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Master Thesis Dissertation

Business strategy to drive social enterprises' performance: a pioneering quantitative study

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Abstract

Prior literature determined four business model elements as driving forces behind social enterprises' performance; customer structure, stakeholder relationships, scalability and innovativeness. This study quantitatively researched the relations of such elements to the social enterprises' financial and social performance. Contrary to prior believes this study solely found statistical evidence for stakeholder relationships and scalability as performance drivers. Stakeholder relationships showed a positive relation to social impact depth while scalability established a positive relation to social impact breath. Moreover, scalability also had a positive relation to financial self-sufficiency. This study's results acknowledge the importance of the venture's age, size and international focus as moderating effects. Finally, the results of this study and their relation to the hypotheses clearly advocate for favouring the stakeholder theory over the resource based view and evolutionary economics theory within the field of social entrepreneurship.

1. Introduction

During the last couple of decades increased academic attention focused on the corporate world's role in combating social concerns. The persistent voice of society, demanding social and environmental integration of doing business, is rooted in the continuing issues of poverty, inequality and environmental degradation (Bocken, Fil & Prabhu, 2016, Bruton, Ketchen & Ireland, 2013, França, Broman, Robèrt, Basile & Trygg, 2016, Haigh & Hoffman, 2012, Joyce & Paquin, 2016, Kolk & Lenfant, 2016).

Various companies have picked up this challenge by approaching it as possible profitable ventures (Agnihotri, 2013). One of the most promising kinds of such ventures is social enterprises. These kinds of ventures are primarily focussed on solving societal problems while incorporating economic features in order to enhance financial viability (Battilana, Lee, Walker & Dorsey, 2012, Bocken et al., 2016, Devarapalli & Figueira, 2015, Ebrahim, Battilana & Mair, 2014, Haigh & Hoffman, 2012, Joyce & Paquin, 2016, Kolk & Lenfant, 2016, Rahdari, Sepasi & Moradi, 2016, Wilburn & Wilburn, 2014, Yunus, Moingeon & Lehmann-Ortega, 2010, Zainon, Ahmad, Atan, Wah, Bakar & Sarman, 2014).

The mutual integration of these dual aspects has advantages compared to existing corporate structures. Yunus et al. (2010) argue that non-profit organisations are obliged to devote time and energy on fund raising. These funds are scarce and susceptible for problematic financial environments (Battilana et al., 2012, Yunus et al, 2010). Social enterprises are considered more financially competent, increasing their chances of survival. Moreover, an increasing consumer demographic, which Haigh & Hoffman (2012) called Cultural Creatives and Life-styles of Health and Sustainability, or LOHAS , forces corporations to integrate social responsible business practices. This has led to social responsibility becoming essential to achieve competitive advantage (França et al, 2016, Geissdoerfer, Bocken & Hultink, 2016, Joyce & Paquin, 2016, Rahdari et al, 2016). Due to their undisputed commitment to combating social disputes, social enterprises' social responsibility is a key advantage compared to commercial ventures.

Present generations are increasingly devoting time and effort to combating environmental degradation and social injustice. Social enterprises are argued to be most appropriate to enable people to solve such issues. But how can a new generation of entrepreneurs, namely ***social entrepreneurs***, turn their enterprises into a success? The enormity of society's demand for solutions together with the potency which social enterprise propose describe the reasons for why answering this question is crucial for our current society.

Various scholars (Agnihotri. 2013, Battilana et al., 2012, Bocken et al., 2016, Devarapalli & Figueira, 2015, Ebrahim et al., 2014, França et al, 2016, Haigh & Hoffman, 2012, Joyce & Paquin, 2016, Yunus et al, 2010) have sought to answer this question by providing key drivers of the combination of social impact and financial performance. However, there is no summarization or prioritizing of these drivers, leaving the field in obscurity. Other than the findings from a handful of case studies, none study has sought empirical evidence to provide substantiated evidence for critical performance drivers of social enterprises. This has resulted in uncertainty and obscurity surrounding social entrepreneurship. The goal of this research is to bring clarity to the successful management of social enterprises. This is achieved by answering the following research question: *"Which business model elements drive social enterprises' performance?*

2. Theoretical background and hypotheses development

There is no general consensus concerning the terminology of the earlier described ventures. These ventures are called social enterprises (Devarapalli & Figueira, 2015, Ebrahim et al., 2014, Hudon & Périlleux, 2014, Johanisova, Crabtree & Fraňková, 2013, Mikami, 2014, Rahdari et al., 2016, Yunus et al., 2010), hybrid businesses (Battilana et al., 2012, Bocken et al., 2016, Haigh & Hoffman, 2012, Kolk & Lenfant, 2016), benefit corporations (Wilburn & Wilburn, 2014), social profit enterprises (Berber, Brockett, Cooper, Golden & Parker, 2011) and the fourth sector. Within this study, the term social enterprises will be adopted, since it is the most widely adopted as well as solely defined terminology within the field.

Various scholars have formulated comprehensive definitions. Morris et al. (2011), describes social entrepreneurship as *"a process that creates social value because of the initiative in seeking solutions to societal problems through innovative strategies that involve the combination of resources, the exploitation of opportunities for stimulating social change, the satisfaction of social needs, and the development of social goods and services"* (in Rahdari et al., 2016, pg. 348). Ebrahim et al. (2014, pg. 82) emphasise the business model of social enterprises by stating that "*Their primary objective is to deliver social value to the beneficiaries of their social mission, and their primary revenue source is commercial, relying on markets instead of donations or grants to sustain themselves and to scale their operations. For these organizations, commercial activities are a means toward social ends*". Devarapalli and Figueira (2015, pg. 90, 91) describe social enterprises even more specifically as "*… an organization trying to address social issues through the use of market-based and civil society approaches. Most social enterprises operate in developing countries where resources are limited. The usual operational mode of these enterprises is to reach out to disadvantaged people and enable them with the needed resources. To achieve this mission, social enterprises employ local residents to create jobs, which is one of their very own objectives*." While all definitions touch the essence of social entrepreneurship, this study utilizes the description of Ebrahim et al. (2014). Their definition is the most comprehensive without excluding ventures. It is for example unclear whether Morris et al. (2011) would exclude social enterprises without innovative strategies and Devarapalli and Figueira (2015) clearly focuses on social enterprises operating in developing countries.

A social enterprise is thus evaluated based on a double bottom line, namely on social and financial return, or on a triple bottom line, when environmental returns are evaluated as well (Berber et al., 2011, Bocken et al., 2010, Brest, 2012, Devarapalli & Figueira, 2015, Ebrahim et al., 2014, Haigh & Hoffman, 2012, Joyce & Paquin, 2016, Kolk & Lenfant, 2016, Wilburn & Wilburn, 2014, Yunus et al., 2010, Zainon et al., 2014). Within this study the double bottom line is adopted. The social value creation, or social impact, is hereby the primary objective while the financial gain is used to fund its social mission (Bocken et al., 2016, Devarapalli & Figueira, 2015, Ebrahim et al., 2014, Yunus et al., 2010, Zainon et al., 2014). Within this article we use the definition of Murray et al (2010) for social impact; *"closing the gap between the real and ideal conditions regarding particular social needs or problems"* (in Bocken et al., 2016, pg. 297).

While social enterprises are definable, the terminology does leave space for distinct variations. Ventures whom are self-sustaining and reinvest all profits into achieving their social mission are described as ideal (Battilana et al., 2012, Ebrahim et al., 2014, Kolk & Lenfant, 2016). However, organisations whom partially rely on grants or whom pay some dividend to investors are often seen as social enterprises as well. Therefore, Bocken et al. (2016) and Kolk and Lenfant (2016) describe social enterprises as a wider spectrum of hybrid organizational structures, whereby NGO's and for profit organizations are the spectrum's extremes.

2.1 Performance assessment

Ebrahim et al. (2014) argue that the specification of overseeing mechanism of agents' performance is highly important to determine a venture's performance. The agency theory specifies two primary possibilities; determining performance indirectly by monitoring management behaviour or determining performance directly by monitoring outcomes. The direct assessment relates to the primary objective of a social enterprise achieving a social mission, while the indirect approach seeks to minimize mission drift risks by managing employee behaviour. Brest (2012) and Cordes (2016) advocate for an outcome orientated assessment, since investors favour its clear goals and results. A focus on investors' perspective might be beneficial by increasing a venture's chances on external financing, since such chances are presently slim (Battilana et al., 2012, Brest, 2012, Yunus et al., 2010). Thereby, outcome assessment utilizes information available for independent auditing, while behavioural assessment utilizes internal information. The latter is generally more obscure. For these reasons this article uses an outcome driven assessment.

2.1.1 Social performance

As stated before, the primary objective of a social enterprise is achieving social impact. However, no consensus has been reached about which measurement is most appropriate (Berber et al., 2011, Ebrahim et al., 2014, Waddock & Graves, 1997). According to Ebrahim et al. (2014) this is mainly due to an absence of a common currency of measurement. Social impact has widely diverse goals such as combating illiteracy, poverty alleviation and achieving sustainability. Nevertheless, this has not stopped scholars proposing social impact measurement techniques.

The first solution to the issue of measuring social impact can be solved by translating social impact into a common currency of measurement. The cost-benefit analysis does this by translating social impact directly into a monetized currency. An example of such an approach is given by Cordes (2016). Providing shelter to homeless people might result in lowering public costs as policing and clean-up. The problem with a cost-benefit analysis is that it demands clear societal benefits of which financial information exists. This approach is not applicable for social enterprises combating poverty in third world countries, since no clear societal benefits and financial information exists for such social goals.

Waddock and Graves (1997) and Zhao and Murrell (2016) employ the extensively cited KLD social rating to determine social performance. However, they employ stakeholder relationship elements as social performance measurements. Within our study we do not reckon these dimensions to be indistinguishable but rather examine whether stakeholder relationships are influential to social venture's performance.

Wilburn & Wilburn (2014) argue to use the GIIRS framework, which evaluates information on accountability, employees, consumers, communities, and the environment. The social impact is assessed based on 130 to 180 factors (B Analytics, 2017). While this framework does seem to have attracted much positive attention, no clear rating scale is attached to the evaluation elements. This makes the framework incomparable and inapplicable to outsiders. The assessment is highly extensive and it does not make a distinction between stakeholder relationships and social performance either.

Ebrahim et al. (2014) advocate for a theory driven evaluation. This means that one examines the organizational inputs, such as equipment or financial resources, to support activities and the production of goods, such as food, shelter or schooling, that result in the output for a targeted beneficiary population. This study focuses on the output which Ebrahim et

al (2014) measure by the number of people reached and the immediate benefits to them. Such an assessment framework is proposed by Roundtable for product social metrics (2016). While it shows resemblance to the KLD and GIIRS frameworks' metrics and evaluation criteria, the Roundtable framework specifically assess the direct impact generated for the beneficiaries.

This study uses this immediate benefit as the first dependent variable, representing the social impact dimension. The second dependent variable of this study is a product of the immediate benefit, beneficiary reach and the IHDI index. The IHDI index represents a nation's poverty and is incorporated since operating in areas where people are most in need for it should be represented by a larger social impact.

2.1.2 Financial performance

While social impact is a social enterprise's primary objective, the venture seeks to create this through financial ***self-sufficiency***. This term is curiously not defined in social enterpreneurship literature. Hong, Sheriff & Naeger (2009) highlight *"freedom from dependence on government support"* while Gowdy and Pearlmutter (1993) add *"autonomy …, financial security and responsibility"* (in Hetling, Hoge & Postmus, 2016). Self-sufficiency enables the enterprise to pursue their social endeavours without external influences and enhances their ability to survive, wherefore they can create social impact over longer time-spans.

The financial academic field has established financial instruments to analyse whether ventures are able to achieve self-sufficiency. They do this by looking at the opposite of self-sufficiency; bankruptcy. Various scholars demonstrated that various solvency ratios are related to bankruptcy (Altman, 1968, Beaver, McNichols & Rhie, 2005, Brîndescu-olariu, 2016, Bryan, Tiras & Wheatley, 1999, Chakraborty & Sengupta, 2015, duJardin, 2017, Lai, Yee, Cheng, Ling & Leng, 2015). duJardin's (2017) demonstrates a wide collection of solvency ratios which can be used. However, many are not applicable to this study due to the absence of public availability of various accounting variables. Important to note is that social enterprises are not an acknowledged corporate entity in the Netherlands, wherefore they are often enlisted as private companies or NGO's. Profits are reinvested in NGO's operation wherefore the absence of profits tells nothing about the financial state of the organization. Cash flow information is absent in most ventures, because they are either small and do not publically possess such information or are not obliged to share such information due to Dutch legislation. Information which was most consistently available on Reach, the most inclusive financial database utilized by the University of Twente, was debt and assets. Short-term and Long-term debts to assets are acknowledged solvency ratios linked to self-sufficiency whose information was accessible to this study. These portray the ability of a company to meet long and short term financial obligations. These measurements portray the dependent variables of this study's financial performance dimension.

Moreover, the assets are utilized as a financial performance measure individually. Social enterprises invest profit into their own operations of which assets are a materialised and measurable representation. In contrast to the ratios, assets are absolute values and can thus be scaled. This makes the statistical analysis between key drivers and the dependent variable more revealing and explanatory.

2.1.3 Social and financial performance

The dual orientation of social enterprises has received attention from the field of study. In contrast to NGO's, social enterprises are characterised by their efforts to acquire financial means within their own operations in order to deliver longitudinal social impact. However, scholars are divided about the relationship between social and financial performance.

On the one hand, Ebrahim et al. (2014) believe that a financial orientation especially drives social enterprises away from their social mission in favour of their financial performance. Higher income target groups are addressed in order to increase financial performance, leaving the most in need beneficiary groups un-served. Moreover, Karnani (2007, in Agnihotri, 2013) believe that a financial orientation leads to the exploitation of beneficiaries. Beneficiaries are persuaded to buy unnecessary products over most needed products, such as a television over food. Finally, Foster and Bradach (2005) believe that financial endeavors are a waste of management resources which could otherwise been used to generate social impact.

On the other hand, various scholars believe that both performance orientations can reinforce each other. Rahdari et al. (2016) believes that financial independence makes the venture less negatively inflicted by interests of shareholders or governments. Devarapalli & Figueira (2015) believe that financial means are necessary to serve disadvantaged people over time and that a lack of financial capabilities obstructs the creation of social value. Mair and Marti (2006, in Ebrahim et al., 2014) believe that financial sustainability are especially needed to scale ones operations in order to reach beneficiaries. Finally, Yunus et al. (2010) state that NGO's need to invest time and effort on fund raising, while the more generic approach of social enterprises seeks to combine both the social and financial goals.

This study believes that social entrepreneurs are particularly capable and orientated on combining social and financial performance. It is in the nature of the organizational management which they employ and the business philosophy which they propagate. Therefore this study suspects a positive re-enforcement of both the enterprise's social and financial performance:

H1: The financial and social performance of social enterprises have a positive correlation to each other.

2.2 key performance drivers

Various scholars have appointed and articulated diverse elements as driving forces behind social enterprises' performances. The focus which scholars place on certain performance drivers depends on the theoretical embodiment from which they reason.

Donaldson and Preston (1995) depict the stakeholder theory as a web of influencers around a firm. These influencers are governments, investors, political groups, customers, suppliers, trade associations, employees and communities. Better involvement and cooperation with these influencers results in superior performance, or as Donaldson and Preston (1995, pg. 71) put it; "*adherence to stakeholder principles and practices achieves conventional corporate performance objectives as well or better than rival approaches*." Numerous scholars have adopted the stakeholder theory to explain social enterprise's success with regard to social impact and financial independence (Cordes, 2016, Ebrahim et al., 2014, Geissdoerfer et al., 2016, Haigh & Hoffman, 2012, Hudon & Périlleux, 2014, Joyce & Paquin, 2016, Yunus et al., 2010).

Wernerfelt (1984) and Peteraf (1993) describe the resource based view as a theorem which analyses the corporate's capabilities and resources to explain corporate success. Hereby the focus is placed on elements like the firm's knowledge, human resources and alliances. Gaining strength on various of such elements would result in superior performance than competitors, hence the term competitive advantage. Various social enterprise scholars have turned to the resource based view to explain these venture's success. Ebrahim et al. (2014) and Battilana et al. (2012) focus on a venture's customers structures to explain financial and social performance while numerous scholars see ability to scale the venture (Agnihotri, 2013, Battilana et al., 2012, Bloom & Chatterji, 2009, Bloom & Smith, 2010, Bocken, 2016, Brest, 2012, Devarapalli & Figueira, 2015, Ebrahim et al., 2014, França et al., 2016, Haigh & Hoffman, 2012, Joyce & Paquin, 2016, Prahalad, 2005, Rahdari et al., 2016) or innovate the business practice (Agnihotri, 2013, Bloom & Smith, 2010, Bocken et al., 2016, França et al., 2016, Geissdoerfer et al., 2016, Haigh & Hoffman, 2012, Joyce & Paquin, 2016, Rahdari et al., 2016, Yunus et al., 2010) as the key performance element.

The evolutionary economics theory, which was popularised by Joseph Schumpeter in the 1950's, shifts their attention to change and ability to adapt to uncertainty in order to explain corporate success. A company whom is able to adapt to its ever changing environment survives and obtains long-term success. Innovation, meaning to initiate such change oneself, is argued to be a key determinant of a social venture's performance (Agnihotri, 2013, Bloom & Smith, 2010, Bocken et al., 2016, França et al., 2016, Geissdoerfer et al., 2016, Haigh & Hoffman, 2012, Joyce & Paquin, 2016, Rahdari et al., 2016, Yunus et al., 2010).

Social enterprises are ventures with a distinctive business model compared to NGO's (Joyce and Paquin, 2016). While their value proposition shows much coherence with NGO's, the different financial structure influences the social venture's value architecture and value network substantially. While the profit orientated financial structure shows much resemblance with commercial enterprises, maximizing shareholders' value stands in sharp contrast with achieving social impact.

Strikingly, stakeholder management, customer structure, scalability and innovativeness all refer to business model aspects. Customer segments refer to the people for whom the company develops value and whom pay for this, which is central to a company's conduct of business. Stakeholder relationships refer to the ties a company has with influential external parties, which constitute the firm's architecture and logistics. Scalability refers to the scale a company achieves, which affects both internal and external scopes and strategic choices. Lastly, the innovativeness refers to the newness of a company's value creation, architecture and

revenue model, which are all elements of a company's business model. Therefore, this study argues that certain business model elements or adaptations drive the achieved performance of social enterprises.

2.2.1 Customer structure

A key aspect of a business model is the customer for whom value is created. Ebrahim et al. (2014) distinguish social enterprises by two customer structures. Differentiated ventures have separate customers and beneficiaries, while the customers and beneficiaries are the same entity within integrated ventures. The differentiated structure offers products to customers whom have substantial financial means. These financial sources are utilized to achieve social impact for the venture's beneficiaries. Differentiated structures are especially necessary when such beneficiaries lack the financial means for delivered social products or services (Battilana et al., 2012). While the financial means of a differentiated structure seem beneficial from an resource based view, it does pose the risk of mission drift (Battilana et al., 2012, Ebrahim et al., 2014). Mission drift means that customer value is prioritized over the beneficiary's value in order to enlarge financial gains, meaning that profit is prioritized over the venture's social mission. Integrated ventures do also face mission drift risk by targeting a beneficiary group with stronger financial means, abandoning a weaker financial beneficiary group which might have a bigger need for the product or service (Ebrahim et al., 2014).

There are two opposing arguments concerning the expected social performance of differentiated and integrated social enterprises. On the one hand, we expect differentiated ventures to have superior social performance since they deliver social value to indigent people. On the other hand, we expect differentiated ventures to have inferior social performance since mission drift drives them to abandon their priority to the social mission. In line with earlier argumentation, this study believes that social entrepreneurs are capable of managing mission drift. Their dual orientation and their employment of business philosophy make them most capable of helping financially weak customers without losing sight of their mission. Therefore this study suspects the following hypothesis:

H2: differentiated social enterprises have superior social performance compared to integrated social enterprises.

Due to the superior financial capabilities of the differentiated venture's customers, we expect that the financial performance of differentiated social enterprises is superior to the financial performance of integrated social enterprises. This leads to the following hypothesis:

H3: differentiated social enterprises have superior financial performance compared to integrated social enterprises.

2.2.2 stakeholder relationships

Various scholars have turned to the stakeholder theory to explain superior social and financial performance of social enterprises. França et al. (2016) consider the integration of an ecological sustainable business process as requirement of continuing to being competitive. Strong collaboration with one's value network is hereby vital to ensure such business practice. Haigh and Hoffman (2012) and Kolk and Lenfant (2016) add that such mutual benefit cooperation result in improved living standards and health of the poor, illustrating a clear link between stakeholder management and social impact. Torre (2013, in Zainon et al., 2014) argues that economic and environmental profit is to be gained by stakeholder inclusion. Valente and Crane (2010, p. 63) as well as Prahalad (2005) see stakeholder management crucial to gain deep knowledge and trust of local communities in developing countries (in Kolk & Lenfant, 2016). While stakeholder networks can be very extensive, social entrepreneurship literature seems to emphasize beneficiaries, customers, local communities, suppliers and employees (Agnihotri, 2013, Bocken & Prabhu, 2016, Ebrahim et al., 2014, Geissdoerfer et al., 2016, Haigh & Hoffman, 2012, Hudon & Périlleux, 2014, Johanisova, Crabtree & Fraňková, 2013, Joyce & Paquin, 2016, Kolk & Lenfant, 2016, Wilburn & Wilburn, 2014, Yunus et al., 2010, Zainon et al., 2014).

Missonier and Loufrani-Fedida (2014) evaluate the stakeholder engagement by analysing the stakeholder's incorporation in the problem definition process, the ability to arouse stakeholders to act and management of each actor's contribution. Harrison and Wicks (2013) evaluate the venture's stakeholder value creation by examining the goods and services a company delivers to each stakeholder, the organizational perceived justice, the affiliation with the company and the perceived opportunity costs.

These two frameworks employ mostly internal and indirect performance information, while this study is external and direct performance orientated. Presence within the value creation process and the value created by goods and services will therefore be the aspects on which the stakeholder relationship will be evaluated. The GIIRS framework will be incorporated to assess the created value.

Prior research is one-sided when it comes to the relationship between stakeholder relationships and the creation of social impact. Rahdari et al. (2016) and Geissdoerfer et al. (2016) state that such relations are vital, due to the complex and global nature of social challenges. Relationships with key agents are necessary to engage the solving on various levels, ranging from local to global. Yunus et al. (2010) believe that stakeholder cooperation is necessary, because an organization can only do one aspect really good. In case of the Grameen Phone, specialists in both understanding the needs of hard to reach populations and product offering were needed to make the project a success. Agnihotri (2013) stressed the same underlying reason why cooperation is highly important, especially for social enterprises; "*Amul (an Indian farmer's cooperative) allied with Tata Coffee (a major tea brand in India) to exploit the advantages of its extensive distribution network, especially in rural areas, to distribute Tata Coffee products*." (Agnihotri, 2013, pg. 593). Kolk and Lenfant (2016) believe that stakeholder relationships are needed to understand and respond to local needs to which a venture has no access without forming a connection. Battilana et al. (2012) and Kania and Kramer (2011, in Brest, 2012) believe that stakeholder relationships are needed to be able to reach disadvantaged communities. Haigh and Hoffman (2012), Joyce and Paquin (2016) and Agnihotri (2013) consider stakeholder relationships to automatically lead to social impact; by employing people from local communities, educating them and paying them above-market wages they are improving the quality of life of their beneficiaries and the communities they belong to. This all leads to the following hypothesis.

H4: Stakeholder relationships is positively related to a social enterprise's social performance.

The relationship to a financial performance is less undisputed. Various scholars (Harrison & Wicks, 2013, Torre, 2003, in Zainon et al., 2014, Geissdoerfer et al., 2016, Haigh and Hoffman, 2012) especially see stakeholder relationships as a means to achieve unique inputs. Discussed inputs are information, customer access and high supply quality. Such inputs lead to a competitive advantage, which is often seen as a vital aspect to remain economically viable in competitive environments. However, prior research has not acknowledged the necessity of stakeholder relationships to remain financially sustainable or recognized specific financial benefits as a result of stakeholder relationships. While this does impose vagueness to the subject, prior research leads us to believe the following hypothesis:

H5: Stakeholder relationships is positively related to a social enterprise's financial performance.

2.2.3 Scalability

Scalability and alliances are frequently discussed to be an important driver of social enterprises' operations. The stakeholder theory argues that the value network and partners of a venture are vital to a successful performance, while the resources base view recognizes alliances to broaden the venture's resource base, knowledge sharing and market accessibility (Agnihotri, 2013, Brest, 2012, França et al, 2016, Joyce & Paquin, 2016, Kolk & Lenfant, 2016, Yunus et al., 2010). Moreover, resource based and evolutionary economics literature argue that achieving scale is vital to gain superior resources and achieve competitive advantage (Agnihotri, 2013, Battilana et al., 2012, Bloom & Chatterji, 2009, Bloom & Smith, 2010, Bocken, 2016, Brest, 2012, Devarapalli & Figueira, 2015, Ebrahim et al., 2014, França et al., 2016, Haigh & Hoffman, 2012, Joyce & Paquin, 2016, Rahdari et al., 2016). Such resources articulate the superiority of the business model architecture, influencing the financial structure substantially. Moreover, the venture's value proposition and competitive advantage are strongly associated with one another.

One of the key influential groups of the stakeholder theory is commercial partners, with whom a venture seeks to form alliances. These partners supply materials, sell or distribute products, introduce the venture to new markets or perform activities which the venture thereby outsources. While alliance building is numerously articulated as performance driver independently (França et al, 2016, Joyce & Paquin, 2016, Kolk & Lenfant, 2016, Yunus et al., 2010), Shortell (2000) argues that alliances are a means to achieve scale benefits (in Payne, 2006). Moreover, Bloom and Chatterji (2009) integrate alliance building as an indicator of a venture's scalability, which this study adopts as well. Bloom and Chatterji (2009) and Bocken et al. (2016) work portray the most extensive studies of scaling social enterprises. Bloom and Chatterji (2009) proposed the SCALERS model, which identifies the dimensions of staffing, communication, alliance building, lobbying, earnings generation, replication and stimulating market forces as key drivers of scalability. Bocken et al. (2016) focus on a variety of scaling areas, namely on quantitative, functional, political and organisational scaling. Hereby they argue that the integration of four scaling strategies, namely market penetration, market development, product development and diversification, will result in increased amount of customers, expansion of service and increased profitability. Within this study the SCALERS model will be used, since it embraces a quantitative approach and has a predictive nature. Moreover, Middelkamp (2015) already applied the SCALERS model to Dutch social enterprises, revealing that alliance building, communicating and earnings generations are the most important SCALERS elements while lobbying is not relevant for Dutch social ventures.

Scalability is immensely important for social enterprises due to two core reasons, identified by Hammond et al. (2007) and Prahalad (2004); *"The immensity of the need to be addressed and the need for economies of scale to achieve financial sustainability"* (in Bocken et al., 2016). Thereby scalability is argued to specifically lead to enhanced profitability (Agnihotri, 2013), enhanced efficiency (Bocken et al., 2016, Payne, 2006, Prahalad, 2005) and an enhanced social impact scope (Battilana, 2012, Bocken et al., 2016, Brest, 2012, Joyce & Paquin, 2016, Prahalad, 2005, Rahdari et al., 2016). Scalability is thus expected to lead to a higher social performance because it enables social enterprises to reach more beneficiaries. Scalability is also expected to lead to a higher financial performance since it is expected to lead to lowered organizational costs through efficiencies as economies of scale.

H6: The venture's scalability is positively related to the social enterprise's social performance.

H7: The venture's scalability is positively related to the social enterprise's financial performance.

2.2.4 Innovativeness

Scholars employing the resource based view and evolutionary economics articulate innovation a key drivers of a social enterprise's performance (Agnihotri, 2013, Bloom & Smith, 2010, Bocken et al., 2016, França et al., 2016, Geissdoerfer et al., 2016, Haigh & Hoffman, 2012, Joyce & Paquin, 2016, Rahdari et al., 2016, Yunus et al., 2010). While some highlight product innovation (Agnihotri, 2013, Bocken et al., 2016) others emphasize business model innovation (Geissdoerfer et al., 2016, Joyce & Paquin, 2016, Yunus et al., 2010). This study focusses on business model innovation, since product and services are coherent with the value creation part of business models. Moreover, this study focus was established on business models, wherefore innovativeness should reflect this as well.

The academic field emphasize that the firm's ability to innovate enhances its social effectivity and its financial viability. Innovation refers to the newness of an aspect, referring to the consumer's tendency to purchase something new, the outcome state of a firm's activities, also known as product innovation, or the organizations capacity to create such novelty (Spieth & Schneider, 2015). While Corporate Social Responsibility (CSR) is becoming indispensable to achieve competitive advantage (França et al, 2016, Geissdoerfer, Bocken & Hultink, 2016, Joyce & Paquin, 2016, Rahdari et al, 2016), it is increasingly enforced through business model innovation (Brannon & Wiklund, 2016).

Various scholars have sought different approaches to examine business model innovation. Pioneering work of Schumpeter (1942, in Rahdari et al., 2016) addressed innovation as key element for all ventures. He classified innovation in five categories; a new strategy or method, a new market, a new source of supply/labor, and a new organizational or industrial structure. Prahalad (2005) highlights that innovation is vital for social enterprises to be able to propose value to the poor. He classifies twelve principles; price-performance envelope, incorporating new technologies, scalability, conserving resources, focus on functionality, process enhancement, deskilling work, educating people, appropriate performance under hard conditions, interface research, consumer innovation and high quality. Payne (2006) measures configurations, which is used as business model innovation measurement by Brannon and Wiklund (2016), by examining pricing, R&D, production capacity, scope of activities, distribution, production capabilities, physical size, organizational size, geographical dispersion, management contracting, horizontal and vertical relationships. This extensive model looks at both internal as well as external competences to access a firms' capabilities. Brannon and Wiklund (2016) emphasize that customer information and venture's tendency to experiment significantly boost business model innovation. Boso, Story, Cadogan, Micevski and Kadic-Maglajlic (2013) employ a resource based view by examining managers' assessment of innovativeness combined with the competitive environment, customer dynamism, networking capabilities and structural organicity.

While all of these frameworks are acknowledged and excellent to assess a venture's innovativeness, they all have key requirements which make them inapplicable for this study. The amount of assessment criteria make these frameworks highly elaborate, they utilize inside information and specialists' assessment in the assessment process. Therefore, this study turned to summative work representing a more simplistic assessment framework which better fitted the quantitative and outcome driven approach of this study. Spieth and Schneider (2015) and Yunus et al. (2010) present such summative work and both came to the same conclusion;

Business model innovation can be assessed on three different dimensions of value offering, value creation architecture and revenue model.

Rahdari et al. (2016) advocates for innovation being a critical element to accomplish social impact; *innovation is the magic wand at the hands of social entrepreneurs that provides them with the necessary paraphernalia to conquer the most chronic social and environmental issues that the society encounters while building their business*" (Rahdari et al., 2016, pg. 350). Basile et al. (2011, in França et al., 2016), Schaltegger et al. (2012, in França et al., 2016) and Wells (2013, in França et al., 2016) all see innovation as a means to achieve sustainable development over time. Case studies showed by Yunus et al. (2010) show that innovation in the field of value offering can lead to affordable payment structures, low product prices or the unprecedented fulfillment of basic needs. Innovation in the field of value architecture has the potential to lead to improved infrastructure, distribution channels and local employment opportunities. Agnihotri (2013) highlights the importance of innovation as well. Value offering innovation enables a venture to target the bottom of the pyramid by eliminating poverty premiums and adapting prices to buying powers. Value architectural innovation is needed to provide necessary infrastructure and eliminate supply uncertainty. Bocken et al. (2016) advocates that innovation leads to low-cost products and services, making it accessible to indigent people. Finally, Prahalad (2005) describes successful Indian enterprises whom converted to single-serve packaging to be affordable to customers and to adapt to their irregular flow of income. Concluding, scholars have acknowledged innovation of social enterprises as a driving force to reach and appeal to beneficiaries. These arguments lead to the following hypothesis of this study:

H8: Business model innovation is positively related to a social enterprise's social performance.

Similar to stakeholder relationships research, innovation is frequently connected to achieving competitive advantage. Herrera (2015, in Rahdari, Sepasi & Moradi, 2016) recognizes a direct link between social innovation and achieving competitive advantage. Baumgartner and Ebner (2010, in França et al., 2016) and Osterwalder and Pigneur (2011, in França et al., 2016) see business model innovation as a means to achieve sustainable competitive strategies. Brannon and Wiklund (2016) see innovation as a means to achieve a unique business model, which they consider to be positively linked to financial performance. Spieth and Schneider (2015) believe that innovation leads to higher growth rates and through that higher profitability. Payne (2006) add that such scale facilitate organizational efficiencies as economies of scale, lowering the operational costs of a venture. Finally, Boso et al. (2013) see innovation as a strategic resources to outperform completion. Moreover, they believe that innovation is of higher importance in international markets, in which social enterprises characteristically operate, due to more competitors. This leads us to the following hypothesis:

H9: Business model innovation is positively related to a social enterprise's financial performance.

3. Methodology

3.1 Measurements

As noted earlier, this study consists out of two independent variables and four dependent variables. The first independent variable is social performance, which consists out of Health and safety, Training and education, Food and shelter, Means of living, Long term benefits and Collective positioning. The evaluated criteria are adopted from the GIIRS framework of B analytics (2017) and the product social impact assessment of Roundtable for product social metrics (2016).

Health and safety refers to degree to which a company influences the health and safety of the beneficiaries involved. Training and education refers to the degree of which a company seeks to expand its beneficiaries' capabilities and skills. Food and shelter refers to the degree to which a company enables its beneficiaries to gain access to food and/or shelter. Means of living refers to the degree of which a company enables its beneficiaries to gain economic compensation. Long term benefits refers to the degree to which a company provides future benefits for its beneficiaries, like retirement and social recognition. Finally, the collective positioning refers to the degree to which a company enhance their beneficiaries' collective authority towards other parties.

The social performance's criteria are scored on a five point scale like the KLD rating framework of Waddock and Graves (1997). However, their scale ranged from -2 (mayor concerns) to 2 (mayor strengths). This is not applicable for this study since no enterprise from the sample deteriorated the beneficiaries' circumstances. Therefore this study's scale ranges from 0 to 4. 0 means no significant impact created on this criterion while 4 means mayor impact created on this criterion. The social performance score is a sum score of ordinal criterion scores, making it an interval variable. Scoring 2 on sub dimension 1 and scoring 2 on sub dimension 2 thus makes no difference in the final score. This means that ventures with strong highly focussed impact have the same overall impact as a venture with a less strong but widely dispersed impact.

The social performance variable is multiplied with the number of beneficiaries reached, since the mission of a social enterprise is to help poor or disadvantaged populations, as big as possible. Finally, the variable is divided by the IHDI score of the corresponding country where the venture creates social value. The inequality adjusted human development index (IHDI) is a composite indicator of a nation's poverty, inequality and development, thus representing the living conditions of countries worldwide. The IHDI is incorporated since inequality and poverty are the social issues which social enterprises want to diminish. A higher index represents good and developed living conditions. Countries with lower indices have a fiercer need of social solutions, wherefore a venture's social performance is higher when operating in these geographical areas. A higher IHDI score should result in a lower social performance, wherefore the sub-score is divided by the IHDI.

$$Social\ performance = Social\ Impact \times No.\ Beneficiaries \times \frac{1}{IHDI}$$

The financial performance, which is the second independent variable of this study, will be measured by the short-term debt to assets as well as the long term debt to assets ratio. Prior literature has shown that these ratios represent the financial health of a venture. However, some ventures within this study were starting or expanding, wherefore they might access more

debt financing. For this reason assets, representing the accumulated internal financial strength of the company, are used as financial performance measure as well.

$$\textit{Short term debt to asset ratio} = \frac{\textit{Short term debt}}{\textit{Total assets}}$$

$$\textit{Long term debt to asset ratio} = \frac{\textit{Long term debt}}{\textit{Total assets}}$$

The customer structure will be analysed by looking at the companies' separation of customers and beneficiaries. This will be captured by a dummy variable, whereby 0 means a differentiated customer structure and 1 means an integrated customer structure.

The value assessment differs for each stakeholder, again inspired by the GIIRS framework of B analytics (2017) and the product social impact assessment of Roundtable for product social metrics (2016). The criteria of the stakeholder relationship are score from 0 to 2, whereby 0 means no significant visible relationship between the social enterprise and the stakeholder, 1 means some form of relationship and 2 means an intimate relationship. This scale is not broader than 3 possibilities since information obscurity prevented a trustworthy larger scale. Negative scores were excluded since no information showed negative stakeholder relationships. The relationship score was based on frequency of interaction, level of cooperation, presence of communication and voice of the stakeholder. The employee relationship is excluded from this study due to information obscurity, while the beneficiary relationship is incorporated in the social performance measure. The stakeholder relationship score is a sum score of ordinal criterion scores, making it an interval variable.

$$\textit{Stakeholder relationships} = \textit{local community relationship} + \textit{supplier relationship} + \textit{customer relationship}$$

The scalability is measured by SCALERS model. The lobbying variable will be excluded since Middelkamp (2015) demonstrated that his variable had no significant influence on the scalability of Dutch social enterprises. The staffing variable will be excluded since it demands internal information, which was inaccessible for this study. The communication variable will be excluded since its evaluation is obscure and subjective, which is not in line with this study's quantitative approach. We use Bloom and Chatterji (2009) descriptions of the remaining variables; "*The capability of **Alliance Building** refers to the effectiveness with which the organization has forged partnerships, coalitions, joint ventures, and other linkages to bring about desired social changes*", "*The capability of **Earnings Generation** refers to the effectiveness with which the organization generates a stream of revenue that exceeds its expenses*", "*The capability of **Replicating** reflects the effectiveness with which the organization can reproduce the programs and initiatives that it has originated", "Our final capability of **Stimulating Market Forces** covers the effectiveness with which the organization can create incentives that encourage people or institutions to pursue private interests while also serving the public good".* In line with the research of Bloom and Chatterji (2009) this study uses a five point scale. 0 means that the company shows no significant competence on this criterion, while 4 represents high competence of the given criterion. The scalability score is a sum score of ordinal criterion scores, making it an interval variable.

SCALERS score = Alliance building + Earnings generation
+ Replicability + Stimulation of market forces

Business model innovation is assessed on three business model dimensions, described by Spieth and Schneider (2015). These are the value offering, the value creation architecture and the revenue model. Each criterion is scored on a scale from 0 to 2, whereby 0 means no significant visible innovativeness, 1 means slightly innovative and 2 means highly innovative. The little available information concerning comparisons of innovativeness and the subjective nature of this variable did not allow a trustworthy larger scale. The scores will be operationalised based on the newness and uniqueness of each of the three criteria. The uniqueness and newness is based on a comparison of each social enterprise compared to its competitors in their industry. The innovativeness score is a sum score of ordinal criterion scores, making it an interval variable.

Innovativeness = newness value offering + newness value architecture
+ newness revenue model

3.2 Sample

Social enterprises in the Netherlands were identified by consulting Social Enterprise NL. This had multiple advantages. Firstly, the definition which this organization employs shows much resemblance with the general definition of social enterprises found in literature, see appendix. Secondly, this organization had access to confidential information from the enterprises, making their selection procedure trustworthy. A total of 290 social enterprises, subscribed in the Dutch chamber of commerce, were hereby identified. While we recognize that there might be social enterprises in the Netherlands whom are not affiliated with Social Enterprise NL, the 290 enterprises are seen as the population. The data collection process resulted in a sample of 60 social enterprises. This sample reduction was based on the selection criteria of social mission priority, exclusion of the social enterprise sub groups sustainable and inclusive ventures, incorporation of contemporary societal issue and availability of financial accounting information.

3.3 Data collection

After collecting all company names from Social Enterprise NL, further data was collected. This process was dividable into three sections; terminological, financial and social selection.

Firstly, The company's functioning was explored. Certain companies were eliminated from the sample firstly due to inadequacy or absence of a social mission as primary goal. Hereby certification as Fairtrade was not seen as a sufficient endeavour. Secondly, this study eliminated two types of recognized sub-groups of social enterprises; sustainable and inclusive ventures. Sustainable social enterprises are judged not by a social but by a sustainability measure. This makes the assessment vastly different, since different measurements and information are needed. Inclusive ventures include people, often with a distance to the labour market, as employees within their organization. This internal approach does not adopt a social corporate goal but a social business structure. This makes the social impact's nature vastly different from social enterprises that create social value through their method of conducting business. Thirdly, the social goal was needed to focus on a contemporary issue rather than those around for ages.

Hospitals often fulfil a social issue, namely hazardous health circumstances, in a partially profitable way. This would incline that hospitals are social enterprises, while this terminology is meant for a far more select group of enterprises. Solely hospitals that fulfil a contemporary variant of it are considered to be a social enterprise, for example hospitals in Kenya vaccinating inhabitants for tetanus. These selection criteria led to a sample reduction from 290 to 114 companies. This process stage also led to the recognition of the internationality and industry control variables.

Secondly, the financial data of the remaining companies was collected from the database Reach, which is linked to the Dutch chamber of commerce. Almost half of the remaining companies had no available financial data. Important to note is that social enterprises are not an acknowledged corporate entity in the Netherlands, wherefore they are often enlisted as private companies or NGO's. Profits are reinvested in NGO's operation wherefore the absence of profits tells nothing about the financial state of the organization. Cash flow information is absent in most ventures, because they are either small and do not publically possess such information or are not obliged to share such information due to Dutch legislation. Information which was most consistently available on Reach, the most inclusive financial database utilized by the University of Twente, was debt and assets. These criteria lead to a sample reduction from 114 to 60 companies. The control variables of size and age were derived from the database Reach as well.

Thirdly, the remaining companies were analysed in depth by accessing information from the company itself and by acquiring journalist articles by consulting the database LexisNexis. This information was translated in the company's social performance score. The social performance score was multiplied by the amount of reached beneficiaries, resulting in a second score. This information came almost exclusively from the venture's own annual reports and articles or from information gathered by e-mails and phone calls. This variable was divided by the Inequality-adjusted Human Development Index, resulting in the final score. This index was accessed from the United Nations.

Certain assumptions and methods were needed to score certain ventures. Companies whom enabled other companies to create social impact and were thus indirectly responsible for the created social impact were awarded only 50% of the score. This approach utilizes the assumption of *partial impact responsibility*. Some companies financially invested in NGO's, development projects or individuals. Due to information and time constraints, available project examples were analysed. The cost of the projects were compared to the total amount of investment and the amount of reached beneficiaries was multiplied by this factor. This approach utilizes the assumption of *homogeneity of investment portfolio* and the assumption of *representative available projects*. Finally, some companies solely disclosed information covering multiple years. The impact over these years was divided by the amount of years to result in a score for 2016. This approach utilizes the assumption of *gradual impact creation*.

Finally, the scores of the customer structure, stakeholder relationships, scalability and innovativeness was derived from the companies' disclosed and third party information.

4. Results

4.1 Sample descriptive statistics

We firstly look at frequency histograms to observe extreme value which might influence the descriptive statistics. This lead to the following exclusions; ventures older than 20 years, ventures with more than a 100 employees, ventures with more than a € 100 million worth of assets, ventures with a larger value than 2 on the short-term-debt-to-assets ratio and 10 on the long-term-debt-to-assets ratio. The Social Performance range was widely dispersed wherefore a critical outlier value could not be acknowledged.

Firstly, we see that social enterprises in the Netherlands are especially present in the Manufacturing and Production as well as the Services and Platform industries, see appendix A. Two-thirds of the social enterprises work in an international context, they are on average 6 years old and employ an average of 9 employees. They have an average of € 1.4 million worth of assets, an average short-term-debt-to-assets ratio of 0.56 and an average long-term-debt-to-assets ratio of 0.57. They almost score a 4 on average for social performance, an average 1.3 million on social performance range and an average of 1.55 million on social performance range IHDI. Due to the similar nature of the social performance range and social performance range IHDI variables, only the latter of the two will be used as independent variable. The beneficiaries and customers are generally not the same entity, they score an average of 2 on stakeholder relationships, an average of 9 on scalability and an average of 1 on innovativeness.

Table 1.
Descriptive statistics

Variable	mean	S.D.
Asset	$1.4769 * 10^6$	$2.9484 * 10^6$
Short-term-debt-to-assets	0.5605	0.3731
Long-term-debt-to-assets	0.5682	0.8536
Social performance	3.9976	2.4956
Social performance Range IHDI	$1.5504 * 10^6$	$7.8383 * 10^6$
Customer structure	0.29	0.458
Stakeholder relationships	2.31	1.240
Scalability	9.62	2.198
Innovativeness	1.18	1.093
Industry	-	-
Internationality	0.67	0.477
Age	6.49	4.176
Size	9.04	15.127
Range	$4.0737 * 10^7$	$2.5117 * 10^6$
IHDI	0.5424	0.2388

4.2 Assumption testing of linear regression

This study investigates whether the social enterprise's customer structure, stakeholder relationships, scalability and innovativeness has a causal relation to the venture's social or financial performance. This therefore asks for a multiple regression analysis. This analysis has certain assumptions which need to be met.

Firstly, the dependent variables must be scale variables, which they all are. The independent variables must be ordinal or scale variables, which they all are.

Secondly, the scale variables must be approximately normally distributed. See Appendix B.1 for the graphs. The age variable was rightly skewed, wherefore the logarithmic value of the

variable was used. No sample units were needed to be excluded. The size variable was also rightly skewed, wherefore the logarithmic value of the variable was used. Excluding outliers did not result in a better approximation of a normal distribution, wherefore no sample units were excluded. The assets variable was also rightly skewed, wherefore the logarithmic value of the variable was used. Sample units with a logarithmic value bigger than 8 were excluded. The short-term-debt-to-assets variable was not normally distributed. While this assumption was not met for this variable it was used for examination while its results were analysed more critically. Sample units bigger than 2 were excluded. The long-term-debt-to-assets variable was widely dispersed and the value of 0 was overrepresented. Therefore this variable was excluded for further analysis. The social performance was naturally normally distributed after excluding variables bigger than 8. The social performance range and social performance range IHDI were both naturally normally distributed without outliers. This was also the case for stakeholder relationships. The scalability variable seemed to have outliers with values smaller than 6 and bigger than 12. However, excluding these sample units decreased the normality distribution by increasing the skewness of the distribution. Therefore no sample units were excluded for the scalability. The innovativeness was also naturally normally distributed without outliers.

Thirdly, the observations must be independent from each other for all models, see Appendix B.2. This was tested by means of the Durbin-Watson test. For all the models, with the Logarithmic Assets (model I), Short-term-debt-to-assets (model II), Social Performance (model III) and Logarithmic Social Performance Range IHDI (model IV) as dependent variables, the Durbin-Watson value was above one wherefore we can accept independence of observations.

Fourthly, the variables must not be multi-collinear with each other, see Appendix B3 and B4. This was tested with the collinearity tolerance statistics. For each model the tolerance values of each independent variable were under 0.9, wherefore we can assume no multi-collinearity. This was verified with collinearity diagnostics, which gave a different result. In all models, the innovativeness variable was collinear with the size. In models I, II and III, the innovativeness variable was collinear with the internationality. In model I, II, III the industry and internationality were collinear. In model II, III and IV the stakeholder relationships were collinear to internationality. In model IV the internationality and customer structure were collinear. We can thus see that there was much collinearity between the variables. Strikingly, the scalability variable proved to be a very strong measurement of its dimension. This study took multicollinearity into account by exclusion of independent variables, critical analysis of results and post-analysis of collinear variables.

Fifthly, outliers were excluded by using the Mahalanobis distance of sample unit for each model. This distance determines whether units are considered outliers based on how many standard deviations each unit is away from the mean of the distribution. The critical value was based on the chi square statistics. The value for a 95% significance level for eight degrees of freedom was 15.51. Mahalanobis distances bigger or equal to this value were excluded. For model I and II 10 units were excluded, for model III 9 units were excluded and for model IV 8 units were excluded and 5 units had missing values.

Moreover, the observed and expected values of each dependent variable were plotted in a P-P plot to assess whether the models explanatory strength was satisfactory, which was the case for all models, see Appendix B5. The scatterplots of standardized predictive and residual values showed even distribution for all models, indicating homoscedasticity of the samples. This was further analysed for each predictive value. The homoscedasticity assumption was met for almost all independent variable in each model. The size variable in model I, the scalability variable in model II, the internationality variable in model III and the size and scalability

variable in model IV showed some heteroscedasticity signs. This was taken into account by assessing the results of the corresponding variables more critically.

4.3 Pre-tests: Pearson's correlation and linear regression scatterplots

The relations of the variables were firstly pre-tested by the Pearson's correlation matrix. These results firstly indicated of potential relationships and indicated potential multi-collinearity. The asset value was correlated to the internationality, age and size control variables. Moreover the social performance range IHDI and scalability seem to be correlated to the asset variable as well. The short-term-debt-to-assets and long-term-debt-to-assets were not correlated any of the variables. The social performance variable was correlated to the internationality and stakeholder relationship variable. The social performance range IHDI was significantly correlated to the size, assets and scalability variables. The industry variable was significantly correlated to the innovativeness variable. The internationality variable was significantly correlated to the customer structure, stakeholder relationship and scalability variables. Finally the scalability variable was significantly correlated to the size, asset and social performance range IHDI variable as well.

Table 2.
Descriptive statistics and correlation matrix

	Variable	Mean	S.D.	1	2	3	4
1	Log (Assets)	5.5946	0.7258	1.00			
2	Short-term-debt-to-assets	0.5567	0.3656	0.033	1.00		
3	Social performance	3.9651	2.5122	-0.045	-0.123	1.00	
4	Log (Social performance Range IHDI)	3.7840	1.5485	0.579***	0.194	0.003	1.00
5	Customer structure	0.30	0.462	-0.041	0.083	-0.145	0.032
6	Stakeholder relationships	2.26	1.259	-0.078	0.022	0.282*	-0.095
7	Scalability	9.60	2.164	0.298*	0.345**	-0.100	0.396**
8	Innovativeness	1.15	1.083	-0.001	0.038	0.127	0.070
9	Industry	-	-	-0.240	0.034	0.070	0.053
10	Internationality	0.66	0.479	0.305*	-0.088	0.354**	0.207
11	Log (Age)	1.6644	0.6753	0.379**	-0.024	0.021	0.287*
12	Log (Size)	1.3726	1.2539	0.573***	0.295*	-0.192	0.566***

	5	6	7	8	9	10	11	12
5	1.00							
6	-0.022	1.00						
7	0.008	0.019	1.00					
8	0.081	0.213	0.038	1.00				
9	0.083	-0.087	-0.232	-0.360**	1.00			
10	-0.309*	0.349**	0.250	0.044	-0.068	1.00		
11	-0.083	-0.041	-0.034	-0.036	0.113	0.153	1.00	
12	-0.041	-0.166	0.213	-0.089	-0.095	0.120	0.310*	1.00

** p < 0.05, ** p < 0.01, *** p < 0.001*

Secondly we look linear regression scatterplots and their explainability of the dependent variable's variance, see Appendix C. We therefore look at the coefficient of determination which is a measure of goodness-of-fit of the model. We could not use the

customer structure or internationality variables for this analysis since they are dummy variables. The industry variable could not be used due to its nominal nature. Sample units with a Mahalanobis distance bigger or equal to 15.51 we considered outliers. In model I we see that the age, size and scalability variables gave the impression to potentially be significant explanatory variables; they explained 10.4, 23.9 and 9.3% of the asset variable's variance. In model II this was the case for the size and scalability variables; they explained 9.6 and 10.7% of the short-term-debt-to-assets variable's variance. In model III such assumptions can be made solely about the stakeholder relationship variable: it explained 8.5% of the social performance variable. Finally, in model IV a close look was taken at the age, size and scalability variables; they explained 7.0, 32.1 and 21.7% of the social performance range IHDI variable.

4.4 Relations between performance variables

In order to understand the overall performance of social enterprises, it is important to validate whether there are correlations between the items which this study considers performance measurements or outcomes. This was pre-tested by a Pearson's correlation matrix. The individual parts of the social performance range IHDI measurement were taken, since it is known that product variable has a correlation to all of the individual parts. From this analysis we see that the asset variable shows correlations with the IHDI and Range variable, while the Social performance measurement shows correlations with the IHDI variable.

Assets bigger than € 100 million, Ranges bigger than 5 million beneficiaries, IHDI's smaller than 0.2 or bigger than 0.8 and social performances bigger than 8 were seen as outliers in the simple linear regression analyses.

The simple linear regression analysis shows that the range and asset variables have a significant correlation to each other. This is not surprising since both variables are significantly explained by the size and scalability of the venture. Both explain 12.6% of each other's variance.

More surprising is that the IHDI and the assets, which showed no resemblance in the explanatory variables driving them, have a significant correlation. They explain 10.6% of the variance of each other. Finally, the IHDI and the social performance are not significantly correlated on a $\alpha = 0.05$ level when tested in a simple linear regression analysis.

Table 3.
Descriptive statistics and correlation matrix dependent variables

	variable	Mean	S.D.	1	2	3	4	5
1	Log (Assets)	5.5801	0.7761	1.00				
2	Short-term-debt-to-assets	0.6253	0.5544	-0.119	1.00			
3	Social performance	3.9812	2.4682	0.059	-0.030	1.00		
4	IHDI	0.5452	0.2356	-0.403**	-0.048	-0.417**	1.00	
5	Log (Range)	3.2017	1.6165	0.460**	0.146	-0.192	-0.100	1.00

** p < 0.05, ** p < 0.01, *** p < 0.001*

Table 4.
Linear regression results dependent variables

Variable	Model 1 Coefficient (S.E.)	Model 2 Coefficient (S.E.)	Model 3 Coefficient (S.E.)
Log (Asset)	DV	-0.039 (0.019)*	
Social performance			-0.014 (0.009)
IHDI		DV	DV
Log (Range)	0.195 (0.073)*		
R^2	0.126	0.106	0.061
Adjusted R^2	0.109	0.082	0.034
Model significance	0.010	0.043	0.140

** p < 0.05, ** p < 0.01, *** p < 0.001*

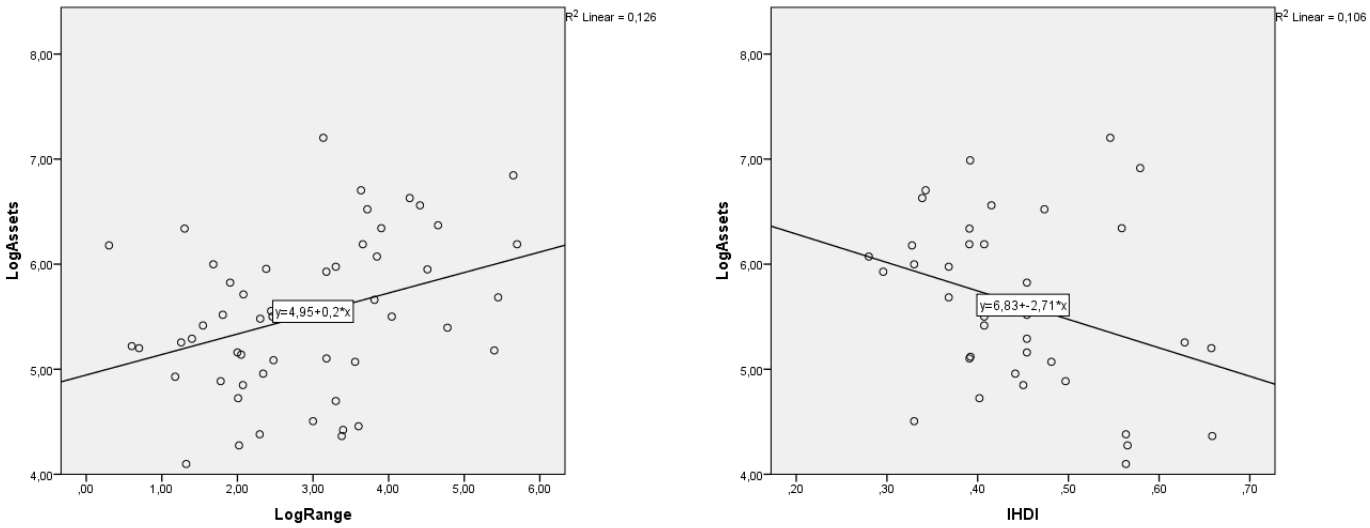

Fig 1 & 2: Significant relations between range and assets and between IHDI and assets.

This portrays evidence to partially accept hypothesis 1. The social performance, which is a product of the beneficiary benefit, reach and IHDI, is significantly correlated to a social venture's assets, while it is not to a venture's financial health ratios.

4.5 Multiple regression analysis: results

The first model was tested with only the independent variables, which resulted in an insignificant model. When the control variables were added, the model did become significant. This was mainly due to the size variable, which was the only significant independent variable on a $\alpha = 0.05$ level. When the innovativeness, industry and size variable were excluded, due to multicollinearity reasons, the age variable became the sole significant variable in a significant model. These three analyses showed that the best predictors were the age, size and scalability variable, whom were not collinear with each other. Independently, they were all significant explanatory variables of the assets variable. The size variable prove to be an almost perfect predictor variable, being significant on a $\alpha = 0.01$ level. Thereafter the age was the best predictor and then the scalability variable. Interestingly, when put together in one model, the

age variable is the sole variable which falls out of significance. When putting the remaining two variables in one model, only the size variable retains significance. Further analyses excluded the possibilities of mediating or moderating effects between the scalability and size variables.

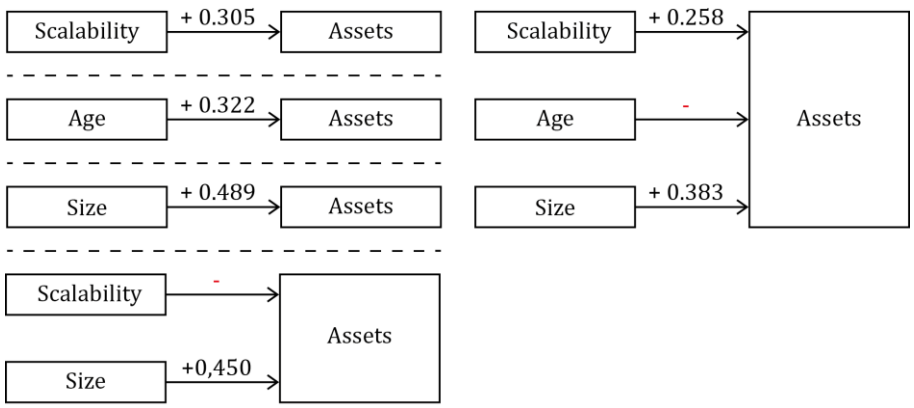

Fig 3: relations independent and dependent variables model I, standardized coefficients.

This model analysis leads us to reject H3, H5, H9 while we accept H7 when the assets are taken as financial performance indicator.

In the second model, the independent variables did not result in a significant model. When the control variables were added, the model became significant. This was due to the scalability and size variable, which were both significant. The customer structure, innovativeness, internationality and age variables were excluded due to multicollinearity reasons and observable non-relationships to the dependent variable. In the remaining model, only the scalability and size variables remained significant. Both variables were significantly related to the dependent variable individually on an $\alpha = 0.05$ level. However, neither of them were significantly related to the dependent variable when both were placed in one model.

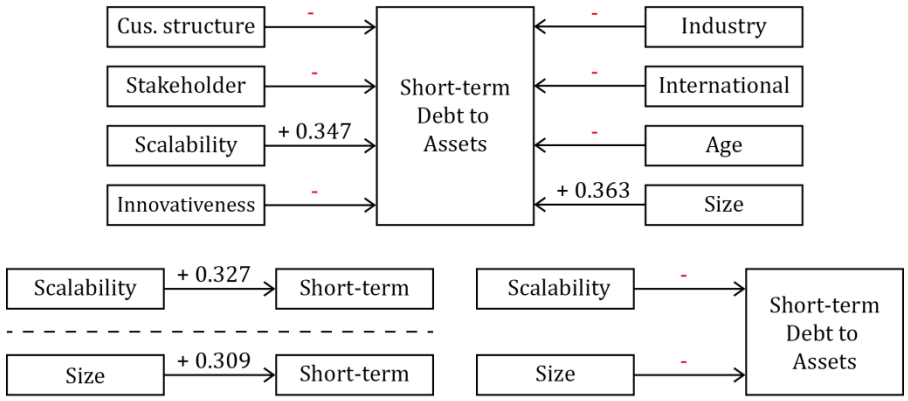

Fig 4: relations independent and dependent variables model II, standardized coefficients.

This model analysis leads us to reject H3, H5, H7 and H9 when the short-term-debt-to-assets are taken as financial performance indicator. The rejection of H9 is however somewhat questionable since there seems to be some relationship between scalability and short-term-debt-to-assets. This is however not consistently the case. All results are documented in table 5 on the next page.

Table 5.
Linear regression results, Financial performances.

Dependent variable	Log (assets)						Short-term-debt-to-assets				
Variable	Model 1 Coefficient (S.E.)	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11
Customer structure	0.169						0.069				
	(0.220)						(0.114)				
Stakeholder	-0.098						0.068	0.0.31			
relationships	(0.092)						(0.047)	(0.044)			
Scalability	0.055	0.093	0.082	0.110			0.057	0.050	0.045	0.054	
	(0.046)	(0.044)*	(0.045)	(0.050)*			(0.024)*	(0.023)*	(0.022)	(0.022)*	
Innovativeness	0.094						-0.001				
	(0.093)						(0.048)				
Industry	-0.087						0.042	0.038			
	(0.055)						(0.029)	(0.027)			
Internationality	0.373						-0.201				
	(0.227)						(0.118)				
Log(Age)	0.250	0.251			0.331		-0.048				
	(0.132)	(0.128)			(0.140)*		(0.069)				
Log(Size)	0.166	0.192	0.226			0.245	0.078	0.060	0.054		0.067
	(0.064)*	(0.063)**	(0.063)**			(0.063)	(0.031)*	(0.030)	(0.029)		(0.030)*
R^2	0.456	0.345	0.290	0.093	0.104	0.239	0.313	0.210	0.166	0.107	0.096
Adjusted R^2	0.350	0.302	0.260	0.074	0.085	0.223	0.179	0.140	0.130	0.088	0.077
Model significance	0.001**	0.000***	0.000***	0.031*	0.023*	0.000***	0.036*	0.028*	0.014*	0.021*	0.029*

** p < 0.05, ** p < 0.01, *** p < 0.001*

In the third model, both the analyses with all explanatory variables and all explanatory and control variables did not result in a significant model. The two strongest explanatory variables, the stakeholder relationships and customer structure, together did not result in a significant model either. The stakeholder relationships did show a significant explanatory relationship to the social performance solitarily. When the internationality variable was analysed together with the stakeholder relationships and customer structure, solely with the stakeholder relationships and solitarily, it shows a consistent significant relationship to the dependent variable. When the relation of the internationality variable was analysed to both the social performance and the stakeholder relationship as dependent variables, the multivariate analysis shows significant relations. A mediating effect can be discarded, since the relation of the stakeholder relationships on the social performance is insignificant when the internationality variable is in the model.

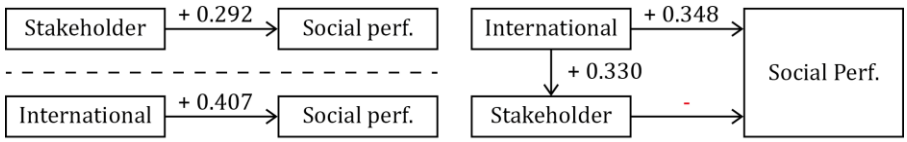

Fig 5: relations independent and dependent variables model III, standardized coefficients.

This model leads us to reject H2, H4, H6 and H8. The rejection of H4 is however somewhat questionable since there seems to be some relationship between stakeholder relationships and beneficiary immediate benefit as social performance indication. This is however not consistently the case. Moreover, this analysis suspects but does not prove a mediating effect of the internationality variable.

The multiple regression analysis of model IV showed a very clear message. All analyses showed significance. The analysis with solely the explanatory variables showed that the scalability variable has a highly significant relation to the social performance range IHDI. When all control variables were added, the size variable shows an even stronger explanatory relation to the dependent variable. The scalability and size variable were able to explain 40.6% of the dependent variable's variance with almost certainty.

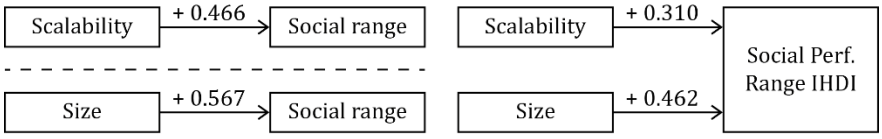

Fig 6: relations independent and dependent variables model IV, standardized coefficients.

This model leads us to reject H2, H4 and H8 and accepts H6. Interestingly the scalability is positively related to the social performance when the reach and IHDI components are added while the stakeholder relationships show no significant explanatory relationship. To examine whether the reach or IHDI components are the driving forces behind this change a post-test of the individual components was performed. All results are documented in table 6 on the next page.

Table 6.
Linear regression results, Social performances.

Dependent variable	Social Performance					Social Performance Range IHDI			
Variable	Model 1 Coefficient (S.E.)	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Customer structure	0.067					0.280			
	(0.819)					(0.519)			
Stakeholder	0.267	0.643	0.387		DV	0.087			
relationships	(0.333)	(0.304)*	(0.306)			(0.220)			
Scalability	-0.203					0.253	0.238	0.358	
	(0.174)					(0.104)*	(0.095)*	(0.101)**	
Innovativeness	0.092					0.284			
	(0.341)					(0.195)			
Industry	0.081					0.165			
	(0.206)					(0.128)			
Internationality	2.264		1.815	2.120	0.765	0.093			
	(0.850)*		(0.724)*	(0.687)**	(0.312)*	(0.547)			
Log(Age)	-0.174					0.186			
	(0.487)					(0.313)			
Log(Size)	-0.220					0.494	0.488		0.599
	(0.223)					(0.145)**	(0.130)**		(0.130)***
R^2	0.267	0.085	0.193	0.166	0.109	0.479	0.406	0.217	0.321
Adjusted R^2	0.124	0.066	0.159	0.148	0.091	0.369	0.379	0.200	0.306
Model significance	0.092	0.040	0.006**	0.003**	0.018*	0.001**	0.000***	0.001**	0.000***

** p < 0.05, ** p < 0.01, *** p < 0.001*

4.6 Post-test Social Performance Range IHDI

All three of the separate parts of the dependent variable of model IV were separately examined to determine which part drives the outcome of this analysis. The social performance per beneficiary is already examined in model III. As we can see it has significantly different results than the social performance range IHDI variable.

In model V, we look at the range variable as dependent variable. This variable is rightly skewed, wherefore a log variable is utilized. Sample units bigger than 6 are considered outliers. The Durbin-Watson statistic was above one wherefore we can accept independence of observations. All collinearity statistics were smaller 0.9, wherefore we can assume no multi-collinearity. This was verified with collinearity diagnostics, which shows that innovativeness was collinear with multiple different variables. Moreover, the stakeholder relationships and internationality were collinear as well. This was taken into account in the conclusions of further analyses. The observed and expected values of each dependent variable were plotted in a P-P plot to assess whether the models explanatory strength was satisfactory, which was the case. The scatterplots of standardized predictive and residual values showed even distribution for all models, indicating homoscedasticity of the samples. This was further analysed for each predictive value. There seems to be some heteroscedasticity signs solely for the size variable. The exclusion of sample units with Mahalanobis distances bigger or equal to 15.51 led to 9 exclusions together with 8 missing values.

We see clearly that the results of the multiple regression analysis of model V is highly similar to the results of model IV. Solely the size and scalability variables are highly significantly related to the range variable. A striking difference is that when both independent variables are put into the analysis together, only the size variable is significant. However, due to its heterogeneity and the level of significance of the scalability variable solitarily, we have reasons to suspect a relation between the scalability and range of a social enterprise.

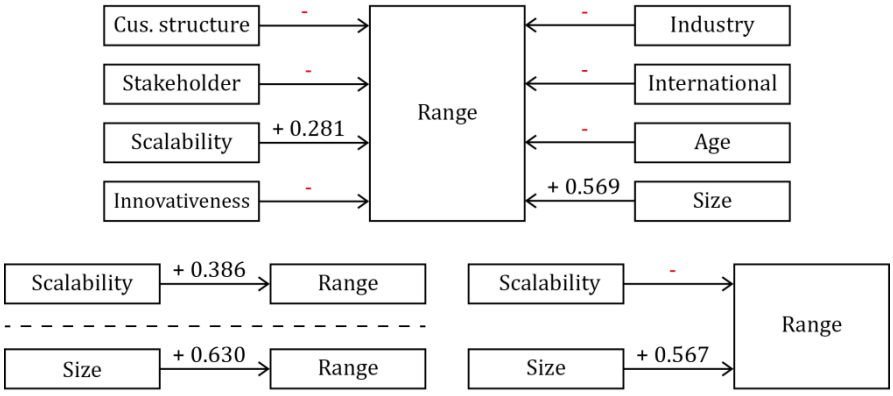

Fig 7: relations independent and dependent variables model V, standardized coefficients.

In model VI, we look at the IHDI variable as dependent variable. Variables bigger than 0.8 or smaller than 0.2 were considered outliers. The Durbin-Watson statistic was above one wherefore we can accept independence of observations. All collinearity statistics were smaller 0.9, wherefore we can assume no multi-collinearity. This was verified with collinearity diagnostics. Only the stakeholder relationships and industry variables show some slight collinearity. The observed and expected values of each dependent variable were plotted in a P-P plot to assess whether the models explanatory strength was satisfactory, which was the case.

The scatterplots of standardized predictive and residual values showed even distribution for all models, indicating homoscedasticity of the samples. This was further analysed for each predictive value. The internationality and customer structure showed clear signs of heterogeneity and were thus excluded from further analysis. The exclusion of sample units with Mahalanobis distances bigger or equal to 15.51 led to 28 exclusions.

None of the analyses resulted in relationships which came close to significance. While the size component is the best explanatory variable to explain the range of a venture, we see a strong relationship between the scalability and actual range of a venture. This cannot be said about the IHDI component. Therefore we see the range component within the social performance product as driving force behind the relationship between scalability and the social performance of a venture. All results are documented in table 7 on the next page.

Table 7.
Linear regression results, Range and IHDI variables.

Dependent variable	Range				IHDI
Variable	Model 1 Coefficient (S.E.)	Model 2	Model 3	Model 4	Model 5
Customer structure	0.239 (0.508)				
Stakeholder relationships	-0.033 (0.205)				-0.010 (0.021)
Scalability	0.215 (0.099)*	0.173 (0.088)	0.294 (0.104)**		0.002 (0.011)
Innovativeness	0.244 (0.195)				-0.011 (0.017)
Industry	0.179 (0.126)				0.011 (0.011)
Internationality	-0.222 (0.517)				
Log(Age)	0.193 (0.309)				-0.011 (0.029)
Log(Size)	0.617 (0.142)***	0.615 (0.125)***		0.684 (0.124)***	0.009 (0.014)
R^2	0.502	0.445	0.149	0.397	0.099
Adjusted R^2	0.400	0.420	0.130	0.384	-0.117
Model significance	0.000***	0.000***	0.007**	0.000***	0.833

** p < 0.05, ** p < 0.01, *** p < 0.001*

5 Discussion

While numerous scholars acknowledged various key determinants of social enterprises conduct of business (Agnihotri, 2013, Battilana et al., 2012, Bloom & Chatterji, 2009, Bloom & Smith, 2010, Bocken, 2016, Brest, 2012, Cordes, 2016, Devarapalli & Figueira, 2015, Ebrahim et al., 2014, França et al., 2016, Geissdoerfer et al., 2016, Haigh & Hoffman, 2012, Hudon & Périlleux, 2014, Joyce & Paquin, 2016, Prahalad, 2005, Rahdari et al., 2016, Yunus et al., 2010), no study proposed empirical evidence for any of the determinants. This study did so and by this means enriched the academic field on the theoretical, empirical and practical level.

5.1 Theoretical discussion

This study found empirical support to substantiate the reasoning behind the stakeholder theory. Stakeholder relationships did result in social impact depth, although such results were altered after controlling for internationality. Due to the significant relation between internationality and stakeholder relationships, it is still questionable if it is possible to create social impact depth without strong stakeholder relationships. Moreover, the argued relation between scale and social enterprise's performance as argued by stakeholder theorists holds as well. They argue that cooperation leads to stronger stakeholder relationships and larger scales, which in turn leads to superior corporate performance. All the expectations proposed by the stakeholder theory were substantiated by this study's result, posing an important support for this theory's embodiment with the academic field of social entrepreneurship.

One of the most striking findings of this study is the rejection of theoretical expectations which stem from the resource based view. This theoretical perspective argues that scalability, innovativeness and stakeholder relationships are important for social enterprises to gain competitive advantage. However, this does not seem to correspond to the philanthropic approach of social enterprises. Competitive advantage is characterized by the competitive tension in the market (Boso et al., 2013). In markets with both social and regular enterprises, the social and sustainable character of the social enterprises alone seems to give the social enterprises a distinct and unique position. This can already be seen as a form of competitive advantage, wherefore social enterprises might not need to be innovative in order to be successful. The distinct character corresponds to a select target group, which might also explain their commonly small size. Social enterprises might, by nature, create value for niche markets. Moreover, social enterprises often create value for untargeted markets, because they seem unprofitable for regular businesses. This gives them monopolies or little competition in poor markets. Such radically different business environments explain why innovativeness is not decisive for social enterprise's performance. Moreover scalability is highly important for social enterprises, but not due to a potential to gain competitive advantage. A bigger scale enables social enterprises to reach more beneficiaries and to gain more financial means to create value for them. Finally, stakeholder relationships do not lead to improved financial performance, since the competitive advantage which these relationships might create is not decisive for social enterprises' financial performance.

Moreover, the innovativeness argumentation proposed by the evolutionary economics is contrary to this study's findings as well. In practice, we see that social enterprises do not need to introduce innovation in order to sustain financially viability. Their distinct character enables them to appeal to a select target group, as long as their value proposition is sufficient for them.

For example, Fairphone, a manufacturer of smartphones, is not amongst the most innovative phone producers in the market. However, their sufficiency of product performance combined with their distinct corporate character appeals to the LOHAS customer group, which makes them financially viable. The same can be said about e.g. Hotel Con Carazon, a hotel chain, Koneksie, a motorcycle manufacturer, Marqt, a supermarket chain, Moyee, a coffee retailer, and Wakawaka, a manufacture of solar panel batteries.

Interestingly, the customer structure does not seem to influence the social enterprise's performance either. We see that both structures are being utilized in the same environment. For example, Marie-Stella-Maris and Susteq both create social impact by providing drinking water for African people in need. The first uses a differentiated structure, the latter an integrated structure. Since both structures are successfully applied we cannot say that either structure fits better to a certain environment. Rather, both bring their unique constraints. While differentiated structures need to deal with mission drift and dual customer orientations, integrated structures need to deal with financial constraints. Both structures, when managed properly, can result in social impact and financial self-sufficiency. Neither shows a relation to either financial or social performance, wherefore we must conclude that the customer structure is a choice rather than a decisive component for social enterprises' performance.

5.2 Empirical and practical discussion

At an empirical level, this study presents pioneering evidence of key performance determinants. Prior research created the base of this study, while this study's validation portrays new insights for upcoming research. Moreover, this study validated the framework proposed by Bloom and Chatterji (2009) and found evidence to acknowledge the validity of the measurement framework. This study also showed that the academic fields of innovation and stakeholder relationships lack such strong measurement frameworks applicable to quantitative research. This study also proposed descriptive data of Dutch social enterprises, increasing the field's knowledge of characteristics. Finally, this study showed the inter-relations between the elements of social and financial performance, increasing our understanding of the reinforcing nature of social and financial objectives.

At a practical level, this study hands practitioners the management focus to increase their corporate success. This study portrays empirical evidence that social entrepreneurs should invest their capabilities and assets in the scaling of operations and establishment and maintenance of key stakeholder relationships. Moreover, this study also shows that management cannot justify aggressive R&D investment or blame poor performance on financially weak customers in social enterprises.

5.3 implications for further research

In contrast to prior research, this study shows empirical results concerning the performance of social enterprises. This study is expected to influence both theoretical and empirical research. The results clearly provide evidence for certain theoretical reasoning while it dismisses other. Such evidence is expected to result in more specialized qualitative research to deepen the social entrepreneurship further. Such specialisation is highly needed to improve the understanding of the differences in importance of certain business model orientations. Moreover, further research is ought to improve measurement framework validity. This study depicts the fields which are promising for social entrepreneurship, but various current measurement frameworks lack consistency. Such developments are needed to improve the reliability of future empirical studies. This pioneering study represents an example for such empirical studies. This means that future scholars can invest more effort in enlarging the studied sample and enlarging the reliability of studied dimensions. These studies will still face challenges in the field of data collection, since no large and reliable databases currently exist. This study does deliver the needed focus to stimulate the development of such databases. This study thus paves the way towards vital developments and improvements in the field of social entrepreneurship.

5.4 Limitations

As expected, this study comes with it limitations. Such limitations are mainly due to the absence of prior empirical studies. Firstly, prior research has not established a clear distinction between social entrepreneurship (SE) and corporate social responsibility (CSR). While the social mission is deeply embedded in SE's corporate raison d'être, the social and environmental actions of CSR ventures are employed due to beneficial economic reasons. However, the distinction between both is subjective and up to the researcher to substantiate. In this study such debates could be applicable to some cases. Secondly the sample of this study is in the critical zone; between 10 to 15 units per investigated relationship. Although this sample size was explained to be unpreventable, we recognize that this sample size negatively affect the reliability of this study's findings. Moreover the measurement frameworks of the stakeholder relationships and innovation variables have validity issues. They portrayed illogical multicollinearities with other variables and their measurement scope was small. Such frameworks are underdeveloped and no consensus concerning the best applicability exists yet. There is a need to develop reliable quantitative assessment frameworks with available corporate information or an available assessment database of a professional third party. This study is subject to the reliability and validity issues associated with the absence of such frameworks. While the social performance framework is substantiated, it did have some specific issues. This study compared social enterprise whose social mission ranged from targeting poverty poorest of the planet to ventures improving the quality of life of disadvantage subgroups in developed societies. Where scholars as Bocken et al. (2016) and Kolk and Lenfant (2016) recognize a spectrum of social enterprise's hybridity, a recognition of assessment implications lack. The academic field has yet to determine whether such comparisons are reliable or even desirable. Moreover this study incorporated a 50% responsibility of social impact for ventures whom financially invested in social enterprises. However the division of such responsibility has not yet gained attention of the field. In short we recognize that this study has validity issues, which is mainly the product of an underdeveloped academic field. We thus see this study as pioneering in the field which should be seen as an example for future research.

5.5 Guidelines for using this study's measure

In order to ensure proper application of this study's measurements, there are some guidelines which future empirical design should follow. Firstly, we recommend recognizing the researched sub-group of social enterprises. This study clearly focussed on social enterprises with a social performance as second bottom line. The findings and drivers are expected to be influenced by such specifications. Moreover, especially in larger studies, it is advised to utilize evaluation fields on which the variables are scored, since information obscurity makes the process of determining the social performance and its drivers elaborate. Such evaluation fields should be clearly defined to substantiate scores. This study has attempted to find this balance.

6 Conclusion

As prior research justly acknowledged, business model adaptations play a vital role in the success of social enterprises. This study showed that there are no significant differences in the social and financial performance of integrated and differentiated customer structures. In line with prior believes, this study presented reason to believe that stakeholder relationships improve the social performance by creating immediate impact for beneficiaries. The scalability of a social venture proved to be vital to improve both the social as well as the financial performance. This is by both reaching more beneficiaries in combination with the ability to scale operations. Innovation did not show any relation to the social and financial performance of social enterprises. This shows that value creation in uncompetitive markets weakens the benefits of innovation, wherefore innovation is not as important for social enterprises as priory believed. This study also shows a reinforcing effect of strong financial and social performance, proving that the duality of social enterprises can be invigorative. These results lead us to believe the stakeholder theory's argumentation to explain social enterprise's success.

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Appendix A: Descriptive statistics Industry variable

Industry

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Manufacturing & Production	16	26,7	26,7	26,7
	Food & Beverage	7	11,7	11,7	38,3
	Financial	5	8,3	8,3	46,7
	Services & Platforms	23	38,3	38,3	85,0
	Textile & Apparel	3	5,0	5,0	90,0
	Healthcare	3	5,0	5,0	95,0
	Software	1	1,7	1,7	96,7
	Other	2	3,3	3,3	100,0
	Total	60	100,0	100,0	

Appendix B: Linear regression assumption testing

1. Assumption of Normality

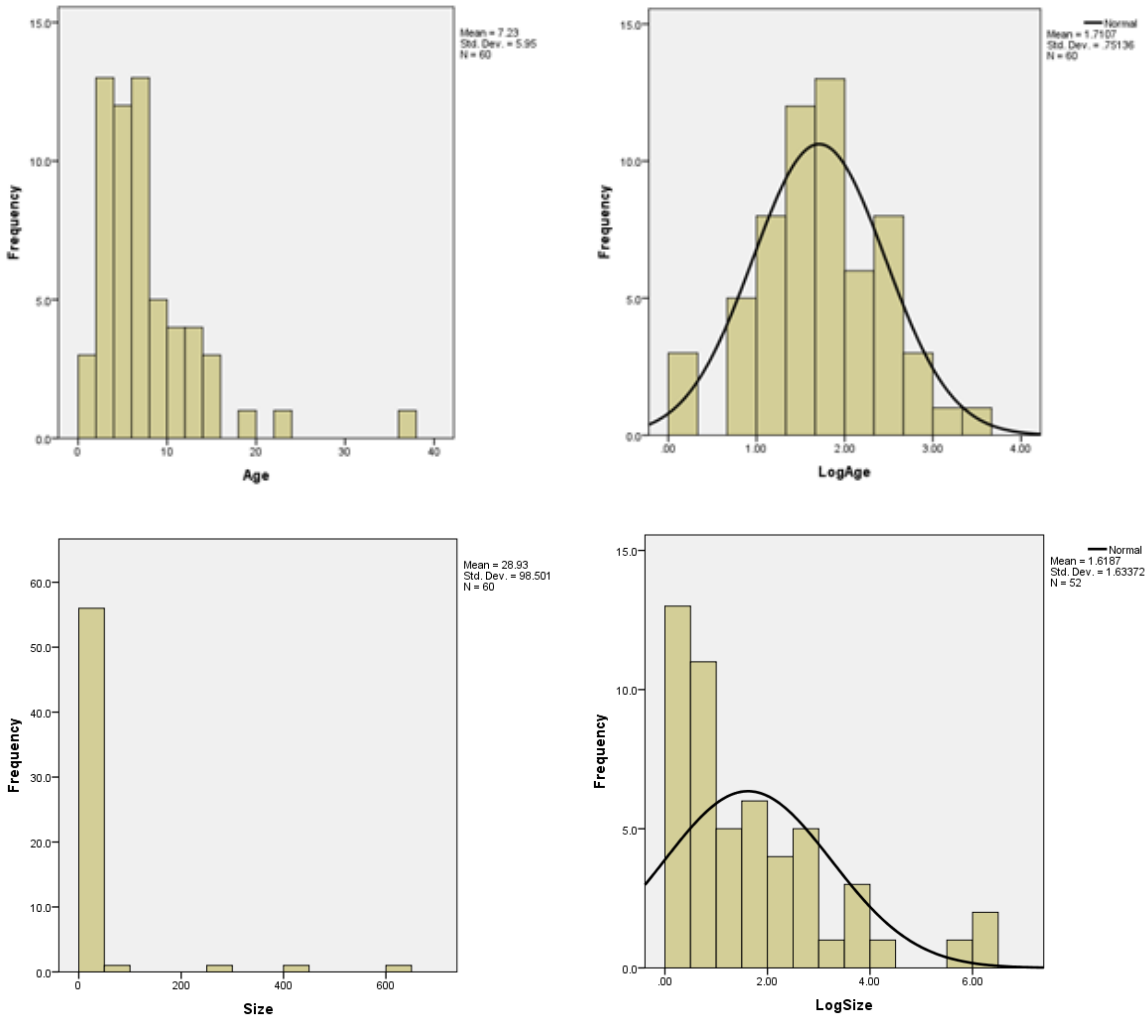
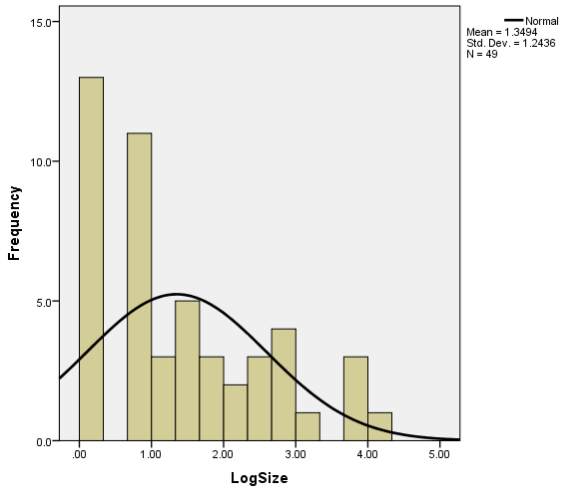


Figure C & D: Size variable, Logarithmic Size variable



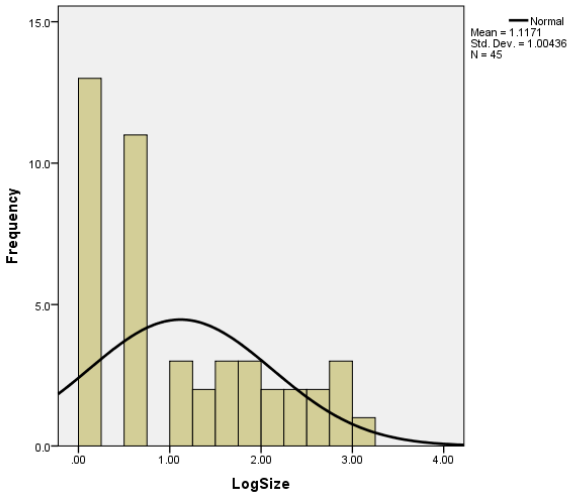
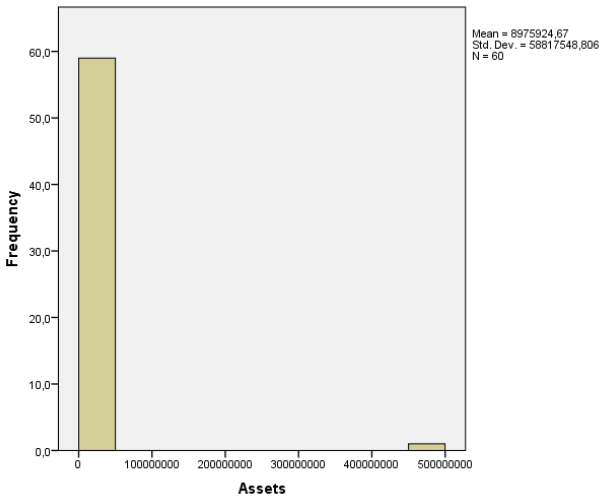


Figure E & F: Logarithmic Size variable; exclusion Log(Size) > 5, exclusion Log(Size) > 4



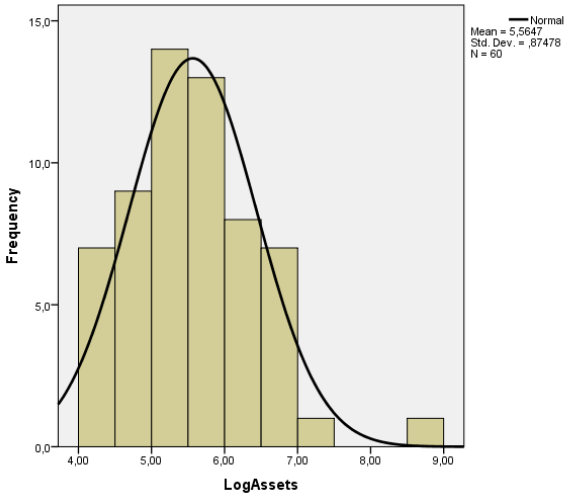


Figure G & H: Asset variable, Logarithmic Asset variable

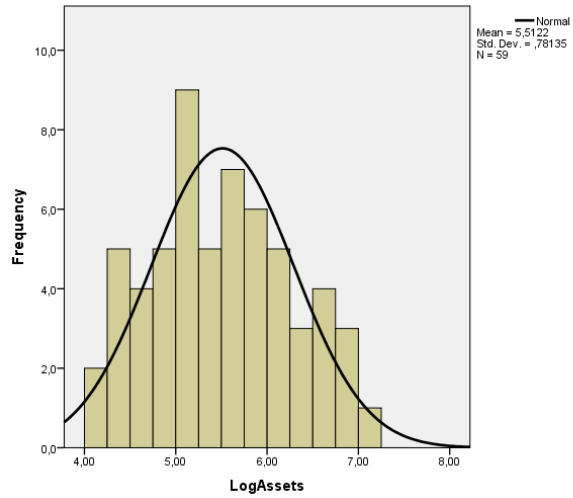
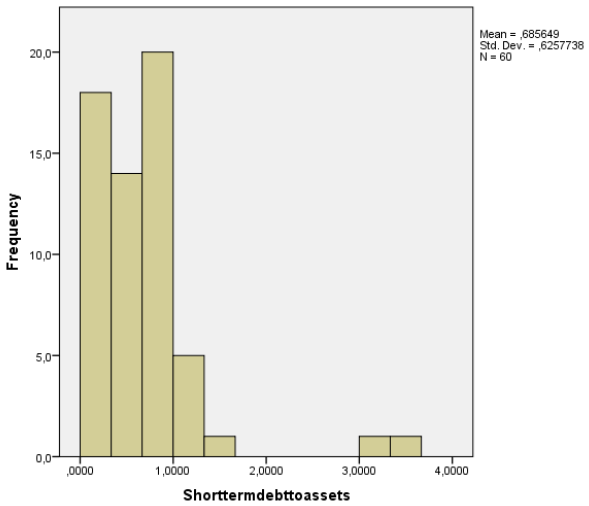


Figure I: Logarithmic Asset variable; exclusion LogAssets > 8.00



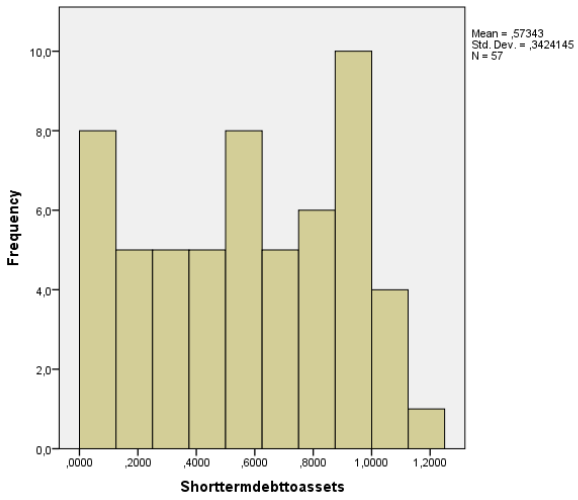
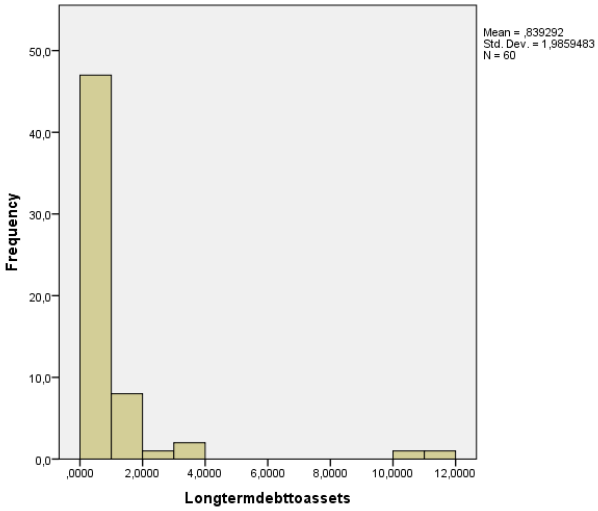


Figure J & K: Short-term-debt-to-assets variable, complete and with exclusion STDTO > 2.00



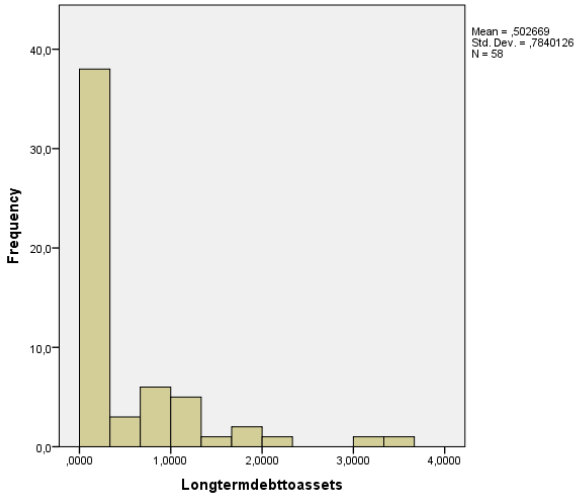
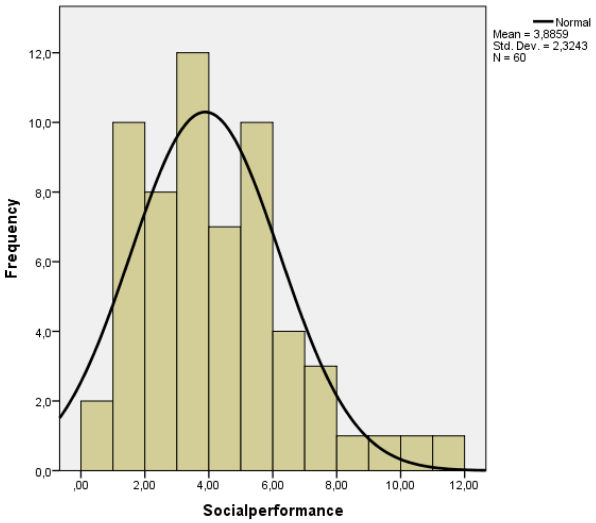


Figure L & M: Long-term-debt-to-assets variable, complete and with exclusion LTDTO > 10.00



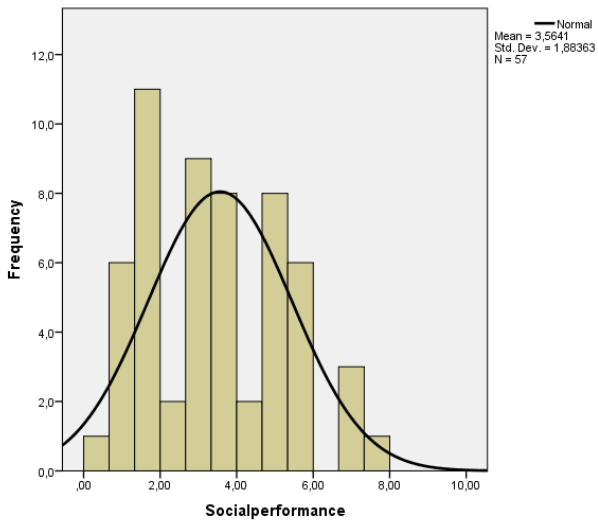
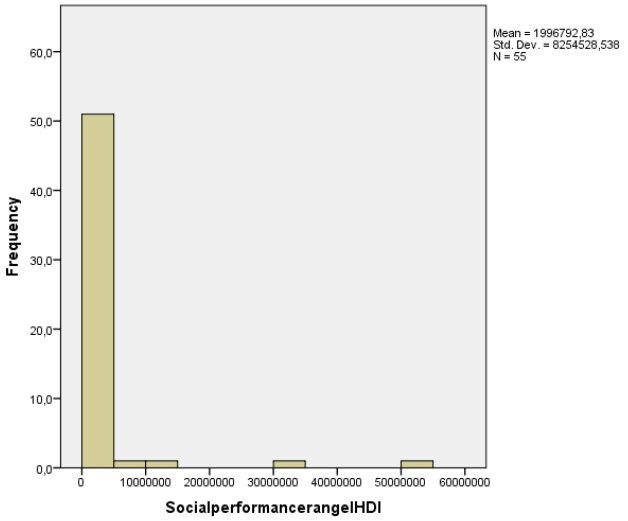


Figure N & O: Social performance variable, complete and with exclusion SP > 8.00



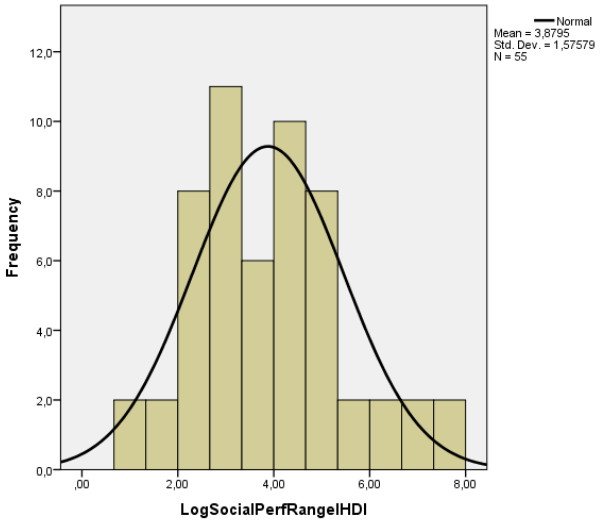
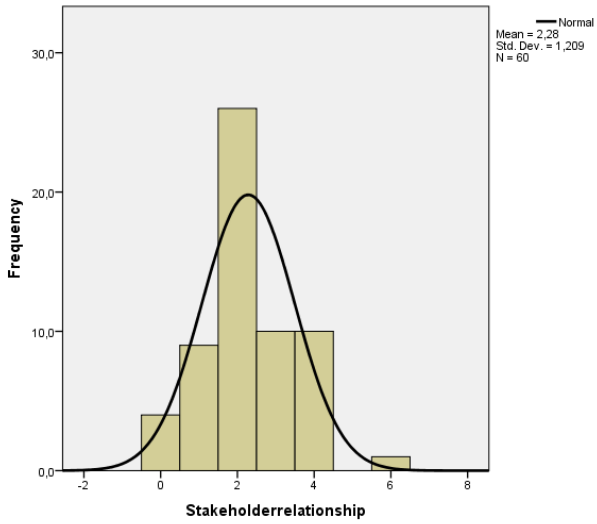


Figure P & Q: Social performance Range IHDI variable, Logarithmic Social performance Range IHDI variable



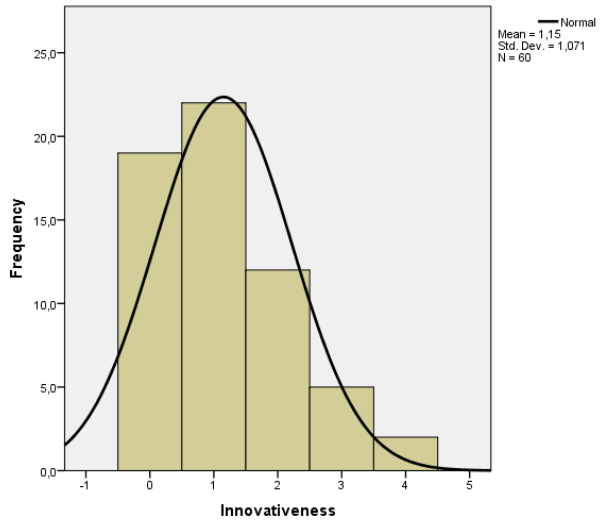
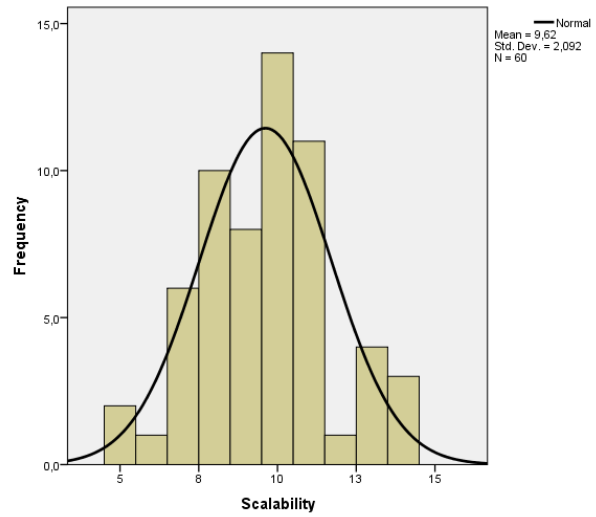


Figure R & S: Stakeholder relationship variable, Innovativeness variable



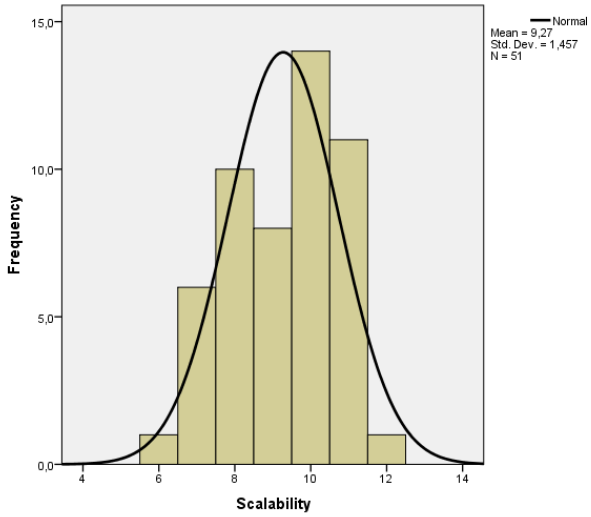
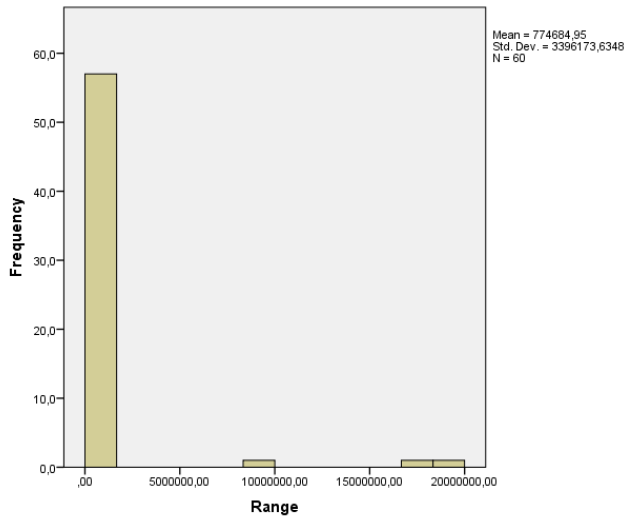


Figure R & S: Scalability variable, complete and with 5.00 < Scalability < 13.00



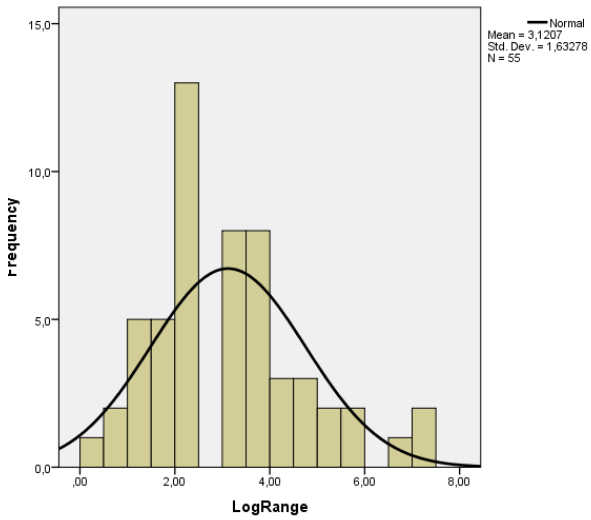


Figure T & U: Range variable, Logarithmic Range variable

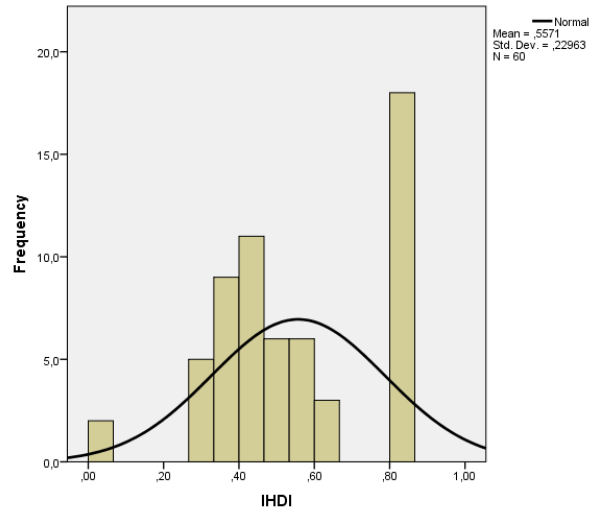


Figure V: IHDI variable

2. Assumption of independence of observations: Durbin-Watson tests

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,676[a]	,457	,354	,61929	1,584

a. Predictors: (Constant), LogSize, Customerstructre, Innovativeness, Scalability, LogAge, Stakeholderrelationship, Industry, International

b. Dependent Variable: LogAssets

Tabel A: Assets as dependent variable.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,551[a]	,304	,172	,3263089	1,571

a. Predictors: (Constant), Innovativeness, Scalability, Customerstructre, LogAge, Stakeholderrelationship, LogSize, Industry, International

b. Dependent Variable: Shorttermdebttoassets

Tabel B: Short-term-debt-to-assets as dependent variable.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,503[a]	,253	,110	2,29533	2,144

a. Predictors: (Constant), Innovativeness, Scalability, Customerstructre, LogAge, Stakeholderrelationship, Industry, LogSize, International

b. Dependent Variable: Socialperformance

Tabel C: Social performance as dependent variable.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,684[a]	,468	,359	1,31173	1,972

a. Predictors: (Constant), Innovativeness, Customerstructre, LogSize, Scalability, Stakeholderrelationship, LogAge, Industry, International

b. Dependent Variable: LogSocialPerfRangeIHDI

Tabel D: Social performance range IHDI as dependent variable.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,711[a]	,505	,406	1,30054	1,817

a. Predictors: (Constant), Industry, International, LogSize, Innovativeness, Scalability, Customerstructre, Stakeholderrelationship, LogAge

b. Dependent Variable: LogRange

Tabel E: Range as dependent variable.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,440[a]	,194	-,054	,10397	1,850

a. Predictors: (Constant), Innovativeness, LogSize, Stakeholderrelationship, Customerstructre, LogAge, Scalability, Industry, International

b. Dependent Variable: IHDI

Tabel F: IHDI as dependent variable.

3. Assumption of absence of multicollinearity: Collinearity statistics

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	4,481	,566		7,913	,000		
	Customerstructre	,227	,209	,133	1,085	,284	,864	1,157
	Stakeholderrelationship	-,060	,081	-,095	-,738	,464	,781	1,280
	Scalability	,046	,045	,127	1,026	,311	,846	1,181
	Innovativeness	,075	,091	,102	,822	,416	,833	1,200
	Industry	-,099	,054	-,234	-1,846	,072	,803	1,246
	International	,387	,225	,239	1,715	,094	,666	1,502
	LogAge	,248	,131	,239	1,893	,065	,809	1,236
	LogSize	,176	,063	,349	2,811	,007	,838	1,193

a. Dependent Variable: LogAssets

Tabel A: Assets as dependent variable.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-,221	,297		-,746	,460		
	Industry	,052	,028	,262	1,825	,075	,804	1,245
	International	-,214	,120	-,285	-1,792	,080	,657	1,522
	LogAge	-,047	,069	-,097	-,670	,507	,794	1,259
	LogSize	,071	,031	,326	2,270	,028	,805	1,242
	Customerstructre	,018	,110	,023	,166	,869	,872	1,147
	Stakeholderrelationship	,037	,042	,128	,889	,379	,804	1,244
	Scalability	,066	,024	,394	2,791	,008	,831	1,203
	Innovativeness	,015	,048	,043	,304	,762	,834	1,200

a. Dependent Variable: Shorttermdebttoassets

Tabel B: Short-term-debt-to-assets as dependent variable.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3,844	2,105		1,826	,075		
	Industry	,127	,200	,095	,638	,527	,808	1,237
	International	2,205	,847	,425	2,604	,013	,669	1,494
	LogAge	-,164	,487	-,051	-,337	,738	,791	1,265
	LogSize	-,254	,220	-,172	-1,156	,254	,799	1,252
	Customerstructre	-,169	,779	-,031	-,217	,829	,855	1,170
	Stakeholderrelationship	,122	,295	,061	,412	,683	,805	1,243
	Scalability	-,163	,169	-,139	-,967	,339	,857	1,167
	Innovativeness	,162	,332	,071	,489	,627	,833	1,200

a. Dependent Variable: Socialperformance

Tabel C: Social performance as dependent variable.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-,244	1,192		-,204	,839		
	Industry	,199	,127	,221	1,571	,124	,689	1,450
	International	,314	,521	,091	,602	,551	,594	1,683
	LogAge	,124	,311	,056	,397	,693	,694	1,440
	LogSize	,533	,143	,504	3,725	,001	,744	1,343
	Customerstructre	,145	,512	,039	,283	,779	,730	1,370
	Stakeholderrelationship	-,015	,206	-,010	-,072	,943	,733	1,364
	Scalability	,211	,099	,284	2,126	,040	,762	1,312
	Innovativeness	,290	,196	,194	1,482	,146	,793	1,261

a. Dependent Variable: LogSocialPerfRangeIHDI

Tabel D: Social performance range IHDI as dependent variable.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-,875	1,177		-,744	,461		
	International	-,249	,516	-,070	-,482	,632	,590	1,695
	LogAge	,162	,307	,070	,527	,601	,702	1,424
	LogSize	,607	,141	,553	4,292	,000	,746	1,341
	Customerstructre	,064	,471	,017	,135	,893	,797	1,255
	Stakeholderrelationship	-,128	,177	-,091	-,723	,474	,776	1,289
	Scalability	,241	,094	,314	2,560	,014	,823	1,216
	Innovativeness	,286	,189	,184	1,515	,138	,839	1,191
	Industry	,216	,119	,235	1,822	,076	,746	1,341

a. Dependent Variable: LogRange

Tabel E: Range as dependent variable.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	,534	,137		3,904	,001		
	Industry	,012	,010	,237	1,177	,250	,763	1,310
	International	-,080	,091	-,186	-,873	,391	,687	1,456
	LogAge	-,024	,028	-,182	-,866	,394	,698	1,432
	LogSize	,008	,013	,134	,633	,532	,693	1,444
	Customerstructre	-,045	,051	-,169	-,880	,387	,844	1,184
	Stakeholderrelationship	-,012	,016	-,148	-,757	,456	,810	1,235
	Scalability	,004	,010	,071	,366	,717	,817	1,224
	Innovativeness	-,012	,017	-,134	-,689	,497	,818	1,222

a. Dependent Variable: IHDI

Tabel F: IHDI as dependent variable.

4. Assumption of absence of multicollinearity: Collinearity diagnostics

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions								
				(Constant)	Customerstructre	Stakeholderrelationship	Scalability	Innovativeness	Industry	International	Log Age	Log Size
1	1	6,565	1,000	,00	,00	,00	,00	,01	,00	,00	,00	,01
	2	,784	2,893	,00	,68	,00	,00	,00	,00	,04	,00	,00
	3	,544	3,474	,00	,00	,03	,00	,30	,02	,00	,01	,28
	4	,478	3,705	,00	,00	,01	,00	,19	,11	,00	,00	,38
	5	,250	5,129	,00	,17	,05	,00	,25	,20	,37	,00	,00
	6	,149	6,636	,00	,09	,71	,00	,09	,01	,36	,04	,12
	7	,113	7,635	,01	,01	,01	,02	,07	,47	,16	,50	,19
	8	,102	8,037	,03	,03	,11	,19	,05	,03	,00	,33	,02
	9	,016	20,395	,96	,00	,07	,79	,03	,14	,06	,11	,00

a. Dependent Variable: LogAssets

Tabel A: Assets as dependent variable.

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions								
				(Constant)	Industry	International	Log Age	Log Size	Customerstructre	Stakeholderrelationship	Scalability	Innovativeness
1	1	6,570	1,000	,00	,00	,00	,00	,01	,00	,00	,00	,01
	2	,792	2,879	,00	,00	,03	,00	,01	,68	,00	,00	,00
	3	,565	3,411	,00	,02	,01	,00	,24	,01	,02	,00	,32
	4	,443	3,851	,00	,14	,00	,00	,39	,00	,01	,00	,18
	5	,254	5,089	,00	,18	,33	,01	,00	,16	,08	,00	,26
	6	,151	6,597	,00	,02	,44	,02	,08	,09	,70	,00	,05
	7	,110	7,723	,01	,46	,13	,48	,25	,01	,02	,02	,09
	8	,100	8,119	,03	,03	,00	,38	,01	,03	,10	,18	,04
	9	,016	20,377	,95	,15	,06	,09	,00	,00	,05	,80	,06

a. Dependent Variable: Shorttermdebttoassets

Tabel B: Short-term-debt-to-assets as dependent variable.

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions								
				(Constant)	Industry	International	Log Age	Log Size	Customerstructre	Stakeholderrelationship	Scalability	Innovativeness
1	1	6,560	1,000	,00	,00	,00	,00	,01	,00	,00	,00	,01
	2	,796	2,871	,00	,00	,03	,00	,01	,66	,00	,00	,00
	3	,568	3,399	,00	,02	,00	,00	,24	,01	,02	,00	,34
	4	,467	3,747	,00	,12	,00	,00	,40	,00	,01	,00	,18
	5	,237	5,259	,00	,22	,28	,01	,00	,16	,14	,00	,26
	6	,147	6,681	,00	,00	,51	,03	,07	,14	,63	,00	,04
	7	,111	7,702	,01	,46	,13	,54	,22	,01	,01	,01	,07
	8	,098	8,174	,03	,06	,00	,30	,04	,02	,14	,18	,06
	9	,015	20,613	,95	,11	,03	,11	,02	,00	,04	,81	,04

a. Dependent Variable: Socialperformance

Tabel C: Social performance as dependent variable.

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions								
				(Constant)	Industry	International	Log Age	Log Size	Customerstructre	Stakeholderrelationship	Scalability	Innovativeness
1	1	6,542	1,000	,00	,00	,00	,00	,01	,00	,00	,00	,01
	2	,861	2,757	,00	,00	,03	,00	,00	,53	,00	,00	,00
	3	,575	3,373	,00	,01	,00	,01	,22	,00	,01	,00	,37
	4	,488	3,660	,00	,10	,00	,00	,35	,00	,01	,00	,16
	5	,198	5,755	,00	,16	,43	,04	,02	,27	,06	,00	,19
	6	,141	6,823	,00	,02	,36	,09	,09	,08	,45	,01	,11
	7	,109	7,732	,03	,42	,06	,14	,29	,01	,07	,08	,10
	8	,070	9,672	,03	,13	,05	,64	,00	,09	,39	,11	,01
	9	,016	19,996	,94	,16	,06	,07	,01	,02	,01	,80	,06

a. Dependent Variable: LogSocialPerfRangeIHDI

Tabel D: Social performance range IHDI as dependent variable.

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions								
				(Constant)	International	Log Age	Log Size	Customers tructre	Stakeholderrelationship	Scalability	Innovativeness	Industry
1	1	6,554	1,000	,00	,00	,00	,01	,00	,00	,00	,01	,00
	2	,820	2,828	,00	,03	,00	,00	,60	,00	,00	,00	,00
	3	,565	3,405	,00	,00	,01	,18	,00	,01	,00	,43	,01
	4	,482	3,689	,00	,00	,00	,39	,00	,01	,00	,12	,12
	5	,234	5,287	,00	,24	,02	,01	,16	,18	,00	,22	,15
	6	,138	6,883	,00	,54	,04	,10	,19	,50	,00	,05	,00
	7	,109	7,754	,03	,04	,08	,27	,01	,07	,11	,14	,48
	8	,080	9,038	,01	,07	,75	,03	,03	,17	,10	,00	,10
	9	,017	19,880	,95	,06	,09	,01	,00	,05	,78	,04	,13

a. Dependent Variable: LogRange

Tabel E: Range as dependent variable.

Collinearity Diagnostics[a]

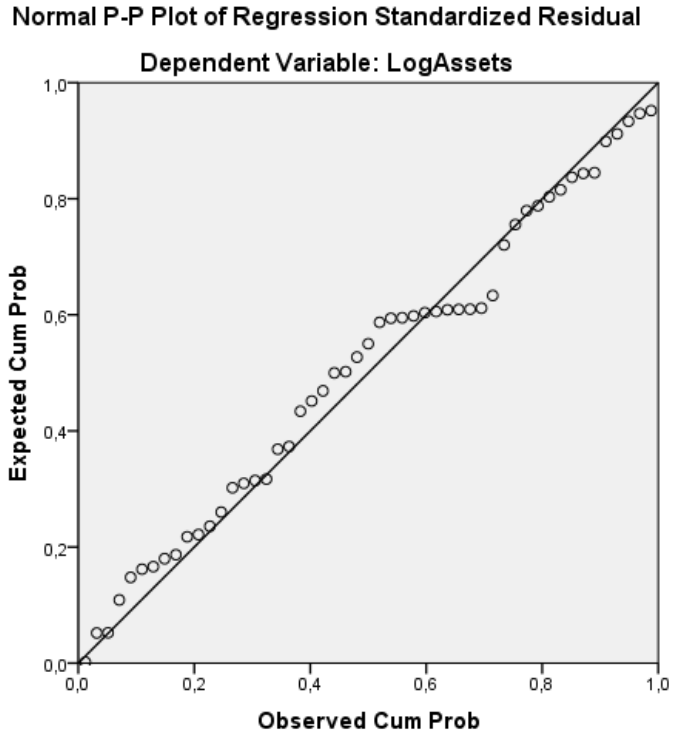
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions								
				(Constant)	Industry	International	Log Age	Log Size	Customers tructre	Stakeholderrelationship	Scalability	Innovativeness
1	1	6,644	1,000	,00	,00	,00	,00	,00	,00	,00	,00	,01
	2	,931	2,672	,00	,00	,00	,00	,03	,58	,00	,00	,03
	3	,560	3,444	,00	,16	,00	,00	,29	,00	,00	,00	,10
	4	,429	3,934	,00	,01	,00	,00	,22	,30	,00	,00	,47
	5	,180	6,078	,00	,28	,01	,03	,03	,01	,49	,00	,21
	6	,130	7,162	,01	,53	,01	,21	,30	,02	,15	,01	,13
	7	,082	9,024	,02	,00	,00	,51	,01	,06	,13	,13	,02
	8	,034	14,016	,00	,00	,85	,21	,01	,01	,21	,12	,03
	9	,011	24,210	,96	,02	,13	,04	,10	,01	,00	,74	,02

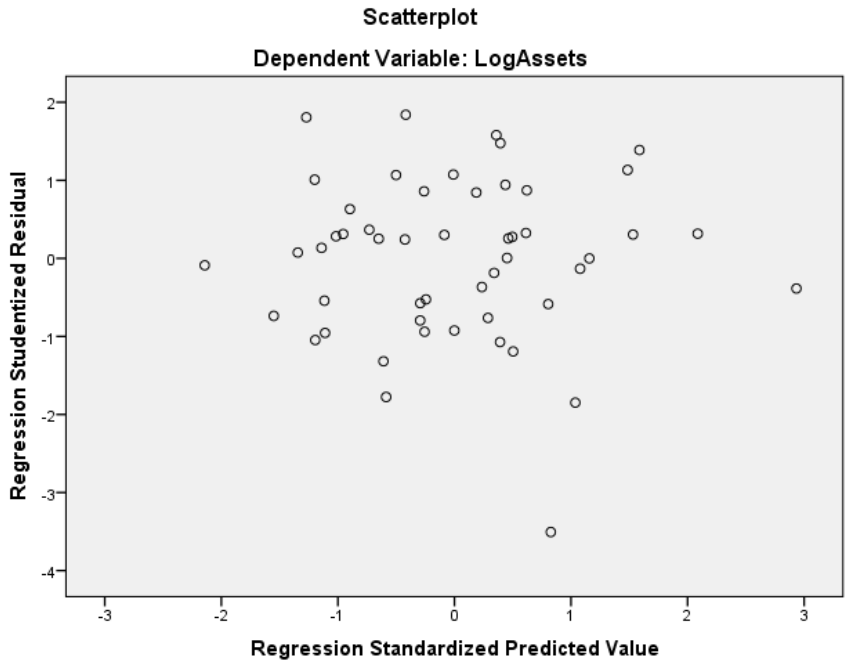
a. Dependent Variable: IHDI

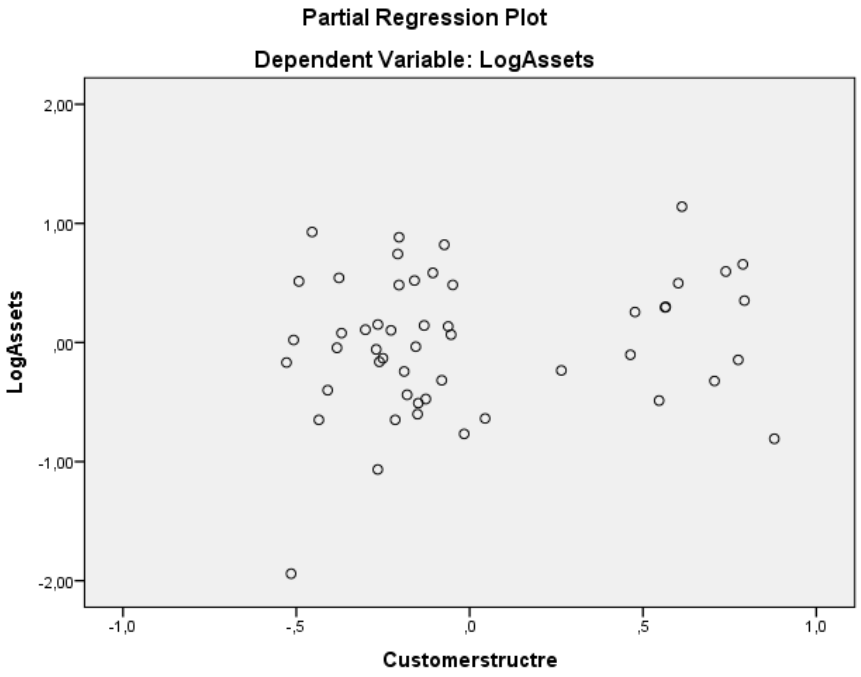
Tabel F: IHDI as dependent variable.

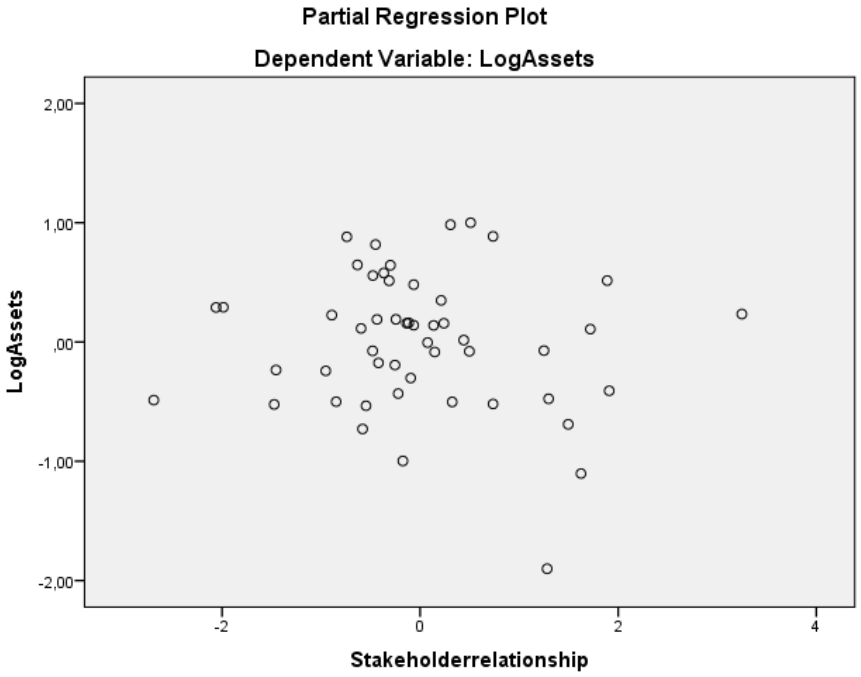
5. Assumption of homoscedasticity

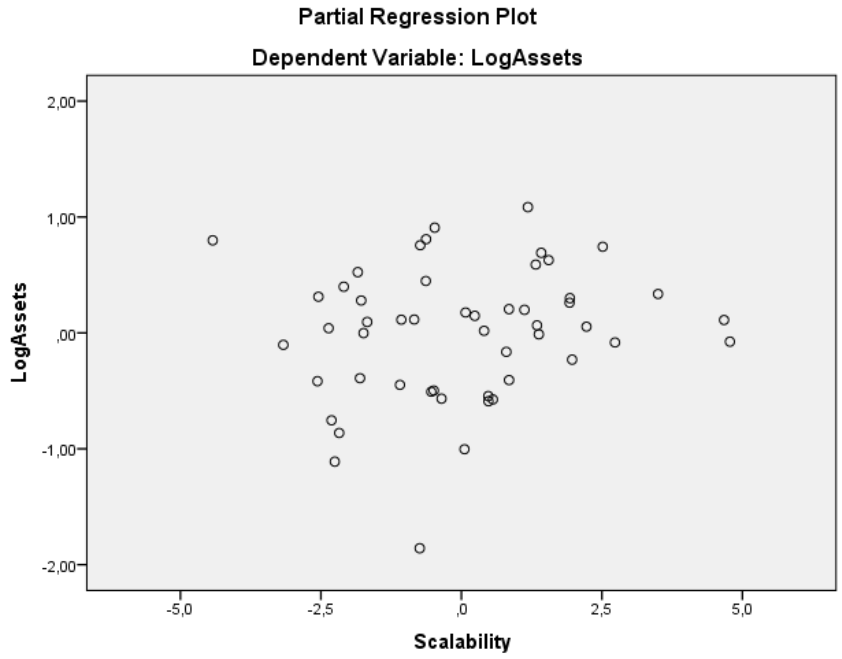
5.1 Assets dependent variable

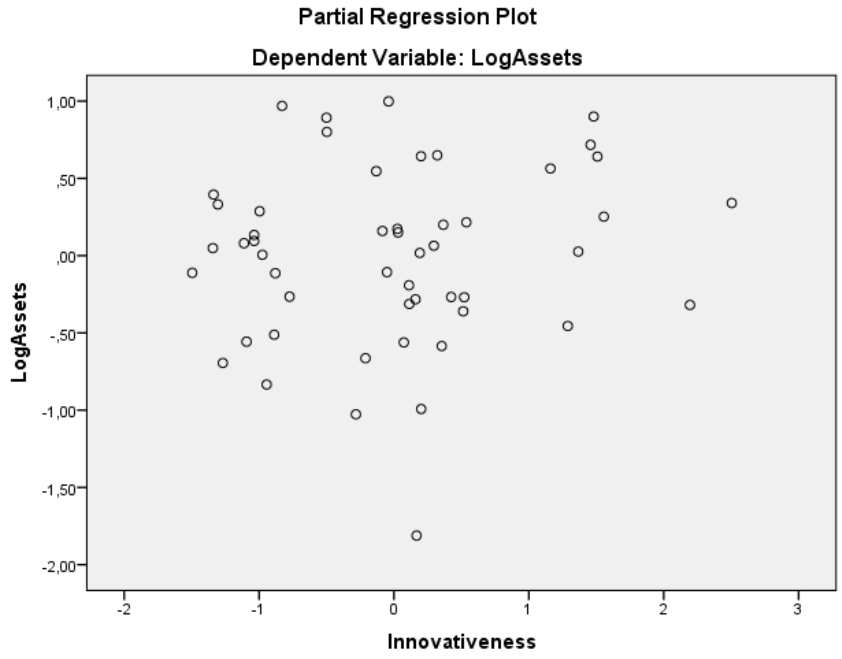


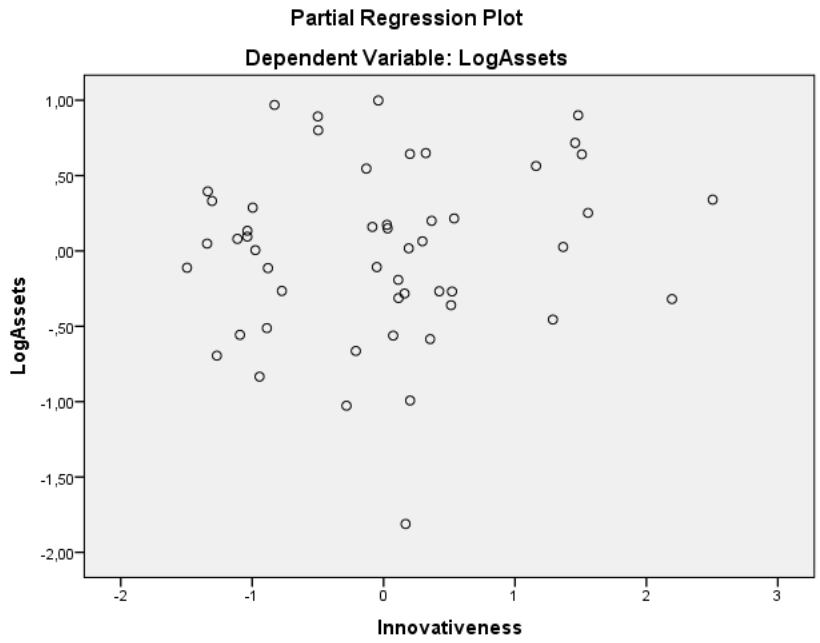


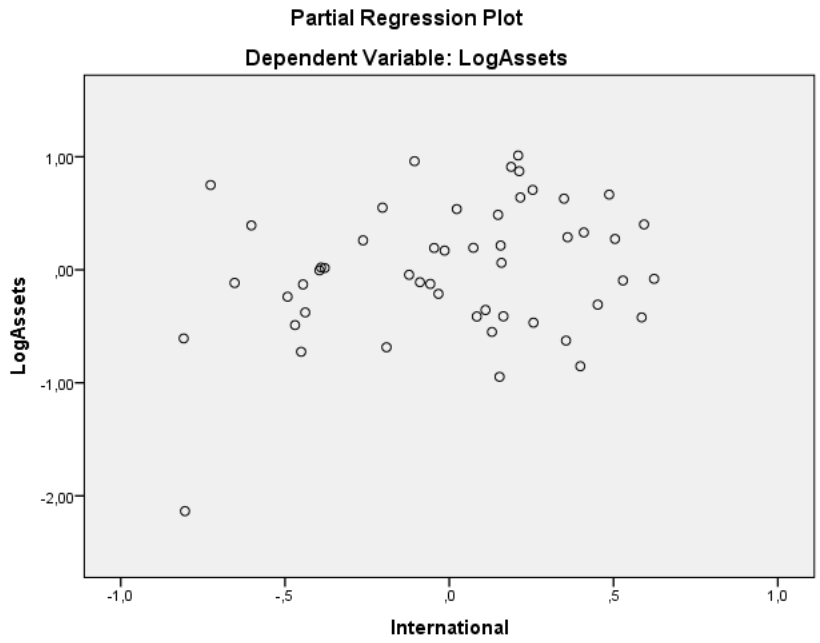

Partial Regression Plot
Dependent Variable: LogAssets
LogAssets
2,00
1,00
,00
-1,00
-2,00
-1,0
-,5
,0
,5
1,0
Customerstructre

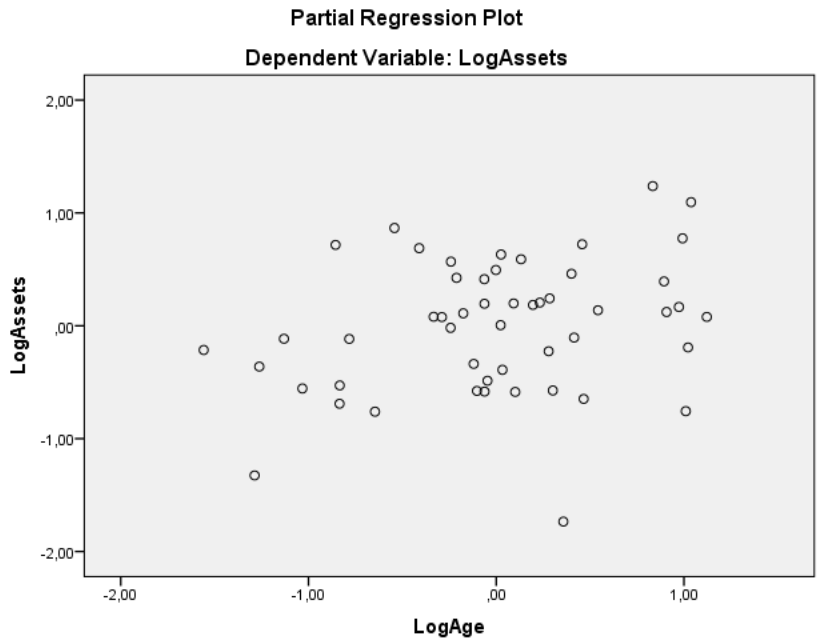

Partial Regression Plot
Dependent Variable: LogAssets
LogAssets
2,00
1,00
,00
-1,00
-2,00
-2
0
2
4
Stakeholderrelationship

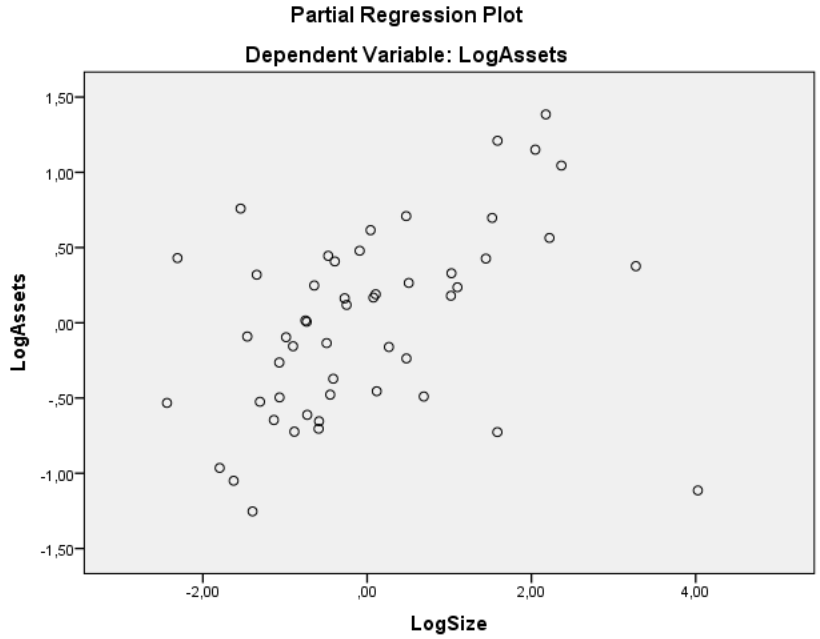

Partial Regression Plot
Dependent Variable: LogAssets
LogAssets
Scalability
2,00
1,00
,00
-1,00
-2,00
-5,0
-2,5
,0
2,5
5,0


Partial Regression Plot
Dependent Variable: LogAssets
LogAssets
Innovativeness
1,00
,50
,00
-,50
-1,00
-1,50
-2,00
-2
-1
0
1
2
3

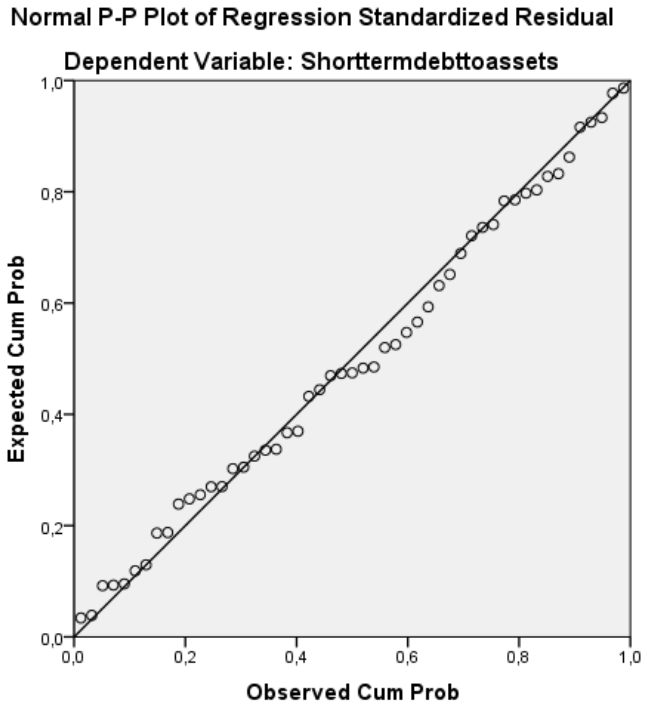

Partial Regression Plot
Dependent Variable: LogAssets
LogAssets
1,00
,50
,00
-,50
-1,00
-1,50
-2,00
-2
-1
0
1
2
3
Innovativeness

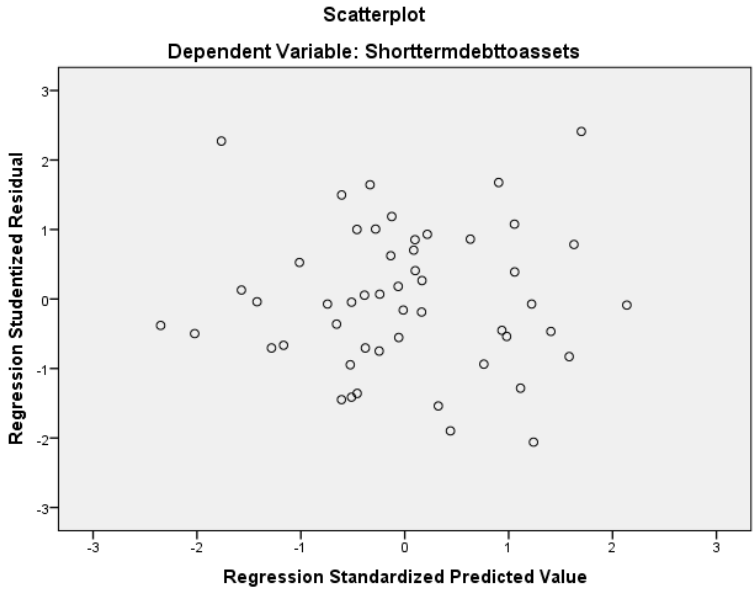

Partial Regression Plot
Dependent Variable: LogAssets
LogAssets
1,00
,00
-1,00
-2,00
-1,0
-,5
,0
,5
1,0
International

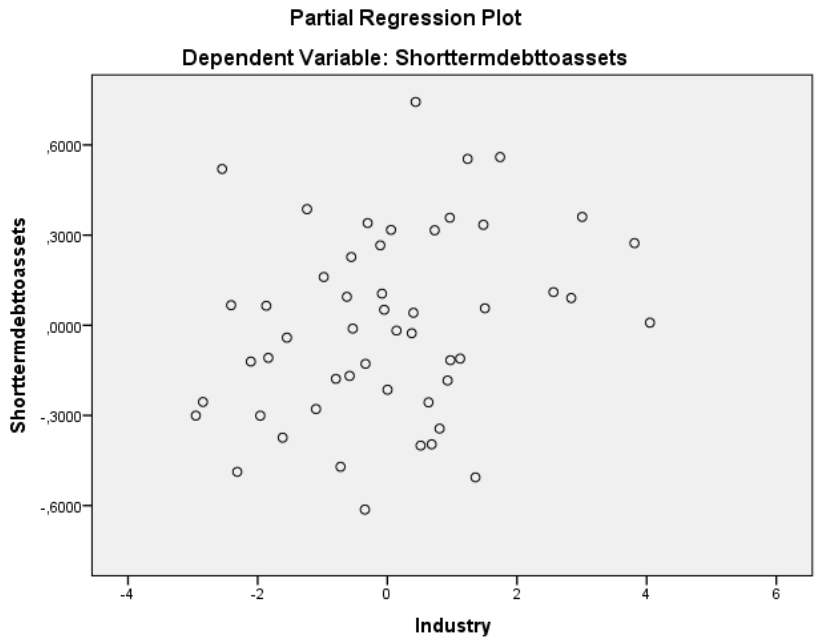

Partial Regression Plot
Dependent Variable: LogAssets
LogAssets
LogAge
2,00
1,00
,00
-1,00
-2,00
-2,00
-1,00
,00
1,00

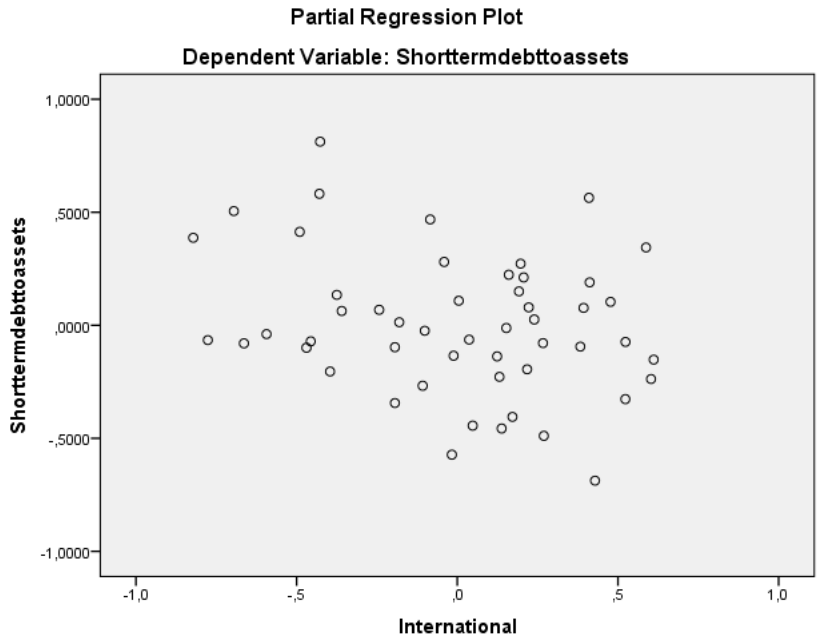

Partial Regression Plot
Dependent Variable: LogAssets
LogAssets
LogSize
1,50
1,00
,50
,00
-,50
-1,00
-1,50
-2,00
,00
2,00
4,00

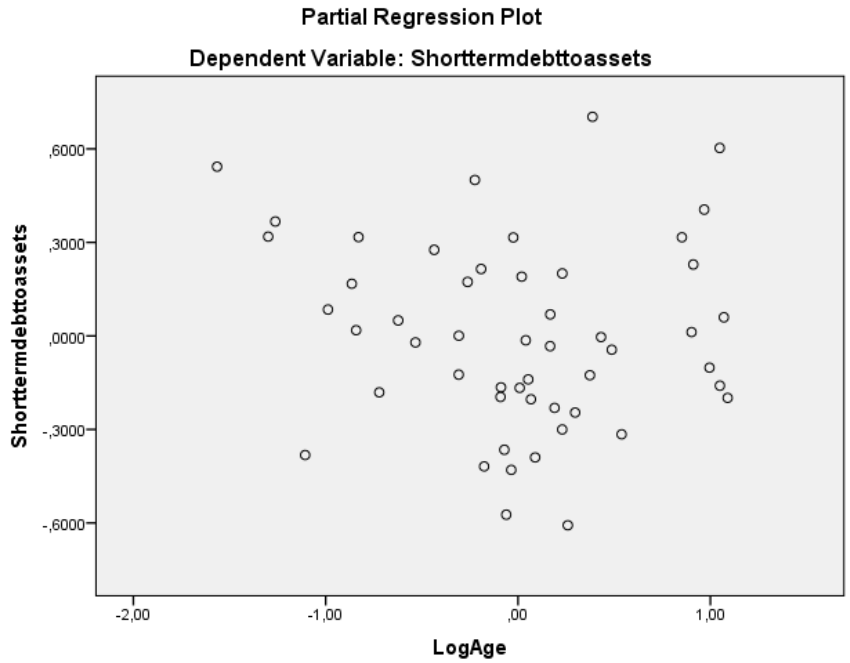
5.2 Short-term-debt-to-assets dependent variable

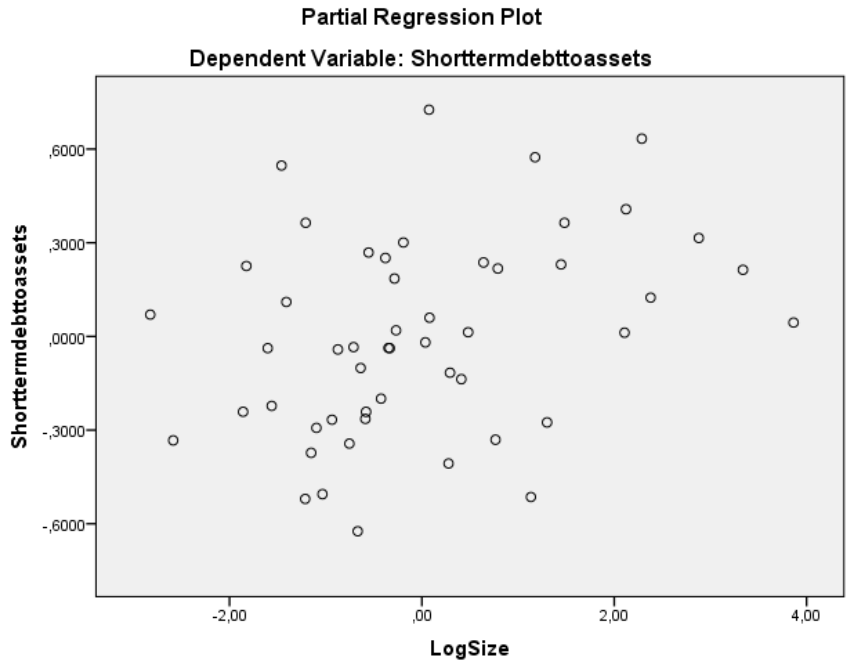


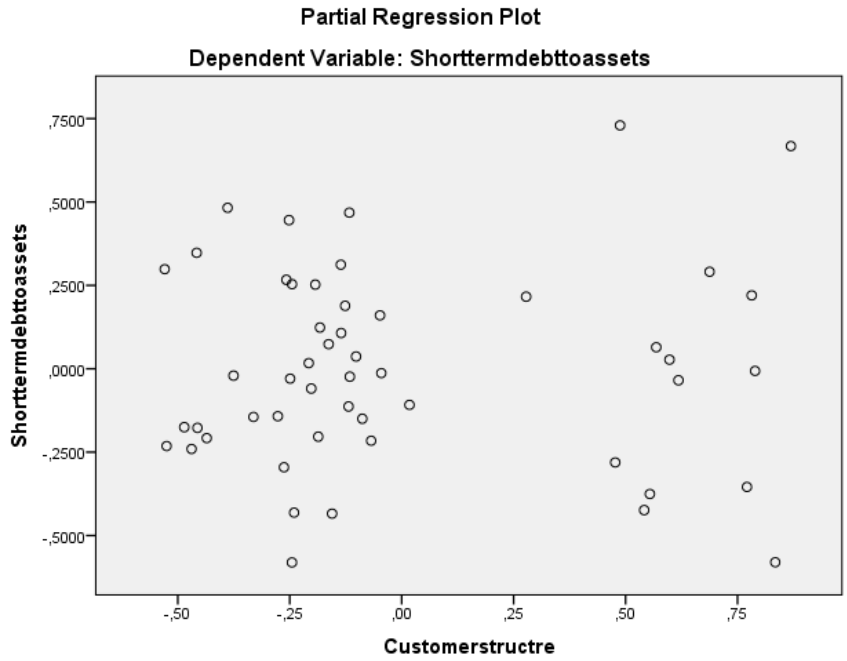


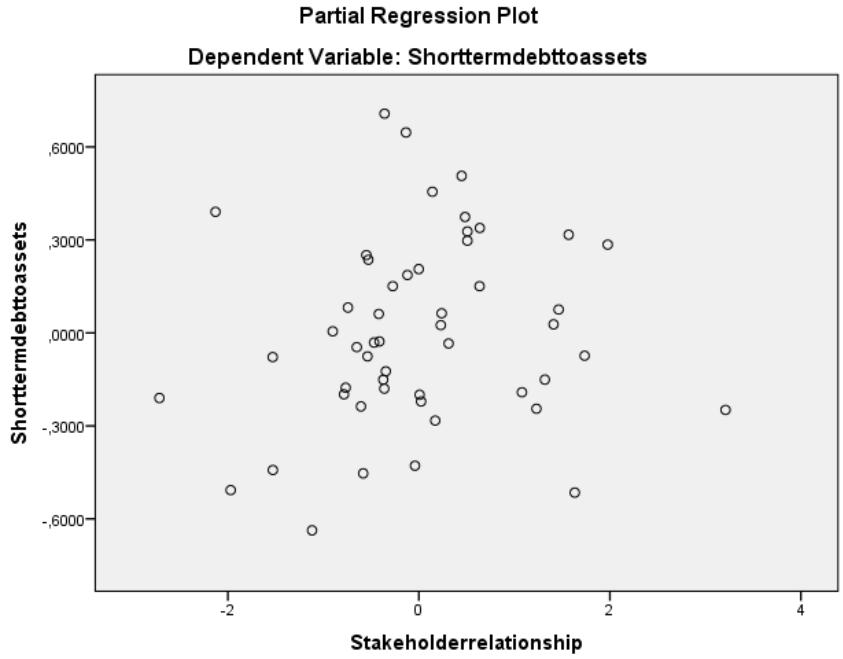

Partial Regression Plot
Dependent Variable: Shorttermdebttoassets
Shorttermdebttoassets
,6000
,3000
,0000
-,3000
-,6000
-4
-2
0
2
4
6
Industry

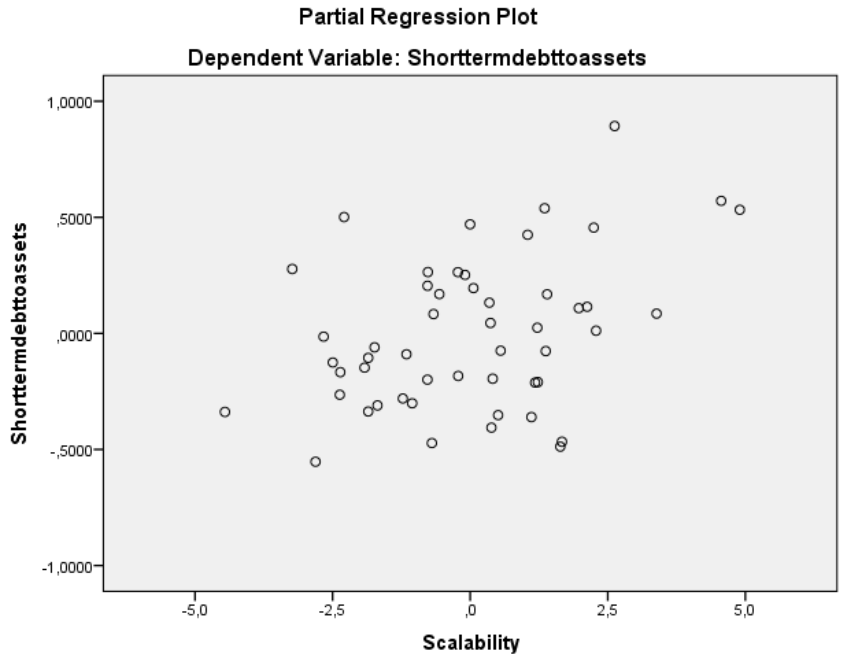

Partial Regression Plot
Dependent Variable: Shorttermdebttoassets
Shorttermdebttoassets
1,0000
,5000
,0000
-,5000
-1,0000
-1,0
-,5
,0
,5
1,0
International

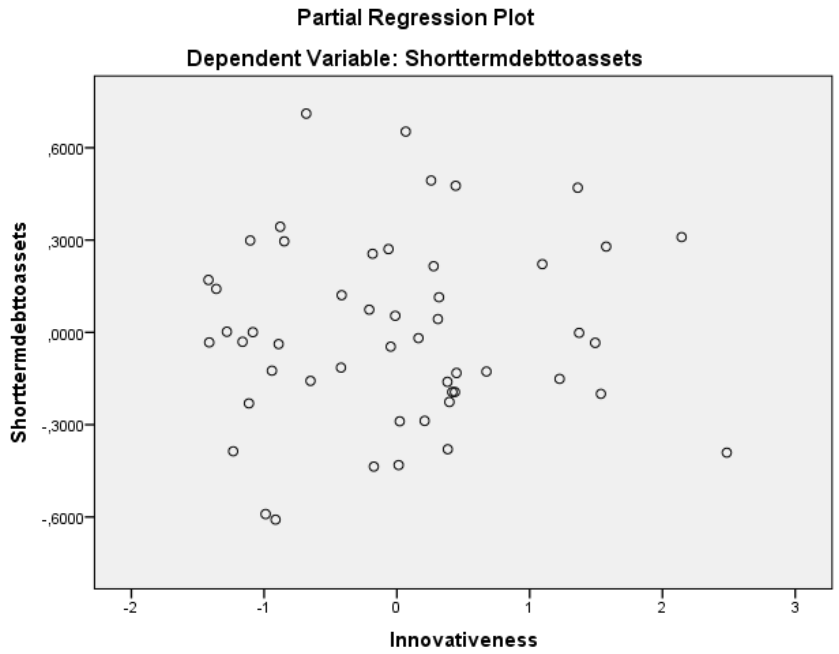

Partial Regression Plot
Dependent Variable: Shorttermdebttoassets
Shorttermdebttoassets
,6000
,3000
,0000
-,3000
-,6000
-2,00
-1,00
,00
1,00
LogAge


Partial Regression Plot
Dependent Variable: Shorttermdebttoassets
Shorttermdebttoassets
,6000
,3000
,0000
-,3000
-,6000
-2,00
,00
2,00
4,00
LogSize

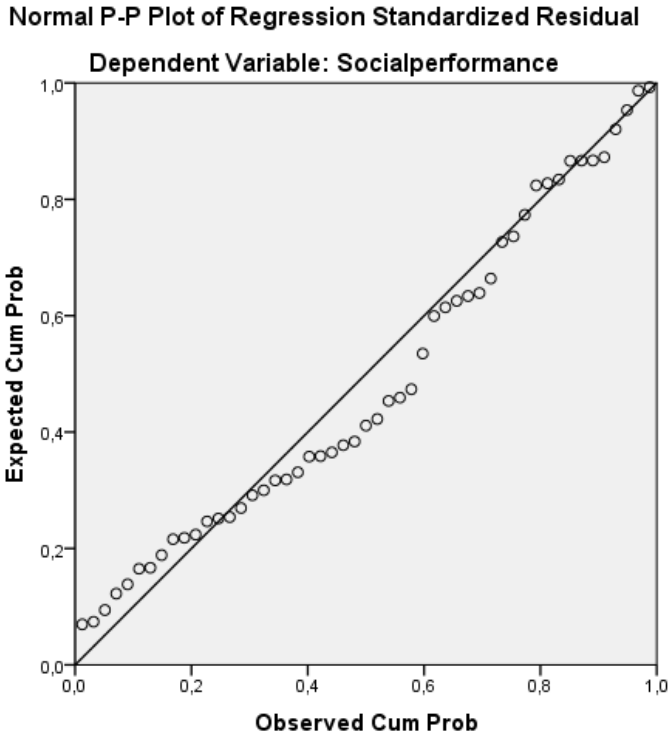

Partial Regression Plot
Dependent Variable: Shorttermdebttoassets
Shorttermdebttoassets
,7500
,5000
,2500
,0000
-,2500
-,5000
-,50
-,25
,00
,25
,50
,75
Customerstructre

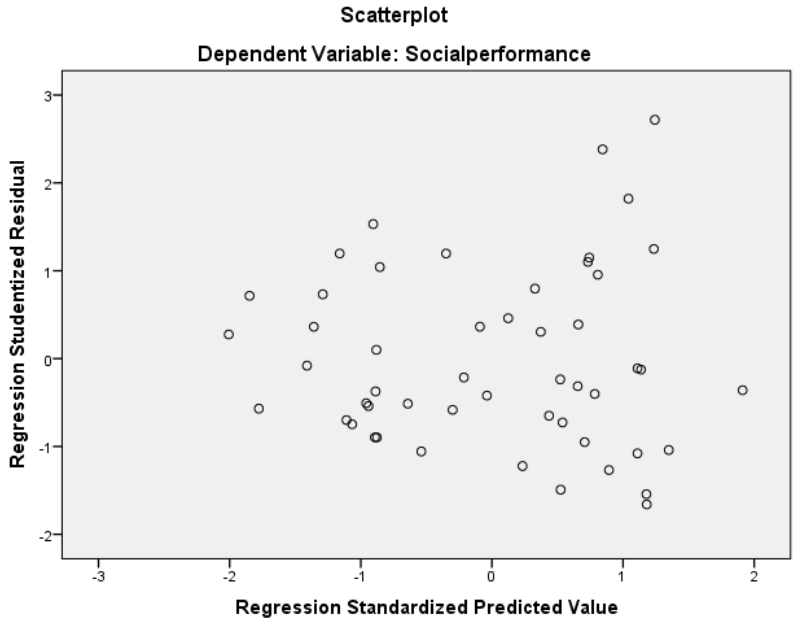

Partial Regression Plot
Dependent Variable: Shorttermdebttoassets
Shorttermdebttoassets
,6000
,3000
,0000
-,3000
-,6000
-2
0
2
4
Stakeholderrelationship

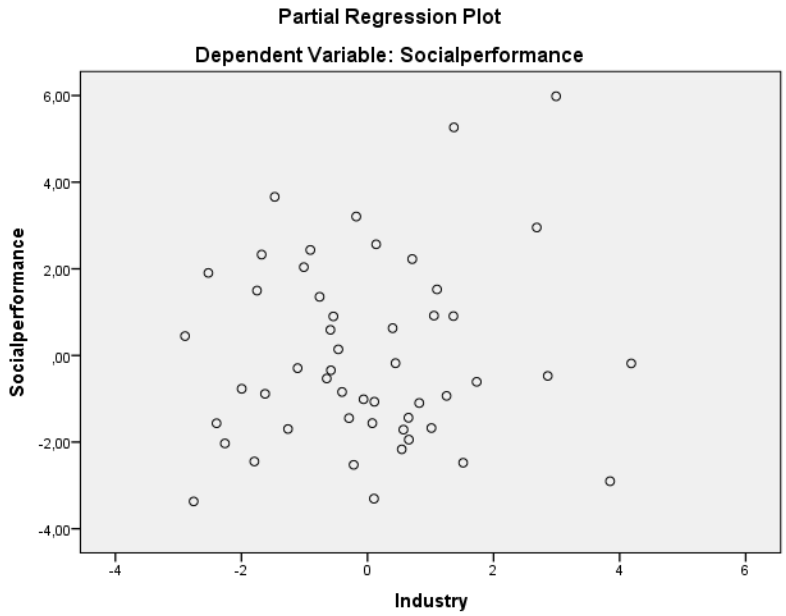


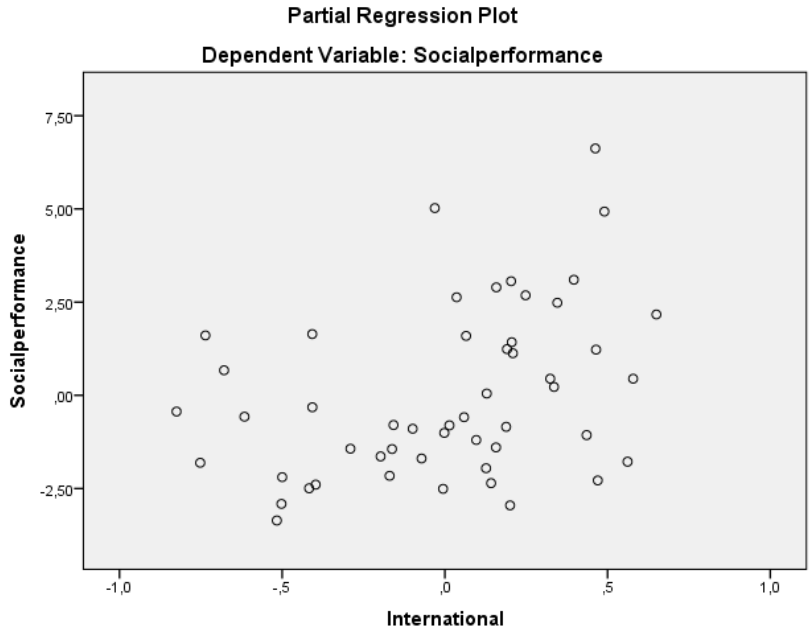


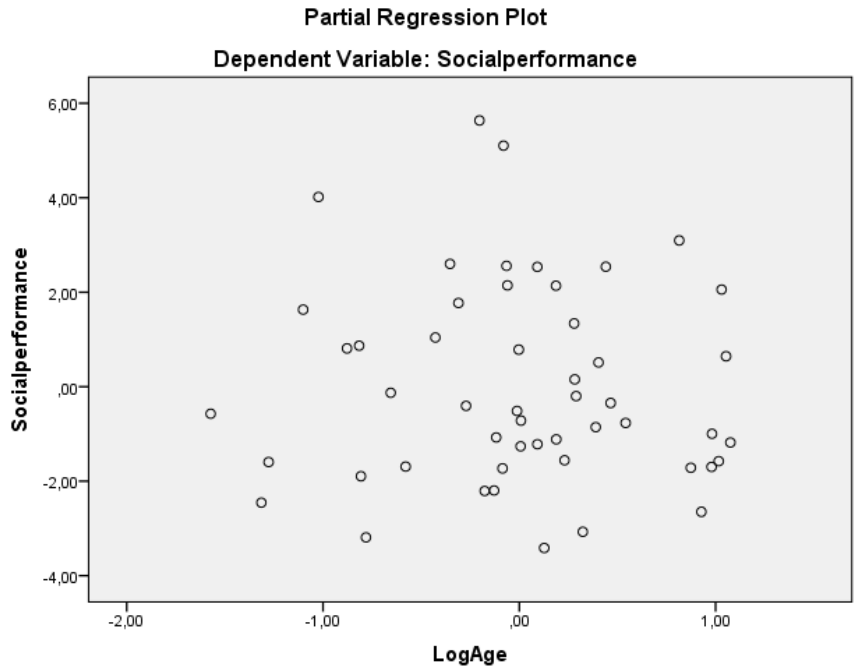
5.3 Social performance dependent variable

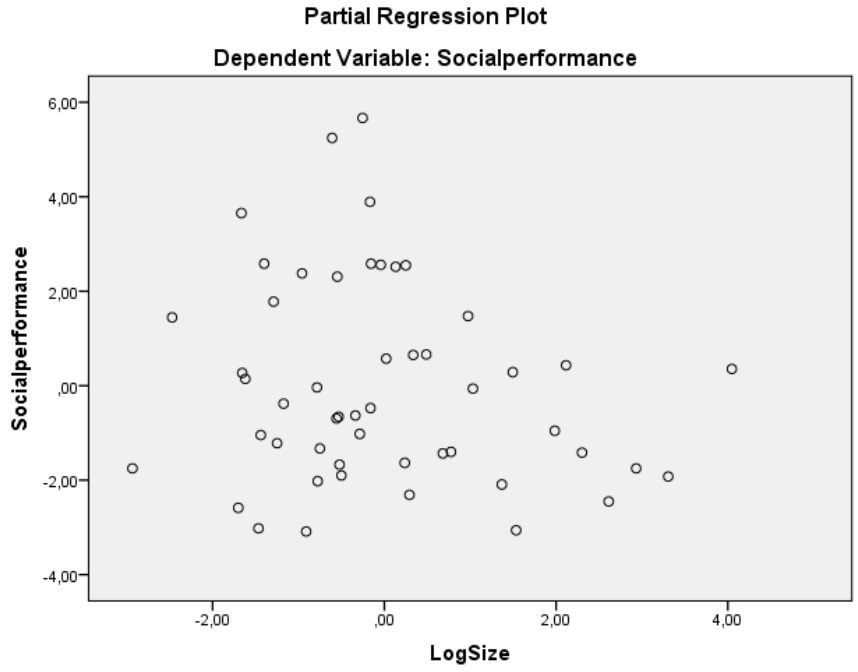

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Socialperformance
Expected Cum Prob
Observed Cum Prob
0,0
0,2
0,4
0,6
0,8
1,0

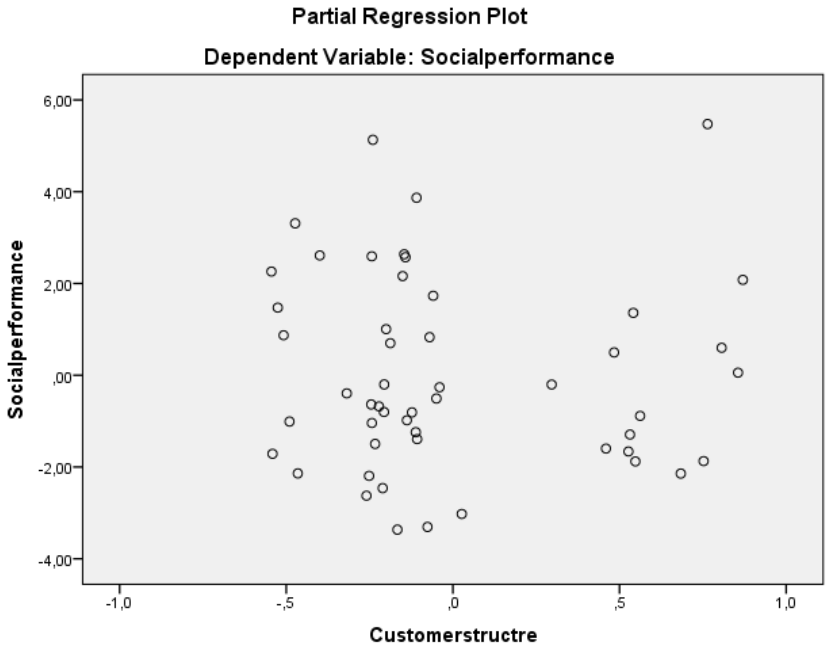

Scatterplot
Dependent Variable: Socialperformance
Regression Studentized Residual
Regression Standardized Predicted Value
3
2
1
0
-1
-2
-3

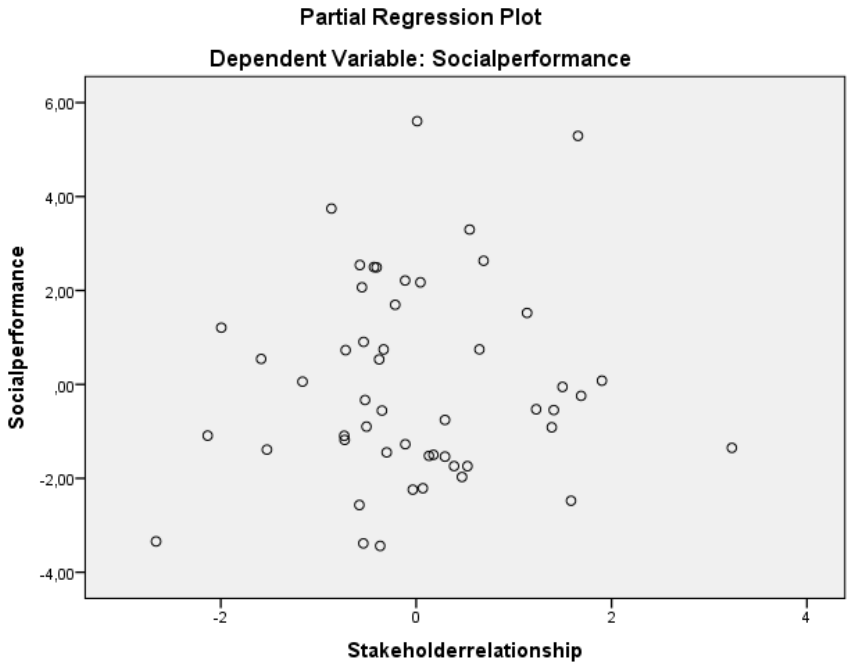

Partial Regression Plot
Dependent Variable: Socialperformance
Socialperformance
6,00
4,00
2,00
,00
-2,00
-4,00
-4
-2
0
2
4
6
Industry

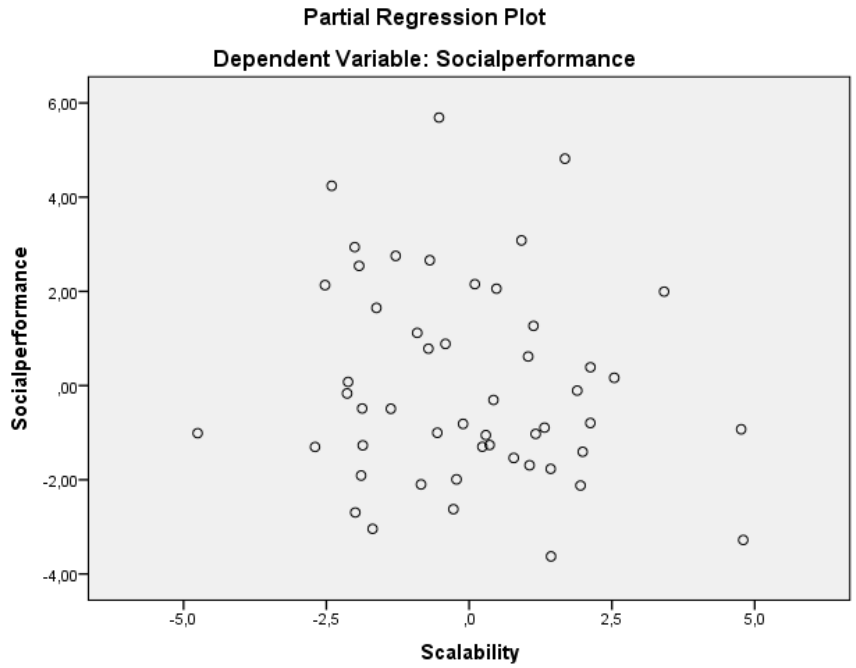

Partial Regression Plot
Dependent Variable: Socialperformance
Socialperformance
7,50
5,00
2,50
,00
-2,50
-1,0
-,5
,0
,5
1,0
International

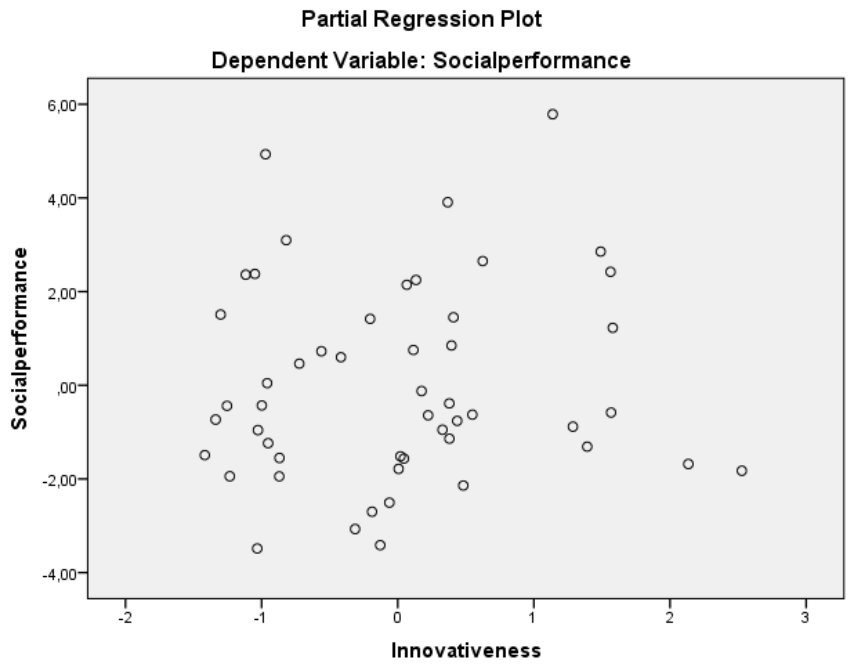

Partial Regression Plot
Dependent Variable: Socialperformance
Socialperformance
6,00
4,00
2,00
,00
-2,00
-4,00
-2,00
-1,00
,00
1,00
LogAge


Partial Regression Plot
Dependent Variable: Socialperformance
Socialperformance
6,00
4,00
2,00
,00
-2,00
-4,00
-2,00
,00
2,00
4,00
LogSize

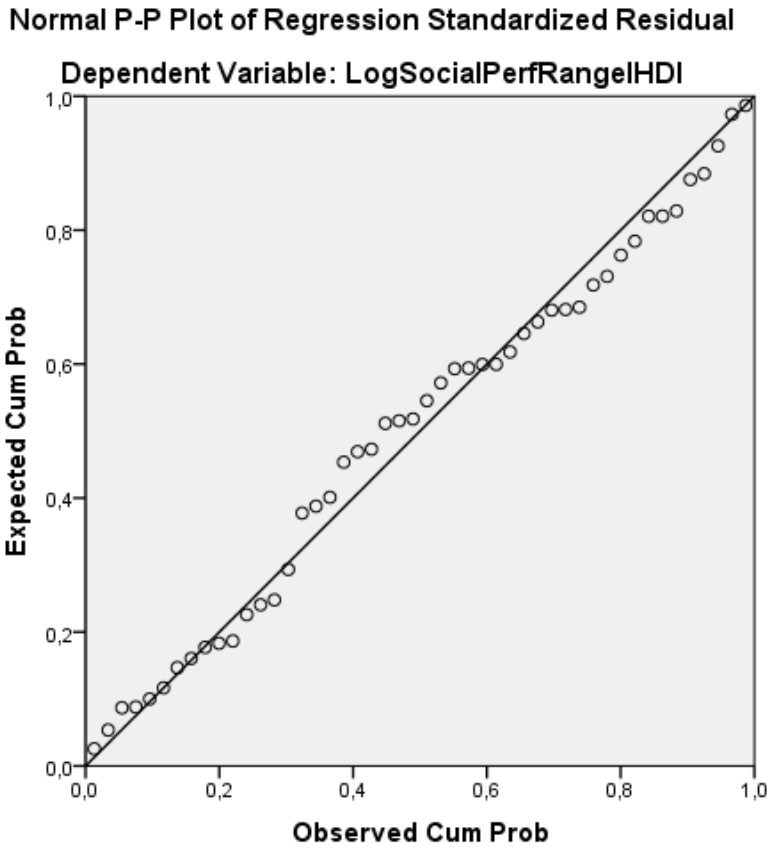

Partial Regression Plot
Dependent Variable: Socialperformance
Socialperformance
6,00
4,00
2,00
,00
-2,00
-4,00
-1,0
-,5
,0
,5
1,0
Customerstructre

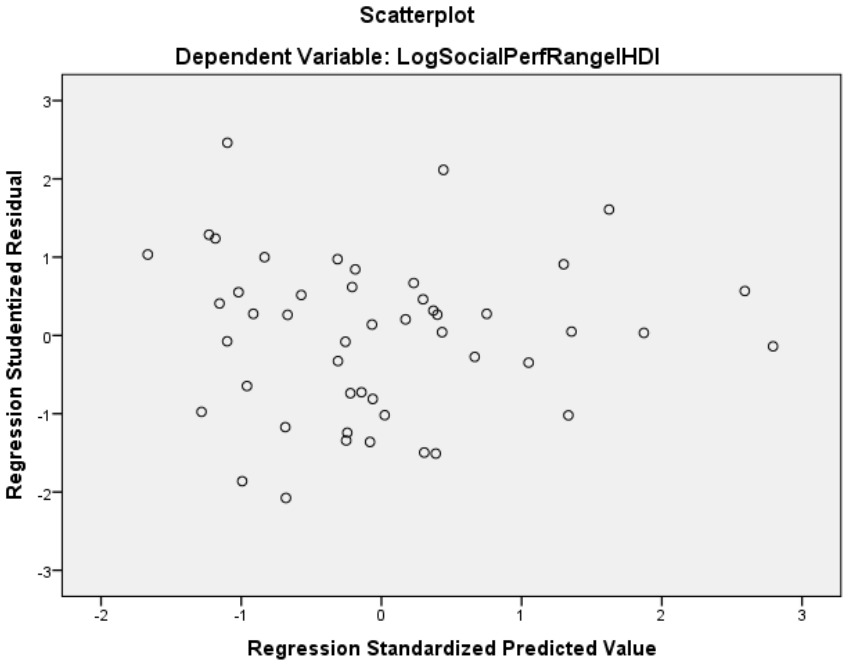

Partial Regression Plot
Dependent Variable: Socialperformance
Socialperformance
6,00
4,00
2,00
,00
-2,00
-4,00
-2
0
2
4
Stakeholderrelationship

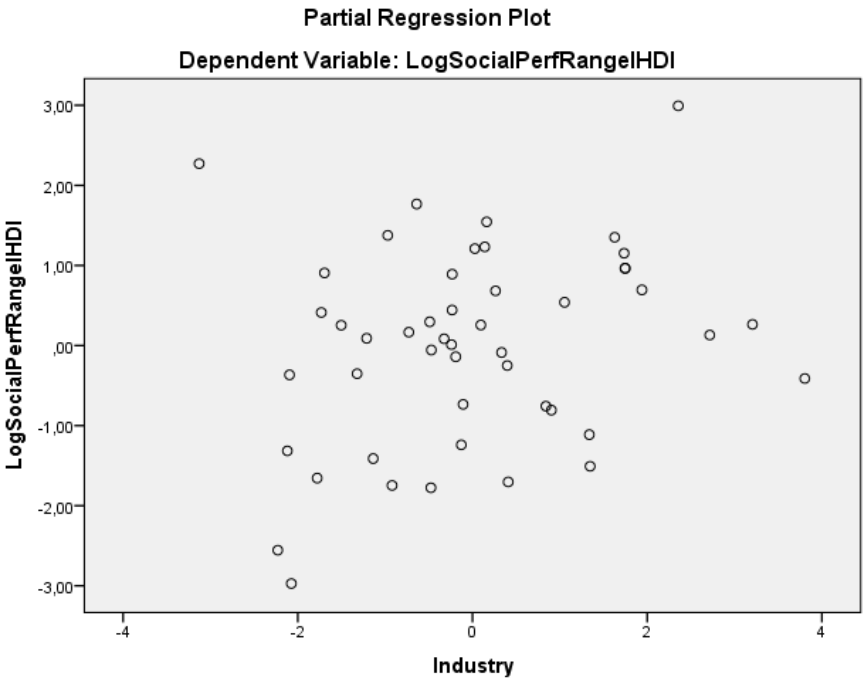

Partial Regression Plot
Dependent Variable: Socialperformance
Socialperformance
6,00
4,00
2,00
,00
-2,00
-4,00
-5,0
-2,5
,0
2,5
5,0
Scalability

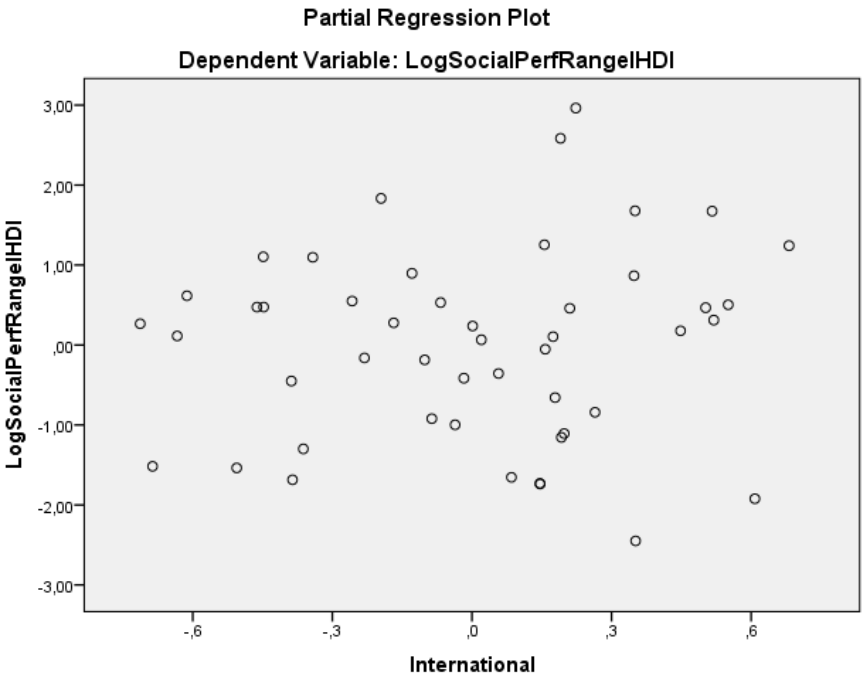

Partial Regression Plot
Dependent Variable: Socialperformance
Socialperformance
6,00
4,00
2,00
,00
-2,00
-4,00
-2
-1
0
1
2
3
Innovativeness

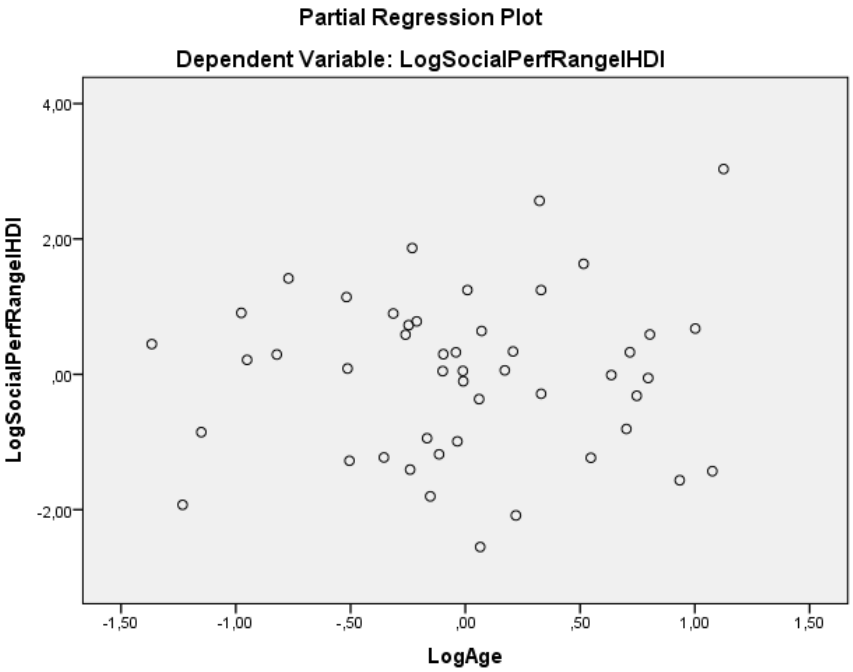
5.4 Social performance range IHDI dependent variable

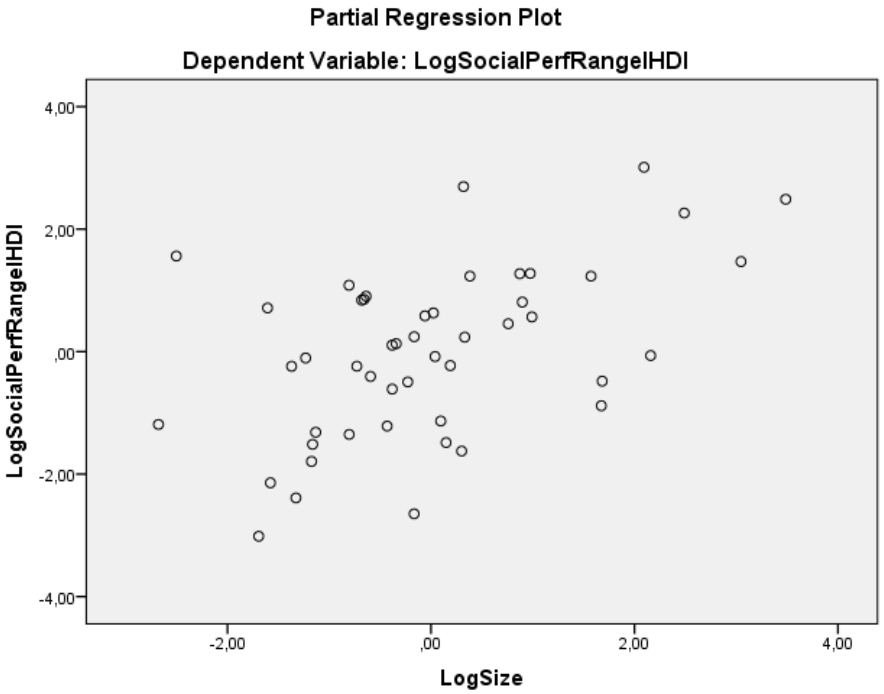


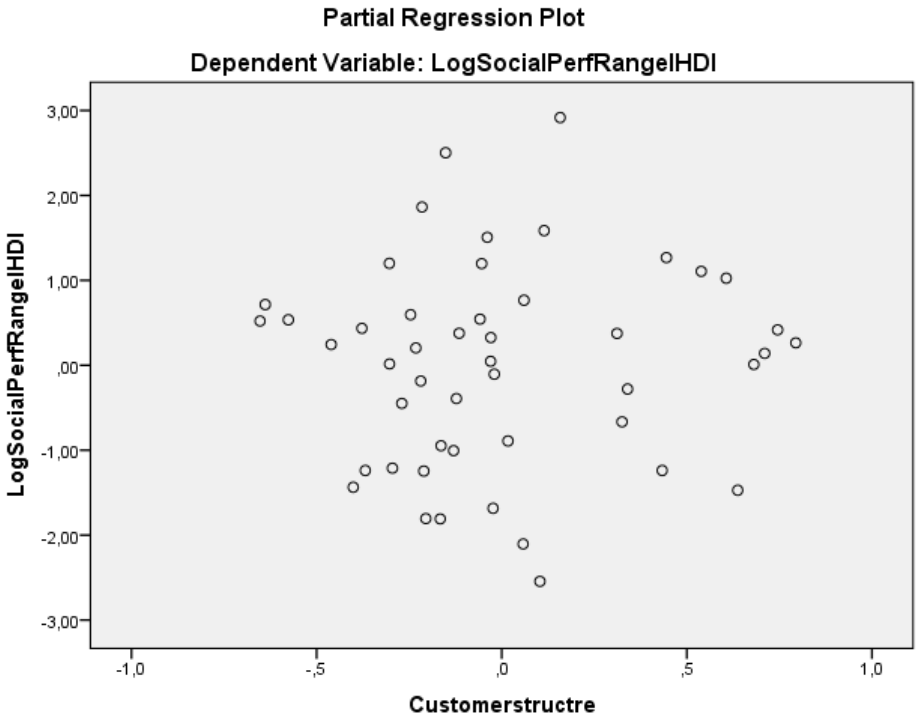


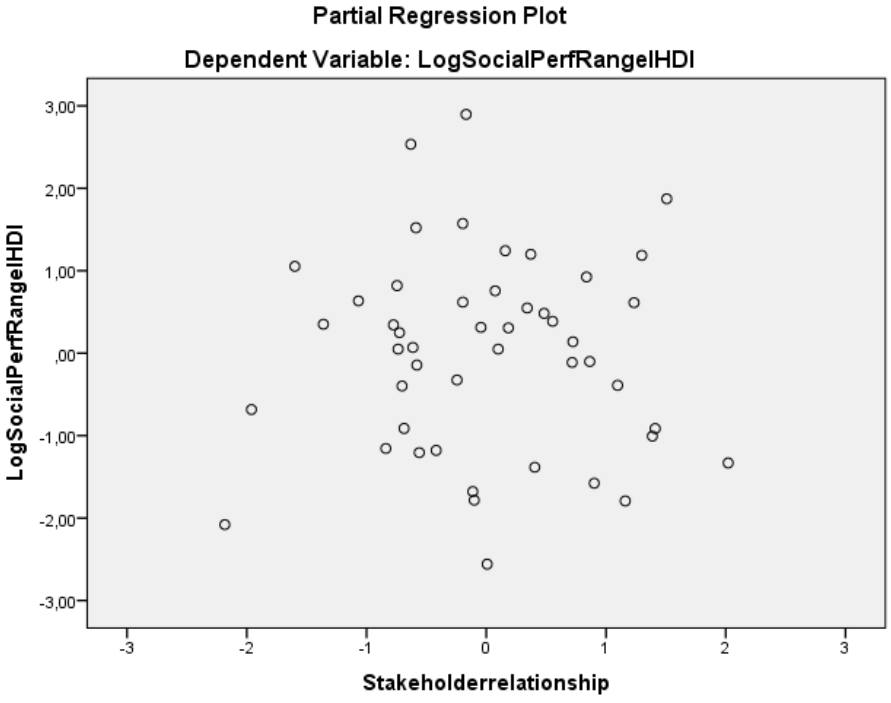

Partial Regression Plot
Dependent Variable: LogSocialPerfRangeIHDI
LogSocialPerfRangeIHDI
3,00
2,00
1,00
,00
-1,00
-2,00
-3,00
-4
-2
0
2
4
Industry

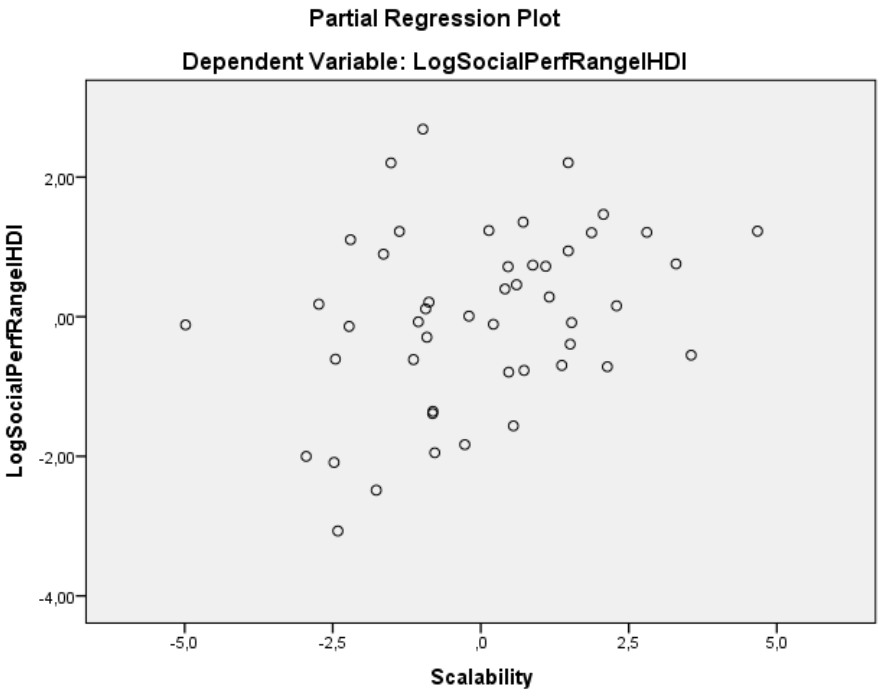

Partial Regression Plot
Dependent Variable: LogSocialPerfRangeIHDI
LogSocialPerfRangeIHDI
3,00
2,00
1,00
,00
-1,00
-2,00
-3,00
-,6
-,3
,0
,3
,6
International

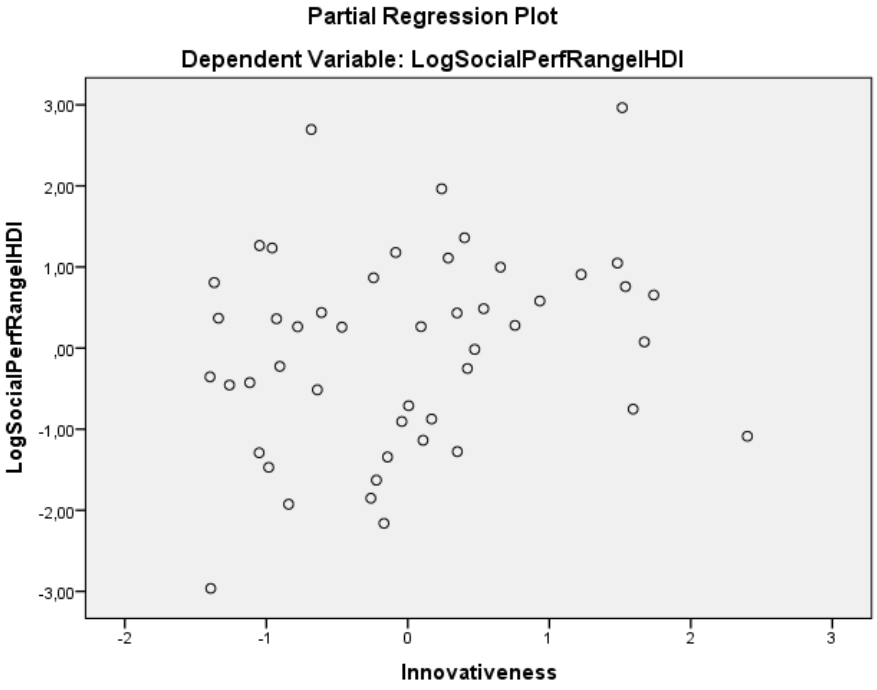

Partial Regression Plot
Dependent Variable: LogSocialPerfRangeIHDI
LogSocialPerfRangeIHDI
4,00
2,00
,00
-2,00
-1,50
-1,00
-,50
,00
,50
1,00
1,50
LogAge


Partial Regression Plot
Dependent Variable: LogSocialPerfRangeIHDI
LogSocialPerfRangeIHDI
4,00
2,00
,00
-2,00
-4,00
-2,00
,00
2,00
4,00
LogSize

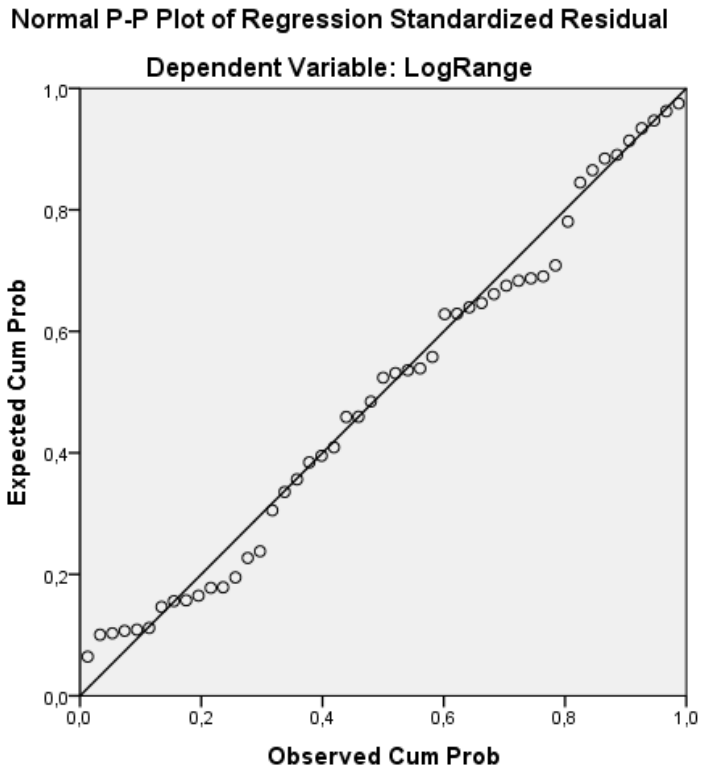

Partial Regression Plot
Dependent Variable: LogSocialPerfRangelHDI
LogSocialPerfRangelHDI
3,00
2,00
1,00
,00
-1,00
-2,00
-3,00
-1,0
-,5
,0
,5
1,0
Customerstructre

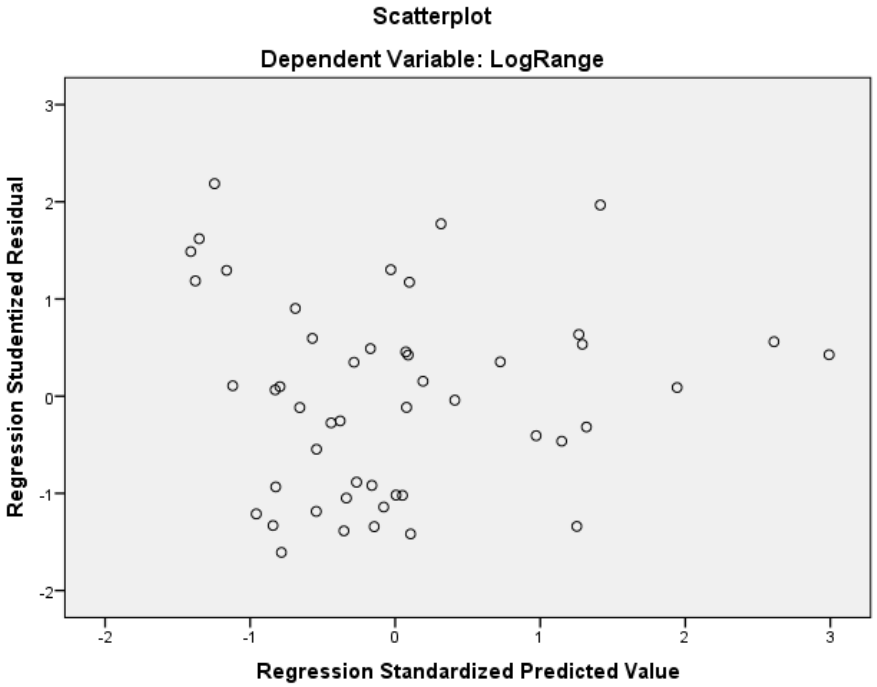

Partial Regression Plot
Dependent Variable: LogSocialPerfRangelHDI
LogSocialPerfRangelHDI
3,00
2,00
1,00
,00
-1,00
-2,00
-3,00
-3
-2
-1
0
1
2
3
Stakeholderrelationship

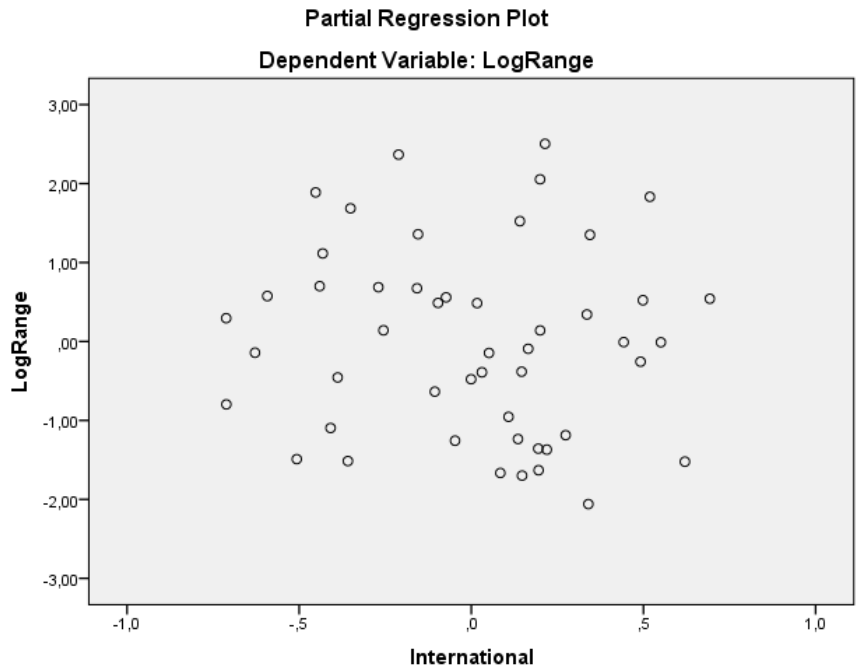

Partial Regression Plot
Dependent Variable: LogSocialPerfRangeIHDI
LogSocialPerfRangeIHDI
2,00
,00
-2,00
-4,00
-5,0
-2,5
,0
2,5
5,0
Scalability

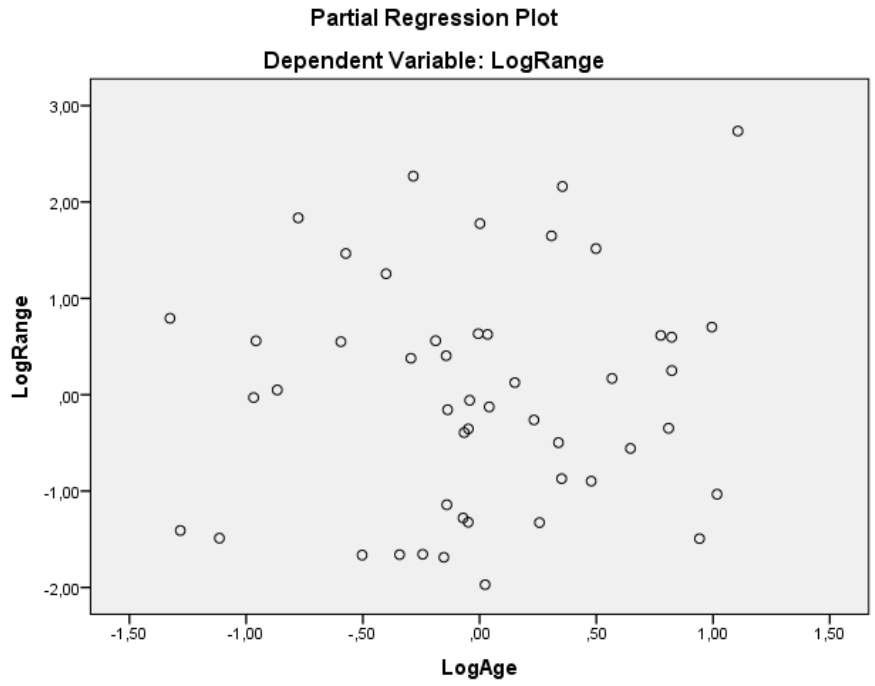

Partial Regression Plot
Dependent Variable: LogSocialPerfRangeIHDI
LogSocialPerfRangeIHDI
3,00
2,00
1,00
,00
-1,00
-2,00
-3,00
-2
-1
0
1
2
3
Innovativeness

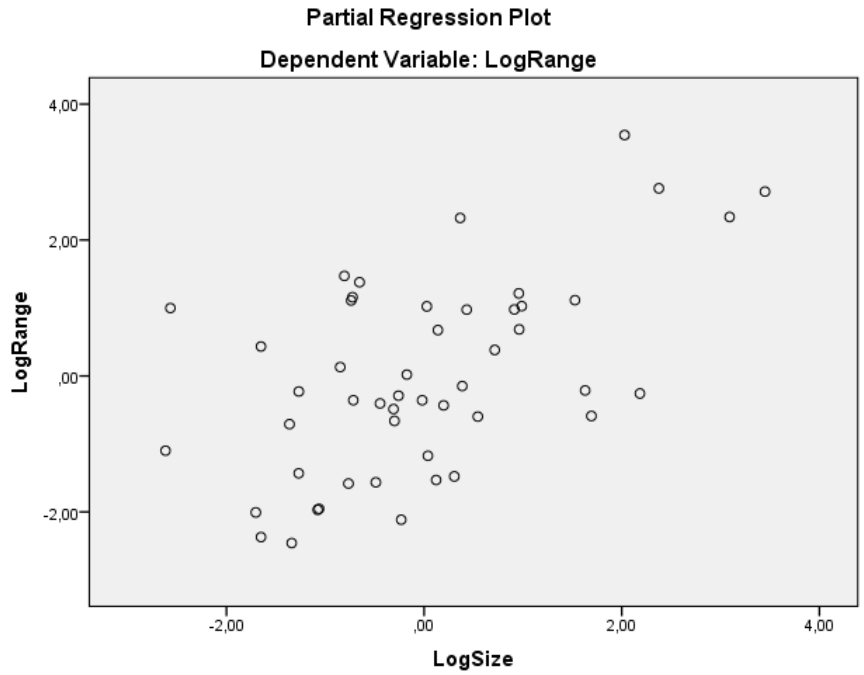
5.5 Range dependent variable






Partial Regression Plot
Dependent Variable: LogRange
LogRange
3,00
2,00
1,00
,00
-1,00
-2,00
-3,00
-1,0
-,5
,0
,5
1,0
International


Partial Regression Plot
Dependent Variable: LogRange
LogRange
3,00
2,00
1,00
,00
-1,00
-2,00
-1,50
-1,00
-,50
,00
,50
1,00
1,50
LogAge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Dependent Variable: LogRange
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LogSize
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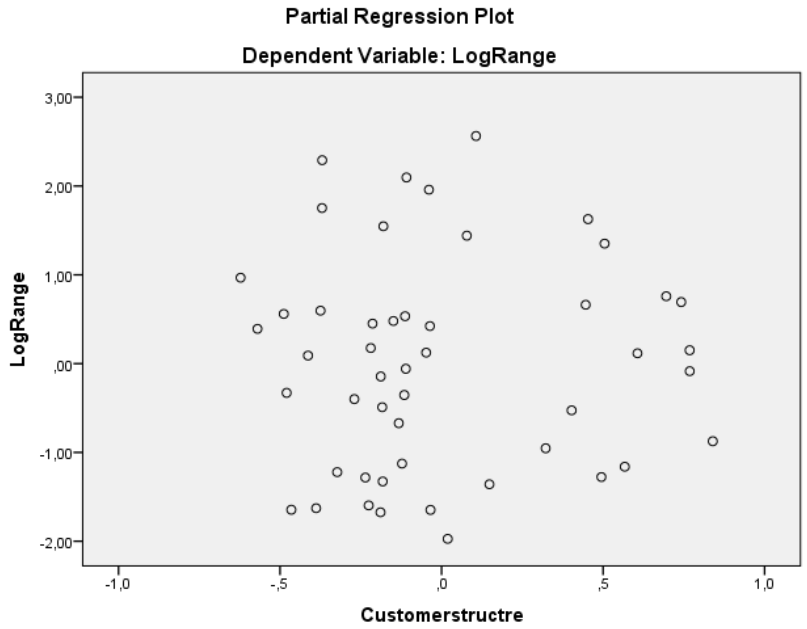
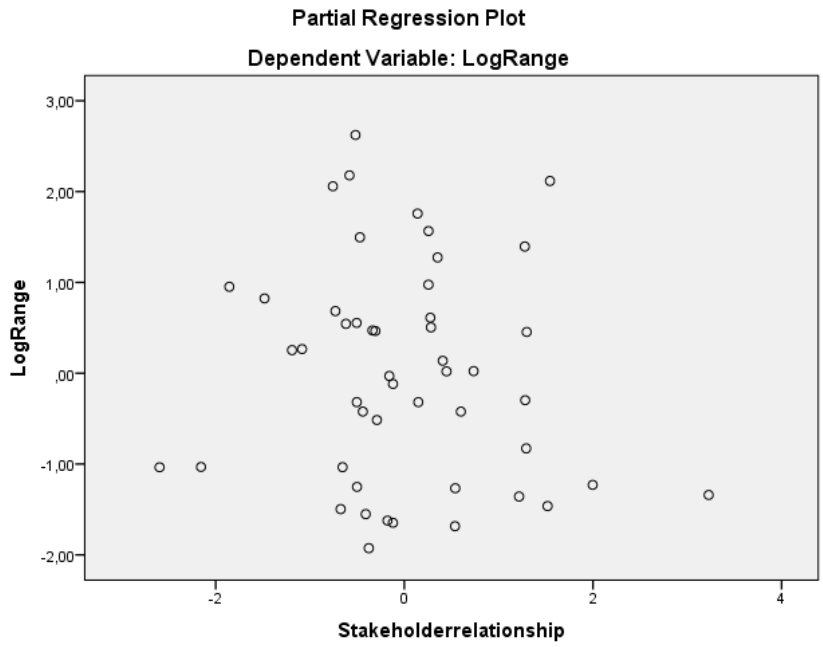
2,00
,00
-2,00
-2,00
,00
2,00
4,00


Partial Regression Plot
Dependent Variable: LogRange
LogRange
Customerstructre
3,00
2,00
1,00
,00
-1,00
-2,00
-1,0
-,5
,0
,5
1,0


Partial Regression Plot
Dependent Variable: LogRange
LogRange
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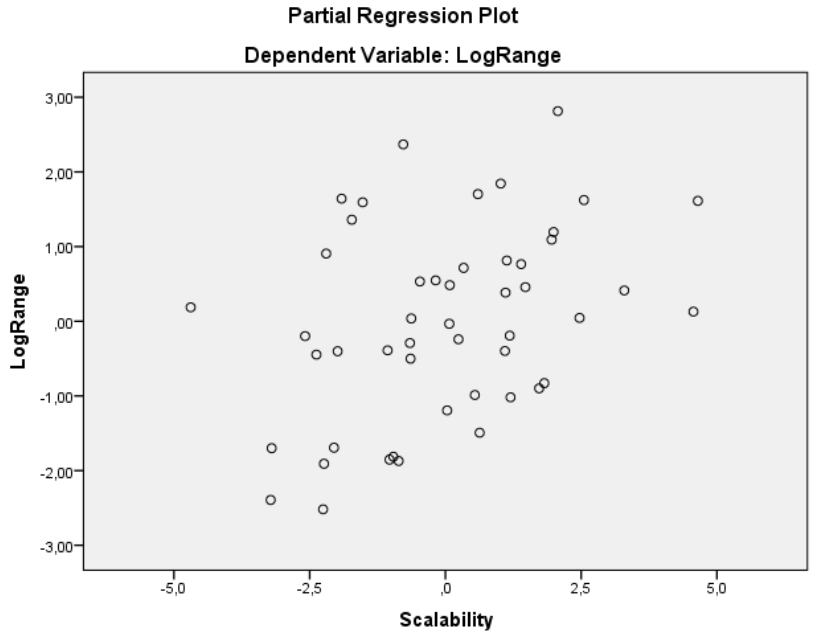
2,00
1,00
,00
-1,00
-2,00
-2
0
2
4
Stakeholderrelationship


Partial Regression Plot
Dependent Variable: LogRange
LogRange
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2,00
1,00
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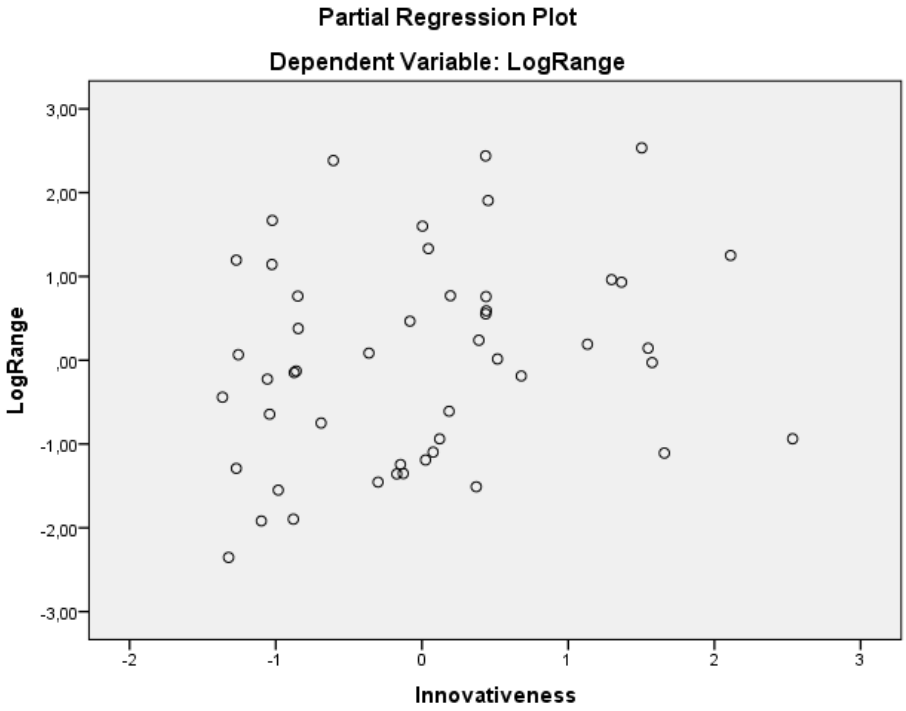
-1,00
-2,00
-3,00
-5,0
-2,5
,0
2,5
5,0
Scalability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Dependent Variable: LogRange
LogRange
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-3,00
-2
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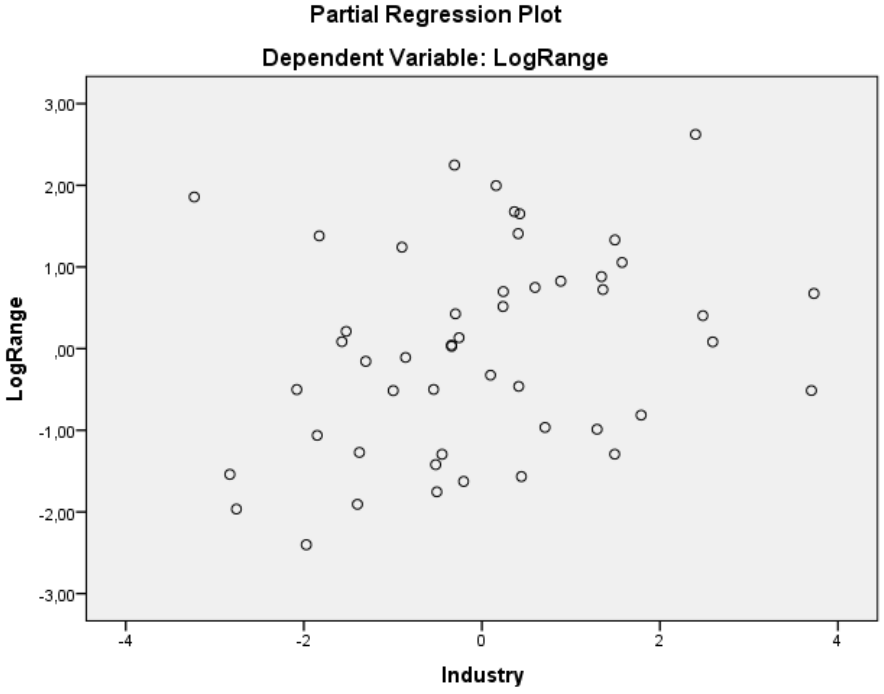
0
1
2
3
Innovativeness


Partial Regression Plot
Dependent Variable: LogRange
LogRange
3,00
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1,00
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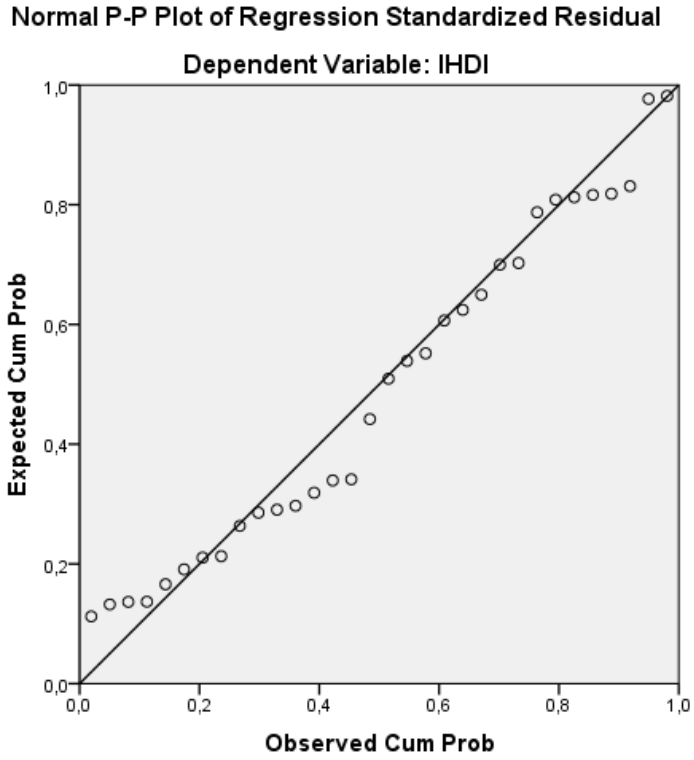
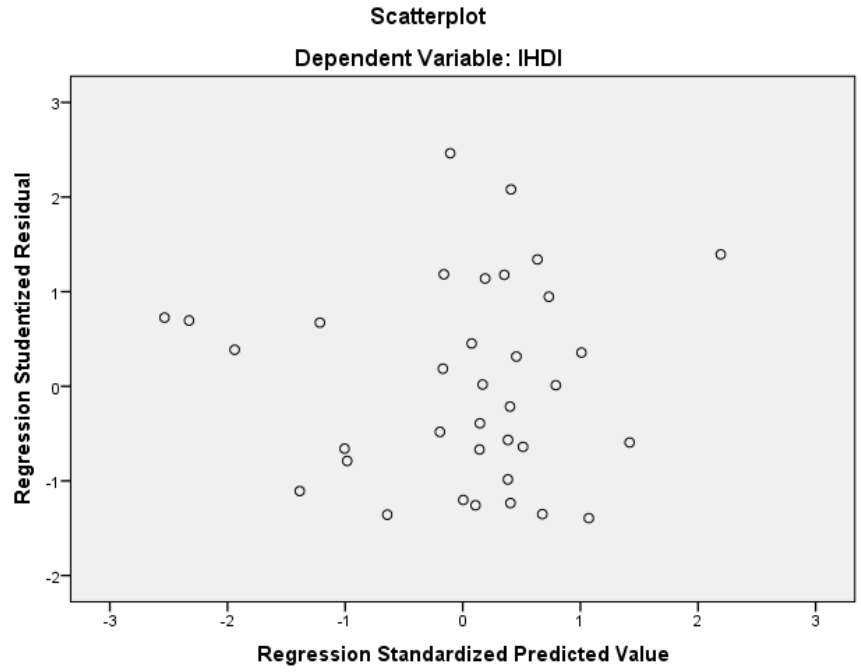
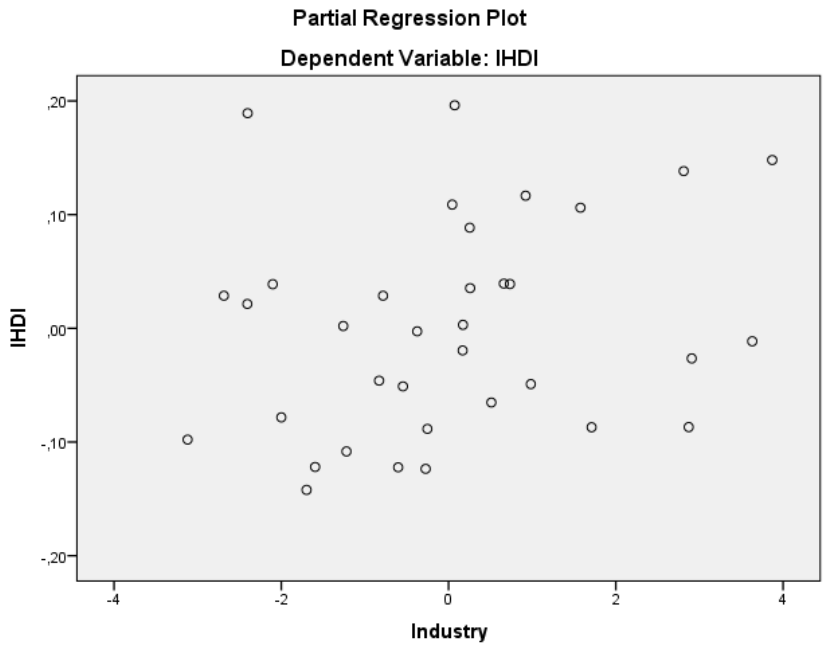
-1,00
-2,00
-3,00
-4
-2
0
2
4
Industry

5.6 IHDI dependent variable



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Dependent Variable: IHDI
IHDI
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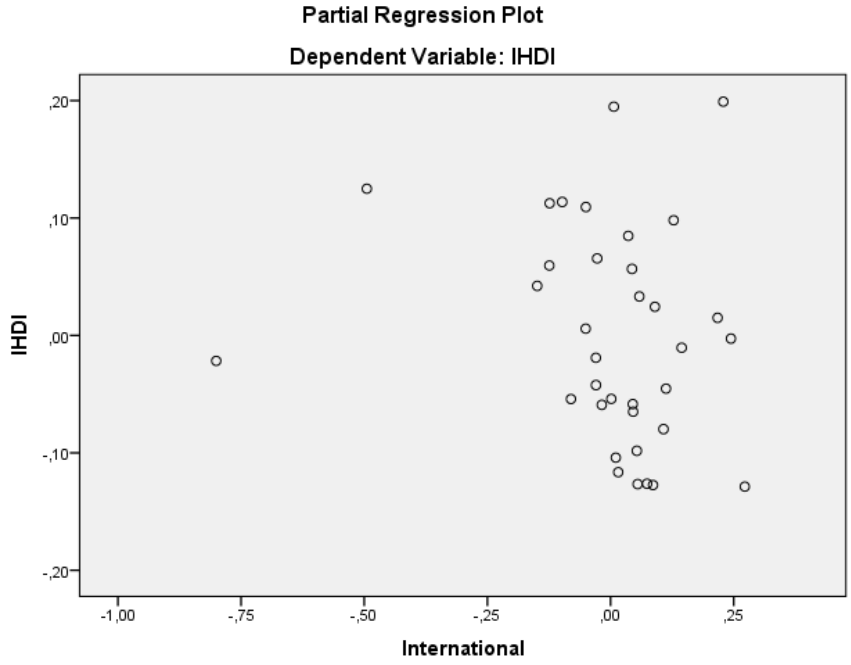
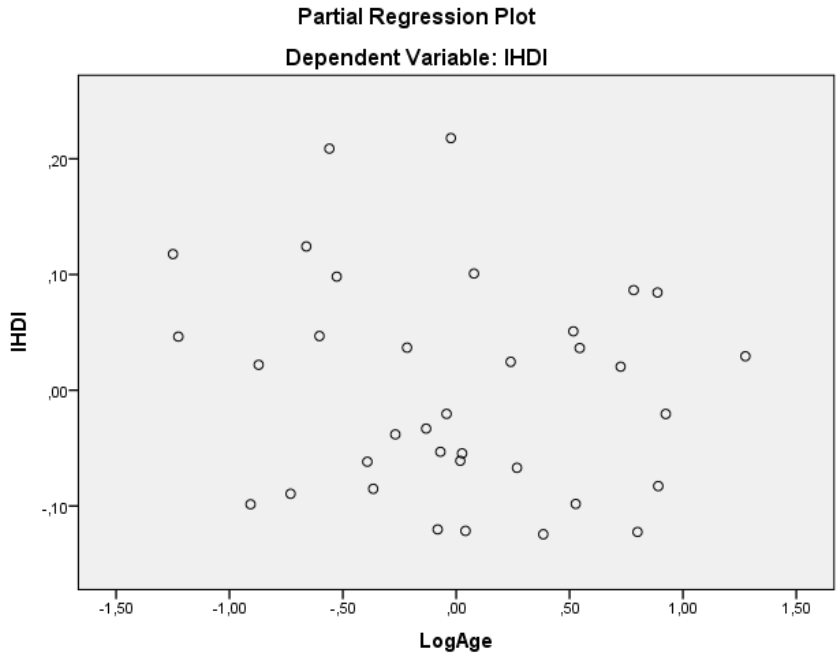
,10
,00
-,10
-,20
-4
-2
0
2
4
Industry


Partial Regression Plot
Dependent Variable: IHDI
IHDI
,20
,10
,00
-,10
-,20
-1,00
-,75
-,50
-,25
,00
,25
International


Partial Regression Plot
Dependent Variable: lHDI
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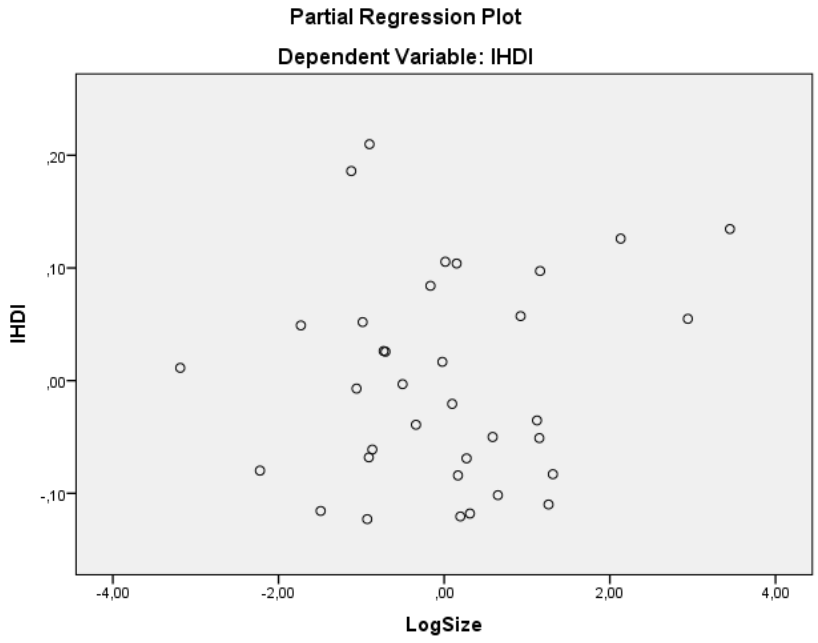
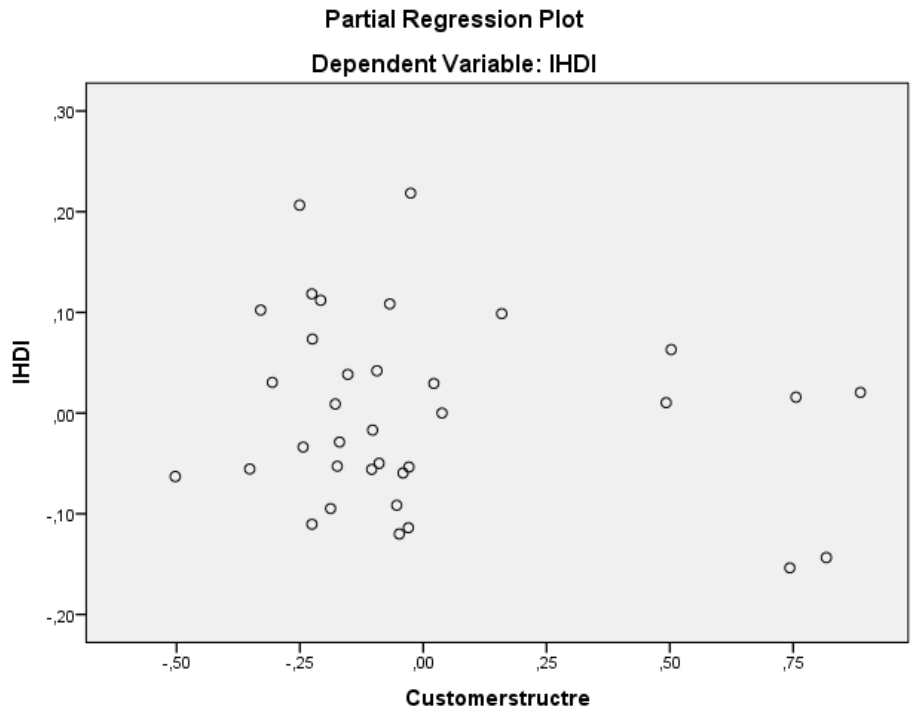
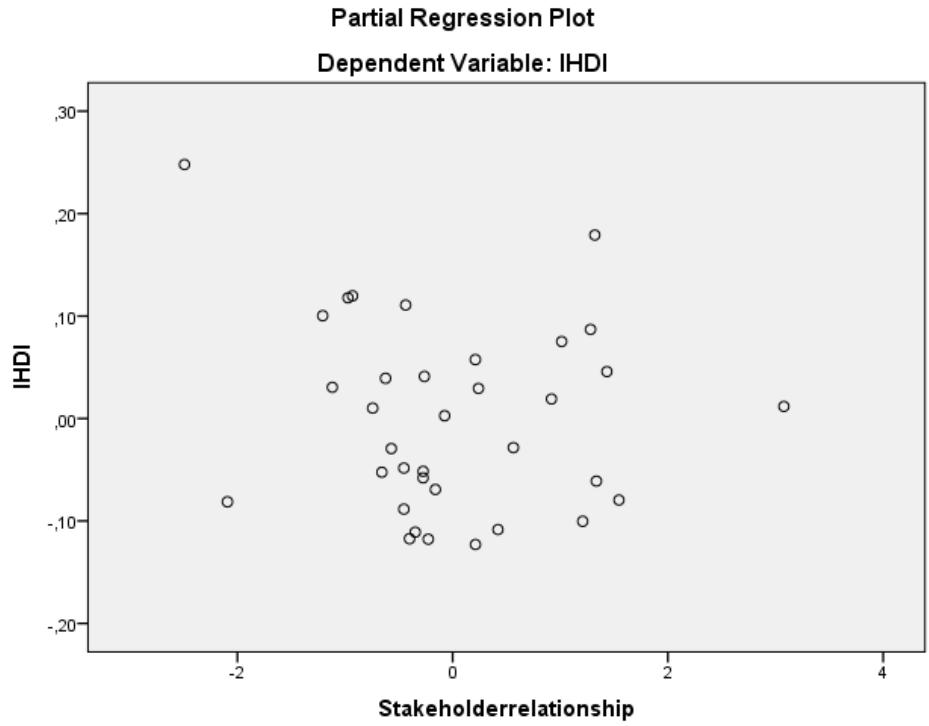
,10
,00
-,10
lHDI
-1,50
-1,00
-,50
,00
,50
1,00
1,50
LogAge


Partial Regression Plot
Dependent Variable: lHDI
,20
,10
,00
-,10
lHDI
-4,00
-2,00
,00
2,00
4,00
LogSize


Partial Regression Plot
Dependent Variable: IHDI
IHDI
,30
,20
,10
,00
-,10
-,20
-,50
-,25
,00
,25
,50
,75
Customerstructre


Partial Regression Plot
Dependent Variable: IHDI
IHDI
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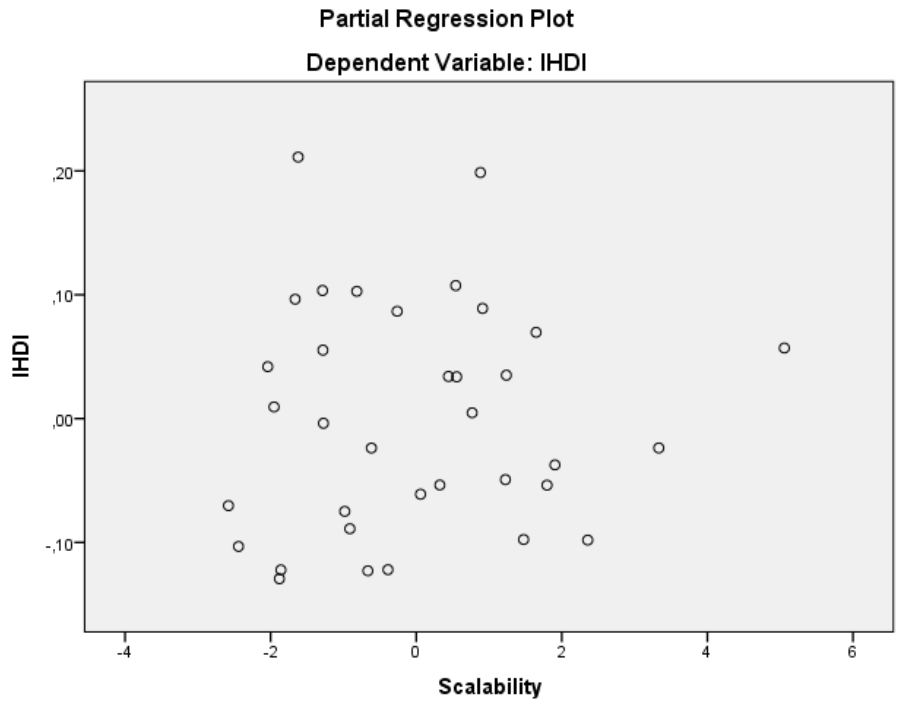
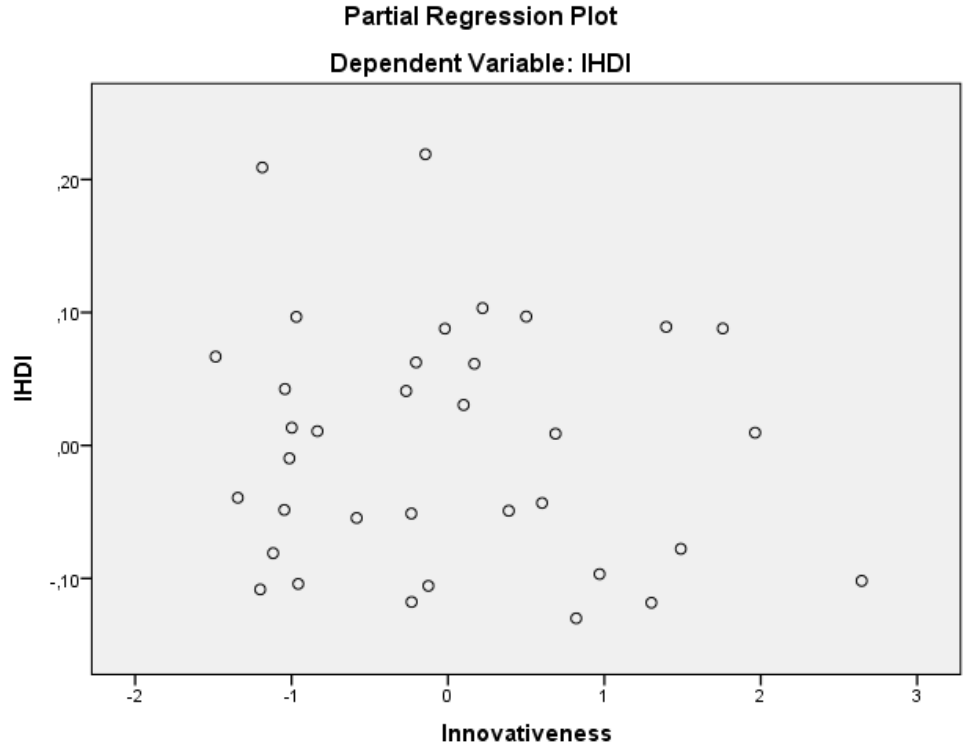
,20
,10
,00
-,10
-,20
-2
0
2
4
Stakeholderrelationship


Partial Regression Plot
Dependent Variable: IHDI
IHDI
,20
,10
,00
-,10
-4
-2
0
2
4
6
Scalability


Partial Regression Plot
Dependent Variable: IHDI
IHDI
,20
,10
,00
-,10
-2
-1
0
1
2
3
Innovativeness

Appendix C: Simple linear regression (pre-testing)

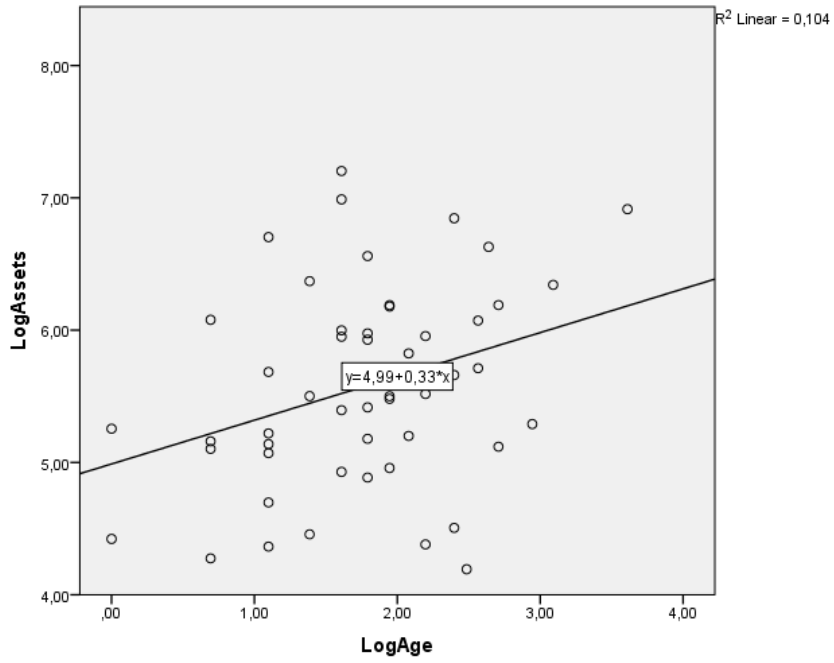


Figure A: correlation Age and Assets.

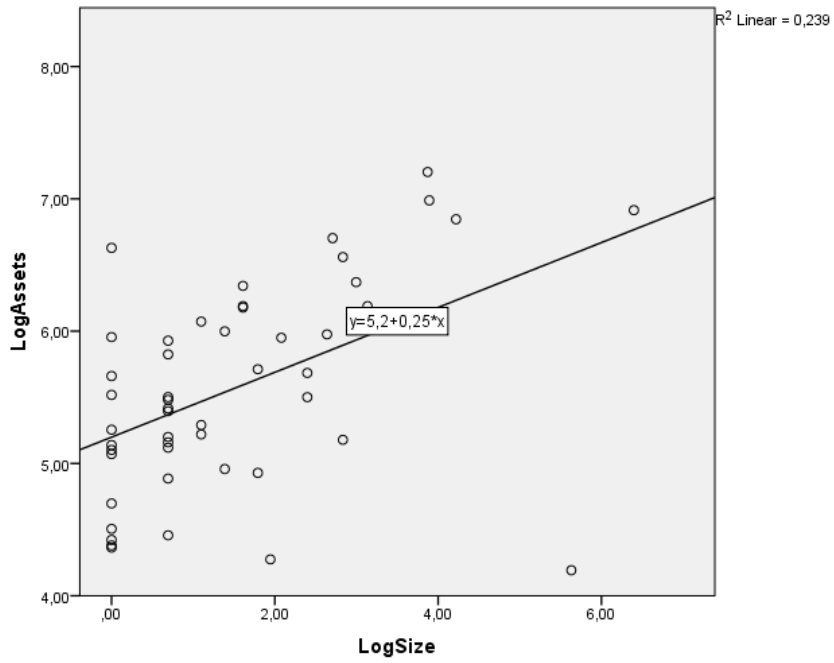


Figure B: correlation Size and Assets.

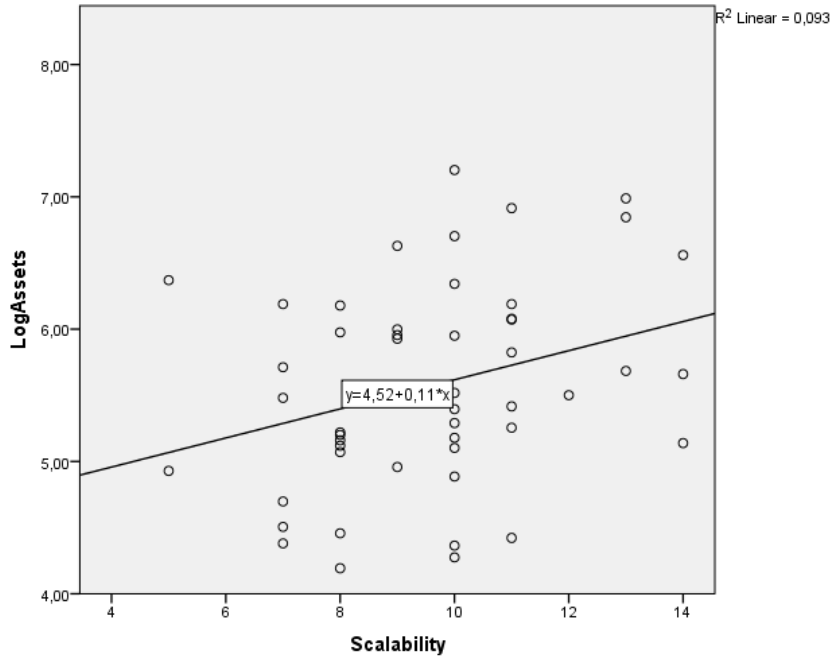


Figure C: correlation Scalability and Assets.

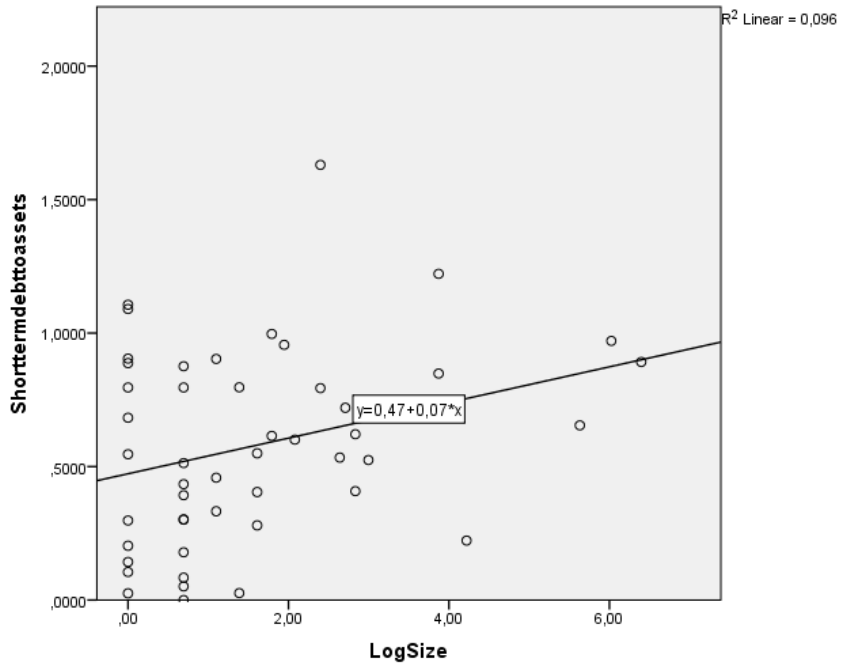


Figure D: correlation Size and Short-term-debt-to-assets.

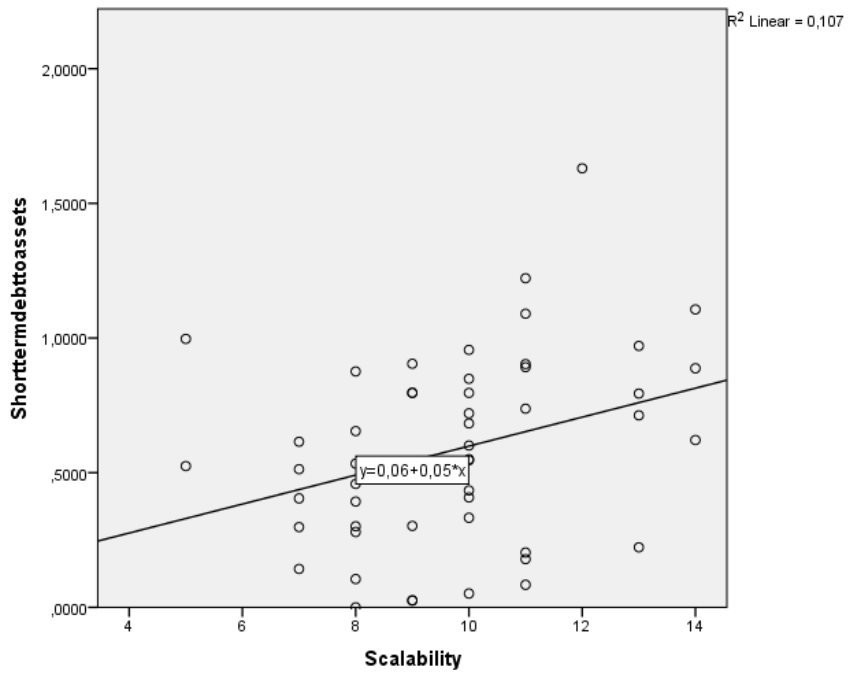


Figure E: correlation Scalability and Short-term-debt-to-assets.

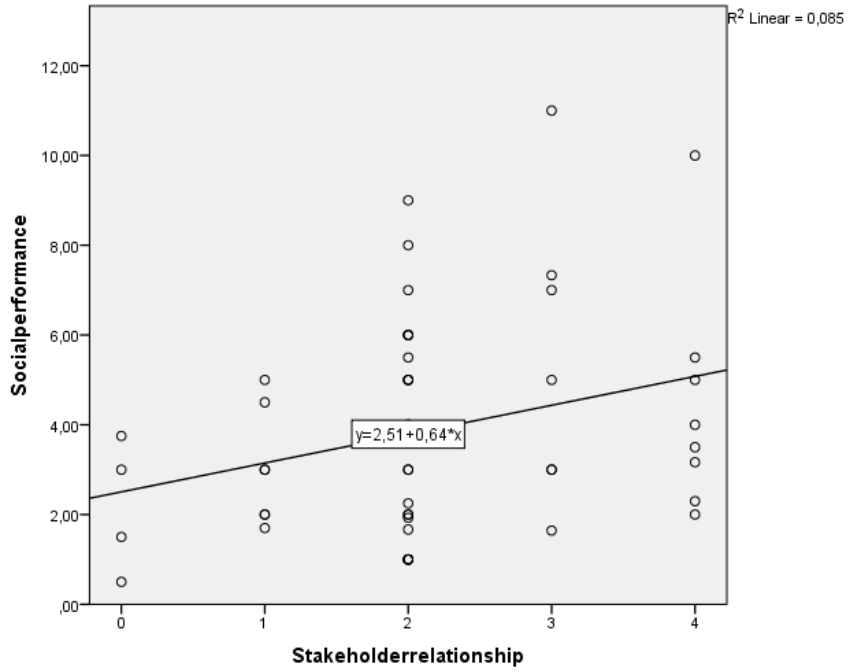


Figure F: correlation Stakeholder relationships and Social performance.

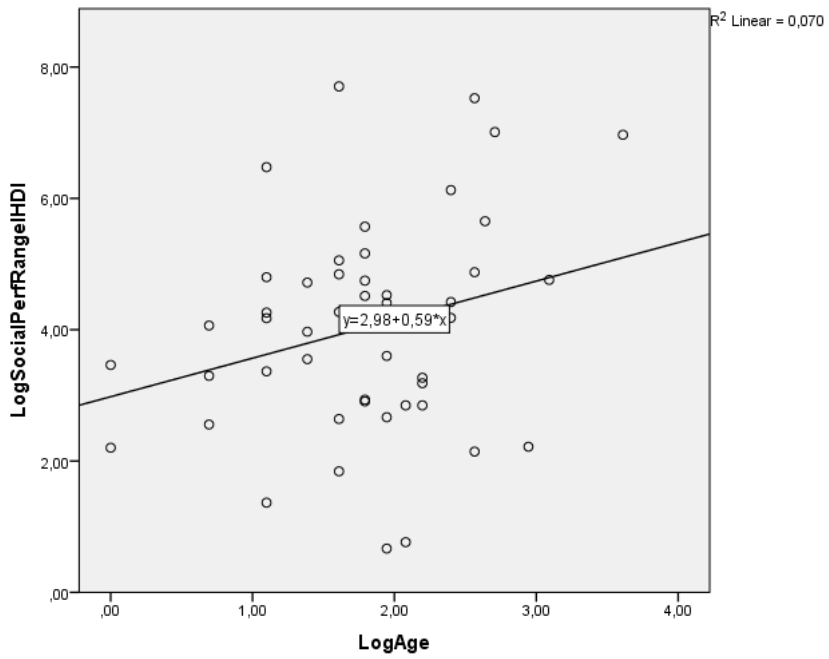


Figure G: correlation Age and Social performance range IHDI.

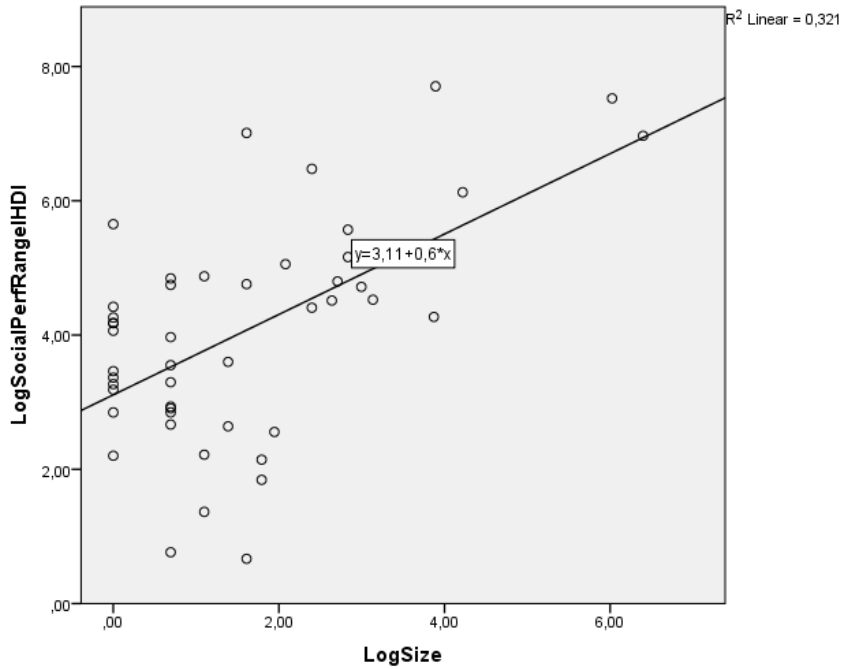


Figure H: correlation Size and Social performance range IHDI.

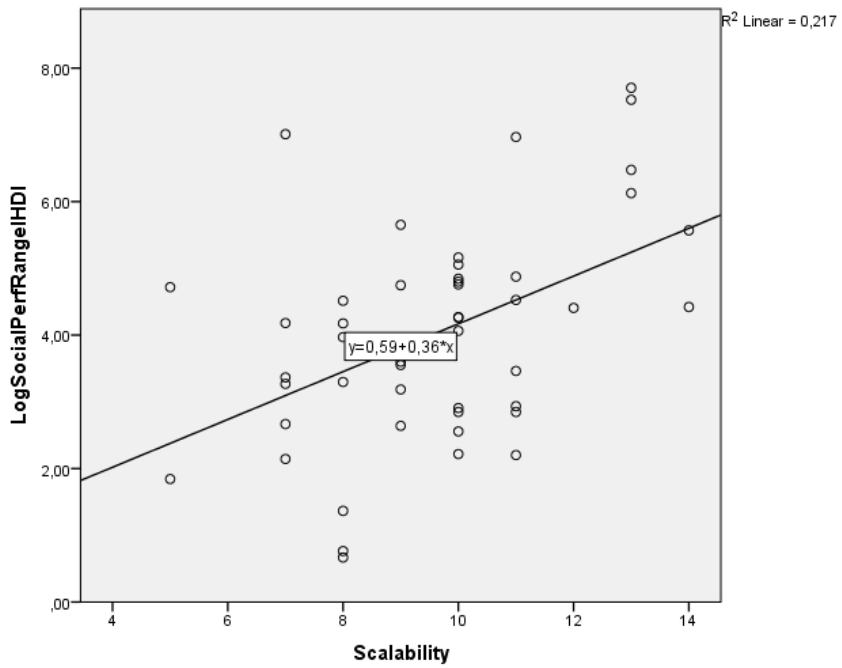


Figure I: correlation Scalability and Social performance range IHDI.

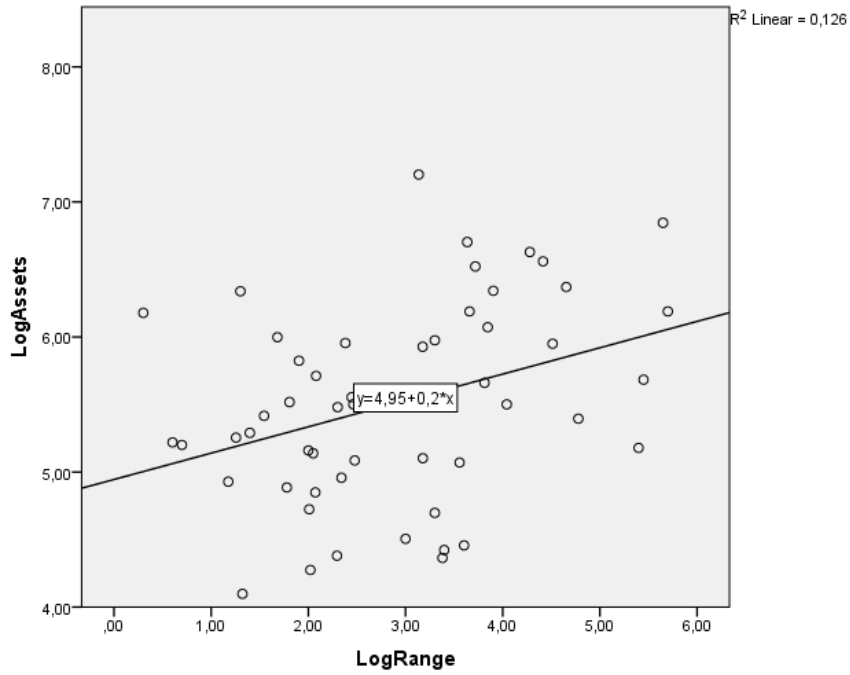


Figure J: correlation Range and Assets.

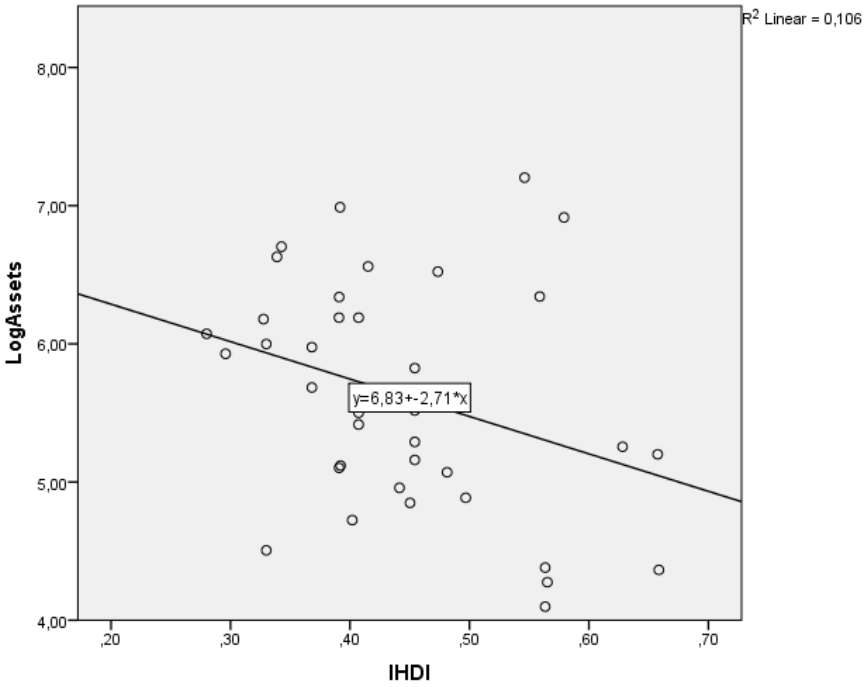


Figure J: correlation IHDI and Assets.