018s)					
	20					
	CGI Group Inc	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
	2013					
		33,46	58,43	66,78	49,72	65,42	53,89
	2014					
		38,16	58,06	64,97	54,44	64,92	49,39
	2015	40.03					
			58,88	64,92	60,00	61,86	49,14
	2016					
		48,03	58,12	64,25	59,92	60,97	47,61
	2017					
		54,33	60,00	64,25	62,08	63,42	51,08
	Reference: Nasdaq (2018t)					
	21					
	Salesforce Inc	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance

	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013	55,19	50,67	57,06	45,89	54,47	46,58
2014	59,31	54,90	59,19	54,33	57,11	49,36
2015	78,40	56,28	62,64	57,50	56,83	48,61
2016	68,46	57,35	64,00	57,61	58,64	49,83
2017	102,23	58,00	65,08	59,00	58,08	50,25
Reference: Nasdaq (2018u)						
22						
Virtusa Corporation	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013	38,09	47,35	41,14	46,06	51,97	50,17
2014	41,67	55,08	59,17	52,22	56,72	53,00
2015	41,34	56,54	62,56	56,39	56,92	50,75
2016	25,12	54,49	59,64	51,75	60,97	46,72
2017	44,08	56,79	60,00	55,08	61,58	51,58
Reference: Nasdaq (2018v)						
23						
Sage Group Plc	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013	6,30	52,58	55,64	44,58	57,14	54,64
2014	6,90	55,94	58,22	53,03	56,83	56,44
2015	6,86	57,60	59,72	57,44	56,06	57,22
2016	8,20	56,51	57,11	54,97	57,39	56,64
2017	10,55	57,18	55,42	57,00	59,92	56,50
Reference: Nasdaq (2018x)						

24						
Bodycote Plc	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013	7,52	50,56	55,94	43,56	48,97	53,11
2014	9,75	51,51	57,56	47,39	48,86	55,50
2015	7,68	55,13	56,53	50,61	60,25	55,36
2016	7,92	56,30	55,94	53,11	62,47	53,22
2017	12,15	55,76	55,42	55,50	58,92	54,25
Reference: Nasdaq (2018y)						
25						
Ansaldo STS Spa	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013	10,90	48,14	54,36	44,39	50,50	44,44
2014	10,57	57,13	58,00	59,78	55,14	55,31
2015	10,86	62,42	64,53	68,14	59,11	57,19
2016	11,25	62,86	60,69	65,67	65,94	58,56
2017	13,00	60,08	57,67	66,83	60,08	53,75
Reference: Nasdaq (2018z)						
26						
NTT Data Corp	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013	7,40	54,94	61,67	56,28	58,72	43,67
2014	7,56	58,70	62,75	66,50	58,75	45,86
2015	9,79	58,77	63,72	70,14	55,61	44,17

2016						
	9,76	59,29	60,61	70,06	57,83	47,06
2017						
	11,83	59,69	59,92	70,67	59,00	47,75
Reference: Nasdaq (2018aa)						
27						
Sdl Plc	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013						
	5,17	63,28	59,08	64,44	60,25	68,53
2014						
	6,02	64,92	59,81	67,67	65,86	65,50
2015						
	6,35	63,94	62,22	61,17	67,17	65,36
2016						
	5,30	58,60	59,00	58,11	61,25	56,08
2017						
	6,17	57,41	57,17	56,75	62,17	54,42
Reference: Nasdaq (2018ab)						
28						
Cognizant Technology Solutions Corporation	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013						
	50,49	53,89	58,47	47,56	57,33	54,19
2014						
	52,66	58,98	62,00	59,14	60,06	54,89
2015						
	60,02	60,95	62,39	63,78	62,75	54,81
2016						
	56,03	61,67	61,78	60,94	68,50	55,89
2017						
	71,02	61,64	59,92	62,17	68,33	56,92
Reference: Nasdaq (2018ac)						
29						

Yelp	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013	68,95	59,76	59,30	49,35	52,90	70,80
2014	54,73	57,06	59,69	64,00	60,31	43,69
2015	28,80	61,39	65,92	61,50	67,47	51,86
2016	38,13	57,29	62,00	51,64	67,86	49,22
2017	41,96	55,48	57,75	50,42	63,92	51,33
Reference: Nasdaq (2018ad)						
30						
Computer Task Group	Market Value	CSR Overall	CSR Community	CSR Environment	CSR Employees	CSR Governance
2013	18,83	45,69	47,44	46,33	51,97	37,11
2014	9,53	52,87	56,81	50,81	56,78	48,08
2015	6,62	56,34	62,53	54,75	55,50	52,89
2016	4,21	54,40	60,58	53,33	54,25	50,11
2017	5,10	53,52	57,67	51,00	55,33	50,67
Reference: Nasdaq (2018ae)						

Appendix 3: The Fixed Effects Test Data

Com-pany	Year	Y	X1	X2	X3	X4	X5
1	2013	37,41	62,23	60,83	77,89	71,03	58,36
1	2014	46,45	64,49	61,97	74,75	70,67	60,03
1	2015	55,48	65,39	64,39	69,83	69,64	60,50
1	2016	62,14	66,63	66,81	71,36	70,11	62,58
1	2017	85,54	68,29	67,58	73,00	70,42	63,58
2	2013	87,14	62,62	66,42	59,61	66,94	58,44
2	2014	70,40	65,84	68,19	65,61	70,33	59,89
2	2015	80,15	67,67	71,17	67,75	73,39	58,92
2	2016	86,43	66,84	69,94	64,53	74,44	59,61
2	2017	112,36	67,18	68,50	67,42	73,50	60,25
3	2013	6,33	65,31	72,39	61,83	71,50	57,31
3	2014	5,67	66,82	67,61	67,36	74,08	58,81
3	2015	5,77	67,79	69,86	72,03	74,19	55,25
3	2016	4,84	66,06	65,08	70,17	69,97	58,58
3	2017	5,47	66,77	65,42	72,17	68,50	60,17
4	2013	24,50	59,88	55,86	51,36	67,44	66,19
4	2014	24,50	62,28	59,25	59,00	69,28	62,44
4	2015	31,04	63,60	60,97	65,28	67,19	60,67
4	2016	34,13	65,28	64,06	67,92	65,42	63,28
4	2017	43,27	64,77	63,50	67,50	64,42	63,08
5	2013	187,57	61,75	59,44	63,11	68,81	55,69
5	2014	160,44	61,92	58,33	66,03	68,28	54,31
5	2015	137,62	61,90	61,75	63,81	67,72	54,53
5	2016	165,99	62,50	64,33	60,36	70,33	55,97
5	2017	153,42	63,44	65,25	62,92	70,17	56,33
6	2013	15,25	61,28	63,06	54,33	70,83	58,61
6	2014	10,20	65,50	65,64	64,11	72,36	60,47
6	2015	9,92	66,49	67,69	67,81	71,11	59,67
6	2016	10,20	68,99	67,25	70,61	73,17	64,56
6	2017	14,60	65,19	59,33	67,92	68,75	64,00
7	2013	20,41	59,55	61,22	59,78	61,25	56,14
7	2014	23,64	62,71	61,86	66,36	65,08	57,08
7	2015	25,30	64,37	63,81	68,33	68,36	56,67
7	2016	30,01	65,27	63,47	67,81	72,11	57,36
7	2017	28,69	65,44	61,75	68,42	73,08	58,42
8	2013	16,44	61,84	66,33	52,75	72,64	58,31
8	2014	21,57	66,41	66,19	62,69	74,58	63,08
8	2015	24,72	67,63	67,81	66,75	74,94	61,47
8	2016	26,01	66,33	62,72	68,08	71,42	62,64

8	2017	25,98	65,12	60,67	68,00	67,17	64,17
9	2013	59,88	56,68	57,11	54,11	63,14	53,64
9	2014	72,70	59,47	56,97	63,14	60,94	56,19
9	2015	93,94	58,75	57,03	65,94	56,75	53,75
9	2016	102,95	60,51	60,44	65,94	60,47	54,39
9	2017	175,24	62,51	63,08	68,00	63,08	55,25
10	2013	7,08	61,95	65,06	58,92	61,36	63,19
10	2014	7,87	61,01	63,56	60,50	58,97	61,39
10	2015	8,38	63,18	65,75	61,83	62,86	62,50
10	2016	7,41	64,87	66,00	63,31	65,89	64,36
10	2017	8,11	65,28	64,83	67,00	63,92	65,08
11	2013	556,73	55,70	60,81	54,64	64,94	43,97
11	2014	526,40	57,66	58,42	61,39	63,25	47,78
11	2015	758,88	58,02	58,72	63,42	59,67	49,53
11	2016	771,82	59,61	60,25	62,72	64,00	51,08
11	2017	1 046,40	61,37	63,58	63,58	67,17	51,17
12	2013	38,26	55,18	60,61	53,19	60,03	47,89
12	2014	44,97	58,29	60,61	62,94	60,33	48,58
12	2015	36,53	60,17	61,81	64,83	62,69	50,94
12	2016	38,45	61,29	61,22	65,28	66,39	51,75
12	2017	47,28	62,46	62,42	67,83	66,83	52,25
13	2013	33,60	63,74	58,17	61,00	66,61	69,44
13	2014	37,95	65,67	59,58	63,75	70,56	68,56
13	2015	37,95	63,23	59,31	58,03	69,83	66,67
13	2016	34,55	62,43	58,78	59,19	68,61	63,86
13	2017	32,75	62,42	58,33	58,50	67,83	66,00
14	2013	23,58	62,00	68,42	54,33	66,83	60,39
14	2014	25,66	64,72	67,94	62,11	68,39	61,56
14	2015	21,00	64,48	68,22	65,31	64,72	60,17
14	2016	23,89	63,26	65,64	62,25	66,75	58,81
14	2017	28,06	63,89	64,58	64,25	67,00	60,17
15	2013	50,32	58,09	56,97	54,61	65,94	55,50
15	2014	60,06	61,90	60,86	62,25	66,64	58,14
15	2015	60,93	65,54	66,17	68,44	64,50	62,58
15	2016	74,01	65,05	65,86	68,53	64,22	60,69
15	2017	104,83	62,95	65,42	67,58	63,17	55,25
16	2013	62,15	58,73	59,50	58,53	62,19	55,06
16	2014	61,00	61,02	61,58	66,22	63,97	51,78
16	2015	80,15	62,89	63,11	69,61	66,47	51,69
16	2016	76,40	63,51	61,44	69,22	68,69	53,97
16	2017	106,04	62,51	59,50	68,33	68,00	53,50
17	2013	111,95	55,83	55,03	50,11	63,83	55,50
17	2014	81,68	61,40	57,31	61,36	68,86	57,94
17	2015	59,09	63,04	58,72	63,64	69,86	60,06
17	2016	56,82	63,76	60,28	63,17	70,44	61,58

17	2017	59,95	62,73	58,17	62,42	69,42	61,25
18	2013	76,32	52,50	55,94	47,00	56,92	51,72
18	2014	92,19	56,77	57,50	57,11	57,78	55,03
18	2015	96,50	57,75	57,31	60,64	57,69	54,86
18	2016	114,61	58,77	59,03	61,72	59,03	54,97
18	2017	157,78	61,72	63,08	65,17	59,75	58,00
19	2013	42,75	53,89	58,47	47,56	57,33	54,19
19	2014	39,55	58,98	62,00	59,14	60,06	54,89
19	2015	44,18	60,95	62,39	63,78	62,75	54,81
19	2016	45,73	61,67	61,78	60,94	68,50	55,89
19	2017	72,33	61,64	59,92	62,17	68,33	56,92
20	2013	33,46	58,43	66,78	49,72	65,42	53,89
20	2014	38,16	58,06	64,97	54,44	64,92	49,39
20	2015	40,03	58,88	64,92	60,00	61,86	49,14
20	2016	48,03	58,12	64,25	59,92	60,97	47,61
20	2017	54,33	60,00	64,25	62,08	63,42	51,08
21	2013	55,19	50,67	57,06	45,89	54,47	46,58
21	2014	59,31	54,90	59,19	54,33	57,11	49,36
21	2015	78,40	56,28	62,64	57,50	56,83	48,61
21	2016	68,46	57,35	64,00	57,61	58,64	49,83
21	2017	102,23	58,00	65,08	59,00	58,08	50,25
22	2013	38,09	47,35	41,14	46,06	51,97	50,17
22	2014	41,67	55,08	59,17	52,22	56,72	53,00
22	2015	41,34	56,54	62,56	56,39	56,92	50,75
22	2016	25,12	54,49	59,64	51,75	60,97	46,72
22	2017	44,08	56,79	60,00	55,08	61,58	51,58
23	2013	6,30	52,58	55,64	44,58	57,14	54,64
23	2014	6,90	55,94	58,22	53,03	56,83	56,44
23	2015	6,86	57,60	59,72	57,44	56,06	57,22
23	2016	8,20	56,51	57,11	54,97	57,39	56,64
23	2017	10,55	57,18	55,42	57,00	59,92	56,50
24	2013	7,52	50,56	55,94	43,56	48,97	53,11
24	2014	9,75	51,51	57,56	47,39	48,86	55,50
24	2015	7,68	55,13	56,53	50,61	60,25	55,36
24	2016	7,92	56,30	55,94	53,11	62,47	53,22
24	2017	12,15	55,76	55,42	55,50	58,92	54,25
25	2013	10,90	48,14	54,36	44,39	50,50	44,44
25	2014	10,57	57,13	58,00	59,78	55,14	55,31
25	2015	10,86	62,42	64,53	68,14	59,11	57,19
25	2016	11,25	62,86	60,69	65,67	65,94	58,56
25	2017	13,00	60,08	57,67	66,83	60,08	53,75
26	2013	7,40	54,94	61,67	56,28	58,72	43,67
26	2014	7,56	58,70	62,75	66,50	58,75	45,86
26	2015	9,79	58,77	63,72	70,14	55,61	44,17
26	2016	9,76	59,29	60,61	70,06	57,83	47,06

26	2017	11,83	59,69	59,92	70,67	59,00	47,75
27	2013	5,17	63,28	59,08	64,44	60,25	68,53
27	2014	6,02	64,92	59,81	67,67	65,86	65,50
27	2015	6,35	63,94	62,22	61,17	67,17	65,36
27	2016	5,30	58,60	59,00	58,11	61,25	56,08
27	2017	6,17	57,41	57,17	56,75	62,17	54,42
28	2013	50,49	53,89	58,47	47,56	57,33	54,19
28	2014	52,66	58,98	62,00	59,14	60,06	54,89
28	2015	60,02	60,95	62,39	63,78	62,75	54,81
28	2016	56,03	61,67	61,78	60,94	68,50	55,89
28	2017	71,02	61,64	59,92	62,17	68,33	56,92
29	2013	68,95	59,76	59,30	49,35	52,90	70,80
29	2014	54,73	57,06	59,69	64,00	60,31	43,69
29	2015	28,80	61,39	65,92	61,50	67,47	51,86
29	2016	38,13	57,29	62,00	51,64	67,86	49,22
29	2017	41,96	55,48	57,75	50,42	63,92	51,33
30	2013	18,83	45,69	47,44	46,33	51,97	37,11
30	2014	9,53	52,87	56,81	50,81	56,78	48,08
30	2015	6,62	56,34	62,53	54,75	55,50	52,89
30	2016	4,21	54,40	60,58	53,33	54,25	50,11
30	2017	5,10	53,52	57,67	51,00	55,33	50,67

Y = Stock price
X1 = CSR Overall
X2 = Community
X3 = Environment
X4 = Employees
X5 = Governance

Appendix 4: Fixed Effects Regression: Overall Score

Summary sta-
tistics:

Va-riable	Obser-vati-ons	Obs. with missing data	Obs. without missing data	Mini-mum	Maxi-mum	Mean	Std. de-viation
Y	150	0	150	4,210	1046,400	67,755	134,102
X1	150	0	150	45,685	68,993	60,492	4,501

Results for variable Y:

Goodness of fit statistics:

rsq	0,015
adjrsq	-0,276

F statistic:

statistic.F	parame-ter.df1	parame-ter.df2	p.value.F
1,761	1	115	0,187

Coefficients:

	Estimate	Std. Error	t-value	Pr(>|t|)
X1	2,544	1,917	1,327	0,187

Model coefficients (Y)
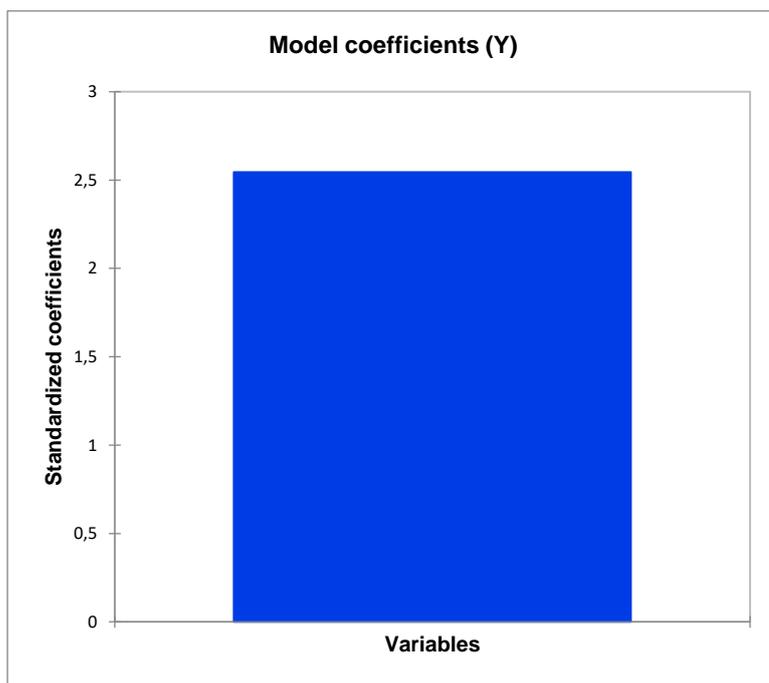
Covariance matrix:

	X1
X1	**3,676**

Residuals:

Observations	Y	Pred(Y)	residuals
Obs1	37,410	48,772	-11,362
Obs2	46,450	44,878	1,572
Obs3	55,480	52,011	3,469
Obs4	62,140	58,114	4,026
Obs5	85,540	83,244	2,296
Obs6	87,140	83,950	3,190
Obs7	70,400	54,395	16,005
Obs8	80,150	73,986	6,164
Obs9	86,430	88,486	-2,056
Obs10	112,360	135,664	-23,304
Obs11	6,325	174,030	-167,705
Obs12	5,665	199,063	-193,398
Obs13	5,770	-27,565	33,335
Obs14	4,840	-34,457	39,297
Obs15	5,470	-283,000	288,470

Obs16	24,497	15,865	8,632
Obs17	24,497	7,409	17,088
Obs18	31,043	32,013	-0,970
Obs19	34,128	38,977	-4,849
Obs20	43,274	63,174	-19,900
Obs21	187,570	189,397	-1,827
Obs22	160,440	153,171	7,269
Obs23	137,620	128,995	8,625
Obs24	165,990	161,685	4,305
Obs25	153,420	171,792	-18,372
Obs26	15,250	11,308	3,942
Obs27	10,200	1,462	8,738
Obs28	9,920	10,060	-0,140
Obs29	10,200	7,298	2,902
Obs30	14,600	30,043	-15,443
Obs31	20,410	27,837	-7,427
Obs32	23,640	21,369	2,271
Obs33	25,300	36,252	-10,952
Obs34	30,010	29,589	0,421
Obs35	28,690	13,003	15,687
Obs36	16,440	23,246	-6,806
Obs37	21,570	25,717	-4,147
Obs38	24,720	19,316	5,404
Obs39	26,010	28,872	-2,862
Obs40	25,980	17,568	8,412
Obs41	59,880	7,234	52,646
Obs42	72,700	54,852	17,848
Obs43	93,940	107,677	-13,737
Obs44	102,950	123,737	-20,787
Obs45	175,240	211,210	-35,970
Obs46	7,080	24,973	-17,893
Obs47	7,870	11,098	-3,228
Obs48	8,380	14,637	-6,257
Obs49	7,410	1,109	6,301
Obs50	8,110	-12,967	21,077
Obs51	556,730	548,260	8,470
Obs52	526,400	524,438	1,962
Obs53	758,880	762,120	-3,240
Obs54	771,820	778,304	-6,484
Obs55	1046,400	1047,108	-0,708
Obs56	38,260	29,185	9,075
Obs57	44,970	51,189	-6,219
Obs58	36,530	42,484	-5,954
Obs59	38,450	38,972	-0,522
Obs60	47,280	43,660	3,620

Obs61	33,600	41,723	-8,123
Obs62	37,950	30,778	7,172
Obs63	37,950	35,826	2,124
Obs64	34,550	25,435	9,115
Obs65	32,750	43,038	-10,288
Obs66	23,580	28,416	-4,836
Obs67	25,660	27,506	-1,846
Obs68	21,000	12,102	8,898
Obs69	23,890	30,602	-6,712
Obs70	28,060	23,565	4,495
Obs71	50,320	32,694	17,626
Obs72	60,060	48,892	11,168
Obs73	60,930	58,623	2,307
Obs74	74,010	85,660	-11,650
Obs75	104,830	124,280	-19,450
Obs76	62,150	54,467	7,683
Obs77	61,000	51,620	9,380
Obs78	80,150	79,864	0,286
Obs79	76,400	74,937	1,463
Obs80	106,040	124,853	-18,813
Obs81	111,950	104,523	7,427
Obs82	81,680	64,779	16,901
Obs83	59,090	58,295	0,795
Obs84	56,820	61,726	-4,906
Obs85	59,950	80,167	-20,217
Obs86	76,320	50,789	25,531
Obs87	92,190	80,210	11,980
Obs88	96,500	102,523	-6,023
Obs89	114,610	124,311	-9,701
Obs90	157,780	179,568	-21,788
Obs91	42,750	35,573	7,177
Obs92	39,550	32,140	7,410
Obs93	44,180	39,543	4,637
Obs94	45,730	45,415	0,315
Obs95	72,330	91,869	-19,539
Obs96	33,460	37,735	-4,275
Obs97	38,160	36,126	2,034
Obs98	40,030	40,006	0,024
Obs99	48,030	38,413	9,617
Obs100	54,330	61,729	-7,399
Obs101	55,190	48,116	7,074
Obs102	59,310	53,374	5,936
Obs103	78,400	74,936	3,464
Obs104	68,460	73,780	-5,320
Obs105	102,230	113,384	-11,154

Obs106	38,090	19,093	18,997
Obs107	41,670	20,373	21,297
Obs108	41,340	61,815	-20,475
Obs109	25,120	28,799	-3,679
Obs110	44,080	60,220	-16,140
Obs111	6,300	1,888	4,412
Obs112	6,900	-2,650	9,550
Obs113	6,860	4,495	2,365
Obs114	8,200	5,319	2,881
Obs115	10,550	29,758	-19,208
Obs116	7,520	-20,503	28,023
Obs117	9,750	-0,330	10,080
Obs118	7,680	14,173	-6,493
Obs119	7,920	14,829	-6,909
Obs120	12,150	36,850	-24,700
Obs121	10,900	8,996	1,904
Obs122	10,570	5,129	5,441
Obs123	10,860	7,066	3,794
Obs124	11,250	11,588	-0,338
Obs125	13,000	23,801	-10,801
Obs126	7,400	-21,112	28,512
Obs127	7,560	-3,044	10,604
Obs128	9,790	26,810	-17,020
Obs129	9,760	2,863	6,897
Obs130	11,830	40,823	-28,993
Obs131	5,170	-9,297	14,467
Obs132	6,020	-2,322	8,342
Obs133	6,350	5,650	0,700
Obs134	5,300	13,637	-8,337
Obs135	6,170	21,342	-15,172
Obs136	50,490	45,166	5,324
Obs137	52,660	42,523	10,137
Obs138	60,020	57,256	2,764
Obs139	56,030	53,801	2,229
Obs140	71,020	91,473	-20,453
Obs141	68,950	65,682	3,268
Obs142	54,730	48,321	6,409
Obs143	28,800	27,168	1,632
Obs144	38,130	34,845	3,285
Obs145	41,960	56,554	-14,594
Obs146	18,830	51,956	-33,126
Obs147	9,530	27,284	-17,754
Obs148	6,620	6,146	0,474
Obs149	4,210	2,152	2,058
Obs150	5,100	-43,248	48,348
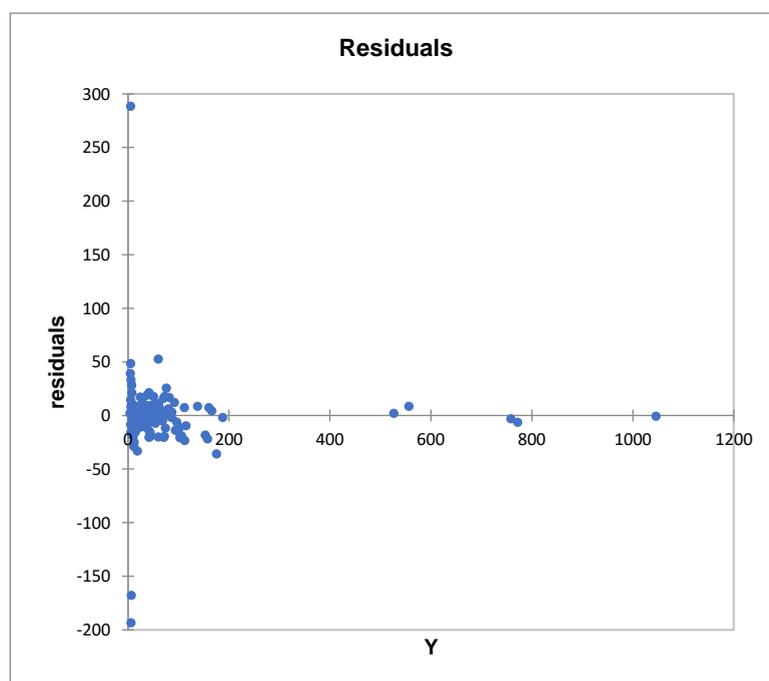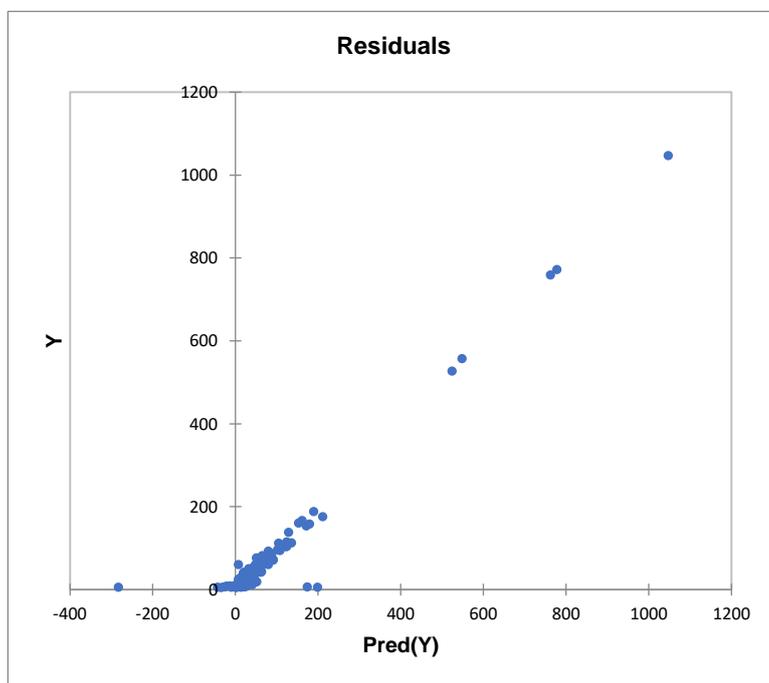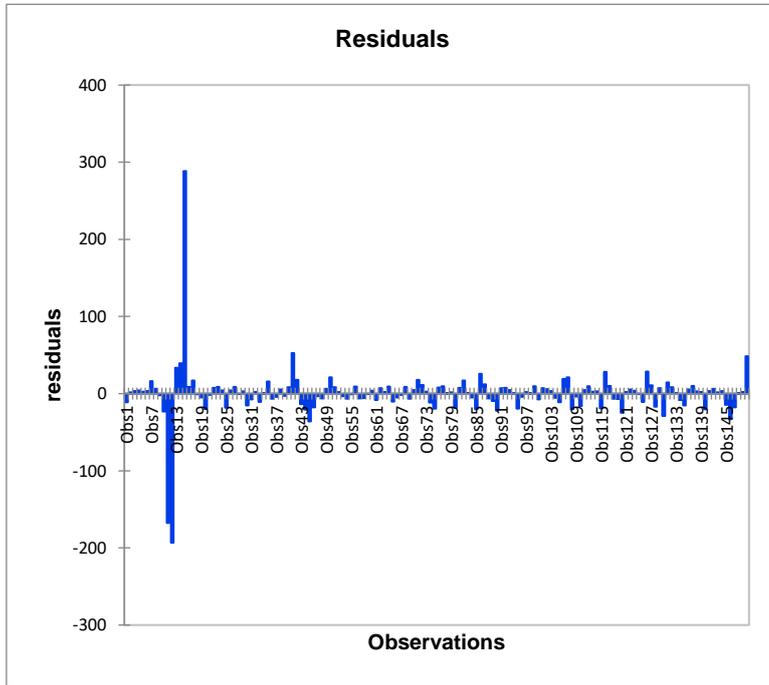
Appendix 5: Fixed Effects Regression: Community Score

Summary sta-
tistics:

Va-riable	Ob-serva-tions	Obs. with missing data	Obs. without missing data	Mini-mum	Maxi-mum	Mean	Std. de-viation
Y	150	0	150	4,210	1046,400	67,755	134,102
X2	150	0	150	41,139	72,389	61,473	4,257

Results for variable Y:

Goodness of fit statistics:

rsq	0,015
adjrsq	-0,276

F statistic:

statistic.F	parame-ter.df1	parame-ter.df2	p.value.F
1,771	1	115	0,186

Coefficients:

	Estimate	Std. Error	t-value	Pr(>|t|)
X2	1,806	1,357	1,331	0,186

Model coefficients (Y)
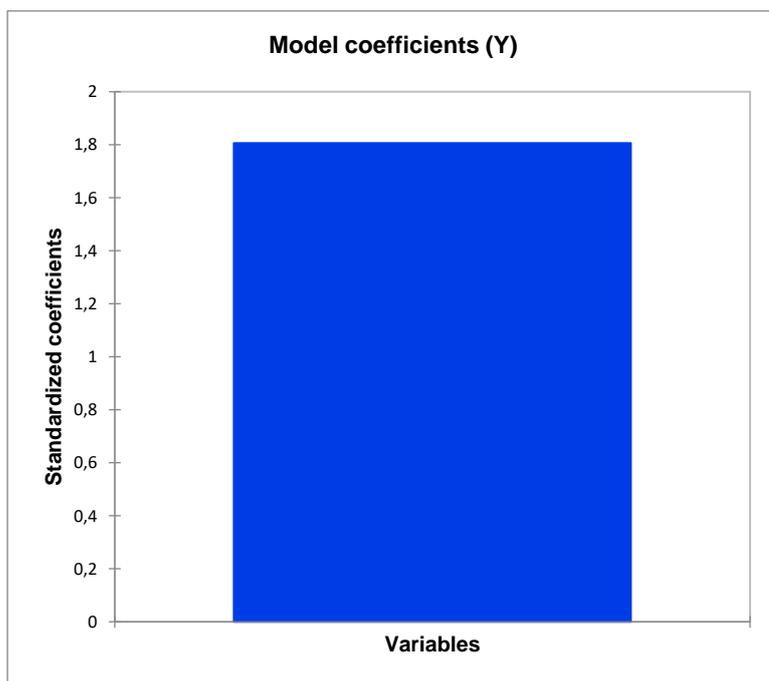
Covariance matrix:

	X2
X2	**1,842**

Residuals:

Observations	Y	Pred(Y)	residuals
Obs1	37,410	45,975	-8,565
Obs2	46,450	43,045	3,405
Obs3	55,480	52,277	3,203
Obs4	62,140	60,883	1,257
Obs5	85,540	84,840	0,700
Obs6	87,140	82,723	4,417
Obs7	70,400	57,496	12,904
Obs8	80,150	75,567	4,583
Obs9	86,430	87,509	-1,079
Obs10	112,360	133,184	-20,824
Obs11	6,325	177,317	-170,992
Obs12	5,665	197,685	-192,020
Obs13	5,770	-29,272	35,042
Obs14	4,840	-36,142	40,982
Obs15	5,470	-281,518	286,988

Obs16	24,497	20,893	3,604
Obs17	24,497	9,196	15,301
Obs18	31,043	31,207	-0,164
Obs19	34,128	35,558	-1,430
Obs20	43,274	60,585	-17,311
Obs21	187,570	182,989	4,581
Obs22	160,440	149,081	11,359
Obs23	137,620	130,626	6,994
Obs24	165,990	165,683	0,307
Obs25	153,420	176,663	-23,243
Obs26	15,250	13,600	1,650
Obs27	10,200	0,630	9,570
Obs28	9,920	10,378	-0,458
Obs29	10,200	7,343	2,857
Obs30	14,600	28,219	-13,619
Obs31	20,410	23,995	-3,585
Obs32	23,640	19,522	4,118
Obs33	25,300	34,762	-9,462
Obs34	30,010	30,081	-0,071
Obs35	28,690	19,691	8,999
Obs36	16,440	23,541	-7,101
Obs37	21,570	28,597	-7,027
Obs38	24,720	20,224	4,496
Obs39	26,010	26,494	-0,484
Obs40	25,980	15,864	10,116
Obs41	59,880	11,503	48,377
Obs42	72,700	53,720	18,980
Obs43	93,940	104,976	-11,036
Obs44	102,950	123,306	-20,356
Obs45	175,240	211,205	-35,965
Obs46	7,080	28,356	-21,276
Obs47	7,870	11,099	-3,229
Obs48	8,380	11,815	-3,435
Obs49	7,410	0,086	7,324
Obs50	8,110	-12,506	20,616
Obs51	556,730	553,346	3,384
Obs52	526,400	527,601	-1,201
Obs53	758,880	761,020	-2,140
Obs54	771,820	775,546	-3,726
Obs55	1046,400	1042,717	3,683
Obs56	38,260	28,894	9,366
Obs57	44,970	50,568	-5,598
Obs58	36,530	42,613	-6,083
Obs59	38,450	40,286	-1,836
Obs60	47,280	43,130	4,150

Obs61	33,600	40,956	-7,356
Obs62	37,950	32,357	5,593
Obs63	37,950	35,254	2,696
Obs64	34,550	26,890	7,660
Obs65	32,750	41,343	-8,593
Obs66	23,580	27,772	-4,192
Obs67	25,660	24,609	1,051
Obs68	21,000	11,947	9,053
Obs69	23,890	31,476	-7,586
Obs70	28,060	26,386	1,674
Obs71	50,320	17,406	32,914
Obs72	60,060	51,143	8,917
Obs73	60,930	63,331	-2,401
Obs74	74,010	91,603	-17,593
Obs75	104,830	126,668	-21,838
Obs76	62,150	55,615	6,535
Obs77	61,000	53,544	7,456
Obs78	80,150	80,310	-0,160
Obs79	76,400	74,744	1,656
Obs80	106,040	121,526	-15,486
Obs81	111,950	107,695	4,255
Obs82	81,680	73,118	8,562
Obs83	59,090	55,608	3,482
Obs84	56,820	56,285	0,535
Obs85	59,950	76,784	-16,834
Obs86	76,320	63,129	13,191
Obs87	92,190	80,915	11,275
Obs88	96,500	101,593	-5,093
Obs89	114,610	116,629	-2,019
Obs90	157,780	175,133	-17,353
Obs91	42,750	39,361	3,389
Obs92	39,550	32,970	6,580
Obs93	44,180	41,993	2,187
Obs94	45,730	42,194	3,536
Obs95	72,330	88,022	-15,692
Obs96	33,460	28,283	5,177
Obs97	38,160	28,450	9,710
Obs98	40,030	39,222	0,808
Obs99	48,030	46,692	1,338
Obs100	54,330	71,363	-17,033
Obs101	55,190	53,202	1,988
Obs102	59,310	56,537	2,773
Obs103	78,400	73,836	4,564
Obs104	68,460	71,022	-2,562
Obs105	102,230	108,993	-6,763

Obs106	38,090	7,569	30,521
Obs107	41,670	21,094	20,576
Obs108	41,340	62,800	-21,460
Obs109	25,120	34,416	-9,296
Obs110	44,080	64,422	-20,342
Obs111	6,300	8,249	-1,949
Obs112	6,900	-4,108	11,008
Obs113	6,860	4,678	2,182
Obs114	8,200	2,558	5,642
Obs115	10,550	27,433	-16,883
Obs116	7,520	-24,859	32,379
Obs117	9,750	-1,408	11,158
Obs118	7,680	14,635	-6,955
Obs119	7,920	18,013	-10,093
Obs120	12,150	38,638	-26,488
Obs121	10,900	3,963	6,937
Obs122	10,570	4,767	5,803
Obs123	10,860	6,489	4,371
Obs124	11,250	13,604	-2,354
Obs125	13,000	27,757	-14,757
Obs126	7,400	-28,594	35,994
Obs127	7,560	-8,298	15,858
Obs128	9,790	27,790	-18,000
Obs129	9,760	8,297	1,463
Obs130	11,830	47,145	-35,315
Obs131	5,170	-5,963	11,133
Obs132	6,020	-0,384	6,404
Obs133	6,350	8,806	-2,456
Obs134	5,300	10,914	-5,614
Obs135	6,170	15,637	-9,467
Obs136	50,490	48,385	2,105
Obs137	52,660	43,492	9,168
Obs138	60,020	57,571	2,449
Obs139	56,030	52,510	3,520
Obs140	71,020	88,262	-17,242
Obs141	68,950	73,187	-4,237
Obs142	54,730	48,599	6,131
Obs143	28,800	27,296	1,504
Obs144	38,130	30,394	7,736
Obs145	41,960	53,094	-11,134
Obs146	18,830	51,474	-32,644
Obs147	9,530	24,115	-14,585
Obs148	6,620	4,933	1,687
Obs149	4,210	3,925	0,285
Obs150	5,100	-40,156	45,256

Residuals

Residuals
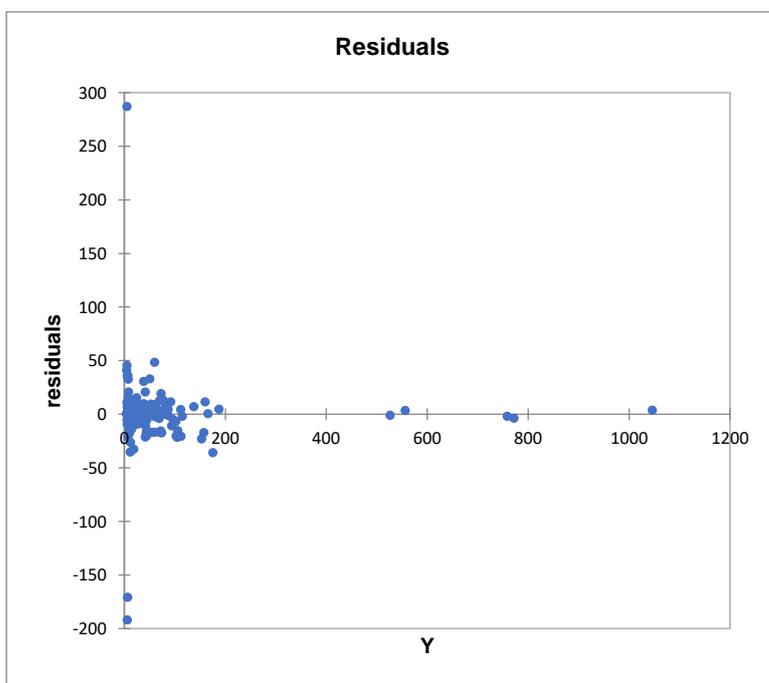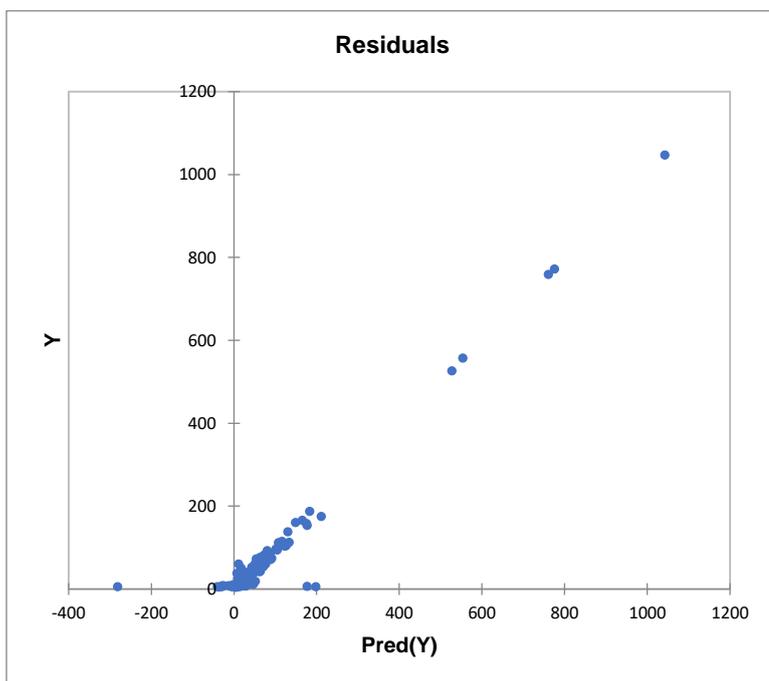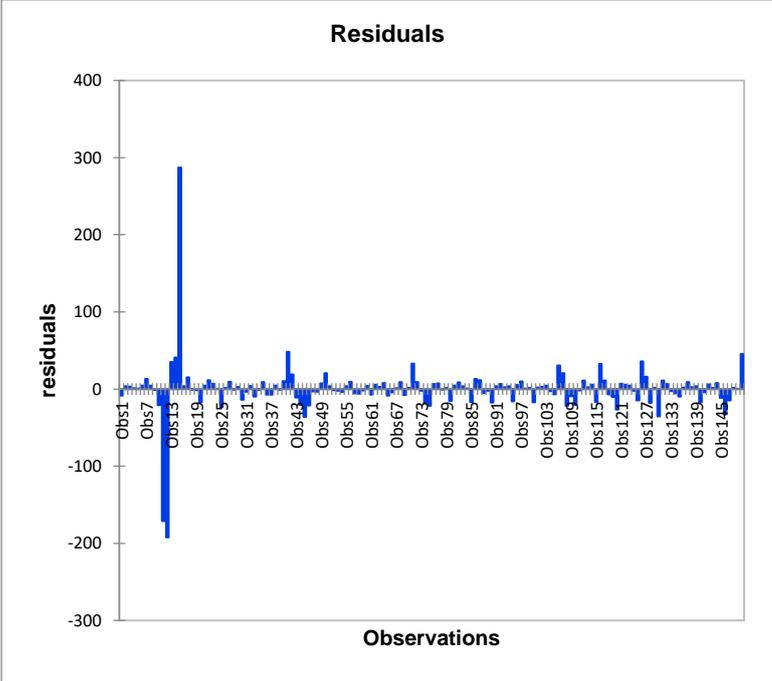
Appendix 6: Fixed Effects Regression: Environmental Score

Summary statistics:

Variable	Observations	Obs. with missing data	Obs. without missing data	Minimum	Maximum	Mean	Std. deviation
Y	150	0	150	4,210	1046,400	67,755	134,102
X3	150	0	150	43,556	77,889	60,969	7,091

Results for variable Y:

Goodness of fit statistics:

rsq	0,002
adjrsq	-0,292

F statistic:

statistic.F	parameter.df1	parameter.df2	p.value.F
0,286	1	115	0,594

Coefficients:

	Estimate	Std. Error	t-value	Pr(>|t|)
X3	0,580	1,084	0,535	0,594

Model coefficients (Y)
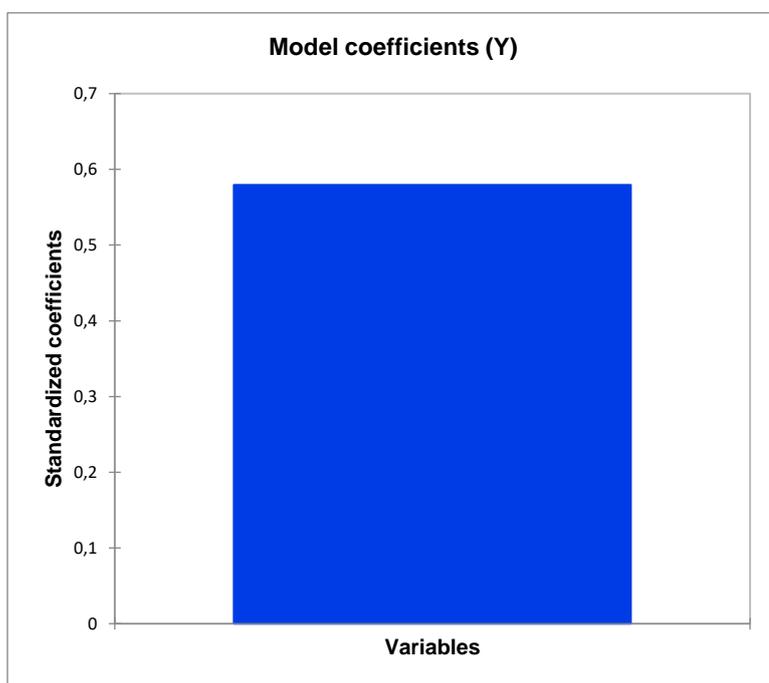
Covariance matrix:

	X3
X3	**1,175**

Residuals:

Observations	Y	Pred(Y)	residuals
Obs1	37,410	55,112	-17,702
Obs2	46,450	47,325	-0,875
Obs3	55,480	51,543	3,937
Obs4	62,140	55,791	6,349
Obs5	85,540	77,249	8,291
Obs6	87,140	80,950	6,190
Obs7	70,400	58,369	12,031
Obs8	80,150	75,450	4,700
Obs9	86,430	86,916	-0,486
Obs10	112,360	134,795	-22,435
Obs11	6,325	172,955	-166,630
Obs12	5,665	200,568	-194,903
Obs13	5,770	-23,564	29,334
Obs14	4,840	-34,473	39,313

Obs15	5,470	-287,416	292,886
Obs16	24,497	16,846	7,651
Obs17	24,497	9,818	14,679
Obs18	31,043	32,966	-1,923
Obs19	34,128	37,752	-3,624
Obs20	43,274	60,057	-16,783
Obs21	187,570	184,942	2,628
Obs22	160,440	149,088	11,352
Obs23	137,620	130,019	7,601
Obs24	165,990	165,828	0,162
Obs25	153,420	175,163	-21,743
Obs26	15,250	6,955	8,295
Obs27	10,200	-1,636	11,836
Obs28	9,920	11,663	-1,743
Obs29	10,200	10,645	-0,445
Obs30	14,600	32,542	-17,942
Obs31	20,410	29,602	-9,192
Obs32	23,640	21,550	2,090
Obs33	25,300	32,998	-7,698
Obs34	30,010	28,039	1,971
Obs35	28,690	15,860	12,830
Obs36	16,440	21,973	-5,533
Obs37	21,570	26,744	-5,174
Obs38	24,720	19,775	4,945
Obs39	26,010	27,953	-1,943
Obs40	25,980	18,276	7,704
Obs41	59,880	11,104	48,776
Obs42	72,700	54,745	17,955
Obs43	93,940	106,963	-13,023
Obs44	102,950	121,332	-18,382
Obs45	175,240	210,566	-35,326
Obs46	7,080	26,762	-19,682
Obs47	7,870	11,574	-3,704
Obs48	8,380	16,886	-8,506
Obs49	7,410	1,797	5,613
Obs50	8,110	-18,169	26,279
Obs51	556,730	551,507	5,223
Obs52	526,400	525,122	1,278
Obs53	758,880	762,728	-3,848
Obs54	771,820	775,839	-4,019
Obs55	1046,400	1045,035	1,365
Obs56	38,260	30,390	7,870
Obs57	44,970	51,349	-6,379
Obs58	36,530	41,466	-4,936
Obs59	38,450	38,601	-0,151

Obs60	47,280	43,684	3,596
Obs61	33,600	33,676	-0,076
Obs62	37,950	30,095	7,855
Obs63	37,950	38,512	-0,562
Obs64	34,550	30,427	4,123
Obs65	32,750	44,090	-11,340
Obs66	23,580	30,992	-7,412
Obs67	25,660	27,878	-2,218
Obs68	21,000	13,031	7,969
Obs69	23,890	29,288	-5,398
Obs70	28,060	21,001	7,059
Obs71	50,320	41,758	8,562
Obs72	60,060	45,524	14,536
Obs73	60,930	56,206	4,724
Obs74	74,010	86,181	-12,171
Obs75	104,830	120,481	-15,651
Obs76	62,150	53,586	8,564
Obs77	61,000	50,762	10,238
Obs78	80,150	79,579	0,571
Obs79	76,400	76,419	-0,019
Obs80	106,040	125,393	-19,353
Obs81	111,950	104,767	7,183
Obs82	81,680	68,520	13,160
Obs83	59,090	56,935	2,155
Obs84	56,820	59,237	-2,417
Obs85	59,950	80,030	-20,080
Obs86	76,320	62,219	14,101
Obs87	92,190	81,369	10,821
Obs88	96,500	97,303	-0,803
Obs89	114,610	116,953	-2,343
Obs90	157,780	179,557	-21,777
Obs91	42,750	33,649	9,101
Obs92	39,550	30,245	9,305
Obs93	44,180	41,822	2,358
Obs94	45,730	46,716	-0,986
Obs95	72,330	92,108	-19,778
Obs96	33,460	30,812	2,648
Obs97	38,160	30,561	7,599
Obs98	40,030	35,401	4,629
Obs99	48,030	46,043	1,987
Obs100	54,330	71,193	-16,863
Obs101	55,190	51,363	3,827
Obs102	59,310	54,058	5,252
Obs103	78,400	75,544	2,856
Obs104	68,460	71,315	-2,855

Obs105	102,230	111,311	-9,081
Obs106	38,090	7,246	30,844
Obs107	41,670	27,568	14,102
Obs108	41,340	58,787	-17,447
Obs109	25,120	30,885	-5,765
Obs110	44,080	65,814	-21,734
Obs111	6,300	-3,310	9,610
Obs112	6,900	-4,814	11,714
Obs113	6,860	4,813	2,047
Obs114	8,200	9,367	-1,167
Obs115	10,550	32,754	-22,204
Obs116	7,520	-10,211	17,731
Obs117	9,750	-2,057	11,807
Obs118	7,680	8,136	-0,456
Obs119	7,920	13,328	-5,408
Obs120	12,150	35,824	-23,674
Obs121	10,900	6,690	4,210
Obs122	10,570	4,819	5,751
Obs123	10,860	9,269	1,591
Obs124	11,250	11,466	-0,216
Obs125	13,000	24,337	-11,337
Obs126	7,400	-24,152	31,552
Obs127	7,560	-1,140	8,700
Obs128	9,790	29,690	-19,900
Obs129	9,760	2,656	7,104
Obs130	11,830	39,286	-27,456
Obs131	5,170	-9,115	14,285
Obs132	6,020	-3,516	9,536
Obs133	6,350	6,302	0,048
Obs134	5,300	9,961	-4,661
Obs135	6,170	25,378	-19,208
Obs136	50,490	47,091	3,399
Obs137	52,660	43,878	8,782
Obs138	60,020	57,788	2,232
Obs139	56,030	52,145	3,885
Obs140	71,020	89,318	-18,298
Obs141	68,950	64,221	4,729
Obs142	54,730	44,666	10,064
Obs143	28,800	25,004	3,796
Obs144	38,130	37,180	0,950
Obs145	41,960	61,499	-19,539
Obs146	18,830	49,580	-30,750
Obs147	9,530	26,723	-17,193
Obs148	6,620	11,267	-4,647
Obs149	4,210	3,210	1,000

Obs150	5,100	-46,491	51,591

Residuals

Residuals

Residuals
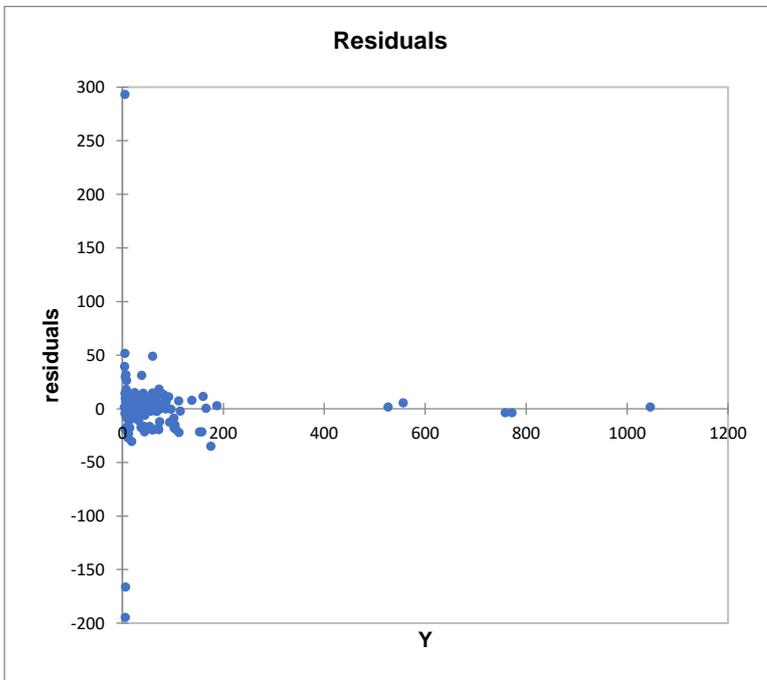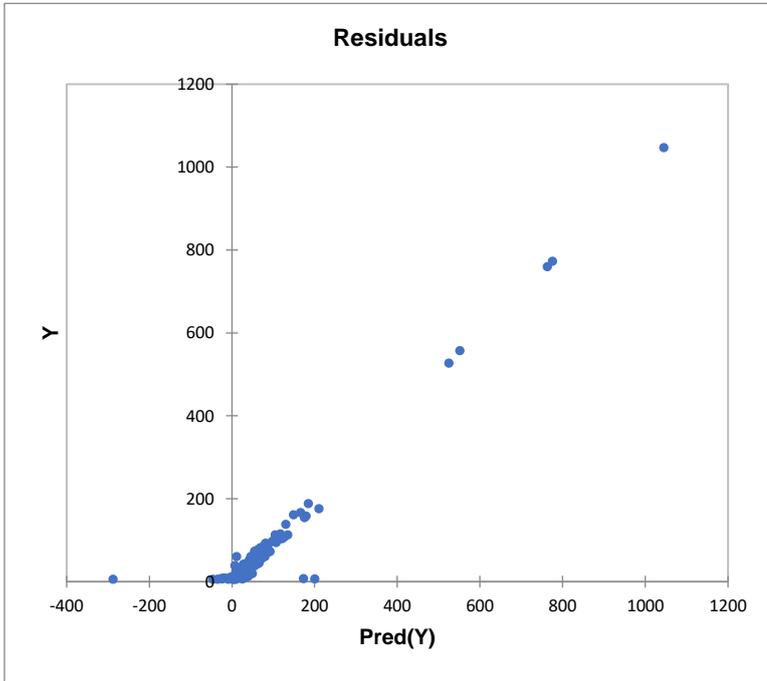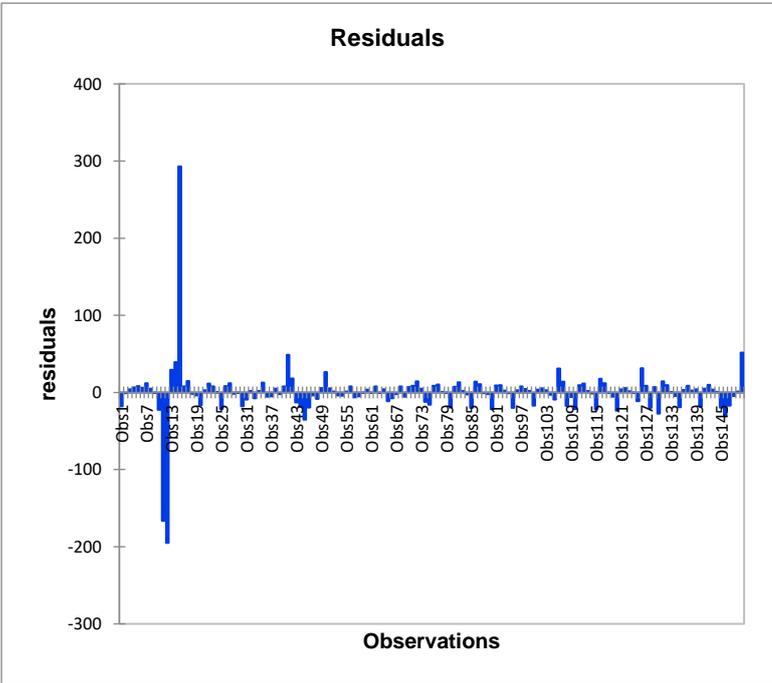
Appendix 7: Fixed Effects Regression: Employees Score

Summary statistics:

Variable	Observations	Obs. with missing data	Obs. without missing data	Minimum	Maximum	Mean	Std. deviation
Y	150	0	150	4,210	1046,400	67,755	134,102
X3	150	0	150	43,556	77,889	60,969	7,091

Results for variable Y:

Goodness of fit statistics:

rsq	0,002
adjrsq	-0,293

F statistic:

statistic.F	parameter.df1	parameter.df2	p.value.F
0,215	1	115	0,644

Coefficients:

	Estimate	Std. Error	t-value	Pr(>|t|)
X4	-0,587	1,267	-0,463	0,644
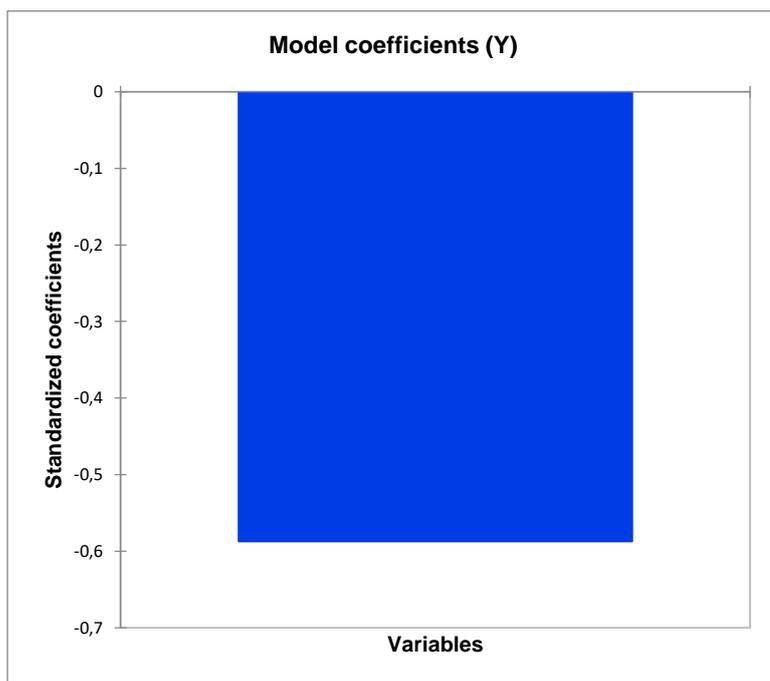
Covariance matrix:

	X4
X4	**1,605**

Residuals:

Observations	Y	Pred(Y)	residuals
Obs1	37,410	46,559	-9,149
Obs2	46,450	46,203	0,247
Obs3	55,480	55,646	-0,166
Obs4	62,140	59,011	3,129
Obs5	85,540	79,600	5,940
Obs6	87,140	78,097	9,043
Obs7	70,400	61,402	8,998
Obs8	80,150	77,198	2,952
Obs9	86,430	86,313	0,117
Obs10	112,360	133,469	-21,109
Obs11	6,325	170,512	-164,187
Obs12	5,665	200,610	-194,945
Obs13	5,770	-20,822	26,592
Obs14	4,840	-33,594	38,434
Obs15	5,470	-288,636	294,106
Obs16	24,497	18,770	5,727

Obs17	24,497	11,313	13,184
Obs18	31,043	33,752	-2,709
Obs19	34,128	36,390	-2,262
Obs20	43,274	57,213	-13,939
Obs21	187,570	180,090	7,480
Obs22	160,440	145,726	14,714
Obs23	137,620	132,170	5,450
Obs24	165,990	168,300	-2,310
Obs25	153,420	178,754	-25,334
Obs26	15,250	5,592	9,658
Obs27	10,200	-3,018	13,218
Obs28	9,920	12,354	-2,434
Obs29	10,200	12,196	-1,996
Obs30	14,600	33,047	-18,447
Obs31	20,410	29,043	-8,633
Obs32	23,640	21,558	2,082
Obs33	25,300	32,443	-7,143
Obs34	30,010	27,879	2,131
Obs35	28,690	17,126	11,564
Obs36	16,440	23,134	-6,694
Obs37	21,570	27,803	-6,233
Obs38	24,720	19,174	5,546
Obs39	26,010	26,552	-0,542
Obs40	25,980	18,057	7,923
Obs41	59,880	14,098	45,782
Obs42	72,700	53,669	19,031
Obs43	93,940	105,751	-11,811
Obs44	102,950	120,331	-17,381
Obs45	175,240	210,862	-35,622
Obs46	7,080	28,553	-21,473
Obs47	7,870	12,400	-4,530
Obs48	8,380	17,488	-9,108
Obs49	7,410	1,268	6,142
Obs50	8,110	-20,859	28,969
Obs51	556,730	555,987	0,743
Obs52	526,400	526,691	-0,291
Obs53	758,880	761,798	-2,918
Obs54	771,820	773,454	-1,634
Obs55	1046,400	1042,300	4,100
Obs56	38,260	30,761	7,499
Obs57	44,970	51,654	-6,684
Obs58	36,530	40,509	-3,979
Obs59	38,450	39,172	-0,722
Obs60	47,280	43,394	3,886
Obs61	33,600	31,249	2,351

Obs62	37,950	30,625	7,325
Obs63	37,950	39,388	-1,438
Obs64	34,550	32,153	2,397
Obs65	32,750	43,385	-10,635
Obs66	23,580	32,148	-8,568
Obs67	25,660	27,991	-2,331
Obs68	21,000	13,244	7,756
Obs69	23,890	28,656	-4,766
Obs70	28,060	20,150	7,910
Obs71	50,320	43,154	7,166
Obs72	60,060	45,957	14,103
Obs73	60,930	55,882	5,048
Obs74	74,010	86,444	-12,434
Obs75	104,830	118,713	-13,883
Obs76	62,150	53,344	8,806
Obs77	61,000	51,206	9,794
Obs78	80,150	79,692	0,458
Obs79	76,400	77,462	-1,062
Obs80	106,040	124,035	-17,995
Obs81	111,950	107,038	4,912
Obs82	81,680	74,036	7,644
Obs83	59,090	55,668	3,422
Obs84	56,820	55,496	1,324
Obs85	59,950	77,251	-17,301
Obs86	76,320	70,771	5,549
Obs87	92,190	83,680	8,510
Obs88	96,500	94,207	2,293
Obs89	114,610	111,557	3,053
Obs90	157,780	177,186	-19,406
Obs91	42,750	33,724	9,026
Obs92	39,550	29,780	9,770
Obs93	44,180	42,863	1,317
Obs94	45,730	46,780	-1,050
Obs95	72,330	91,393	-19,063
Obs96	33,460	25,446	8,014
Obs97	38,160	25,433	12,727
Obs98	40,030	35,046	4,984
Obs99	48,030	51,213	-3,183
Obs100	54,330	76,872	-22,542
Obs101	55,190	55,843	-0,653
Obs102	59,310	55,627	3,683
Obs103	78,400	74,614	3,786
Obs104	68,460	68,930	-0,470
Obs105	102,230	108,576	-6,346
Obs106	38,090	10,825	27,265

Obs107	41,670	23,710	17,960
Obs108	41,340	53,941	-12,601
Obs109	25,120	31,805	-6,685
Obs110	44,080	70,019	-25,939
Obs111	6,300	-4,783	11,083
Obs112	6,900	-5,607	12,507
Obs113	6,860	3,022	3,838
Obs114	8,200	11,413	-3,213
Obs115	10,550	34,765	-24,215
Obs116	7,520	-11,271	18,791
Obs117	9,750	-3,130	12,880
Obs118	7,680	7,299	0,381
Obs119	7,920	14,326	-6,406
Obs120	12,150	37,797	-25,647
Obs121	10,900	7,023	3,877
Obs122	10,570	5,049	5,521
Obs123	10,860	8,856	2,004
Obs124	11,250	10,847	0,403
Obs125	13,000	24,806	-11,806
Obs126	7,400	-29,472	36,872
Obs127	7,560	-2,440	10,000
Obs128	9,790	31,776	-21,986
Obs129	9,760	5,485	4,275
Obs130	11,830	40,991	-29,161
Obs131	5,170	-8,265	13,435
Obs132	6,020	-3,829	9,849
Obs133	6,350	6,354	-0,004
Obs134	5,300	7,460	-2,160
Obs135	6,170	27,290	-21,120
Obs136	50,490	49,180	1,310
Obs137	52,660	45,302	7,358
Obs138	60,020	57,917	2,103
Obs139	56,030	50,657	5,373
Obs140	71,020	87,164	-16,144
Obs141	68,950	64,707	4,243
Obs142	54,730	43,648	11,082
Obs143	28,800	23,195	5,605
Obs144	38,130	36,949	1,181
Obs145	41,960	64,072	-22,112
Obs146	18,830	48,104	-29,274
Obs147	9,530	26,705	-17,175
Obs148	6,620	13,857	-7,237
Obs149	4,210	3,894	0,316
Obs150	5,100	-48,271	53,371

Residuals

Residuals
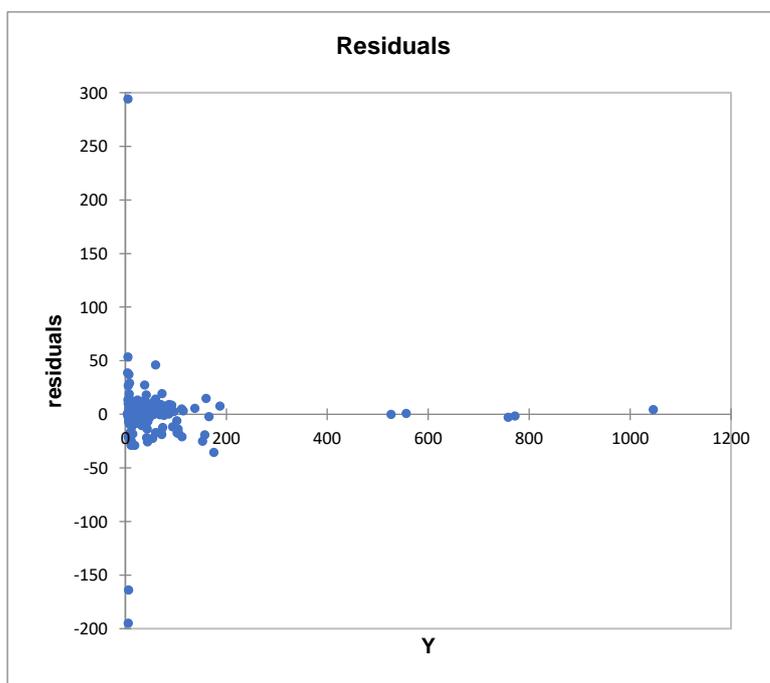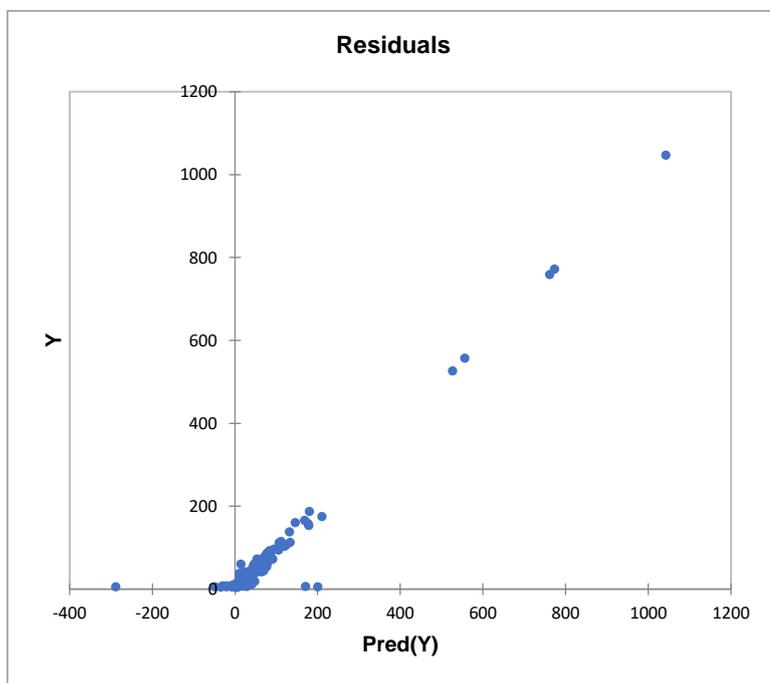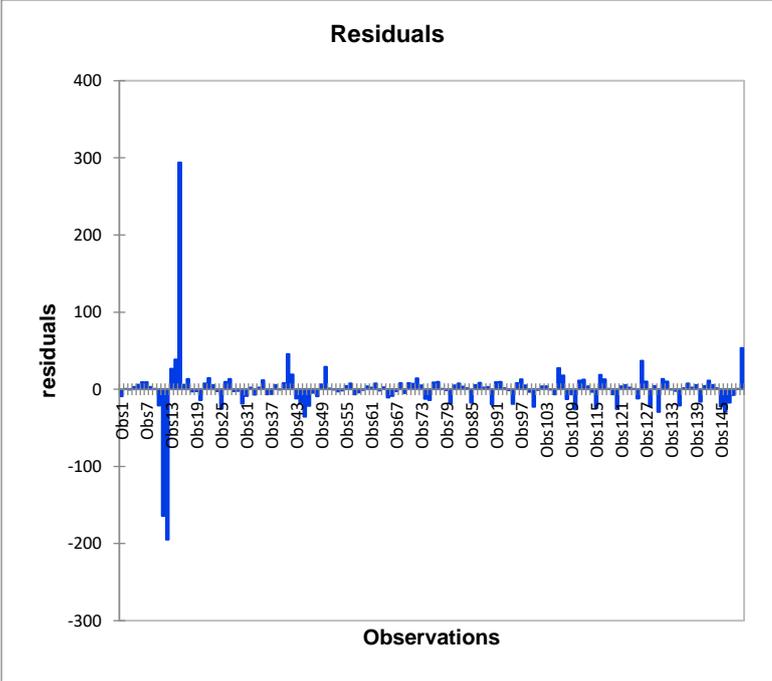
Appendix 8: Fixed Effects Regression: Governance Score

Summary statistics:

Variable	Observations	Obs. with missing data	Obs. without missing data	Minimum	Maximum	Mean	Std. deviation
Y	150	0	150	4,210	1046,400	67,755	134,102
X5	150	0	150	37,111	70,800	56,030	5,926

Results for variable Y:

Goodness of fit statistics:

rsq	0,015
adjrsq	-0,276

F statistic:

statistic.F	parameter.df1	parameter.df2	p.value.F
1,747	1	115	0,189

Coefficients:

	Estimate	Std. Error	t-value	Pr(>|t|)
X5	1,504	1,138	1,322	0,189

Model coefficients (Y)
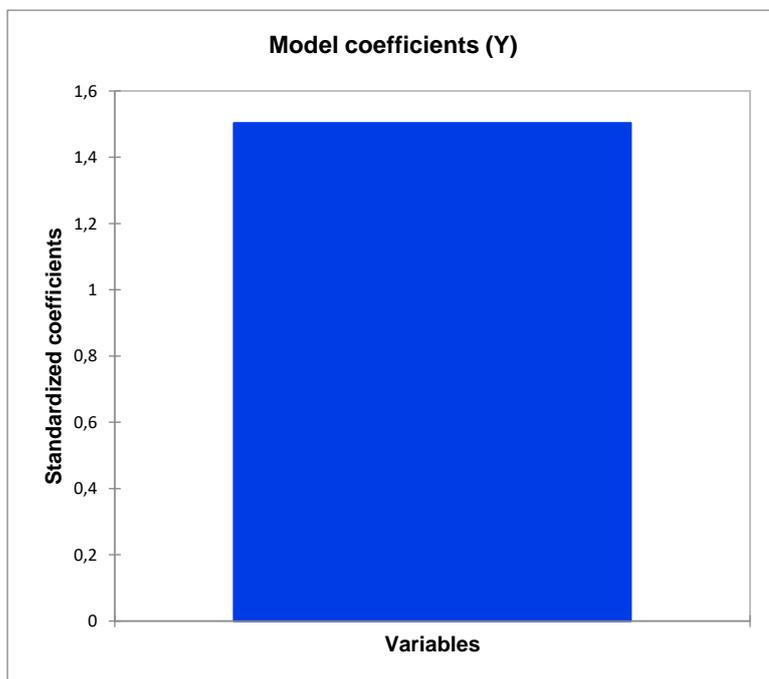
Covariance matrix:

	X5
X5	**1,294**

Residuals:

Observations	Y	Pred(Y)	residuals
Obs1	37,410	45,543	-8,133
Obs2	46,450	45,459	0,991
Obs3	55,480	54,271	1,209
Obs4	62,140	60,005	2,135
Obs5	85,540	81,742	3,798
Obs6	87,140	79,786	7,354
Obs7	70,400	56,951	13,449
Obs8	80,150	75,965	4,185
Obs9	86,430	88,614	-2,184
Obs10	112,360	135,164	-22,804
Obs11	6,325	166,647	-160,322

Obs12	5,665	199,449	-193,784
Obs13	5,770	-22,192	27,962
Obs14	4,840	-31,122	35,962
Obs15	5,470	-284,713	290,183
Obs16	24,497	15,858	8,639
Obs17	24,497	7,602	16,895
Obs18	31,043	34,241	-3,198
Obs19	34,128	39,219	-5,091
Obs20	43,274	60,520	-17,246
Obs21	187,570	185,270	2,300
Obs22	160,440	149,864	10,576
Obs23	137,620	132,307	5,313
Obs24	165,990	162,460	3,530
Obs25	153,420	175,139	-21,719
Obs26	15,250	8,490	6,760
Obs27	10,200	0,524	9,676
Obs28	9,920	10,919	-0,999
Obs29	10,200	8,864	1,336
Obs30	14,600	31,373	-16,773
Obs31	20,410	27,833	-7,423
Obs32	23,640	22,700	0,940
Obs33	25,300	38,276	-12,976
Obs34	30,010	29,667	0,343
Obs35	28,690	9,574	19,116
Obs36	16,440	26,351	-9,911
Obs37	21,570	25,113	-3,543
Obs38	24,720	17,090	7,630
Obs39	26,010	28,156	-2,146
Obs40	25,980	18,010	7,970
Obs41	59,880	8,288	51,592
Obs42	72,700	52,463	20,237
Obs43	93,940	107,570	-13,630
Obs44	102,950	123,749	-20,799
Obs45	175,240	212,641	-37,401
Obs46	7,080	25,560	-18,480
Obs47	7,870	12,860	-4,990
Obs48	8,380	16,912	-8,532
Obs49	7,410	0,601	6,809
Obs50	8,110	-17,083	25,193
Obs51	556,730	553,290	3,440
Obs52	526,400	524,614	1,786
Obs53	758,880	760,442	-1,562
Obs54	771,820	776,062	-4,242
Obs55	1046,400	1045,821	0,579
Obs56	38,260	29,069	9,191

Obs57	44,970	52,101	-7,131
Obs58	36,530	40,552	-4,022
Obs59	38,450	39,837	-1,387
Obs60	47,280	43,931	3,349
Obs61	33,600	40,578	-6,978
Obs62	37,950	30,872	7,078
Obs63	37,950	36,729	1,221
Obs64	34,550	25,633	8,917
Obs65	32,750	42,987	-10,237
Obs66	23,580	29,706	-6,126
Obs67	25,660	29,253	-3,593
Obs68	21,000	12,478	8,522
Obs69	23,890	29,747	-5,857
Obs70	28,060	21,007	7,053
Obs71	50,320	41,995	8,325
Obs72	60,060	49,825	10,235
Obs73	60,930	55,745	5,185
Obs74	74,010	81,591	-7,581
Obs75	104,830	120,993	-16,163
Obs76	62,150	53,254	8,896
Obs77	61,000	51,629	9,371
Obs78	80,150	80,091	0,059
Obs79	76,400	76,726	-0,326
Obs80	106,040	124,040	-18,000
Obs81	111,950	103,786	8,164
Obs82	81,680	72,288	9,392
Obs83	59,090	59,662	-0,572
Obs84	56,820	56,538	0,282
Obs85	59,950	77,216	-17,266
Obs86	76,320	54,717	21,603
Obs87	92,190	84,657	7,533
Obs88	96,500	99,620	-3,120
Obs89	114,610	121,988	-7,378
Obs90	157,780	176,416	-18,636
Obs91	42,750	33,684	9,066
Obs92	39,550	31,033	8,517
Obs93	44,180	38,989	5,191
Obs94	45,730	47,513	-1,783
Obs95	72,330	93,321	-20,991
Obs96	33,460	36,063	-2,603
Obs97	38,160	32,771	5,389
Obs98	40,030	42,205	-2,175
Obs99	48,030	39,907	8,123
Obs100	54,330	63,064	-8,734
Obs101	55,190	53,146	2,044

Obs102	59,310	53,550	5,760
Obs103	78,400	73,258	5,142
Obs104	68,460	71,538	-3,078
Obs105	102,230	112,097	-9,867
Obs106	38,090	33,965	4,125
Obs107	41,670	8,421	33,249
Obs108	41,340	54,403	-13,063
Obs109	25,120	27,487	-2,367
Obs110	44,080	66,024	-21,944
Obs111	6,300	-3,366	9,666
Obs112	6,900	-2,440	9,340
Obs113	6,860	0,172	6,688
Obs114	8,200	10,055	-1,855
Obs115	10,550	34,389	-23,839
Obs116	7,520	-26,358	33,878
Obs117	9,750	-0,921	10,671
Obs118	7,680	15,247	-7,567
Obs119	7,920	16,322	-8,402
Obs120	12,150	40,731	-28,581
Obs121	10,900	14,616	-3,716
Obs122	10,570	6,058	4,512
Obs123	10,860	5,232	5,628
Obs124	11,250	9,064	2,186
Obs125	13,000	21,609	-8,609
Obs126	7,400	-26,546	33,946
Obs127	7,560	-3,934	11,494
Obs128	9,790	29,553	-19,763
Obs129	9,760	5,926	3,834
Obs130	11,830	41,342	-29,512
Obs131	5,170	-10,208	15,378
Obs132	6,020	-4,100	10,120
Obs133	6,350	3,402	2,948
Obs134	5,300	12,024	-6,724
Obs135	6,170	27,892	-21,722
Obs136	50,490	46,318	4,172
Obs137	52,660	44,088	8,572
Obs138	60,020	57,264	2,756
Obs139	56,030	52,210	3,820
Obs140	71,020	90,340	-19,320
Obs141	68,950	62,122	6,828
Obs142	54,730	47,366	7,364
Obs143	28,800	23,967	4,833
Obs144	38,130	36,362	1,768
Obs145	41,960	62,753	-20,793
Obs146	18,830	50,503	-31,673

Obs147	9,530	29,636	-20,106
Obs148	6,620	9,913	-3,293
Obs149	4,210	2,055	2,155
Obs150	5,100	-47,817	52,917

Residuals