How “novel” can business model innovations be?

Examining the effects of institutionalism towards business model innovation

Master thesis – Management of Technology

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How “novel” can business model innovations be?
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Executive Summary

The advent of ICT and globalization have brought a completely new and more intensive competitive environment for firms to operate and succeed in. This increase in the level of competitiveness has also highlighted the role of business model innovation as a method for firms to continuously evolve and sustain competitive advantage over its competitors. As business model innovation changes how a firm creates, delivers, and captures value, the act of a firm doing business model innovation brings innovativeness not only to the firm, but also to its industry and environment. As a process done by a firm inside an environment which comprises of other actors, business model innovation is not isolated from the rules and norms that is set upon by the actors in the environment, or also known as institutionalism. Institutionalism is a concept that has been studied by scholars to understand how the institutional environment affects the actors which comprise said environment. Based on previous research that has been done institutionalism is a factor that should be considered by firms, as it exerts institutional pressures which penalize firms that do not adhere to the institutional norms. Scholars in this field have highlighted the importance of gaining or creating legitimacy for firms to avoid performance penalties, through the act of conformity. Combining the concept of business model innovation and institutionalism, it is clear that a tension to be innovative and to conform to the institutional environment exist for firms who are doing business model innovation. Interestingly, only a relatively few amounts of research based on reconciling the tension of being innovative and conforming in business model innovation activities exist. Moreover, it should be noted that there is a lack of quantitative empirical research from the current knowledge base. Thus, this research aims to bridge the gap between the two concepts empirically and further build upon the knowledge stream of both business model innovation and institutional theory. More specifically, the objective of this research is to answer the question of *"*How does institutionalism affect business model innovation and ultimately affect firm performance?*"*

To reach the objective of this research, a regression analysis based on structural equation modeling is used on the dataset from the ENVISION 2020 Project. The ENVISION 2020 Project dataset is chosen as the aims of the project is to understand the inner workings of business model innovation in SME's across Europe. The dataset provides a comprehensive set of data that can be utilized to fulfill the requirements of the research. The concepts of institutionalism, business model innovation, and firm performance are operationally constructed to be used quantitatively based on existing research and suitable questions from

the ENVISION 2020 Project is chosen for the analysis. The results of the statistical analysis show that a U-shaped relationship is observed between institutionalism and business model innovation, a result that is not hypothesized by this research. Results also show that business model innovation does indeed affect firm performance positively, and that business model innovation plays a mediating role in the effect of institutionalism towards firm performance, albeit only a partial mediation. The unexpected results are discussed extensively in this research, with arguments given to explain why the observed effect is different from the hypothesized effect. Firstly, the unexpected U-shaped relationship is argued to be observed due to the workings of how business model innovation works. The involvement of external parties in a business model innovation process means that there are differences to the mechanism of institutionalism compared to current studies which usually inspects internal firm activities (strategic choices, positioning, etc.). Secondly, the partial mediation can be explained through the resulting innovativeness caused by the business model innovation towards firm performance. Despite the hypothesized full mediation relationship that is expected, the innovativeness of the changed business model will also result in more positive firm performance. Overall, despite having results which do not meet all the hypothesized relationships, the observed results are deemed to have acceptable explanations for it.

Academically, the main contribution of this research is to bridge the knowledge stream of institutional theory and business model innovation. More specifically, this research is the first one to combine both concepts through quantitative methods. Moreover, the results of this research bring a new observation on the effect of institutionalism to a process, as the U-shaped relationship differs than the normally expected inverse U-shaped relationship. Practically, the observed outcomes of this research bring two implications to managers. Firstly, managers should properly manage the perceived innovativeness of their firm's business model innovation through communicating their business model innovation activities tactically. The U-shaped result means that optimal result of a firm's business model innovation is observed when relative conformity to BMI innovativeness is either low or high, while firms being perceived as averagely innovative have the lowest business model innovation result. Secondly, as conformity in business model innovation innovativeness differs between industries, managers must always be aware of the business model innovation activities in their industry. What is deemed innovative by a firm might not be innovative for the environment, and it is the judgment of the institutional environment that ultimately matters.

Table of Contents

List of Figures

List of Tables

List of Appendix

Introduction

1.1. Background

The rise of the internet and information & communications technology has brought a significant change in the business world. The speed of change has become a massive problem in business, and innovation has become one of the leading buzzwords in the 21st century. Firms are continuously striving to become innovative or more innovative, to cope with the ever-changing market and the continuous introduction of new technology. Being an innovative firm usually means that companies have to continually evaluate and improve the way they create value for the customers and also capturing value from the customers for their business (Pohle & Chapman, 2006). This push for innovativeness also coincided with the rise of business model innovation as a process that drives firms to be innovative, as the business model innovation process changes the way that business is done in the firm level (Teece, 2010). Moreover, business model innovation is also argued to play a role in introducing innovations in an industry level (Santos & Spector, 2009). Business model innovation's rise to importance in the academic world is also shown by the increasing number of research done on the subject in recent years (Zott, Amit, & Massa, 2011).

The base foundation on business model innovation research comes from the business model, also defined as "design or architecture of the value creation, delivery, and capture mechanisms" (Teece, 2010: 172). A business model encapsulates the way a firm operates its business by creating, distributing, and capturing value. Thus, it is seen as the overall explanation of how a firm works and thrives in a market. As the business model is the result of connected relationships between "modules" in a firm, it becomes a very useful tool to evaluate how a change in one component of the business model affects other parts, and most importantly, affects the value creation and capture process. Based on these practical use of business models and its holistic nature, the high value placed on business model innovation become quite clear. Business model innovation focuses on evolving and improving the whole way the business work or operates. The fact that value creation and capture is a crucial component of the business model adds more incentive for companies to engage in business model innovation. Thus, business model innovation would allow firms to see how to change a component of their business to impact the most crucial thing in a company, which is value creation and value capture.

Business model innovation's focus on innovation emphasizes a level of change that is expected in the process. Business model innovation scholars have argued that the change can be done on different levels(Foss & Saebi, 2017b; Schneider & Spieth, 2013), some argued that changes which are new to the firm is good enough to be called business model innovation (Bock, Opsahl, George, & Gann, 2012; Johnson, Christensen, & Kagermann, 2008; Osterwalder & Pigneur, 2010), while others expect business model innovation to have impact on an industry level (Foss & Saebi, 2017b; Santos & Spector, 2009). For firms, the continued exercise of innovating and evolving create a better value creation and capture mechanism allows them to sustain competitive advantage. Competitive advantage is gained by continuously meeting customer needs and applying technological advancements in their business operations. Interestingly, historical evidence has shown that the change in becoming novel isn't always accepted positively. Studies have noted that there's a thin line separating the act of becoming novel and becoming an outcast (Zuckerman, 2016). Certain expectations on how an entity behaves by its audiences exist in every situation, and these expectations must be fulfilled for the entity to be taken seriously by the players in its environments or "institutions" (Scott, 2016). Expectations from the actors in the environment, be it customers, competitors, suppliers, or policy-makers, force firms to conform to industry norms to avoid legitimacy challenges that hinder resource acquisition (Deephouse, 1999). Moreover, deviations from accepted norms are often sanctioned and cause performance penalties for the firm by their institutions (DiMaggio, 1988; DiMaggio & Powell, 1983). Theories on expectations and pressures to conform to the firm's institutional environment have been coined as institutional theory, and the pressures that is observed by the institutional environment have been coined as institutional pressures or institutionalism (Powell & DiMaggio, 1991).

The pressures for firms to conform to its environment brings an interesting tension to business model innovation in general (Foss & Saebi, 2017b) as it adds another dimension for firms to consider when planning and executing the business model innovation process. Surprisingly, relatively few studies had been done on the relationship between institutionalism and business model innovation (Foss & Saebi, 2017b). Studies done by Snihur (2016) and Snihur and Zott (2013) are some of the few research that does in-depth analysis on the effect of institutionalism towards the business model innovation process. A review paper on the direction of future research for business model innovation also points out that one of the main streams of research to further advance business model innovation knowledge lies on the effect

of macro-level variables, in this case, institutionalism, towards business model innovation (Foss & Saebi, 2017b).

Practically, understanding the impact of institutional theory towards business model innovation would give companies an additional factor to consider when executing business model innovation. Several studies up until know have proposed that the higher innovativeness in a company would lead to better performance (Hult, Hurley, & Knight, 2004; Stanko, Bohlmann, & Molina-Castillo, 2013). This research would give a balancing view by accommodating institutional theory into the realm of business model innovation. Thus, this research will be focused on the examining the impact of the tension between meeting expectation for conformity caused by institutionalism and the pursuit of novelty in business model innovation.

1.2. Problem Definition

Achieving a sustainable competitive advantage is one of the primary targets of a firm (Oliver, 1997). In recent years, business model innovation has been one of the main tools of companies in achieving sustainable competitive advantage. This is mainly because the architectural changes of a firm is far harder to copy than product or process innovation (Zott & Amit, 2012). Although several definitions have been given on what a business model innovation is, this research defines business model innovation as a reconfiguration of activities in the existing business model of a firm that is new to the product/service market in which the firm competes in(Santos & Spector, 2009). Thus, the output of business model innovation would be producing a change in the business model, which also means producing a change in the value proposition offered, value creation, value delivery, and value capture. Sustainable competitive advantage can be gained by introducing novel business models and building barriers to prevent imitation (Teece, 2010). Thus, it can be stated that in general business model innovation processes are geared to be as novel as possible and to produce a business model which is relatively new to the industry to achieve a sustained competitive advantage.

Interestingly, this drive for newness meets a counter-force when institutional theory is introduced into the situation. Institutional theory states that a firm needs to meet some level of conformity to the institution where they are situated to be taken seriously by the audience and the institution players (Philippe & Durand, 2011; Zuckerman, 2016). When a firm introduces a product, process, or adopts a business model that is totally new and strays too far from conforming to the industry norms, institutional theory argues that it would have a detrimental

impact on the firm rather than a positive one. Using institutional theory as a foundation, a link towards business model innovation can be made in which, there should be an impact in the degree of novelty being introduced by the business model innovation done by a firm towards the business model innovation process of a firm. Theoretically, a high degree of novelty that is introduced by the business model innovation would cause the audience to not recognize the actions of the firm as a player in the institutional system and produce penalties towards their performance (Deephouse, 1999). High degree of novelty would be defined as something new to the industry as a whole and not only to the firm (Foss & Saebi, 2017a).

In trying to reconcile both theories together, a tension can be observed coming from the needed conformity and innovativeness. Institutional theory proposes that institutionalism drives firms to conform to one another, penalizing non-conformity and unrecognizable activities, which is exactly what firms doing business model innovation is striving to do. The tension become more interesting when the fact that business model innovation is not done in a vacuum, but also needs the role of other actors, such as suppliers and customers, is considered. These actors, which is also an active player in succeeding a firm's business model innovation, in some ways also plays a role in setting institutional pressures. The intertwining of many components of bot3h institutional theory and business model innovation should be enough warrant for researchers to build upon a research stream and expand the knowledge regarding the combination of these two concepts. Yet, as noted by Foss and Saebi (2017b), no research had previously observed through empirical measures, the effect of institutionalism towards business model innovation. This huge gap is quite surprising seeing the logical need of bridging both concepts together, and thus filling this gap would be of the imperative to further expand the research stream of business model innovation.

1.3. Research Objectives

Given the research problem that is stated, the main objective of this research is then to examine on whether the effects of institutionalism exist in the business model innovation process. Moreover, if there is an observed effect of institutionalism towards business model innovation, an additional objective is to assess how big of an impact do institutionalism have to firm performance. Overall, this research aims to achieve the following results:

- Identification on whether institutionalism plays a part in the business model innovation process and,
- Identification on how the effect institutionalism to business model innovation ultimately affects firm performance.

1.4. Research Questions

Based on the conflict that seemingly exists from the tension between the novelty expected in a firm's business model innovation (Santos & Spector, 2009) and the "conformity" expected of firms in an institution (Zuckerman, 2016), the goal of this research is to examine the effect of one dimension to the other and the overall effect towards firm performance. Thus, the proposed research question is as the following:

"How does institutionalism affect business model innovation and ultimately affect firm performance?"

The sub-questions that aids in answering the research questions are as the following:

As this research aims to bridge the gap of research on institutional theory and business model innovation through empirical means, there exists a need to transform institutionalism to an operationalized construct. Operationalization of the institutionalism construct should be done by observing past research and methods to gain validated and widely used methods to transform the theoretical concept of institutionalism into a construct that can be used empirically. Based on these needs, the following sub-research questions are formulated:

- SQ1: What is the current state of the art literature on institutional theory and its effects on performance?
- SQ2: How does the current state of the art literature on institutional theory operationalize the concept of organizations abidance to institutional pressures?

Secondly, it is essential to understand the concept of business model innovation and what are the components of business model innovation. Business model innovation has been studied quite extensively over the years by various scholars. To ensure that this research expands upon

the work of past research and builds upon the observed results, the following sub-research question is formulated:

- SQ3: What is the current state of the art literature on business model innovation and the operationalization of the business model innovation concept?

Thirdly, despite not having an extensive catalog of research that combines both institutionalism and business model innovation knowledge streams, there are research which have observed how one concept affects the other. It is of the imperative that this research builds upon previous work in this area and that key takeaways from past research are used in the analysis of the results of this research to seek consistency and make sense of the results. Based on the explained needs of this research, the following sub-research questions are formulated:

- SQ4: What is the current state of the art literature on institutionalism's effect on business model innovation?

Fourthly, to achieve the main research objective, sub-questions which directly ties to the effect of institutionalism towards business model innovation is needed. Not only does an observation regarding the effects of institutionalism towards business model innovation is required, but comparing the results towards past research is also necessary to see whether the general theory of institutionalism holds in situations related to business model innovation. Thus, based on these needs, the following sub-research questions are formulated:

- SQ5a: Is there an observed influence of institutionalism on the business model innovation process in organizations?
- SQ5b: If there is an observed influence, what is the observed influence, and does it hold to previous observations in institutional theory research?

Finally, it should be noted that the ultimate goal of a firm doing various processes, including business model innovation, is to affect its performance positively. Thus, there is a need to understand how institutionalism's effect to business model innovation ultimately affects firm performance, and whether the effect of institutionalism is mediated or not by business model innovation. Thus, based on these needs, the following sub-research questions are formulated:

- SQ6: Is there an observed mediation in the form of business model innovation performance which bridges the relationship of institutionalism to BMI towards firm performance?
- SQ7: Is there an observed direct effect of institutionalism towards firm performance?

To answer these research questions multiple approaches are used in this research. For questions related to understanding the current body of knowledge on institutionalism, business

model innovation, and scholarship with ties to both, literature review on each topic is done. Literature review will effectively answer SQ1, SQ2, SQ3, and SQ4, more specifically, Section 2 of this research report comprises of answers for these sub-research questions. To answer the rest of the questions, statistical analyses on a collected dataset with information on the constructs needed for this research is done. Effectively, the results of statistical analyses are used to answer SQ5a, SQ5b, SQ6, and SQ7. In this research report, Section 4 explains the utilized dataset in this research and a more detailed explanation of the statistical analyses methods that will be used. Section 5 explains the results of the statistical analyses and whether they support the hypothesized relationships between constructs. Finally, Section 6 discusses the implications of the results and compares the results of this research with observations from past research.

Theoretical Background

Examining more in-depth into the current literature is done to understand the pillars on which this research is based on and to learn from past research on both institutionalism and business model innovation. Furthermore, the following sub-sections will answer SQ1, SQ2, SQ3, and SQ4.

2.1. Literature Review on Institutional Theory

Research on institutional theory (in organizations) originally started by analyzing the institutional process inside the organizations themselves, in which the process is experienced by the members of the organization (Scott, 1987). The work of Selznick (1957) is one of the most influential foundations in institutional theory research, and one of the first to view institutionalization as a process (Selznick, 1957, p. 16). Originally, institutional theory is coined to be a process to infuse with value beyond the technical requirements of the task at hand (Selznick, 1957, p. 17). Specifically, early studies of institutional theory observe the process of instilling organizational value to the employees of said organization. Institutional theory started to gain prominence when the scope of study was expanded into observing the relationships between organizations. The works of Meyer and Rowan (1977) and DiMaggio and Powell (1983), which highlighted the existence of norms, formal and informal rules, and pressures from actors inside an environment towards one another to conform, is one of the pillars of instutional theory being applied in organizational science. Traditionally institutional theory discusses the issues on how groups and organizations can better secure their positions and legitimacy by conforming to rules and norms of the institutional environment (Meyer & Rowan, 1977; Scott, 2008). The term institution itself broadly refers to the formal rule sets (North, 1990), agreements (Shepsle & Bonchek, 1997), informal interactions (Jepperson, 1991), and taken for granted assumptions (Bruton, Ahlstrom, & Li, 2010) that organizations are expected to follow. These expectations are taken from formal regulatory structures, laws, professional norms, and societal and cultural practice (DiMaggio & Powell, 1983). Ultimately, institutions are used by actors in an environment to define what is appropriate to the entities that are tied to them and can render actions unacceptable or even beyond considerations (Powell & DiMaggio, 1991). The “force” of pressure for firms to conform to institutional norms is coined as institutional pressure, or also called as institutionalism (DiMaggio & Powell, 1991)

Early research on institutional theory focuses on the use of legitimacy by firms to promote survival and avoid performance penalties imposed by the "institutions" set by the ecosystem in which the organization is positioned (Elsbach & Sutton, 1992; Oliver, 1991; Singh, Tucker, & House, 1986). Various studies from different fields have emerged in studying institutional theory. The fields of sociology (DiMaggio & Powell, 1983; Dobbin & Roy, 1998), political science (Shepsle & Bonchek, 1997), economics (North, 1990), and most importantly organizational theory (Meyer & Rowan, 1977) all discussed institutional theory in their respective fields. Scott (2008) has collected and summarized the different streams of research of institutional theory in his work which produced three categories, or pillars, of institutional forces. The first pillar is the regulative pillar which focuses on sanctions and the resulting conformity by organizations to the regulations set as agreed upon by the stakeholders in the environment (Scott, 2016). In this pillar, institutions guide behavior by creating rules of the game, monitoring and enforcement, and formulates the most explicit type of institution for organizations. The second category is the normative pillar, which is based on organizational interactions. In this pillar, institutions guide organizational behavior by defining what is appropriate or expected in various situations even though the formal rules might not prohibit it. Normative systems are usually comprised of values (*what* is preferred and proper) and norms (*how* things are to be done, consistent with values) that establishes ground rules for organizations to conform to (Scott, 2008). Finally, the third pillar is the cultural-cognitive pillar which discusses shared conceptions and things that are taken-for-granted by the actors in an environment (de la Torre-Castro & Lindström, 2010). This pillar is more focused on individual behavior towards society and groups rather than organizational behavior. From the three pillars as mentioned, the second pillar is the most salient in governing the workings of organizations, especially in giving pressures to conform to the accepted norms of the environment (Scott, 2008).

As the theory evolved, institutional theory started to incorporate knowledge from strategic management, which emphasizes on having a distinct position for a firm to gain sustainable competitive advantage (Michael E Porter, 1980). Initially, progress in this field started by research by Porac et al. (1989) which discussed the idea of a competitive "cusp" where an organization must balance plans to ensure distinctiveness among many similar firms, while at the same time having to imitate other successful organizations to acquire the same resources. Subsequent research then merged institutional theory with the resource-based view of the firm (Oliver, 1997). One of the most prominent works addressing the tension between

institutional theory and strategic management was done by Deephouse (1999) when the idea of strategic balance was first introduced in his research. His work proposed that an optimal point exists between the pressure to conform and to gain legitimacy and the need to be distinct to gain profits. The concept of optimal distinctiveness is used to describe this optimal point. Optimal distinctiveness is also used as a substitute for the concept of strategic balance by researchers, as the concept of strategic balance is rarely used in research which investigates the balance between conformity due to institutionalism and distinctiveness.

Subsequent research following the research of Deephouse (1999) studied the strategic balance phenomenon in different fields such as cinematography (Alvarez, Mazza, Pedersen, & Svejenova, 2005), French cuisine (Rodolphe Durand, Rao, & Monin, 2007), and video games (Zhao, Ishihara, Jennings, & Lounsbury, 2017). Research on optimal distinctiveness also looked at firm performance various point of views, not only using organizational performance but also firm reputation as the factor impacted by institutionalism (Basdeo, Smith, Grimm, Rindova, & Derfus, 2006; Philippe & Durand, 2011). One characteristic that these research in common had was that the unit of analysis of the research was a firm and a firm's strategic position compared to its institutional environment. The work of Deephouse (1999) and subsequent work on optimal distinctiveness have shown that an organization is allowed to be different, but there is a limit to how different it can be before being penalized by its institutions. This differs greatly from early institutional theory propositions in which organizations are driven to be the same through the act of isomorphism, or a process in which one unit in a population resemble other units in the same set of environmental condition (DiMaggio & Powell, 1983).

In general, the core characteristic of institutional theory is the use of legitimacy for an organization to not be penalized by its peers. Legitimacy itself is defined as the generalized perception or assumption that the actions of an entity are desirable, proper or appropriate within a social system (Suchman, 1995, pp. 573–4). In its simplest form, organizations can attain legitimacy by conforming to its peers, through the use of similar structures, or using similar strategies (Fligstein, 1991; Tolbert & Zucker, 1983). Legitimacy is not only used to avoid penalties from non-conforming behaviors, but is also observed to increase performance through (reinforcing) mechanisms such as ensuring public support (DiMaggio & Powell, 1983; Zucker, 1977), increasing collective learning (Levitt & March, 1988), and allowing access to resources (D'Aunno, Sutton, & Price, 1991). More often than not, organizations pursue legitimacy through conformity to avoid performance penalties imposed by its environment. Such as the

use of well-accepted "standard songs" by major U.S. orchestras in the late 1800s to mid-1900s to avoid penalties via bad reviews (Rodolphe Durand & Kremp, 2016), or the publishing of corporate environmental disclosure by U.S. companies to avoid firm reputational penalties (Philippe & Durand, 2011).

In organizational terms, conformity is defined as the act of a firm following the actions of other firms in its industry (Van Caneghem & Aerts, 2011). The conformity proposition argues that a firm which is similar to other firms in the industry will avoid legitimacy challenges that hinder resource acquisition (Deephouse, 1999). Failure to conform to institutional norms will result in having actors in the institutional environment to judge the non-conforming firm as irrelevant (Zuckerman, 1999) and illegitimate (Elsbach & Sutton, 1992; Meyer & Rowan, 1977) which will cause penalties to a firm's performance (Durand & Kremp, 2016; Philippe & Durand, 2011). Linking back to the work of Deephouse (1999), this means that there is a level of conformity that needs to be achieved by organizations despite its efforts in differentiating to not to be penalized.

With regards to measuring a firm's conformity to its institutional environment, research had proposed different ways to determine the level of conformity of an organization and whether it has not exceeded the expected boundaries. Deephouse (1999) used strategic similarity of banks in the twin city area as a proxy for conformity. The research compared an individual firm's asset strategy to the industry average for the respective asset strategy. The strategic similarity is observed by seeing the amount of asset placed into different investment areas (real estate, derivatives, etc.) by the banks. Roberts and Amit (2003) used a similar method as well, measuring the average flow of new products and process into the industry and comparing the observed firm's innovative activity to the industry mean to observe conformity. Stephan et al. (2003) have measured the moderate levels of multimarket contact, the contact by competitors across several markets, of hospitals in the California region. They used this method as a reference point for conformity although not defining the upper limit of the conformity area in which an organization can position itself in. McNamara, Deephouse and Luce (2003) measured conformity by comparing organizations to its strategic group. They categorized organizations into the core, secondary, and solitary, representing their closeness to the strategic group organization archetype. Core organizations are deemed as the most conforming type of organization to the institutional norm. Secondary organizations are still seen as legitimate albeit not as conforming as the core group, while solitary organizations are viewed as not belonging to any strategic group, and subsequently as a non-conforming organization. The cognitive

strategic grouping was created through individual interviews with the top-management-teams of banks in the Twin Cities area which is further analyzed and grouped based on the results of the interview.

A combination of quantitative and qualitative methods can also be used to measure conformity, for example, Durand and Kremp (2016) analyzed the show programs of orchestras and musical directors to find "standard" songs which are expected to be played. Through this method, they found a pattern that is used as the default repertoire and is used as a representation for what the industry standard looks like. Phillipe and Durand (2011) had synthesized a norm for the industry regarding environmental compliance and then coded and analyzed the different organization's environmental compliance through their annual report and environmental report. Durand, Rao, and Monin (2007) measured conformity by first gaining the list of signature dishes from the Michelin guide on a specific year as a reference point and then measuring the conformity by observing the amount of change a restaurant does to its signature menu. Previous research had also noticed that the status of the firm modified how institutional pressures and processes affected these firms (Rodolphe Durand & Kremp, 2016; Phillips & Zuckerman, 2001). The work of Zuckerman (1999) had highlighted that audience of the industry would see and expect that middle-status player to be more conforming that lower of higher status players. Higher status players are expected to have differentiation as its behavioral tendency, while lower status players are seen as being more deviance compared to other players. On the other hand, middle-status players are expected to conform as they are deemed as peripheral players (Phillips & Zuckerman, 2001, p. 385). Status itself is usually constructed operationally using different indicators of organizations. The work of Phillips and Zuckerman (Phillips & Zuckerman, 2001) used the number of graduates from top law schools in the U.S. as a proxy for firm status. Whereas the work of Jensen (2003) used ties between commercial banks and investment banks as a proxy for status in their research. Further research by Jensen (2008) used an organizations incumbency or new-entrant as a differentiator between status.

Overall, research on institutional theory has evolved over the years. It initially started by observing how institutional pressures pushes actors in the institutional environment to gain or create legitimacy through conforming to the accepted formal and non-formal institutions (DiMaggio & Powell, 1983; Scott, 1987). As the research stream grew and started incorporating strategic management influences into the knowledge base, changes can be observed in the accepted practices of institutional theory. Innovativeness and distinctiveness, both acts of non-conformity, is found to be accepted up to a certain degree by the institutional

environment, as long as some acts of conformity is observed from the innovating or distinctive firm (Deephouse, 1999; Zhao, Fisher, Lounsbury, & Miller, 2017; Zuckerman, 2017). This advancement opened up institutional theory research into other knowledge streams, some of them being business models and business model innovation.

2.2. Literature Review on Business Model and Business Model Innovation

2.2.1. Business Model

The concept of business model and related research surrounding it started in early 1950's (DaSilva & Trkman, 2014; Foss & Saebi, 2017b) where the term was mentioned once in an article discussing business games for training purposes. The first academic article to have business model in its title appeared in the 1960s (DaSilva & Trkman, 2014). Yet, the research stream took quite some time to gather momentum, as it took another 30 years for research on business model to experience a substantial increase. Research on business model only started to gain prominence from the mid-1990s and continues to be a topic of interest until the present time (Zott et al., 2011). One of the main causes for the sudden rise of research on business models comes from the rise of the early internet era, when e-commerce business started to gain traction (Zott et al., 2011). Other explanations of the rise of interest in business model research also have been argued, such as the rapid growth of emerging markets and interest in bottom-of-the-pyramid segments (Prahalad & Hart, 2002; Seelos & Mair, 2007; Thompson & MacMillan, 2010), or the expansion of industries technologies coming from postindustrial technology development (Perkmann & Spicer, 2010).

There are five identified stages of evolution for the research on business models which have been identified, with each stage having different activities and building from the previous stage. The stages that have been identified are: 1) defining and classifying business models; 2) listing business models component; 3) describing business model elements; 4) business model ontology; 5) applying business model concept (Gordijn, Osterwalder, & Pigneur, 2005). Furthermore, the literature on business models have been separated into three separate silos from the various literatures that are available (Zott et al., 2011). The first silo discusses e-business and the use of information technology in organizations. The second silo discusses strategic issues in an organization, usually relating to value creation, competitive advantage, and firm performance. Finally, the third silo discusses topics surrounding innovation and technology management.

The breadth of research regarding business model had driven the emergence of various definitions regarding the construct itself. Al-Debei & Avison's (2010) work have systematically mapped out and tried to integrate the different definitions of business model from a plethora of fields. From the many definitions that are used to describe business models, some patterns can be derived to synthesize common characteristics. Some definitions apply terms such as architecture, network, and asset configuration to define business models, and describing them as a tool that visualizes how the business work or a model of how an organization works, which is a simplification of the complex reality (Dubosson-Torbay, Osterwalder, & Pigneur, 2002; Hedman & Kalling, 2003; Stähler, 2002; Timmers, 1998). Development from definitions in the early 2000s saw consequent research to focus more on the characteristics of value proposition, value creation, and value capture in describing business models. From the various definitions in this stream of research, a business model is a visualization tool that describes the crucial components of a business which are the representation value proposition, creation, and capture (Linder & Cantrell, 2000; Osterwalder & Pigneur, 2005; Rajala & Westerlund, 2007).

All of these researches define business model from a single organization point of view, yet there is also another view of business model in which the analysis is on the network of organizations in the act of value creation. This use of network of organizations comes from the focus on delivering service, and that services cannot be and will not be provided from only one single organization (Bouwman, Faber, Haaker, Kijl, & De Reuver, 2008; Porter, 2001). Bouwman et al.'s (2008) research defined business model as a blueprint for how a network of organization co-operates in creating capturing value from technological innovation, which follows the definition from the works of Chesbrough & Rosenbloom (2002). Moreover, Zott & Amit (2010) highlighted the need for understanding activity systems to understand business models. Their research proposed that activity in a focal firm's business model will result in engagement between entities not only inside the focal firm but also outside it, in the form of customers, vendors, and suppliers. Thus, they propose that business models, although mostly seen from a focal point of view, is not isolated to one firm only. This research will not be using the network point of view of business models, but rather from the individual organization's perspective. The individual organization is chosen as examining the effects of institutionalism towards business model innovation is more suited through the analysis of an individual organization instead of a network.

An interesting debate had also arisen on whether business model is just a model that visualized how a business works, as per the definitions above, or actually a strategy to exploit opportunities in the market (Seong Leem, Sik Suh, & Seong Kim, 2004; Venkatraman & Henderson, 1998). DaSilva and Trkman (2014) have studied the difference between the two concepts, and defined that a business model comes after a firm's strategy and is an integral part of the strategy execution phase for an organization. From the work of Casadeus-Masanell and Ricart (2010, p. 206) which states that "every organization has a business model" and "not every organization has a strategy", they proposed that "strategy reflects what a company aims to become, while business models describe what a company is at a given time" (DaSilva & Trkman, 2014, p. 383). The proposition that DaSilva and Trkman made is an important part in defining a working definition of business model for this research, as it emphasizes that a business model is a description of a firm's business logic and not a strategic tool that is used to create substantial value. This proposition is also backed by the research of Richardson (2008) which proposes that the business model articulates the strategy of an organization, as it "defines and organizes the activities of the firm to execute the strategy" (Richardson, 2008, p. 142).

Through the review of the literature regarding business models, a working definition for this research can be synthesized. This research will be taking the definition of business model from the work of Teece (2010, p. 179) which proposes that "A business model articulates the logic, the data and other evidence that support a value proposition to the customer, and a viable structure of revenues and costs for the enterprise delivering that value". This definition is used as it captures the crucial component of value proposition, capture, and delivery, while limiting itself to only an articulation and not more. This definition proposes that the business model is a representation of how a business/organization works, and not a strategic tool to be used to exploit opportunities in the market. Furthermore, this definition is also a widely cited definition for business model that is used by research on business model and business model innovation (Foss & Saebi, 2017a).

2.2.2. Business Model Innovation

The origins of research on business model innovation come from research on business models, more specifically, research on business models as a unit of innovation (Zott et al., 2011). The work of Chesbrough and Rosenbloom (2002) in examining the case of Xerox was one of the first works which highlighted the need for organizations to adopt the "correct" business model to utilize the value of a new idea or technology fully. Mitchell and Coles (2003) then proposed the idea that managers can purposefully innovate their business models. This idea opened up research on business model innovation, which is currently having a higher growth rate compared to studies on even business models itself (Foss & Saebi, 2017b).

As research on business model started evolving, scholars realized that business models are not permanently held by firms, but rather continuously evolving as competitive pressures and technological development drives and enables firms to continuously change their business model (Chesbrough, 2010; de Reuver, Bouwman, & MacInnes, 2009). Scholars have also argued that it is crucial for firms to have a capability to preemptively reinvent their business models before the competitive environment forces them to change (Hamel & Välikangas, 2003).

From an organization point of view, the increasingly competitive and global market environment had increased the awareness of the relevance of business model innovation (Taran, Nielsen, Montemari, Thomsen, & Paolone, 2016). Companies are being forced to frequently re-think and innovate their business models because of the continuously shortening life cycle of the products, services, competencies while facing competitive external conditions (Achtenhagen, Melin, & Naldi, 2013; Sosna, Trevinyo-Rodríguez, & Velamuri, 2010). This is marked by the realization of several large companies that the business models they were having were quickly becoming obsolete in the wake of disruptive technologies (Cavalcante, 2013). As the interest in business model innovation grew, so does the body of literature that is linked to it. Research on Scopus showed that from 1972 to 2015 approximately 349 papers researching business model innovation was published. Due to the amount of literature available, the process of literature review would be needed to further validate the proposed research question.

As research on business model innovation had emerged from research on business model, the lack of clarity that plagues research of business models, which comes from being used in practice first before going into scientific domain, is also inherently found in business model innovation research (Foss & Saebi, 2017a). One of the main indicators on the lack of

clarity can be seen by the various definitions that exist for business model innovation from the various research that had been done. Nine selected definitions had been discovered (Foss & Saebi, 2017b; Saebi, Lien, & Foss, 2017) on business model innovation, which generally has the same underlying concept of a change happening to the business model. What differs from these definitions is the scale of the change that is happening, some definitions refer that even an incremental change can be a business model innovation (Abdelkafi, Makhotin, & Posselt, 2013; Sorescu, Frambach, Singh, Rangaswamy, & Bridges, 2011), some define business model innovation as a change in the industry value chain (Giesen, Berman, Bell, & Blitz, 2007), some also defines business model innovation as an innovation to the whole business model rather than a single component (Casadesus-Masanell & Zhu, 2013; Santos & Spector, 2009). From the various definitions that exist on business model innovation, this research will be using the working definition of business model innovation as a "designed, novel, and non-trivial changes to the key elements of a firm's business model and/or the architecture linking these elements" (Foss & Saebi, 2017b; Foss & Stieglitz, 2015). This definition is chosen as it considers that business model innovation must be deliberate, it considers innovation in its definition, and it also ensures that incremental changes, one where changes to the business model are not completely new to the industry, are not seen as a business model innovation.

To further create a clarity towards the business model innovation construct, Foss and Saebi (2017b) had created a typology for business model innovation. They observed that business model innovation is usually dimensionalized in terms of novelty and scope. Novelty links with the innovation part of business model innovation, and has been mentioned by various studies (Foss & Stieglitz, 2015; Johnson et al., 2008; Osterwalder & Pigneur, 2005; Santos & Spector, 2009). While the scope dimension comes from the differing views regarding how big of a change must business model innovation entail being called business model innovation(Foss & Saebi, 2017a). The size of the change is represented by the number of components of a business model that is modified by the business model innovation process. Some argued that a single component is enough (Bock et al., 2012; Zott & Amit, 2012), some argued that at least two modified components are needed (Lindgardt, Reeves, Stalk, & Deimler, 2009), while others argued that an entirely new combination or architectural change is needed in a business model innovation (Velamuri, Bansemir, Neyer, & Möslein, 2013; Yunus, Moingeon, & Lehmann-Ortega, 2010). The typology as seen in Figure 1 represents a unifying concept which categorizes business model innovation according to the level of novelty and the scope of change which it entails to an organization.

Novelty	Scope		
		Modular	**Architectural**
	New to firm	Evolutionary BMI	Adaptive BMI
	New to industry	Focused BMI	Complex BMI

Figure 1 Business model innovation typology (Foss & Saebi, 2017b)

As a concept, several studies had produced some methods for measuring business model innovation. For example Spieth and Schneider (2016) created a tool to measure innovativeness of a business model innovation. Despite being named business model innovativeness, Spieth and Schneider's scale actually measures the amount of change that is done towards the individual components in a business model, and not the relative innovativeness of a business model inovation. More specifically, the components that are measured by the scale in their research are: 1) target customers, 2) product and service offering, 3) firm's competitive positioning, 4) core competences and resources, 5) internal value creation, 6) partners in value creation, 7) distribution, 8) revenue mechanisms, and 9) cost mechanisms. In its essence, the nine components represents value offering innovation, value architecture innovation, and revenue model innovation. Changes in these components are then combined and weighted in order to measure a business model innovation's innovativeness.

Similary, Clauss (2016) also have created a measurement scale that captures the value creation, value capture, and new proposition innovations in a business model innovation. More specifically, the business model innovation scale has ten parameters which have been produced to measure business model innovation (Clauss, 2016). An illustration of the measurement model can be seen in Figure 2. This measurement tool is used to give a quantitative approach to measure a firm's business model innovation performance to gain a better view of the impact of institutional theory towards business model innovation performance. The ten parameters are: 1) change in capabilities, 2) change in technology/equipment, 3) change in partnerships, 4) change in processes, 5) change in offerings, 6) change in customers and markets, 7) change in channels, 8) change in customer relationships, 9) change in revenue models, and 10) change in cost structures. The scales proposed by Clauss (2016) and Spieth and Schneider (2016) are quite comprehensive in nature due to their measurement on the different components that are influenced in a business model innovation process.

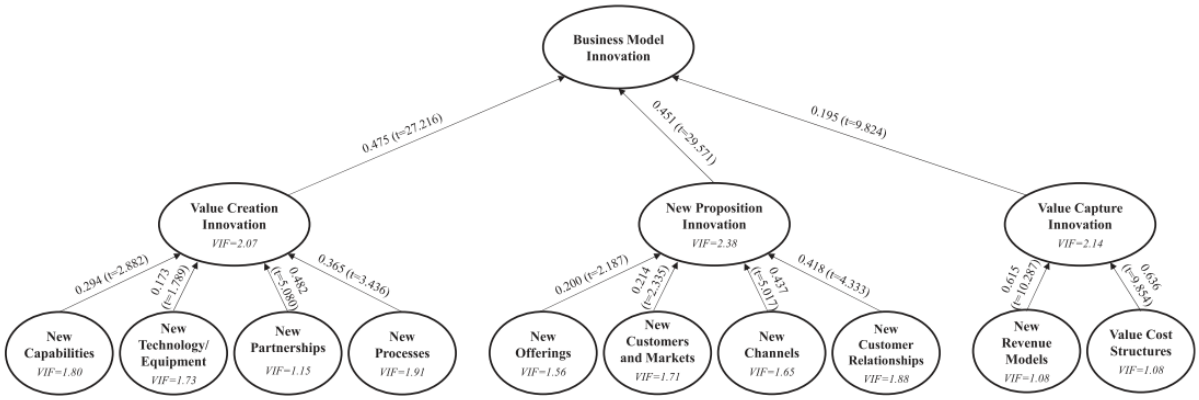

Figure 2 Clauss' business model innovation measurement model

As research of business model innovation had expanded into various types such as identifying the barriers in doing business model innovation (Chesbrough, 2010), the role of managers' cognition in the process (Doz & Kosonen, 2010), and collaborative idea generation and its role in business model innovation (Eppler & Hoffmann, 2012). The streams of research had spanned across different concepts and contexts and became too convoluted. To organize and create a sense of direction for the research of business model innovation, three main streams of business model innovation research had been identified by Schneider and Spieth (2013). The three streams consist of 1) prerequisites of conducting business model innovation, 2) process and elements of business model innovation, and 3) effects achieved through business model innovation. This synthesis of three research streams was done by looking at 35 articles regarding business model innovation and saw the similarities between the researches that had been done. Firstly, the stream of prerequisites of conducting business model innovation is comprised of reseaarch that studies the drivers and barriers of firms doing business model innovation (Aspara, Lamberg, Laukia, & Tikkanen, 2013; Chesbrough, 2010; Lee, Shin, & Park, 2012). Secondly, the stream observing process and elements of business model innovation focuses on characterising the concept of business model innovation as a process (Demil & Lecocq, 2010; Sosna et al., 2010) and also exploring how business model innovation works in different industries, market contexts, and firm settings (Massa & Testa, 2011; Sánchez & Ricart, 2010; Yunus et al., 2010). Finally, the stream observing the effects achieved through business model innovation are not as common as the first two streams, and is focused on observing how business model innovation affects industry and market structures (Casadesus-Masanell & Zhu, 2013), firm results (Aspara, Hietanen, & Tikkanen, 2010), and firm capabilities (Bock et al., 2012).

Following the research by Schneider and Spieth (2013), Foss and Saebi (2017b) further expanded the research and identified four streams of research on business model innovation from a review of 150 relevant articles. The first stream is the conceptualization of business model innovation, which explains the phenomenon of business model innovation by presenting definitions and conceptualizations. This stream discusses the minimum meaningful definition of business model innovation and the dimensions which companies can innovate their business models (Teece, 2010; Zott & Amit, 2012). The second stream discusses business model innovation as an organizational change process which highlights the different stages of the business model innovation process (Frankenberger, Weiblen, Csik, & Gassmann, 2013), the different organization capabilities needed to support this process (Achtenhagen et al., 2013), and the tools that can be used to assist in managing the process (Evans & Johnson, 2013). The third research stream discusses business model innovation as an outcome, which analyzes specific business models on certain industries (Matzler, Bailom, Friedrich von den Eichen, & Kohler, 2013) or a particular type of business model and its innovation process (Richter, 2013). Finally, the fourth research stream discusses the implication of business model innovation towards organizational performance (Aspara et al., 2010) and towards innovativeness (Zott & Amit, 2007).

In general, from the four different streams that exist, two main approaches can be synthesized. The first approach sees business model innovation from a dynamic view, seeing it as an organizational change process and thus researching the factors that affect the process itself (second research stream). The other approach is seeing business model innovation statically as a new type of innovative venture that affects firm performance. This approach sees business model innovation as a component in a bigger process where the output is firm performance (third research stream and fourth research stream) (Foss & Saebi, 2017b). This research would be adding into the knowledge base of the second research stream, taking the approach of seeing business model innovation as a process with an input, output, and having factors that affect it. More specifically, the addition to the knowledge base would be in the form of seeing how an external factor, in this case institutionalism, influences the business model innovation process and its output.

2.3. Literature Review on Business Model Innovation and Institutional Theory

Institutionalism's effect on the need for firms to attain or create legitimacy have been posited by research (Aldrich & Fiol, 1994; Suchman, 1995) and that this need for legitimacy is observed in organizational activities. The act of introducing innovative products, management techniques, or business model innovation, which all accounts for processes done by an actor inside an institutional environment should be affected by the effects of institutionalism (Snihur & Zott, 2013). In the case of business model innovation, the need to take into account factors originating from institutionalism is of the imperative, as business model innovation is argued to have higher legitimacy challenges compared to other types of innovations such as product or process innovation (Fields, 2004; Markides, 2006; Snihur & Zott, 2013). This challenge in attaining legitimacy comes from three main factors. The first factor comes from the existence of both internal and external stakeholders to appease and gain legitimacy from in a business model innovation process (Zott & Amit, 2010). Internally, employees will question business model innovations especially those that result in completely new business model. On the other hand, externally, partners and networks linked with a firm's business model will also have concerns regarding the business model innovation process. Secondly, more often than not, business model innovation breaks the rules and norms on how business is done in an industry (Snihur & Zott, 2013). Business model innovation, especially more innovative ones, usually bring disruption to the institutional environment as it attempts to change the rules-of-the-game (Markides, 2006). Finally, business model innovation usually affects the core identity of a firm and what it is perceived in the eyes of its core audience (Siggelkow, 2001). Changing a firm's business model usually means changing its value creation and capture mechanism, not to mention the ties and relationships with its current partners, which can threaten firm identity if not managed carefully (Santos & Spector, 2009).

These challenges in attaining legitimacy mean that in business model innovation processes, institutionalism is a factor that should be taken into account and should be managed and studied well to ensure that business model innovation can succeed in a firm. Moreover, business model innovation is an organizational process that is advancing the levels of organizational distinctiveness, which means that it should be impacted by environmental factors. Yet, from the literature review of both institutional theory and business model innovation, there is a very limited number of articles that intersects both fields. A very brief mention of institutional theory can be observed in the work of Zott and Amit (2008) which mentioned that pressures by stakeholders in the environment drives a firm that has a novel

business model to rely on familiar design elements in order to mediate the innovative features with the expectations, norms, and rules of the institutional environment. Despite describing the tension between institutional theory and novel business models, the research did not delve deeper into this topic in more depth. Additionally, the work of de Reuver, Bouwman, and MacInnes (2009) also touches upon regulations (which are part of formal institutions) as a factor which affects the dynamics of business models, albeit in a minor role. Their research argues that a business model is never static and is constantly being reinvented, thus a business model is dynamic, and that various factors, including regulations, plays a part in the dynamics of business models.

A study in the field of business model innovation had identified this missing link where Foss and Saebi (2017b) identified several gaps and challenges in the research on business model innovation. One of the gaps they identified was on the contingency and moderating variables of business model innovation. Current studies on business model innovation emphasize more on the internal factors of the firm, such as organizational capabilities, leadership actions, and learning processes in the firm (Foss & Saebi, 2017b; Schneider & Spieth, 2013). Despite the highlight of the various organizational factors, external variables have not been researched extensively. One of the most striking absence is on the lack of research on the effects of formal and informal institutions and institutional pressures on the business model innovation process.

The absence of research on the effects of institutional theory in business model innovation is quite curious as institutionalism should play a balancing role on the innovativeness of business model innovation (Snihur & Zott, 2013). The proposition of a needed legitimacy by organizations through conformity to its environment that is proposed by institutional theory (Deephouse, 1999), almost works in opposite of the high level of innovativeness targeted by most business model innovation (Heij, Volberda, & Van den Bosch, 2014; Pohle & Chapman, 2006), thus causing the balancing effect. Moreover, when a firm engages in business model innovation, it does not only changes internal processes but also processes with external parties and other actors in the environment. This external change has been mentioned in the research streams which views business model not only belonging to one firm but a network of sorts (H. Bouwman et al., 2008; Zott & Amit, 2010). The relationship and interaction between the firm, external partners, regulators, and other players in its environment, or institution, plays a huge role in the business model innovation process.

From the field of institutional theory, having business model innovation or novel business models as an object of study for institutional theory has not been mentioned at all in gaps or studies on future research. From a conceptual point of view, an argument can be made to connect the work of Durand, Rao, and Monin (2007) basing itself in institutional theory, into the domain of business model innovation research. Their study on the amount of change in French cuisine restaurants to its menu and its impact towards the restaurants' performance, measured by the number of Michelin stars they receive, can be roughly used as a comparison. In this case, the change towards the menu of the French restaurants can be compared to the change of a component in an organizations' business model, although the indicator for performance would be dependent on the context of the organization.

One study by Zhao et al. (2017) did mention a research on business models, referring to the work of Zott and Amit (2007) as an outlier to the optimal distinctiveness proposition, as they had observed that in entrepreneurial firms, integrating efficiency-based conformity design elements is counterproductive, as innovativeness has a linear positive effect towards firm performance. The work of Zott and Amit (2007) had incorporated institutional theory into the realm of business model, albeit business model design and not innovation. Their research observed on whether entrepreneurs should balance the levels of conformity and differentiation in the design elements of their business models to gain legitimacy. Although the results of their study observed that institutional pressures did not play a role regarding entrepreneur's choice of business model design, this study marked one of the few instances that institutional theory had been "tested" in the field of business model and business model innovation research.

A search on Scopus with the primary keyword of "business model innovation" combined with "institutional," "legitimacy," and "legitimate" provided only one relevant research on the issue. The research was by Snihur (2016), and even then it discussed about creating legitimacy on business model innovation by new ventures through reputation, rather than the effect of institutional theory on the business model innovation process. Further observing the work of Snihur, one highly relevant research on business model innovation and institutional theory was found in the work of Snihur and Zott (2013) which explicitly delves into business model innovation and balancing the legitimacy – distinctiveness tension. Their work proposes a framework to create a business model innovation which is both legitimate and also difficult to imitate at the same time, which they coined as robust business model innovation. This concept proposed designing legitimacy through content, governance, and

structure to allow the innovativeness of a business model innovation not to penalize the organization doing the business model innovation.

From the review that had been done on the topic of institutional theory and business model innovation, the lack of research which integrates both fields reinforce the notion that research on the relationship between institutional theory and business model innovation is needed. Although some work on the topic had been done (Snihur, 2016; Snihur & Zott, 2013), research that specifically explores the effect of institutional theory towards the business model innovation process is yet to be seen, and this fact supports the notion that current research would contribute to the body of knowledge on business model innovation and institutional theory.

2.4. Literature Review on Business Model, Business Model Innovation, and Firm Performance

One of the main goals of firms doing business model innovation is to ultimately impact its firm performance positively and ideally, create a more sustainable competitive advantage (Teece, 2010). Coming back to the concept of business models itself, according to Teece (2010, p. 179) the concept is defined as the following "A business model articulates the logic, the data and other evidence that support a value proposition for the customer, and a viable structure of revenues and costs for the enterprise delivering that value". This means that a business model is distinct to a firm according to its resources and can be used as a competitive advantage by firms in order to maximize their performance (Christensen, 2001). Past research has found that a distinct business model allows firms to be more competitive and achieve better results compared to their peers which is explored conceptually through the work of Afuah (2001) and Afuah and Tucci (2003).

Subsequently, empirical results have also shown that there is indeed a positive impact on firm performance based on the business model that a firm chooses to have. The work of Zott and Amit (2007) observed that for entrepreneurial firms, the choices of business model design impacts firm performance. They identified two concepts on which business models can be centered upon, which are efficiency and novelty. Their work showed that a more novelty-based business model relates more positively towards firm performance, showing that indeed business model plays a role in affecting firm performance. The work of Zott and Amit (2008) also explored the relationship between business model and firm performance, albeit this time having business model as a mediating variable to product market strategy. Their study saw that a business model innovation is a consequence of product market strategy and that the translation of the strategy into a business model influences the performance of the firm.

Based on the research of business models and its impact towards firm performance, scholars have also expanded their research into observing business model innovation and its impact towards firm performance. The work by Chapman and Pole (2006) from IBM showed that firms who were performing above average financially, emphasized business model innovation by as much as twice compared to those who are underperforming. The work of Giesen, Berman, and Bell (2007) identified three ways on how firms can innovate their business models to impact financial performance of a firm. These three ways are, 1) industry models where innovation happens in industry supply chain, 2) revenue models where innovation happen in the way companies generate revenues, and 3) enterprise models where

innovation happens to a structure of an enterprise. Additionally, the work of Cucculelli and Bettinelli (2015) observed that there is indeed a positive impact of a firm, more specifically SME's, in changing its business model, or doing a business model innovation, towards firm performance. Their work measured business model innovation change through asking firms in their research to fill out one of the ten types of observed business models in the clothing industry the firms feel they are currently using, and then tracking the changes over time as the research goes forward. The ten business models are craft labs with direct selling, phase specialists, process specialists, low-quality producers, medium-high-quality producers, brand-owners innovation oriented, brand-owners export-oriented, brand-owners mass-retailer-oriented, converters, and prototyping. Past research by Camuffo et al. (2008) identified these business model types.

This effect has also been observed in larger enterprises, with the work of Hartmann, Oriani, and Bateman (2013) in which a similar positive effect of business model innovation towards firm performance was empirically observed through their research. Their research measured business model innovation through the NK-model, in which N represents components of innovation options for the business model and K represents level of interactions between components. Similar results have also been observed in the work of Casadeus-Masanell and Zhu (2013) in which there is a positive impact of business model innovation to firm performance especially for entrant firms trying to enter a market that was previously dominated by incumbents and where competition is quite scarce.

Overall, previous research has observed that choices in business models and the act of doing business model innovation both have an impact on firm performance. In the research above, there is indeed a positive impact on performance caused by business model innovation. Unfortunately, these research are done in differing industries, and there has been no definitive research in which a review has been done to observe whether positive implications of business model innovation towards firm performance can be generalized.

Conceptual Framework

In determining the methods to be used in a research, a formulation of the conceptual model and the hypotheses must first be done before being able to determine the research methods which comprises of data collection method and the data analysis method.

3.1. Hypothesis Development

As have been discussed in Sub-section 1.2., business model innovation is a reconfiguration of activities in the existing business model of a firm that is new to the product/service market in which the firm competes (Santos & Spector, 2009). The aspect of novelty in the business model innovation is one of the main issues for organizations which are doing business model innovation, to gain legitimacy from its environment. Not only does business model innovation entail and affects quite a handful of stakeholders in its environment, but it also has to face the conflicting demands of these stakeholder (Snihur & Zott, 2013). The acceptance of these stakeholders towards the business model innovation process is crucial, as organizations who are deemed illegitimate will incur performance penalties as the environment considers its activities as unfamiliar and unclear (Zhao, Fisher, et al., 2017).

Although legitimacy is seemingly entrenched in the act of conforming towards the industry standard and accepted practices, research on optimal distinctiveness has shown that there is an acceptable limit towards being distinctive or novel to the industry in which penalization is not experienced by a firm (Zhao, Fisher, et al., 2017). Past research has proposed that a balancing effort can be done to manage the tensions between conformity and distinctiveness of a firm, in which novelty and differentiation are rewarded up to an acceptable limit by the environment before deemed as being too different from acceptable practices and thus being penalized (Alvarez et al., 2005; Rodolphe Durand & Kremp, 2016). Past research has also observed that effects of institutional pressures relate to the outcome of the construct of the independent variable. For example the work of Deephouse (1999) used strategic similarity, which is an operationalized construct of institutionalism, as an independent variable towards firm performance as the dependent variable.

This existence of a limiter of being too distinctive or too novel is quantitatively shown by an inverse U-shaped relationship between the independent variable, usually being strategic similarity or innovativeness, and the dependent variable, usually being firm performance (Deephouse, 1999; Zhao, Ishihara, et al., 2017). For example, the work of Deephouse (1999)

observed that an inverse U-shaped relationship exists between the strategic similarity of a bank in Minnesota with its performance. Of course, business model innovation and strategic similarity are two different concepts, and a more similar concept to business model innovation should be taken as a reference point in hypothesizing the relationship between institutionalism and business model innovation. It should be noted that past quantitative research for the effect of institutionalism towards business model innovation has not yet existed, thus the proposed hypothesis is only able to use references from optimal distinctiveness research on innovativeness. The work of Roberts and Amits (2003) observed an inverted U-shaped relationship between innovative activity of a firm as its independent variable, and firm performance as its dependent variable. Their research is some of the few that observe the effect of institutionalism in innovation processes and activities. Moreover, the work of Snihur (2016) mentions that optimal distinctiveness is indeed something to be strived for in business model innovation processes. Her research argued that the actions gaining legitimacy through conformity and also being distinctive need to balanced by firms doing business model innovation. In her research, the balance is focused more on organizational identity, as the focus of the research is more on new ventures, where organizational identity is crucial in a firm's survivability(Snihur, 2016). Moreover, the work of Snihur and Zott (2013) also argues that firms doing business model innovation needs to balance both conformity (to gain legitimacy) and distinctiveness/innovativeness of its business model innovation process to gain optimum results. Conformity is needed so that firms are not penalized by having a business model that is too "innovative" to be accepted by the institutional environment, yet at the same time needs to be distinctive enough to minimize the competition for resources with other firms (Snihur & Zott, 2013).

Based on past research, this means that institutionalism's effect towards business model innovation will affect a firm's business model innovation. Moreover, quantitatively, this need to strive for balance is represented by the inverse U-shaped relationship between institutionalism and business model innovation. The inverse U-shape represents that a firm's business model innovation activity will have the highest output (the peak of the inverse U-shape) when institutionalism is at moderate levels. An illustration of the hypothesized inverse U-shape relationship can be seen in Figure. Thus, based on these findings and arguments, the following hypothesis is thus proposed:

H1: There is an inverted U-shaped relationship between conformity of business model innovation innovativeness towards a firm's business model innovation

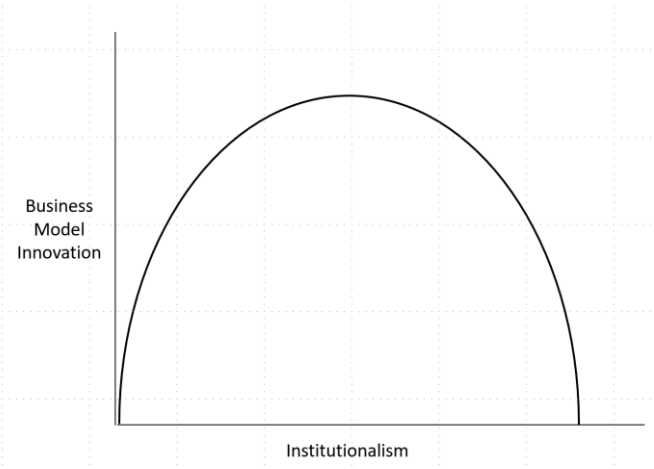

Figure 3 Illustration of an inverse U-shaped relationship

One of the goals of a firm doing business model innovation is to ultimately increase firm performance, usually measured through financial indicators. Without the ultimate goal of affecting firm performance, a firm undertaking a business model innovation effort would be quite challenged to successfully implement the changes, as the actors who are involved in doing the business model innovation process would see no value in it. Business model innovation is expected to improve firms' capacity to innovate (through having innovation as an output) and capitalize on innovations and market approaches (Johnson et al., 2008). In its essence, business model innovation is undertaken to seek for opportunity and advantage to further improve their performance (Ireland & Webb, 2007; Kuratko & Audretsch, 2013).

As mentioned in Sub-section 2.4., past research has found that business model innovation has an impact towards firm performance. The work by Chapman and Pole (2006) in IBM observed that firms who did more business model innovation outperformed firms who did not. The work of Giesen, Berman, and Bell (2007) identified that there are several business model innovation types that has a positive impact towards firm performance. The work of Cucculelli and Bettinelli (2015) observed that in SME's, the act of business model innovation impacts firm performance (sales growth, return-on-sales) positively. Also of similar observation, the work of Casadeus-Masanell and Zhu (2013) in which there is a positive impact of business model innovation to firm performance especially for entrant firms trying to enter a previously dominated market. Based on previous research, the following hypothesis is proposed:

H2: There is a positive relationship between business model innovation and firm performance

Most importantly, it should be realized that the effects of institutionalism in business model innovation directly affects the performance of business model innovation itself and not towards firm performance directly. In its essence, the conformity mechanism that is part of institutionalism is always geared toward strategic choices that firms make (Zuckerman, 2016). In the case of business model innovation, institutionalism plays a role in indirectly evaluating whether the change of the business model is seen as legitimate or not (Snihur & Zott, 2013). The ideal outcome of a business model innovation is the newly created business model that is planned by firms before the business model innovation process. In situations where the proposed new business model is seen as illegitimate, firms would have issues in achieving the targeted new business model. This is due to the existence of relationships with other actors that makes up for components of a business model which allows them to hinder firms in achieving the innovation of their old business model into a new one which is deemed illegitimate.

In past research, this non-direct effect has also been modeled and observed as well. For example, the research by Phillipe and Durand (2011) observed the effect of conforming towards a firm's communication and public image towards the firm's reputation and not on the firm performance directly. Similarly, the work of Snihur (2016) also observed the effect of attaining legitimacy in organizational identity leads to a positive impact towards relationship which ultimately would impact performance. Based on past research, it can be argued that the effect of institutionalism to BMI towards firm performance should be directed through the performance of a firm's business model innovation. Thus, the following hypothesis is proposed:

H3: Business model innovation plays a full mediating role between institutionalism to BMI and firm performance.

3.2. Conceptual Model

The conceptual model of the research is based on the research objective of identifying the effects of institutionalism towards business model innovation performance. Thus in this research, the independent variable is institutionalism which is represented by the relative conformity of BMI innovativeness to the industry, while the dependent variable is firm performance. Both constructs of the model are chosen based on past research on optimal distinctiveness (Deephouse, 1999; Zhao, Ishihara, et al., 2017; Zuckerman, 2016). Finally, business model innovation is modeled to be the mediating variable between institutionalism and firm performance, as the main effects of institutionalism should be driven towards the related construct. In this case, as the institutionalism variable is based on a firm's relative conformity of its BMI innovativeness, thus the effect of institutionalism should be observed in the business model innovation process. This means that business model innovation should be a full mediator between the independent and dependent variable. The conceptual model of the research can be seen in Figure 4and the related questions that are used as an indicator for the different variables can be seen in Appendix 2. As this research will be using SEM as a modeling method, the oval-shaped constructs represent the variables as being latent (comprised of other variables).

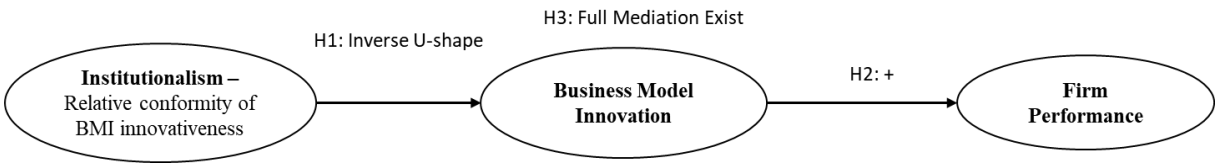

Figure 4 Conceptual model of research

Methodology

An explanation of the research is given in the following section to explain the rationale behind the chosen methods, datasets, and operationalization of the constructs. This section will be the building block in answering SQ5a, SQ5b, SQ6, and SQ7.

4.1. Research Method

In order to answer the specified research objective and research question and to determine the relationship between independent and dependent variable, statistical tools and methods are used. Correlations between constructs are tested to see whether the independent and dependent variables correlate with one another positively. Structural equation modeling (SEM) is used in this research, as the various observed variables from the questionnaires are part of a latent variable and unobserved errors are more likely to be taken into account with SEM (Joreskog, Sorbom, & Magidson, 1979). The use of SEM is also necessary to do a path analysis, as this research explores the possibility of a mediating relationship of business model innovation towards the ultimate effect of institutionalism to firm performance. Furthermore, a regression analysis is done to measure the impact of the independent and dependent variable (Bettis, Gambardella, Helfat, & Mitchell, 2014). An OLS regression analysis is used through the SEM method to estimate the effect of one construct on the other. An illustration of the research method process can be seen in Figure 5.

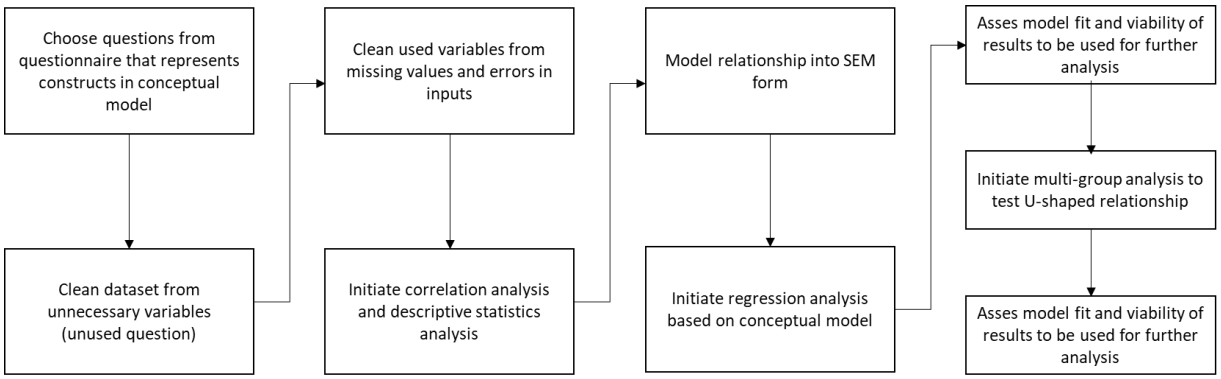

Figure 5 Research methods process flow

4.2. Data Collection Method

To answer the research objective and research question, a dataset or sample comprising of the constructs being tested is needed. Two options are available to gather the data and undertake the research; the first is to conduct a survey and using primary data to gain insights from the results while the second is to use secondary data which has the requirements needed for the research. This research will be using the latter method, more specifically using data from the ENVISION 2020 project on small and medium enterprise that was done by TU Delft's research team. The ENVISION 2020 project itself is a project specifically done to explore business model innovation in the context of small and medium enterprise in Europe. The project team had done a panel study from the year 2016-2018 by sending out surveys on questions regarding business model innovation in organizations. The data gathered by the ENVISION 2020 project itself have been used by various published paper on business model innovation (Harry Bouwman, Nikou, Molina-Castillo, & de Reuver, 2018; Heikkilä, Bouwman, & Heikkilä, 2018). It is to be noted that the data gathered by the ENVISION 2020 project from 2016-2018 are not the same in each individual years, and that changes have been done to some of the questions as used in the survey. Moreover, not all the companies participated in all iterations of the survey and thus even for the same question object there are some companies which did not fill all three version of the survey. A complete list of the questions given in the survey of the ENVISION 2020 project can be seen in Appendix 1.

In total, there are 1,597 observations that comprise the analyzed dataset. The 1,597 observations come from a total of the data gathered across the year 2016 until 2018, with 1,391 unique firms that comprises of the dataset. The existence of several repeating firms (firms whose data from 2016, 2017, and 2018 are used separately) is due to the consideration that business model innovation activities by these firms differ yearly. For example, there might be differences in innovativeness or propensity of activities related to business model innovation in different years. Thus, based on these consideration this research will treat the same firms in different years as different observations.

4.3. Measurement

4.3.1. Dependent Variable

The dependent variable in this research is firm performance. Several past research on business model innovation (Kim & Min, 2015; Zott & Amit, 2007) and optimal distinctiveness (Deephouse, 1999; Zhao, Ishihara, et al., 2017) have generally used firm performance as the outcome variable of the research. Firm performance is the dependent variable being used as it is the bottom line impact that organizations are looking to affect with the act of business model innovation and conformity to the institutional norms. Business model innovation itself is done by firms to reach an area where competitors have not yet reached and occupy, thus leading to a competitive advantage, albeit temporarily, and allowing organizations to gain maximum revenues and profits as long as they can hold the barrier to imitation by competitors (Zott & Amit, 2012). Institutional theory research also emphasizes firm performance as it is avoidance of penalties towards the firm, and ultimately towards firm performance that is being addressed (Suchman, 1995).

Multiple methods and indicators have been used to measure firm performance. One of the most common firm performance indicators are revenues or net income of a firm (Venkatraman & Ramanujam, 1986). Yet, revenues or net income is not the only way to measure firm performance, for example measuring firm performance based on how the firm meets focal stakeholders expectations (RoE, share prices) is also an option to measure firm performance (Richard, Devinney, Yip, & Johnson, 2009). In some cases, performance of a firm can be judged to be acceptable or disappointing based on comparison to its competitors (Davis & Pett, 2002). Other performance indicators which are non-financial in nature can also be firm reputation as seen in the research of Phillipe & Durand (2011). Based on the available dataset of the ENVISION 2020 project, questions 14_1 (*We are very satisfied with: the sales growth of the enterprise*) and 14_2 (*We are very satisfied with: the profit growth of the enterprise*) where the satisfaction of the survey participants towards sales and profits growth is being measured as a proxy to performance. Expanding upon other firms performance metrics such as market share, speed to market, market value, and market penetration rate, questions 14_3, 14_4, 14_5, 14_6, 14_7, and 14_8 can also be used as observed variables in creating the latent variable of firm performance. Thus, the dependent variable will be a latent variable of firm performance, being constructed of the variables above. A summary of the questions that are used as part of the firm performance latent variable can be seen in Table 1.

Table 1 List of questions constructing firm performance

Construct	Questions
Dependent Variable	
Firm Performance	Q14_1. We are very satisfied with: the sales growth of the enterprise
	Q14_2. We are very satisfied with: the profit growth of the enterprise
	Q14_3. We are very satisfied with: Market Share
	Q14_4. We are very satisfied with: Speed to market
	Q14_5. We are very satisfied with: Market penetration rate (size)
	Q14_6. We are very satisfied with: Market Value
	Q14_7. We are very satisfied with: Net Income
	Q14_8. We are very satisfied with: Return on Investment (ROI)

4.3.2. Independent Variable

The independent variable of the research would be the relative conformity of BMI innovativeness towards the industry. In institutional theory and subsequent optimal distinctiveness research, conformity (or distinctiveness) of a firm to a salient metric in the industry is usually measured as a way to operationally construct conformity of a firm adhering to institutional pressures(Rodolphe Durand & Jacqueminet, 2015; Philippe & Durand, 2011; Zhao, Fisher, et al., 2017). Coming back to the definition of business model innovation as a reconfiguration of activities which are totally new to the industry, it can be concluded that the level of newness to the industry is the construct that should be measured compared to the industry. As business model innovation is no longer a new concept and is frequently used by firms in many forms, the act of doing business model innovation itself cannot be seen as a precursor to newness of business model innovation (Snihur & Zott, 2013). Thus, the innovativeness of BMI in the industry can be measured through the existence of prior business model forms in the industry. Foss & Saebi (2017b) mentioned that business model innovation could be something that is only new to the firm. In the case of a business model innovation that is new to the firm but is not new to the industry it can be stated that the business model innovation has a relatively lower degree of novelty or innovativeness to the industry.

Assessing the dataset from the ENVISION 2020 Project, questions 6_1 (*During last year, your enterprise made changes in your business model that were new to your industry*), 6_2 (*During last year, your enterprise made changes in your business model that have never been implemented by competitors before*), and 6_3 (*During last year, your enterprise made changes in your business model that cannot be found in the dominant business models of your*

industry) have been identified as suitable proxies for innovativeness of the business model innovation(s) being implemented by the firm in the study. In order to operationalize the construct, the measurement of relative conformity to BMI innovativeness of industry is used (Deephouse, 1999), in which the formula below shall be used to extract the new variables from the gathered questions:

$$Relative\ conformity\ of\ BMI\ inovativeness = ABS[\frac{\alpha - \bar{\alpha}}{SD}]$$

From the formula, α is the observed result of questions 6_1 or 6_2 or 6_3, while $\bar{\alpha}$ is the mean or average of the whole observed sample of questions 6_1 or 6_2 or 6_3, and SD is the standard deviation of the whole observation of questions 6_1, 6_2, and 6_3. The results of this equation would show the relative conformity of each firm in terms of each innovativeness part of its BMI. The results would be from zero to a positive number most likely not bigger than five. A result of zero indicates that the observed firm is conforming perfectly with the innovativeness of the population, as its BMI innovativeness indicators from questions 6_1 to 6_3 is the same as industry average. The result of one shows the theoretical conformity limit, in which the standard deviation of the population indicates the accepted limits of conformity/distinctiveness by a firm. Firms whose results are above one, and as such is outside the standard deviation values of the institutional environment, shows that they are outside of the conformity limits of the environment as is expected to be penalized. Thus, based on applying the aforementioned formula towards the observed variable, variables 6_1Dist, 6_2Dist, and 6_3Dist are formed to represent the results of the formula. It should be noted that an increase in the value of relative conformity of BMI innovativeness from each observed variable (6_1Dist, 6_2Dist, 6_3Dist) means that a firm is getting farther from the industry average of BMI innovativeness.

4.3.3. Mediating Variable

As this research is analyzing the effect of institutionalism towards business model innovation and ultimately towards firm performance, business model innovation then becomes a mediating variable in the design of this research. To measure the business model innovation process, as mention in Sub-section 2.2. The work of Clauss (2016) is used as a base reference in determining the constructs that makeup business model innovation. From the data gathered by the ENVISION 2020 Project, out of the ten items in the measurement scale, only eight are compatible with the questionnaire results, while two were not. The full questions that were used in measuring business model innovation performance and the comparison with the items in the scale from Clauss' work can be seen in Appendix 3. These questions are then transformed

into a latent variable of business model innovation which will be regressed with the independent and dependent variable. The full list of questions that comprises the latent variable of business model innovation can be seen in Table 2.

Table 2 List of question constructing business model innovation variable

Construct	Questions
Mediating Variable	
Business Model Innovation	Q2_1. Has your enterprise last year introduced new products?
	Q2_2. Has your enterprise last year introduced new services?
	Q2_3. Has your enterprise last year started to collaborate with new business partners?
	Q2_4 Has your enterprise last year shared new responsibilities with business partners?
	Q2_6. Has your enterprise last year created new revenue streams?
	Q2_8. Has your enterprise last year introduced new pricing mechanisms?
	Q2_9. Has your enterprise last year introduced new ways to reduce fixed costs?
	Q2_10. Has your enterprise last year introduced new ways to reduce variable costs?
	Q6_4. During last year, your enterprise made changes in your business model that focused on a complete new market segment
	Q6_5. During last year, your enterprise made changes in your business model that introduced new ways to transact with customers
	Q6_6. During last year, your enterprise made changes in your business model that introduced new ways of organizing relations with customers
	Q6_10. During last year, your enterprise made changes in your business model that did lead to new tasks and/or processes (key activities)

4.4. Data Analysis Method

As has been mentioned in Sub-section 4.1., the basis of this research is using structural equation modeling (SEM) to do a path analysis and test a mediation relationship between the variables. Only a normal SEM is used in this research and not a GSEM as no multi-level latent variable is used in this research. Hypothesis 2 and Hypothesis 3 are tested by running a regression analysis of the latent variables. The software that is utilized in this research is STATA 15, which is well equipped with its capability to do SEM analysis and have been used in previous SEM research as well (Acock, 2013). The path analysis in STATA using SEM has already taken into account the amount of variance being explained in the indirect effect in their direct and indirect effect results, thus avoiding the need to do a further Sobel test.

To test Hypothesis 1, a two-step regression analysis will be done to the dataset. The first step will be regressing the dataset comprised of firms that are conforming to the industry's average BMI innovativeness. These are represented by firms whose value in variables constructing the latent variable of institutionalism is below one. The value one (1) is used as it represents the limit of accepted distinctiveness in an industry based on the formula in Sub-section 4.3.2. a method which was also used by previous work in institutional theory research (Deephouse, 1999; Kraatz & Zajac, 1996; Zhao, Ishihara, et al., 2017). This means that the first group consists of firms who have a value of below or equal to 1 for the variables of Q6_1Dist, Q6_2Dist, and Q6_3Dist. This also means that automatically, the second group consists of firms who have a value of above one (1) for the same variables. The second group represents firms who are non-conforming to the average BMI innovativeness. If a curvilinear relationship does exist between institutionalism and business model innovation, then the β from the results of the two groups should be different in (+ and -), representing a change in direction in the relationship between the two concepts. If the hypothesized inverse U-shaped relationship exists, the first group should have a positive regression result, while the second group should have a negative regression result.

One of the characteristics of institutionalism is that it is most observable in environment which has some similar characteristics, such as trade groups or industries. Thus, only analyzing the whole dataset is not enough to allow this research to observe how the institutional pressures apply in the business model innovation process of the surveyed companies. Thus, it is necessary to also undertake the regression analysis and multi-group analysis with the same SEM model in industry levels. Three industries are chosen from the 20 available industries in the

ENVISION 2020 dataset. The chosen industries are manufacturing, wholesale and retail trade; repair of motor vehicles and motorcycles, and other services. These industries are chosen due to their relatively larger sample size and the different levels of business model innovation that is observed in the three industries. For example, the industry of wholesale and retail trade; repair of motor vehicles and motorcycles have a relatively lower occurrence of business model innovation compared to manufacturing and other services. Moreover, industry-based analysis is chosen as institutional pressures are more likely to appear in an industry rather than in a countrywide or enterprise type (SME's or corporation) levels, which would add more validation to the results of this research.

Results

This section is reporting the results of the correlation and descriptive statistical analysis done to the data. Moreover this section will also be reporting the results of the SEM regression and the model fit of the analysis. Initial validation on hypothesis will also be done on this section although discussions regarding the acceptance or rejection of hypothesis will be done in the subsequent section. This section will also answer SQ5a, SQ5b, SQ6, and SQ7.

5.1. Descriptive Statistics and Correlation

Analysis of the descriptive statistics is done to show whether any significant covariance exists between variables and to have an initial look at the main variables and their spread to gain initial insights on the condition of the sample. As can be seen in Table 3, the descriptive statistics which describes the mean of Q6_1Dist, Q6_2Dist, and Q6_3Dist shows that, in average, the whole sample is more conforming to the norms of BMI innovativeness of the environment. As the measurement is done in absolute terms, there is no value below zero for all three variables. As has been predicted, there are firms which are non-conforming to the sample average, indicated by the maximum value of 1.98 to 2.08 in the independent variables. Further observing the dependent variable shows that the observed firms are quite satisfied with the performance of their firms, at least on subjective terms. This takeaway is gained from observing that all the questions related to firm performance have a mean above 4, which is the middle point of the possible answers (1 being completely disagree and 7 being completely agree).

An observation of the correlation results shows that moderate correlation exists between the three independent variables (0.55, $p<0.05$ & 0.5, $p<0.05$). These medium correlation levels are perfectly acceptable, seeing that these variables will be part of a bigger latent variables in which correlations are expected of the observed variables building it. An observation on the other medium level of correlation can also be seen between constructs of firm performance. This level of correlation is also still expected as the questions mostly refer to events which happen simultaneously. For example examining the medium level correlation (0.53, $p<0.05$) between Q14_1 (*we are very satisfied with: the sales growth of the enterprise*) and Q14_3 (*we are very satisfied with: Market Share*) an explanation can be given in that an increase in satisfaction in sales growth would almost automatically mean that there is an increase in market share and consequently, the satisfaction of the achieved market share as well. These types of

arguments can be made to the various components of the observed variables making up the firm performance latent variable.

Observing deeper into the dataset, some initial insights can also be taken away from the descriptive statistics on how the observed firms in the dataset are conforming to the average business model innovation innovativeness. From the variable of Q6_1Dist, originating from the question of (*During last year, your enterprise made changes in your business model that were new to your industry*) it can be observed that 423 firms are non-conforming firms (represented by firms having Q6_1Dist value of more than one) while there are 1174 conforming firms (represented by firms having q6_1Dist value of less than or equal to one). From the variable of Q6_2Dist, originating from the question of (*During last year, your enterprise made changes in your business model that have never been implemented by competitors before*) 384 firms are non-conforming, while 1213 firms are conforming. A different situation exist for the variable of Q6_3Dist coming from the question of (*During last year, your enterprise made changes in your business model that cannot be found in the dominant business models of your industry*), where 933 firms are non-conforming and 664 firms are deemed as conforming. These numbers will also be taken into consideration into interpreting the results of the statistical analysis.

Table 3a Descriptive statistics and correlation results

		Mean	S.D.	Min	Max	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
	Institutionalism (Add explanation regarding meaning of the value)												
[1]	Q6_1 During last year, your enterprise made changes in your business model that were new to your industry	0.85	0.52	0.02	2	1							
[2]	Q6_2. During last year, your enterprise made changes in your business model that have never been implemented by competitors before	0.86	0.54	0.05	2.05	0.45*	1						
[3]	Q6_3. During last year, your enterprise made changes in your business model that cannot be found in the dominant business models of your industry	0.8	0.52	0.02	2.08	0.47*	0.49*	1					
	Business Model Innovation												
[4]	Q2_1. Has your enterprise last year introduced new products?	5.07	2	1	7	0.03	0.06*	0.04	1				
[5]	Q2_2. Has your enterprise last year introduced new services?	3.65	2.2	1	7	0.08*	0.08*	0.03	0.42*	1			
[6]	Q2_3. Has your enterprise last year started to collaborate with new business partners?	4.7	2.13	1	7	0.08*	0.10*	0.06*	0.26*	0.22*	1		
[7]	Q2_4 Has your enterprise last year shared new responsibilities with business partners?	3.32	2.02	1	7	0.05*	0.07*	-0.01	0.23*	0.27*	0.44*	1	
[8]	Q2_6. Has your enterprise last year created new revenue streams?	4.12	2.07	1	7	0.11*	0.13*	0.07*	0.38*	0.41*	0.30*	0.31*	1
[9]	Q2_8. Has your enterprise last year introduced new pricing mechanisms?	3.35	1.98	1	7	0.03	0.02	0.04	0.22*	0.27*	0.14*	0.21*	0.28*
[10]	Q2_9. Has your enterprise last year introduced new ways to reduce fixed costs?	4.41	1.88	1	7	0.02	0.04	0.04	0.22*	0.24*	0.11*	0.22*	0.25*
[11]	Q2_10. Has your enterprise last year introduced new ways to reduce variable costs?	4.52	1.72	1	7	0.05*	0.07*	0.07*	0.22*	0.24*	0.13*	0.22*	0.29*
[12]	Q6_4. During last year, your enterprise made changes in your business model that focused on a complete new market segment	3.28	2.12	1	7	0.16*	0.12*	0.08*	0.31*	0.30*	0.24*	0.26*	0.33*
[13]	Q6_5. During last year, your enterprise made changes in your business model that introduced new ways to transact with customers	3.19	1.94	1	7	0.12*	0.11*	0.09*	0.24*	0.27*	0.23*	0.31*	0.32*
[14]	Q6_6. During last year, your enterprise made changes in your business model that introduced new ways of organizing relations with customers	3.8	2.02	1	7	0.15*	0.15*	0.13*	0.28*	0.30*	0.26*	0.29*	0.30*
[15]	Q6_10. During last year, your enterprise made changes in your business model that did lead to new tasks and/or processes (key activities)	3.77	2.12	1	7	0.25*	0.19*	0.19*	0.33*	0.41*	0.28*	0.35*	0.43*
	Firm Performance												
[16]	Q14_1. We are very satisfied with: the sales growth of the enterprise	4.41	1.62	1	7	0.08*	0.11*	0.07*	0.22*	0.19*	0.16*	0.16*	0.30*
[17]	Q14_2. We are very satisfied with: the profit growth of the enterprise	4.21	1.64	1	7	0.09*	0.10*	0.08*	0.20*	0.18*	0.16*	0.14*	0.28*
[18]	Q14_3. We are very satisfied with: Market Share	4.22	1.51	1	7	0.09*	0.06*	0.04	0.16*	0.11*	0.11*	0.14*	0.18*
[19]	Q14_4. We are very satisfied with: Speed to market	4.45	1.5	1	7	0.08*	0.08*	0.08*	0.23*	0.16*	0.13*	0.09*	0.24*
[20]	Q14_5. We are very satisfied with: Market penetration rate (size)	4.14	1.45	1	7	0.09*	0.09*	0.07*	0.18*	0.14*	0.15*	0.14*	0.23*
[21]	Q14_6. We are very satisfied with: Market Value	4.53	1.41	1	7	0.12*	0.10*	0.08*	0.19*	0.17*	0.16*	0.16*	0.25*
[22]	Q14_7. We are very satisfied with: Net Income	4.27	1.64	1	7	0.04	0.07*	0.06*	0.15*	0.14*	0.14*	0.12*	0.26*
[23]	Q14_8. We are very satisfied with: Return on Investment (ROI)	4.39	1.45	1	7	0.09*	0.12*	0.11*	0.19*	0.17*	0.14*	0.13*	0.24*

Note: * shows significance of p<0.05

Table 3b Descriptive statistics and correlation results

		[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]
	Institutionalism								
[1]	Q6_1 During last year, your enterprise made changes in your business model that were new to your industry								
[2]	Q6_2. During last year, your enterprise made changes in your business model that have never been implemented by competitors before								
[3]	Q6_3. During last year, your enterprise made changes in your business model that cannot be found in the dominant business models of your industry								
	Business Model Innovation								
[4]	Q2_1. Has your enterprise last year introduced new products?								
[5]	Q2_2. Has your enterprise last year introduced new services?								
[6]	Q2_3. Has your enterprise last year started to collaborate with new business partners?								
[7]	Q2_4 Has your enterprise last year shared new responsibilities with business partners?								
[8]	Q2_6. Has your enterprise last year created new revenue streams?								
[9]	Q2_8. Has your enterprise last year introduced new pricing mechanisms?	1							
[10]	Q2_9. Has your enterprise last year introduced new ways to reduce fixed costs?	0.25*	1						
[11]	Q2_10. Has your enterprise last year introduced new ways to reduce variable costs?	0.26*	0.57*	1					
[12]	Q6_4. During last year, your enterprise made changes in your business model that focused on a completely new market segment	0.23*	0.17*	0.19*	1				
[13]	Q6_5. During last year, your enterprise made changes in your business model that introduced new ways to transact with customers	0.32*	0.25*	0.27*	0.37*	1			
[14]	Q6_6. During last year, your enterprise made changes in your business model that introduced new ways of organizing relations with customers	0.26*	0.25*	0.28*	0.38*	0.52*	1		
[15]	Q6_10. During last year, your enterprise made changes in your business model that did lead to new tasks and/or processes (key activities)	0.25*	0.24*	0.26*	0.44*	0.47*	0.50*	1	
	Firm Performance								
[16]	Q14_1. We are very satisfied with: the sales growth of the enterprise	0.16*	0.10*	0.16*	0.20*	0.24*	0.25*	0.27*	1
[17]	Q14_2. We are very satisfied with: the profit growth of the enterprise	0.15*	0.07*	0.17*	0.15*	0.22*	0.23*	0.16*	0.68*
[18]	Q14_3. We are very satisfied with: Market Share	0.13*	0.12*	0.18*	0.16*	0.21*	0.22*	0.10*	0.53*
[19]	Q14_4. We are very satisfied with: Speed to market	0.18*	0.12*	0.14*	0.19*	0.20*	0.24*	0.23*	0.47*
[20]	Q14_5. We are very satisfied with: Market penetration rate (size)	0.11*	0.14*	0.19*	0.16*	0.20*	0.20*	0.14*	0.57*
[21]	Q14_6. We are very satisfied with: Market Value	0.14*	0.13*	0.18*	0.19*	0.24*	0.25*	0.19*	0.53*
[22]	Q14_7. We are very satisfied with: Net Income	0.12*	0.05*	0.13*	0.13*	0.20*	0.18*	0.18*	0.61*
[23]	Q14_8. We are very satisfied with: Return on Investment (ROI)	0.14*	0.08*	0.15*	0.20*	0.21*	0.22*	0.22*	0.53*

Note: * shows significance of p<0.05

Table 3c Descriptive statistics and correlation results

		[17]	[18]	[19]	[20]	[21]	[22]	[23]
	Institutionalism							
[1]	Q6_1 During last year, your enterprise made changes in your business model that were new to your industry							
[2]	Q6_2. During last year, your enterprise made changes in your business model that have never been implemented by competitors before							
[3]	Q6_3. During last year, your enterprise made changes in your business model that cannot be found in the dominant business models of your industry							
	Business Model Innovation							
[4]	Q2_1. Has your enterprise last year introduced new products?							
[5]	Q2_2. Has your enterprise last year introduced new services?							
[6]	Q2_3. Has your enterprise last year started to collaborate with new business partners?							
[7]	Q2_4 Has your enterprise last year shared new responsibilities with business partners?							
[8]	Q2_6. Has your enterprise last year created new revenue streams?							
[9]	Q2_8. Has your enterprise last year introduced new pricing mechanisms?							
[10]	Q2_9. Has your enterprise last year introduced new ways to reduce fixed costs?							
[11]	Q2_10. Has your enterprise last year introduced new ways to reduce variable costs?							
[12]	Q6_4. During last year, your enterprise made changes in your business model that focused on a completely new market segment							
[13]	Q6_5. During last year, your enterprise made changes in your business model that introduced new ways to transact with customers							
[14]	Q6_6. During last year, your enterprise made changes in your business model that introduced new ways of organizing relations with customers							
[15]	Q6_10. During last year, your enterprise made changes in your business model that did lead to new tasks and processes (key activities)							
	Firm Performance							
[16]	Q14_1. We are very satisfied with: the sales growth of the enterprise							
[17]	Q14_2. We are very satisfied with: the profit growth of the enterprise	1						
[18]	Q14_3. We are very satisfied with: Market Share	0.51*	1					
[19]	Q14_4. We are very satisfied with: Speed to market	0.45*	0.41*	1				
[20]	Q14_5. We are very satisfied with: Market penetration rate (size)	0.54*	0.65*	0.45*	1.00			
[21]	Q14_6. We are very satisfied with: Market Value	0.58*	0.56*	0.45*	0.54*	1		
[22]	Q14_7. We are very satisfied with: Net Income	0.74*	0.52*	0.41*	0.52*	0.60*	1	
[23]	Q14_8. We are very satisfied with: Return on Investment (ROI)	0.61*	0.44*	0.41*	0.46*	0.52*	0.58*	1

Note: * shows significance of p<0.05

5.2. Measurement Model

Before running a regression analysis on the independent and dependent variable, a SEM modeling is done in STATA 15 to create a latent variable from the observed variables. Figure 6 shows the SEM visualization for the model that will be constructed to run the regression analysis. Firstly, an initial confirmatory factor analysis towards the latent variables is done to see whether the scales are valid to be utilized. The result of the CFA as seen in Appendix 4 shows that the model is acceptable (χ^2 (224) = 1003.38, RMSEA = .047 CFI = .938, NFI = .930 N = 1,597) (Hooper, Coughlan, & Mullen, 2008). Despite the non-rejected χ^2 value (<0.05), due to the relatively bigger sample size this result can be overlooked and using other model fit indices, the measurement model can also be regarded as well fitting (Connell & Tanaka, 1987). Further reliability tests are also undertaken towards each scale in the SEM by measuring Cronbach's Alpha values and Raykov's Composite Reliability values. The results of the reliability test show that the scales are acceptable, with the Institutionalism latent variable providing a 0.73 scale reliability coefficient, the Business Model Innovation Performance latent variable showing a 0.82 scale reliability coefficient, and the Firm Performance latent variable showing a 0.9 scale reliability coefficient. To further ensure the reliability of the scales, Raykov's composite reliability test is also tested for each of the latent variables. The results are similar to the Cronbach Alpha reliability test for the scales, with results of 0.73, 0.79, and 0.88 for Institutionalism, Business Model Innovation Performance and Firm Performance respectively. The full result can be seen in Appendix 5.

To further check the validity of the scales individually convergent and discriminant validity tests are undertaken for each latent variable and their linked observed variables. From the results of convergent validity in the STATA module, issues regarding convergent validity are encountered. For the latent variables of Institutionalism and Business Model Innovation Performance the convergent validity is slightly lower than the accepted threshold of more than or equal to 0.5, with values of 0.47 and 0.28 respectively. An argument for the relatively low score of convergent validity especially for Business Model Innovation can be made due to the nature of the observed variable making up for the latent variable. Firstly, for institutionalism, it should be noted that the convergent validity only misses out slightly, and the small difference between the cutoff point should not be a huge issue in the research, especially seeing its discriminant validity safely meets standard (Carlson & Herdman, 2012). However, for the Business Model Innovation latent variable, a similar argument cannot be made due the low validity value that it holds. It should be noted that despite the general nature of the questions

in measuring performance of a business model innovation that was done, the questions itself point out to different components of a business model. Convergent validity is based on correlations between variables, the sometimes-non-related aspect of a question causes the convergent validity value to be below the accepted threshold (.28). For example, comparing Q2_1 (*Has your enterprise last year introduced new products*?) and Q2_4 (*Has your enterprise last year shared new responsibilities with business partners*?), it can be seen that the nature of the questions are different and naturally would lead to a relatively low correlation between observed variables. Despite this lower than accepted threshold value, seeing the results from the factor loading in which the respective scales are significant ($p<0.001$) for both latent variables and the reliability scale of .82 (Ping, 2009), it can be argued that the relatively low convergent validity of the Business Model Innovation latent variable should not be an issues in this research.

It should be noted that due to the formula mentioned in Sub-section 4.3.2., the observed variables which are components of the Institutionalism latent variable shows higher innovativeness as the value gets higher, which also means higher distance to the average industry innovativeness as the value gets higher. In other words, an increase in the Institutionalism latent variable value means that a firm's conformity towards the BMI innovativeness in the industry is reduced. For example, if a positive relationship between Institutionalism towards Business Model Innovation is observed, this means that a firm's Business Model Innovation is better as firms become more non-conforming to the industry's average innovativeness. While a negative relationship between Institutionalism towards Business Model Innovation means that a firm's Business Model Innovation get better as they become more conforming towards the industry's average innovativeness.

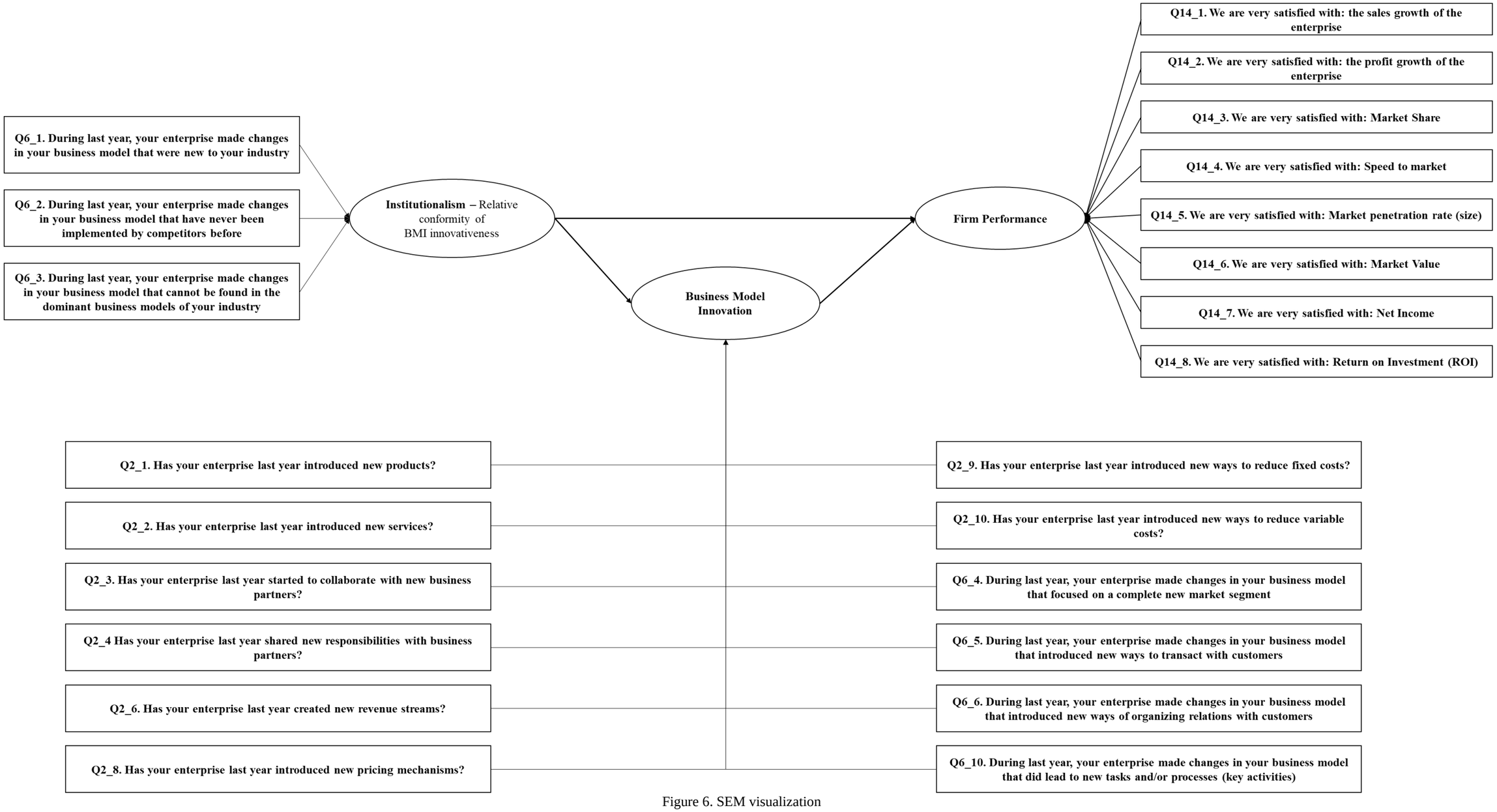

Figure 6. SEM visualization

5.3. SEM Results

The structural equation model is run using STATA 15 for the entire sample of 1597 observations. The results as seen in Figure 7 shows that the model for the regression is a good fit, as seen by the fit indices of $\chi 2(200)=599.37$, RMSEA=0.035, CFI=0.967, NFI=0.962, N=1597. From the initial results, Hypothesis 2 is supported as seen by the positive effect of Business Model Innovation towards Firm Performance. The results show that a one-point increase in Business Model Innovation increases Firm Performance rating by 0.52 points.

Furthermore, regarding support for Hypothesis 3 regarding the existence of mediation, from the results as seen in Figure 7, it can be argued that a mediation does exist, albeit a partial mediation and not a full a mediation. First of all, there is indeed significance in the indirect effect of Institutionalism towards Firm Performance representing important supporting evidence that mediation exists in this relationship (Aguinis, Edwards, & Bradley, 2017; Baron & Kenny, 1986). Secondly, due to the nature of the questions that constructs the latent variables for the independent, mediating, and dependent variable, passage of time can be argued between all three constructs of this research which will be further discussed in Section 6.

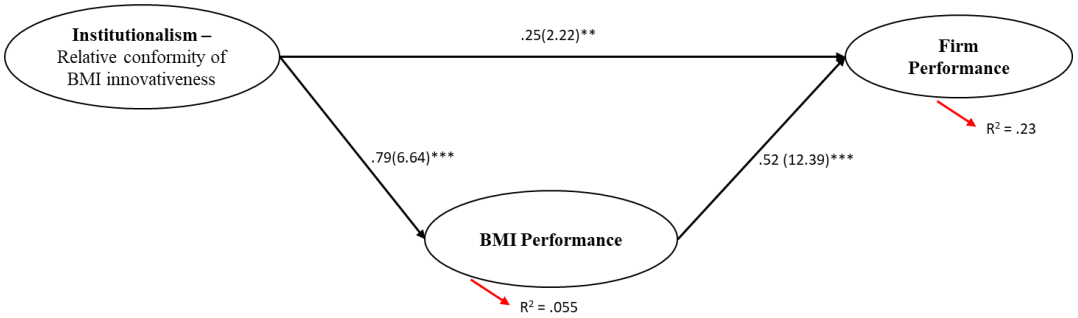

Figure 7. Overall SEM regression results
$\chi^2(200)=599.37$ RMSEA=0.035 CFI=0.967 NFI=0.962 N=1597
Standardized coefficients are shown (critical ratio in parentheses)
Significance levels: ***:p < 0.01, **:p<0.05

From the results of the two groups as seen in Appendix 6, no conclusion of an inverse U-shaped relationship can be taken from the overall results. Firstly, for firms who are deemed to conform to the average business model innovation innovativeness (firms whose variables constructing the institutionalism latent have values below or equal to one), a significant negative relationship (-0.89, p<0.001) between institutionalism towards business model innovation is observed. The results is supported by a good model fit as seen by the fit indices of $\chi 2(200)=319.96$, RMSEA=0.036, CFI=0.961, NFI=0.955, N=467. The second part of the multi-group analysis, which are firms non-conforming to the average BMI innovativeness (firms whose variables constructing the institutionalism latent variable have values above one),

shows that a non-significant positive relationship (0.56, p:0.154) exist between Institutionalism of BMI towards Business Model Innovation. This result was also accompanied by less satisfactory model fit $\chi 2(200)=337.73$, RMSEA=0.059, CFI=0.893, NFI=0.876, N=200. The combination of these two results show that Hypothesis 1 cannot be supported.

Exploring the dataset, a bit further, several additional analyses are added to explore the relationship between institutionalism towards business model innovation. A change to the indicator that is used to split the groups into two is done. Originally, the multi-group analysis split the dataset into groups with values of relative conformity of BMI innovativeness from the observed variables (Q6_1Dist, Q6_2Dist, Q6_3Dist) that are above one and below or equal to one simultaneously for all three variables. As an additional analysis point, a multi-group analysis is done with the separating indicator being Q6_1Dist, Q6_2Dist, and Q6_3Dist individually, resulting in three separate results of regression analysis. A similar SEM model was used in the second multi-group analysis where the results can be seen in Appendix 7, Appendix 8 and Appendix 9.

The results of the regression analysis where variable of Q6_1Dist is used as a separating indicator, shows that there is a U-shaped relationship between Institutionalism and Business Model Innovation as seen in Appendix 7. The model that was used to determine the U-shaped relationship fits well, as can be seen by the fit indices of the model ($\chi 2(200)=379.02$ RMSEA=0.048 CFI=0.924 NFI=0.912 N=384 for firm non-conforming to the average BMI innovativeness; $\chi 2(200)=558.23$ RMSEA=0.039 CFI=0.956 NFI=0.949 N=1174 for firms conforming to the average BMI innovativeness). The U-shaped relationship between institutionalism and business model innovation is also supported from the results of using the variable Q6_2Dist as a separating indicator as seen in Appendix 8. The results also show good model fit, as seen by the acceptable fit indices ($\chi 2(200)=319.96$ RMSEA=0.036 CFI=0.961 NFI=0.955 N=423 for firm non-conforming to the average BMI innovativeness; $\chi 2(200)=525.85$ RMSEA=0.037 CFI=0.962 NFI=0.956 N=1213 for firms conforming to the average BMI innovativeness). However, the U-shaped relationship was not observed when using 6_3Dist as a separating indicator, as both conforming and non-conforming groups show a positive relationship between Institutionalism and Business Model Innovation as seen in Appendix 9. The result is supported by an acceptable model fit index ($\chi 2(200)=440.82$ RMSEA=0.036 CFI=0.967 NFI=0.962 N=933 for firm non-conforming to the average BMI innovativeness; $\chi 2(200)=368.765$ RMSEA=0.036 CFI=0.961 NFI=0.955 N=664 for firms

conforming to the average BMI innovativeness), showing that takeaways can be extracted from the results.

To gain further evidence in the existence of the curvilinear relationship, a regression analysis using both Q6_1Dist and Q6_2Dist as the separating indicators for the multi-group analysis is also undertaken. The results of the regression analysis, as seen in Appendix 10, support the observation that a U-shaped relationship between institutionalism and business model innovation exists. The regression analysis also shows good model fit, shown by the acceptable fit indices, (χ2(180)=312.11, RMSEA=0.055, CFI=0.906, NFI=0.890, N=247 for firm non-conforming to the average BMI innovativeness; χ2(180)=409.99, RMSEA=0.035, CFI=0.968, NFI=0.962, N=1,037 for firms conforming to the average BMI innovativeness). The U-shaped relationship can be concluded by seeing the differing effects of Institutionalism towards Business Model Innovation in the two separate groups. For firms conforming to the average BMI innovativeness, a negative relationship can be observed between both variables, whereas for firms non-conforming to the average BMI innovativeness there is a positive relationship. A further explanation on why the U-shaped relationship is not observed when using Q6_3Dist as a separating indicator is discussed in Sub-section 6.1.

In addition to the analyses that have been done, to further validate the findings from the overall dataset, additional analysis has also been done on an industry level using the same SEM model. As has been mention in Sub-section 4.4., the three separate industries are manufacturing, wholesale and retail trade; repair of motor vehicles and motorcycles, and other services. Firstly, observing the result of the regression analysis in the manufacturing industry as seen in Appendix 10, it can be seen that the results are still aligned with the results of the whole dataset. In terms of model fit, the model shows good fit as well when applied to the industry level with the following indicators χ2(200)=316.66, RMSEA=0.048, CFI=0.936, NFI=0.926, N=249. The results support Hypothesis 2 and partially supports Hypothesis 3. An attempt to gain insights regarding the existence of a curvilinear relationship between Institutionalism and Business Model Innovation is also done. Unfortunately, the number of observation left to do a multi-group analysis was not enough to produce results which can be interpreted.

Secondly, the results of the analysis in the wholesale and retail trade; repair of motor vehicles and motorcycles industry as seen in Appendix 11 also show similar takeaways. With a good model fit, χ2(200)=270.82, RMSEA=0.039, CFI=0.960, NFI=0.954, N=231, results

show support for Hypothesis 2 and partial support (as a partial mediation is observed rather than full mediation) Hypothesis 3, although a similar problem in justifying Hypothesis 1 is encountered due to low number of observation. Finally, similar results can also be observed in the regression analysis on the other services industry as seen in Appendix 12. With a good model fit as well $\chi 2(200)=319.02$, RMSEA=0.044, CFI=0.947, NFI=0.938 N=308, and results that also supports both Hypothesis 2 and Hypothesis 3. As with the case of the manufacturing industry, attempts to validate the curvilinear relationship between institutionalism and business model innovation performance in each industry is unable to be done due to the insufficient number of samples which can generate results.

Overall, results from the undertaken statistical analysis showed no support for Hypothesis 1, as the hypothesized inverse U-shape relationship is not observed. Interestingly, what turned out to be observed is a U-shaped relationship between institutionalism and business model innovation. The situation is different for Hypothesis, 2, as the observed results shows support for Hypothesis 2, an unsurprising outcome as this relationship have been well researched by previous research beforehand. For Hypothesis 3, only partial support can be given, as the results from the statistical analysis show that the mediation effect that is provided by business model innovation is not a full mediation but only a partial mediation. To understand the differences between the hypothesized relationships and the observed relationships, an in-depth analysis and explanation is given in the following section of this report, which is Section 6.

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Discussion and Conclusion

6.1. Findings

The advent of institutional theory research, more specifically the rise of the optimal distinctiveness research stream, have opened new doors for institutional theory to be applied to various context in strategic management research. This development and application should also apply towards the act of business model innovation, as the act of business model innovation have been discussed quite intensively in the past several years by strategic management scholars (Foss & Saebi, 2017b; Teece, 2010). Upon first thought, business model innovation should be one of the main fields in which institutional theory should be applied in research. Innovativeness is highly valued and even sought upon in business model innovation, yet at the same time, institutional theory postulates that conformity is crucial in attaining legitimacy and firms which are too different will be penalized in their performance (DiMaggio & Powell, 1983). Thus, there is this conflicting tension of innovativeness and conformity that needs to be reconciled, if institutionalism does indeed play a role in the business model innovation process.

Interestingly, upon further examining the current literature which discuss both institutional theory and business model innovation, almost no empirical research studying the effects of institutionalism towards business model innovation can be found (Snihur, 2016; Snihur & Zott, 2013). It is in this gap of knowledge that this research is aiming to further give additional knowledge and observations. As the aim of this research is to observe whether the effects of institutionalism towards business model innovation exists or not, the results of the statistical analysis that is run on the dataset can be used to draw several takeaways.

Firstly, there is no support for Hypothesis 1 on the inverse U-shaped relationship that is expected to exist between institutionalism, on the contrary, the opposite relationship, which is a U-shaped relationship is managed to be observed through the statistical tests, albeit not in a general situation. Despite the multi-group analysis of firms conforming to the average BMI innovativeness and firms non-conforming to the average BMI innovativeness based on all three variables composing the construct of Institutionalism (Q6_1Dist, Q6_2Dist, Q6_3Dist) did not produce any significant results. Multi-group analysis with only each variable showed the U-shaped relationship. Using the variable of Q6_1Dist (*During last year, your enterprise made changes in your business model that were new to your industry*), a U-shaped relationship can be observed, in that firms which are conforming to the average BMI innovativeness are

observed to have their Business Model Innovation penalized as their BMI innovativeness increases. Yet, at the same time, for firms who are non-conforming to the average BMI innovativeness an increase in their non-conformance towards the average BMI innovativeness values increases their business model innovation performance. The same observation is also seen in using the variable of Q6_2Dist (*During last year, your enterprise made changes in your business model that have never been implemented by competitors before*). In which firms which are conforming to the average BMI innovativeness are observed to have their Business Model Innovation penalized as their BMI innovativeness increases. On the other hand, firms who are non-conforming to the average BMI innovativeness will experience an increase in the Business Model Innovation as their non-conformance towards the average BMI innovativeness increases.

To understand this observed result, it is important to note that a firm's business model and thus consequently, its business model innovation process does not exist in a vacuum. Restating the working definition of a business model in this research, which is "*the design or architecture of the value creation, delivery, and capture mechanisms"* business model innovations means that communication with and the perception of external parties play a huge part in determining whether a business model innovation will be successful or not. In the observed result of this research, moderate innovativeness, shown by the medium level of non-conformity to the average BMI innovativeness, shows an ambiguous position of a firm in innovating its business model. This ambiguousness might lead to its partners and external parties to question the validity of the business model innovation, and thus leading to some failures in executing the proposed business model innovation plan. On the other hand, extreme innovativeness in a firm's business model innovation process shows vision and boldness from a firm which invigorates its partners and audience to be more supportive of its business model innovation process (Anthony, 2012), which leads to a better business model innovation. This U-shaped relationship between innovativeness and performance have been observed empirically as well by the work of Jennings and Jennings (2009). Their work observed that a firm's novelty in its employment systems produces the best output in low and high levels, while moderate levels of novelty showed the worst results, similar to what is observed in this research. Furthermore, U-shaped relationship has also been observed in past institutional theory and optimal distinctiveness research through the work of Cennamo and Santalo (2013), in

which their work examines the U-shaped relationship between distinctive positioning and platform performance.

The unobserved U-shaped relationship in using the Q6_3 as a separating point in the multi-group analysis can be attributed to the type of question that Q6_3 is. The question of "*During last year, your enterprise made changes in your business model that cannot be found in the dominant business models of your industry"* does not directly tie to an entirely new business model in the industry. A business model that is different from the dominant business model does not mean that it is a new business model, nor it is rare in the industry. A dominant business model can mean that the business model is applied by a market leader, and not necessarily used by the majority of the players in the industry. This is different from questions Q6_1 and Q6_2 which is related to having completely new business models or never-before-seen business models in the industry. This explanation might be one of the reasons why the U-shaped effect cannot be observed when using Q6_3 as a separation point for the multi-group analysis. Moreover, the number of firms which are part of the theoretically non-conforming group (994) is much more than the number of firms (603) which are part of the theoretically conforming group.

The results also show that there is support for Hypothesis 2 as expected, in that there is a positive relationship between business model innovation and firm performance. This result is unsurprising as various research in the past has validated this relationship (Aspara et al., 2010; Cucculelli & Bettinelli, 2015). A more interesting observation can be seen in the observed supporting evidence for Hypothesis 3, in that mediation is indeed observed in the relationship between institutionalism towards firm performance in the form of a firm's business model innovation activity. Yet, this mediation is observed in the form of a partial mediation rather than a full mediation. From the general results, as seen in Figure 7, it can be observed that there is significance in the direct effect of institutionalism towards firm performance, and that not all of its effects are fully mediated by business model innovation. An explanation regarding this observed result can be explained by remembering that the value of institutionalism is a representation of a firm's relative conformity of BMI innovativeness compared to the industry. As observed by the work of Zott and Amit (2007), in general the more innovative a firm's business model innovation is, the higher their firm performance will be as well, similarly the work of Gronum, Steen, and Verreynne (2016) also observes these results. It can be argued that more innovative business models usually mean that firms create

new opportunities through linking the actors related to its business models in new ways that have never been seen before to create, deliver and capture value. Connecting this with resource-based-view theories, a more innovative business model innovation which creates highly innovative business model allows firms to be in a relatively emptier competitive space, where there are no competitors competing for resource acquisition nor customers (J. A. C. Baum & Singh, 1994; Joel A. C. Baum & Mezias, 1992). This argument would explain why a lower relative conformity of BMI innovativeness, as represented by the latent variable of institutionalism in this research, leads to higher firm performance.

Observing deeper into the results of the industry analysis, it is also interesting to observe that there is a difference in the observed effect between institutionalism towards business model innovation in different industries. The industry of wholesale and retail trade; repair of motor vehicles and motorcycles shows the highest effect of institutionalism towards business model innovation, with a β of 0.77 ($p<0.06$) compared to the manufacturing ($\beta = 0.27$, $p<0.015$) and other services ($\beta = 0.22$, $p<0.076$) industry. Combining the fact that the wholesale and retail trade; repair of motor vehicles and motorcycles industry has a lower BMI propensity compared to the manufacturing and other services industry, an interesting observation arises in that in an industry where less business model innovation happens; a more innovative business model innovation leads to a better business model innovation. Based on the current literature review on institutional theory, an industry with a lower propensity in doing business model innovation should penalize firms' business model innovation process more compared to industries with a higher propensity of doing business model innovation. Yet, the opposite is observed in the result, although an explanation can be given in that the observed overall positive result is only part of a U-shaped relationship and not a fully positive relationship between the two variables. Due to the limited sample size, a validation on this hypothesis cannot be done, but seeing the results from the analysis using the overall data and assuming the same result holds for the industry level, then an argument on why the differing effects exists can be made. In industries where business model innovation is less likely to be done, an innovative BMI is more likely to invigorate and energize the corresponding partners and audience of the firm much more than in an industry where business model innovation often happens. This rarity effect means that the environment would give extra support to the firm and increases the performance of its business model innovation process. It should be noted though that this argument bases itself on

the assumption that the same U-shaped relationship holds in the industry level, and that this argument is not properly backed with direct empirical evidence in this research.

6.2. Implications

6.2.1. Academic implications

Essentially, this research fills the gap of an empirical study needed to bridge institutional theory with business model innovation research. As had been mentioned, previous research regarding business model innovation and institutional theory had only been done through qualitative theory building (Snihur, 2016; Snihur & Zott, 2013). This research operationalizes the measurement of conformity of a business model innovation to its institutional environment to allow it to be measured and compared. Furthermore, this research also operationalized business model innovation performance quantitatively through the use of previous research (Clauss, 2016) to allow an empirical measurement of the relationship between the effect of institutionalism towards business model innovation performance. Furthermore, this research also acts upon the work of Foss and Saebi (2017b) in which they mentioned that a research on macro-level factors of business model innovation, more specifically institutional pressures, have yet to be done substantially in the business model innovation knowledge stream go gain upon evidence for theorization. This research may act as one of the building blocks for further empirical future research on business model innovation and institutional theory, especially by the use of its scale and operationalization of the measured constructs.

The results of this research also builds upon the work of Zott and Amit (2007) on business model innovativeness towards firm performance. Their work shows that a more innovative business model innovation leads to better firm performance while this research argues that the observed effect does hold in some context and after a certain level. Institutional theory postulates that conformity towards the average, especially for something that is unfamiliar towards the institutional environment is needed to gain legitimacy, and this proposition should also hold for the business model innovation process (Snihur & Zott, 2013). The U-shaped relationship that is observed between institutionalism and business model innovation shows that at medium level BMI innovativeness, a firm's business model innovation

is penalized by the institutional environment. The positive linear relationship is observed for firms who are non-conforming to the average BMI innovativeness.

6.2.2. Practical Implications

From the results of this research, there are practically two key takeaways for managers of SME firms as an implication. Firstly, the U-shaped results between institutionalism and business model innovation shows that for managers of firms who are planning to undertake the business model innovation process, a moderate relative conformity of BMI innovativeness is not the way to go. The results of this research show that Business Model Innovation, and thus ultimately firm performance, is most optimal when the relative conformity of the undertaken business model innovation is at extremely low levels or extremely high levels. This means that either SME's do very minimal innovative business model innovation or undertake a very innovative business model innovation. Institutional pressures, which penalizes performance, would be lesser in either levels of relative conformity of BMI innovativeness and will lead to optimal results for firms. This ultimately means that managers should ensure that their business model innovation activities are innovative enough or perceived to be innovative enough by the institutional environment to be successful.

As business model innovation activities always involve external parties in its process, managing the perceived image of an undertaken business model innovation is of the imperative for managers. Coming back to the observed U-shaped result, there are two options for managers in managing their perceived innovativeness of their firm's business model innovation process. First, the managers can use proper communication methods and basic explanations regarding the undertaken business model innovation towards the actors in the institutional environment to reduce perceived innovativeness. This method has also been proposed by the work of Hargadon and Douglas (2001), taking an example of how Edison underplayed the innovativeness of electricity through communication methods to its audience. The work of Snihur (2013) also mentions this method by taking an example of how Amazon downplays their business model innovativeness during their early years. A different option would be for managers to strive for the other end of the U-shape, which is to amplify the innovativeness of their business model innovation and use it as a selling point to gain acceptance of the institutional environment. One example of this method is in observing how Tesla markets and communicates its innovativeness towards its institutional environment to gain buy-ins and acceptance. One issue that is harder for managers to undertake this option is that selling and

highlighting an innovativeness of a company usually needs a strong innovative figure to spear charge the effort. People like Steve Jobs, Elon Musk, or Elizabeth Holmens (in a negative context) are the types of figures that captures imaginations and allow firms to capitalize on being perceived as innovative to optimize the effect of institutionalism towards business model innovation.

Secondly, the differing results from the statistical analysis in the different industries show that there will be differing effects to be considered in different industries and that penalization rules might be different, depending on the propensity of business model innovation in the industry. This means that managers, especially those who are responsible for the business model innovation process of a firm needs to constantly keep their eyes open to the environment and the activities of other firms especially in their business model innovation activities. Relative conformity to the average BMI Innovativeness is measured through not only the activities of the subject firm, but also of the activities of other firms in the environment. Managers should realize that a highly innovative business model innovation for the firm does not necessarily mean that it is highly innovative for the environment. Mistakes in planning and in evaluating the innovativeness of a business model innovation process might lead to mediocrity or moderation of BMI innovativeness, and thus leading to moderate levels of conformity as well, which based on this research results, show the worst performance implication for firms. Thus, it is of the imperative for managers to be aware of the business model innovation activities that other firms in the industry are doing to allow their firm to fully reap the expected results of the business model innovation process, rather than being penalized for the potentially perceived ambiguity.

6.3. Research Limitations and Future Research

Due to the various constraints with regards to time and resources, several limitations is observed in the process of doing this research and in the results obtained from this research as well. Firstly, it should be realized that despite the comprehensiveness of the ENVISION 2020 questionnaire, there are still some components, especially related to measuring business model innovation, that could have been added to further complete the research. As seen in Appendix 3, there are two parts of the Clauss's measurement scale (change in number of customers, change in technology) that is unable to be represented by the current questionnaire, which leads this research to omit both components of the business model innovation measurement scale. The addition of both components would give further sharpness in the results of the analysis although the extent of changing any takeaways would be quite low.

Secondly, the nature of the used questionnaire, in that most of its valuation are based on subjective measures also can be further improved. Having a more objective reference point for firms to be judged on the performance of their business model innovation process and innovativeness would have given more validity to the results of this research. Subjectivity ratings allow both overestimation and underestimation by the respondents of the survey, moreover the age-old problem of having different standard points for the same rating means that two answers of "4" for a question relating to BMI innovativeness might mean a totally different thing for the respondents.

Thirdly, despite having an industry level analysis being done in this research, a further step in doing industry level analysis based on a certain country would have given the best possible scenario in testing institutional pressures towards the business model innovation process. Institutional pressures are often very local and are based on the actors that comprises the institutional environment. Especially for SME's, institutional pressures usually differ in different countries, even for the same or similar industries. For example, institutional pressures that exist in the manufacturing industry in Germany is likely to be different that the one in Belgium, and this also holds for the business model innovation process. Same industries might have different propensity in undertaking business mode innovation in different countries and

unfortunately, this research does not have the sufficient number of samples to conduct a statistical analysis on that level.

These limitations and the findings from this research becomes an input towards the recommended future research that is done on this topic. Firstly, as this research's sample objects are SME's in the EU area, other research which observes whether the U-shaped effect is also observed in multinational companies in the EU, or in other SME's in regions outside of the EU would be useful to allow build a proper theory regarding institutionalism's effect towards business model innovation. Secondly, it would also be interesting to further explore whether institutionalism have differing effects to different components of the business model innovation, whether it be value creation, delivery, or capture components. For example, value delivery and value capture activities from the business model have a higher interaction with external parties in the institutional environment in general. Thus, observing whether these activities which have more ties to external parties is subjected to a more rigorous institutional pressure and heavier penalties in moderate levels of conformity would be an interesting endeavor.

6.4. Conclusion

Overall, research that bridges institutional theory with business model innovation have been few and far between. Current research that bridges both knowledge streams mostly relies on connecting theories and building qualitative arguments to answer this gap which exists in the scholarship. This research attempts to fill the gap through quantitatively observing the relationship between institutionalism towards a firm's business model innovation performance, and ultimately its own performance. This research argues that institutionalism's effect towards firm performance is moderated through business model innovation performance in the firm, and the results from statistical analysis shows support for this argument. An unexpected result was gained in the form of the U-shaped relationship between institutionalism and business model innovation performance, the opposite of the predicted inverse U-shaped relationship which is observed in the majority of studies on institutional theory and optimal distinctiveness. This unexpected result shows that the research stream which applies institutional theory towards business model innovation still has many branches and paths to explore, and that further research is needed to fully understand and disentangle the mechanism that governs the business model innovation process in firms.

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Appendix

Appendix 1 Envision 2020 questionnaire

Respondent
Year of the survey
Country
Currency
S1. Did your company change its business model during the last 24 months?
S2a. A company no longer wants to sell products but earn money by renting them out, or make money by bundling the product with services. Did your company make this type of change during the last 24 months?
2b1. Or a company offers a new product or service, or focuses on a new group of customers. Did your company make this change during the last 24 months?
2b2. Or a company starts working with new type of partners, suppliers or advisors. Did your company make this change during the last 24 months?
S2c. Changing the pricing strategy, that goes beyond the regular price adaptations. Did your company make this change during the last 24 months?
S2d. Incorporation of IT for business purposes for example using social media or big data IN SALES CHANNELS or IN MARKETING. Did your company make this change during the last 24 months?
17b. How many employees does your enterprise have?
How many employees does your enterprise have (categories)?
17d. In what industry does your enterprise operate?
Q1_1. Role in the enterprise: I understand the product/service offerings of my enterprise
Q1_3. Role in the enterprise: I am involved in developing new products/services
Q2_1. Has your enterprise last year introduced new products?
Q2_2. Has your enterprise last year introduced new services?
Q2_3. Has your enterprise last year started to collaborate with new business partners?
Q2_4 Has your enterprise last year shared new responsibilities with business partners?
Q2_6. Has your enterprise last year created new revenue streams?
Q2_8. Has your enterprise last year introduced new pricing mechanisms?
Q2_9. Has your enterprise last year introduced new ways to reduce fixed costs?
Q2_10. Has your enterprise last year introduced new ways to reduce variable costs?
Q3_1. During last year, your enterprise experimented with the (implementation of) their business model?
Q3_2. During last year, your enterprise had a specific team to manage business model changes
Q3_3. During last year, your enterprise allocated budgets for business model experimentation
Q3_4. During last year, your enterprise Came up with new ideas for our business model

Q3_5. During last year, your enterprise Come up with new value propositions (e.g. new products or services)
Q3_6. During last year, your enterprise Come up with new ways of making revenues (e.g. new pricing models)
Q3_7. During last year, your enterprise Improved our business model through trial-and-error
Q3_8. During last year, your enterprise Conducted real-life experiments with our business model
Q3_9. During last year, your enterprise Learn from mistakes in our business model
Q4_1. In your enterprise business models are used to gain competitive advantages
Q4_2. In your enterprise business models are designed in response to market circumstances
Q4_4. In your enterprise business models are derived from enterprise's strategy
Q5_1. During last year, your enterprise made significant changes introducing new components of the business model
Q5_2. During last year, your enterprise made significant changes in the business model that are new to the world
Q5_3. During last year, your enterprise made significant changes introducing new ways of combining core components of the business model
Q6_1. During last year, your enterprise made changes in your business model that were new to your industry
Q6_2. During last year, your enterprise made changes in your business model that have never been implemented by competitors before
Q6_3. During last year, your enterprise made changes in your business model that cannot be found in the dominant business models of your industry
Q6_4. During last year, your enterprise made changes in your business model that focused on a complete new market segment
Q6_5. During last year, your enterprise made changes in your business model that introduced new ways to transact with customers
Q6_6. During last year, your enterprise made changes in your business model that introduced new ways of organizing relations with customers
Q6_10. During last year, your enterprise made changes in your business model that did lead to new tasks and/or processes (key activities)
7. Have you ever used such business model method?
7a. Please indicate which method. Other, specify
7b Do you make use of the following tools to support business model innovation? others, namely
7b. Have you ever heard of the businessmakeover.eu platform?
Q8a_1. changing the entire BM
Q8a_2. changing only some components of the BM
Q8a_3. changing product/service offering, before changing the BM
Q8a_4. changing the BM, before changing the product/service offering
Q8a_5. changing the BM and product/service offering at the same time
Q8a_6. trying out new BMs in practice first, before making final changes
Q8a_7. in-depth analyses before starting to change the BM
Q8b_1. the product/service offering matched customer needs.

Q8b_2. our key partners really collaborated with us during the whole BM innovation process
Q8b_3. management supported the whole BM innovation process
Q8b_4. our employees knew how to do key processes in BM innovation
Q8C_1. Most people working for this company feel satisfied with the BMI.
Q8C_2. There was no resistance to change the BM
Q8C_3. Employee's opinions are taken into account in decisions on the new BM.
Q8C_4. Our employees have the right skills to innovate the BM.
Q8C_5. Our employees are well trained for the change in the BM.
Q8C_6. We encourage employees to be involved in the BM process
10. To what degree is your main product/service offering enabled by ICT?
11_1. To what extent did the following internal factors motivate a change on your business model during the last 12 months? New product development
11_2. To what extent did the following internal factors motivate a change on your business model during the last 12 months? Innovation and/or R&D activities
11_3. To what extent did the following internal factors motivate a change on your business model during the last 12 months? Advertising products and services in a new way
11_4. To what extent did the following internal factors motivate a change on your business model during the last 12 months? Offering products/services at low prices
11_5. To what extent did the following internal factors motivate a change on your business model during the last 12 months? Minimize costs
12_3. to what extent the following external factors motivated a change on your business model during the last 12 months? Competitors starting to offer similar products/services
12_4. to what extent the following external factors motivated a change on your business model during the last 12 months? Competitor's reactions to your initiatives
12_5. to what extent the following external factors motivated a change on your business model during the last 12 months? Frequently changing customer preferences
12_6. to what extent the following external factors motivated a change on your business model during the last 12 months? Customer needs different to traditional customer needs
12_7. to what extent the following external factors motivated a change on your business model during the last 12 months? Rapid changing technology
12_8. to what extent the following external factors motivated a change on your business model during the last 12 months? Rapid increasing technological development
Q13_2. Our corporate culture is focused on constant innovation
Q13_5. Our enterprise shows perseverance in turning ideas into reality
Q13_6. Our enterprise is able to identify new opportunities
Q13_7. Our enterprise aims to create multiple innovations annually
Q13_8. Our enterprise introduce innovations that are completely new to the market
Q13_9. Creating more than one innovation at the same time is common practice in our enterprise
Q13_10. Our enterprise is one of the first to introduce innovations
Q13_11. Our enterprise often waits for some time before introducing innovations

Q13_12. Our enterprise only introduces innovations because of others, e.g. customers, suppliers, third parties
Q13_13. Our enterprise is often the last one to introduce innovations
Q14_1. We are very satisfied with: the sales growth of the enterprise
Q14_2. We are very satisfied with: the profit growth of the enterprise
Q14_3. We are very satisfied with: Market Share
Q14_4. We are very satisfied with: Speed to market
Q14_5. We are very satisfied with: Market penetration rate (size)
Q14_6. We are very satisfied with: Market Value
Q14_7. We are very satisfied with: Net Income
Q14_8. We are very satisfied with: Return on Investment (ROI)
Q14_9. We are very satisfied with: Customer Loyalty
Q15a. How, approximately, did your enterprise sales develop last year from the previous year (%)?
Q15b. How, approximately, did your enterprise profit develop last year from the previous year (%)?
17a. In what year was your enterprise founded?
17c. What is your sales volume x 1.000 [Currency] per year?
17e. Please shortly describe your main product/service offering.
17g. In which country is the head office of your group located?
17i. In which geographic markets did your enterprise sell goods and/or services?
17j. Do you consider your enterprise to be a family enterprise?
17k. Is the enterprise being managed by family members?
17l. Percentage shares controlled by family
17m. Percentage of family members present in management team
17n. Does the Chief Executive Officer (or the main manager) belong to the family who is controlling the enterprise?
17o. Are females part of the owners/entrepreneurs?
17p. Are females involved in strategic decision making process?
17q. Percentage of women in management team
17r. Gender of CEO or Core Manager
19. Would you like to receive a summary of the research results?
Name
Job title
Email address
Could you please provide your Chamber of Commerce registration number?
Type of interview
Source
Result

Appendix 2 Constructs, variables, and related questions for conceptual model

Construct	Questions
Dependent Variable	
Firm Performance	Q14_1. We are very satisfied with: the sales growth of the enterprise
	Q14_2. We are very satisfied with: the profit growth of the enterprise
	Q14_3. We are very satisfied with: Market Share
	Q14_4. We are very satisfied with: Speed to market
	Q14_5. We are very satisfied with: Market penetration rate (size)
	Q14_6. We are very satisfied with: Market Value
	Q14_7. We are very satisfied with: Net Income
	Q14_8. We are very satisfied with: Return on Investment (ROI)
Independent Variable	
Institutionalism	Q6_1. During last year, your enterprise made changes in your business model that were new to your industry
	Q6_2. During last year, your enterprise made changes in your business model that have never been implemented by competitors before
	Q6_3. During last year, your enterprise made changes in your business model that cannot be found in the dominant business models of your industry
Mediating Variable	
Business Model Innovation	Q2_1. Has your enterprise last year introduced new products?
	Q2_2. Has your enterprise last year introduced new services?
	Q2_3. Has your enterprise last year started to collaborate with new business partners?
	Q2_4 Has your enterprise last year shared new responsibilities with business partners?
	Q2_6. Has your enterprise last year created new revenue streams?
	Q2_8. Has your enterprise last year introduced new pricing mechanisms?
	Q2_9. Has your enterprise last year introduced new ways to reduce fixed costs?
	Q2_10. Has your enterprise last year introduced new ways to reduce variable costs?
	Q6_4. During last year, your enterprise made changes in your business model that focused on a complete new market segment
	Q6_5. During last year, your enterprise made changes in your business model that introduced new ways to transact with customers
	Q6_6. During last year, your enterprise made changes in your business model that introduced new ways of organizing relations with customers
	Q6_10. During last year, your enterprise made changes in your business model that did lead to new tasks and/or processes (key activities)

Appendix 3 Comparison of Clauss scale and available items from ENVISION questionnaire

Clauss's	Questions from Envision
Change in customer	Q6_4. During last year, your enterprise made changes in your business model that focused on a complete new market segment
Change in partnerships	Q2_3. Has your enterprise last year started to collaborate with new business partners? Q2_4 Has your enterprise last year shared new responsibilities with business partners?
Change in offerings	Q2_1. Has your enterprise last year introduced new products? Q2_2. Has your enterprise last year introduced new services?
Change in customer relationships	Q6_6. During last year, your enterprise made changes in your business model that introduced new ways of organizing relations with customers
Change in revenue streams	Q2_6. Has your enterprise last year created new revenue streams?
Change in cost structure	Q2_9. Has your enterprise last year introduced new ways to reduce fixed costs? Q2_10. Has your enterprise last year introduced new ways to reduce variable costs?
Change in channels used	Q6_5. During last year, your enterprise made changes in your business model that introduced new ways to transact with customers
Change in process	Q6_10. During last year, your enterprise made changes in your business model that did lead to new tasks and/or processes (key activities) Only available in 2018 data, thus not used in all analysis
Change in number of customers	N/A
Change in technology	N/A

Appendix 4 Results of CFA

	Coef	OIM Std. Err	z	P>z	[95% conf.	Interval]
Measurement						
Q6_1Dist Institutionalism	1	(constrained)				
_cons	0.860143	0.012748	67.47	0.000	0.835157	0.885128
Q6_2Dist Institutionalism	1.06868	0.05741	18.61	0.000	0.956159	1.181201
_cons	0.852086	0.013082	65.13	0.000	0.826445	0.877727
Q6_3Dist Institutionalism	1.127253	0.060847	18.53	0.000	1.007996	1.24651
_cons	0.847606	0.013263	63.91	0.000	0.82161	0.873602
Q14_1 Performance	1	(constrained)				
_cons	4.418284	0.040555	108.95	0.000	4.338799	4.49777
Q14_2 Performance	1.055155	0.029922	35.26	0.000	0.996509	1.113802
_cons	4.211021	0.041242	102.11	0.000	4.130189	4.291852
Q14_3 Performance	0.843059	0.030656	27.5	0.000	0.782975	0.903143
_cons	4.152786	0.040147	103.44	0.000	4.0741	4.231473
Q14_4 Performance	0.706689	0.029987	23.57	0.000	0.647917	0.765461
_cons	4.366312	0.038725	112.75	0.000	4.290412	4.442212
Q14_5 Performance	0.817643	0.028272	28.92	0.000	0.76223	0.873055
_cons	4.174076	0.037527	111.23	0.000	4.100526	4.247627
Q14_6 Performance	0.879998	0.029086	30.25	0.000	0.82299	0.937006
_cons	4.425798	0.038327	115.47	0.000	4.350679	4.500918
Q14_7 Performance	0.990779	0.030319	32.68	0.000	0.931354	1.050203
_cons	4.23732	0.040547	104.5	0.000	4.157849	4.316791
Q14_8 Performance	0.868545	0.029805	29.14	0.000	0.810128	0.926961
_cons	4.324984	0.039346	109.92	0.000	4.247867	4.402101
Q2_1 BMI_Performance	1	(constrained)				
_cons	4.393237	0.0558	78.73	0.000	4.283871	4.502603
Q2_2 BMI_Performance	1.073532	0.061355	17.5	0.000	0.953279	1.193784
_cons	3.983719	0.055166	72.21	0.000	3.875596	4.091842
Q2_3 BMI_Performance	0.796803	0.061954	12.86	0.000	0.675375	0.91823
_cons	4.452098	0.05513	80.76	0.000	4.344044	4.560151
Q2_4						

	Coef	OIM Std. Err	z	P>z	[95% conf.	Interval]
BMI_Performance	0.89579	0.06329	14.15	0.000	0.771743	1.019836
_cons	3.228554	0.052776	61.18	0.000	3.125115	3.331992
Q2_6						
BMI_Performance	1.138574	0.067135	16.96	0.000	1.006992	1.270156
_cons	4.068879	0.052241	77.89	0.000	3.966488	4.17127
Q2_8						
BMI_Performance	0.848262	0.062388	13.6	0.000	0.725985	0.970539
_cons	3.396368	0.053251	63.78	0.000	3.291998	3.500738
Q2_9						
BMI_Performance	0.687047	0.055094	12.47	0.000	0.579065	0.795029
_cons	4.312461	0.048998	88.01	0.000	4.216427	4.408495
Q2_10						
BMI_Performance	0.714797	0.054229	13.18	0.000	0.60851	0.821083
_cons	4.306199	0.047056	91.51	0.000	4.213972	4.398427
Q6_4						
BMI_Performance	0.994799	0.06374	15.61	0.000	0.869871	1.119726
_cons	2.981841	0.051088	58.37	0.000	2.881711	3.081971
Q6_5						
BMI_Performance	1.002491	0.066084	15.17	0.000	0.872968	1.132014
_cons	3.393863	0.050325	67.44	0.000	3.295228	3.492499
Q6_6						
BMI_Performance	0.99436	0.06453	15.41	0.000	0.867884	1.120836
_cons	3.865999	0.049643	77.88	0.000	3.7687	3.963297
Q6_10						
BMI_Performance	1.136799	0.088694	12.82	0	0.962963	1.310636
_cons	3.824274	0.080768	47.35	0	3.665972	3.982576
var(e.Q6_2Dist)	0.143137	0.008016			0.128258	0.159742
var(e.Q6_3Dist)	0.136089	0.008424			0.120541	0.153644
var(e.Q2_1)	3.623594	0.144495			3.351174	3.91816
var(e.Q2_2)	3.305543	0.135693			3.050007	3.582489
var(e.Q2_3)	3.997439	0.150513			3.713061	4.303597
var(e.Q2_4)	3.365674	0.130478			3.119417	3.631372
var(e.Q2_6)	2.609803	0.113738			2.396136	2.842523
var(e.Q2_8)	3.557961	0.135851			3.301417	3.834441
var(e.Q2_9)	3.197367	0.11969			2.971178	3.440775
var(e.Q2_10)	2.846955	0.107787			2.643344	3.066249
var(e.Q6_4)	2.833216	0.114902			2.61673	3.067612
var(e.Q6_5)	2.689002	0.112593			2.477137	2.918987
var(e.Q6_6)	2.60199	0.108976			2.396932	2.82459
var(e.Q6_10)	2.176245	0.176836			1.855843	2.551962
var(e.Q14_1)	0.97949	0.043601			0.897655	1.068784
var(e.Q14_2)	0.882522	0.043508			0.801239	0.97205
var(e.Q14_3)	1.403386	0.055918			1.297959	1.517375
var(e.Q14_4)	1.57238	0.059485			1.460008	1.6934
var(e.Q14_5)	1.147852	0.046515			1.060211	1.242738
var(e.Q14_6)	1.070463	0.044526			0.986656	1.161389

	Coef	OIM Std. Err	z	P>z	[95% conf.	Interval]
var(e.Q14_7)	1.008766	0.046202			0.922158	1.103509
var(e.Q14_8)	1.229858	0.049522			1.136529	1.330852
var(Institutionalism)	0.113991	0.00935			0.097064	0.133871
var(BMI_Performance)	1.348889	0.13768			1.104319	1.647622
var(Performance)	1.647052	0.090209			1.479405	1.833696
cov(e.Q2_1,e.Q2_2)	0.62721	0.103374	6.07	0	0.4246	0.829819
cov(e.Q2_3,e.Q2_4)	1.087916	0.104884	10.37	0	0.882348	1.293485
cov(e.Q2_9,e.Q2_10)	1.457891	0.090338	16.14	0	1.280833	1.634949
cov(e.Q6_5,e.Q6_6)	0.76138	0.084858	8.97	0	0.595062	0.927698
cov(e.Q14_2,e.Q14_7)	0.277519	0.035182	7.89	0	0.208564	0.346475
cov(e.Q14_3,e.Q14_5)	0.442314	0.039378	11.23	0	0.365134	0.519494

LR test of model vs. saturated: chi2(224) = 1003.38, Prob>chi2 = 0

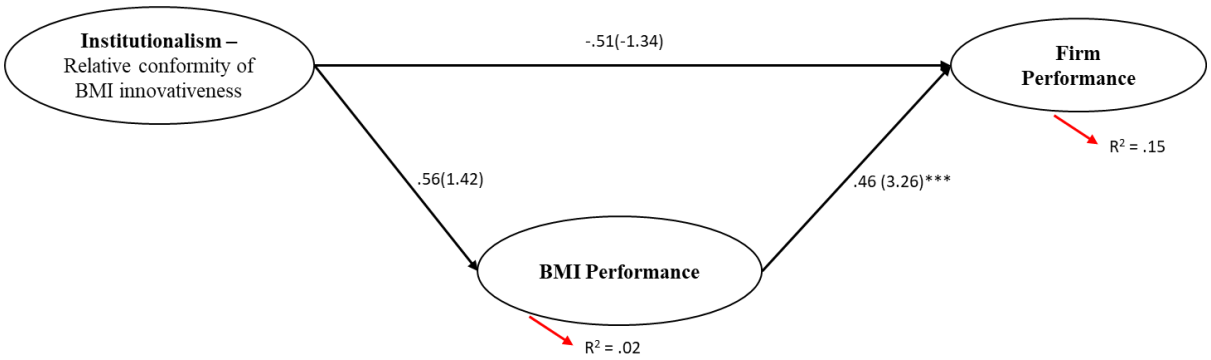
Appendix 5 Measurement scale items and construct reliability

Construct, items	Raykov Composite Reliability	SCR	Standardized λ
Institutionalism (Deephouse, 1999)			
$Relative\ conformity\ of\ BMI\ inovativeness = ABS[\frac{\alpha - \bar{\alpha}}{SD}]$			
Q6_1Dist. During last year, your enterprise made changes in your business model that were new to your industry	.73	.73	.66
Q6_2Dist. During last year, your enterprise made changes in your business model that have never been implemented by competitors before			.64
Q6_3Dist. During last year, your enterprise made changes in your business model that cannot be found in the dominant business models of your industry			.62
Business Model Innovation (Clauss, 2016)			
Q6_4. During last year, your enterprise made changes in your business model that focused on a complete new market segment			.81
Q2_3. Has your enterprise last year started to collaborate with new business partners?			.82
Q2_4 Has your enterprise last year shared new responsibilities with business partners?			.81
Q6_10. During last year, your enterprise made changes in your business model that did lead to new tasks and/or processes (key activities)			.81
Q2_1. Has your enterprise last year introduced new products?			.81
Q2_2. Has your enterprise last year introduced new services?			.81

Q6_6. During last year, your enterprise made changes in your business model that introduced new ways of organizing relations with customers			.80
Q2_6. Has your enterprise last year created new revenue streams?	.79	.82	.80
Q2_9. Has your enterprise last year introduced new ways to reduce fixed costs?			.82
Q2_10. Has your enterprise last year introduced new ways to reduce variable costs?			.81
Q6_5. During last year, your enterprise made changes in your business model that introduced new ways to transact with customers			.81
Firm performance *(Venkatraman et al., 1986)*			
Q14_1. We are very satisfied with: the sales growth of the enterprise			.88
Q14_2. We are very satisfied with: the profit growth of the enterprise			.88
Q14_3. We are very satisfied with: Market Share			.89
Q14_4. We are very satisfied with: Speed to market	.88	.90	.90
Q14_5. We are very satisfied with: Market penetration rate (size)			.89
Q14_6. We are very satisfied with: Market Value			.88
Q14_7. We are very satisfied with: Net Income			.88
Q14_8. We are very satisfied with: Return on Investment (ROI)			.89

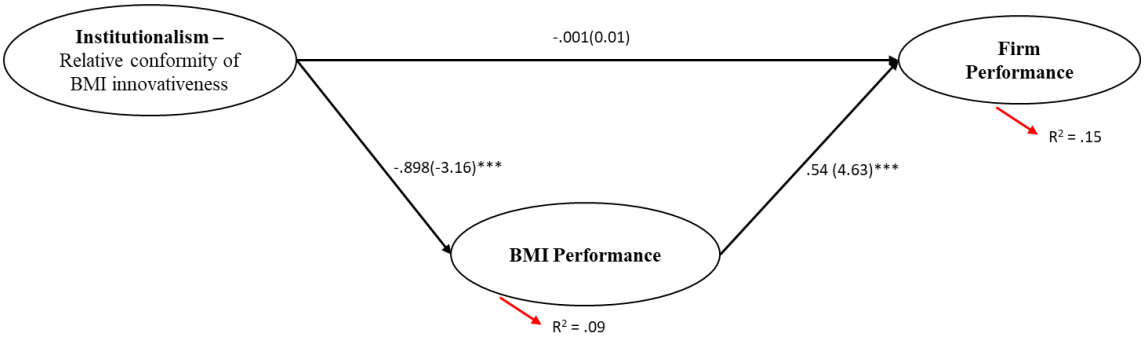
Appendix 6 Multi-group analysis regression results

Firms non-conforming to average BMI innovativeness



$\chi 2(200) = 337.73$ RMSEA = 0.059 CFI = 0.893 NFI= 0.876 N=200
Standardized coefficients are shown (critical ratio in parentheses)
Significance levels: ***:p < 0.01, **:p<0.05, *:p<0.1

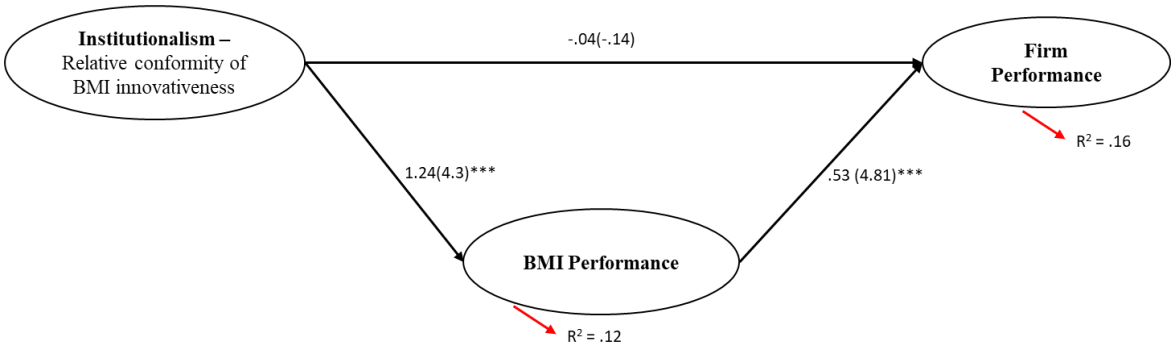
Firms conforming to average BMI innovativeness



$\chi 2(200) = 319.96$ RMSEA = 0.036 CFI = 0.961 NFI= 0.955 N=467
Standardized coefficients are shown (critical ratio in parentheses)
Significance levels: ***:p < 0.01, **:p<0.05, *:p<0.1

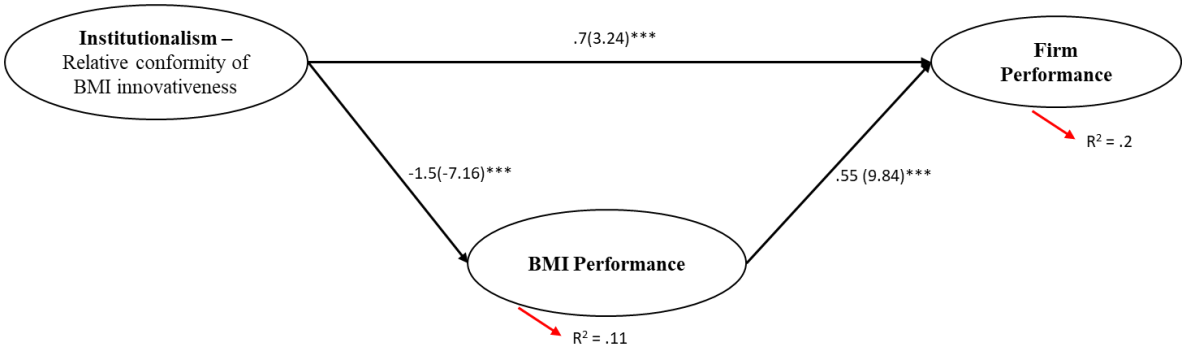
Appendix 7 Multi-group analysis results of 6_1Dist as separating indicator

Firms non-conforming to average BMI innovativeness



$\chi 2(200) = 319.96$ RMSEA = 0.036 CFI = 0.961 NFI= 0.955 N=423
Standardized coefficients are shown (critical ratio in parentheses)
Significance levels: ***:p < 0.01, **:p<0.05, *:p<0.1

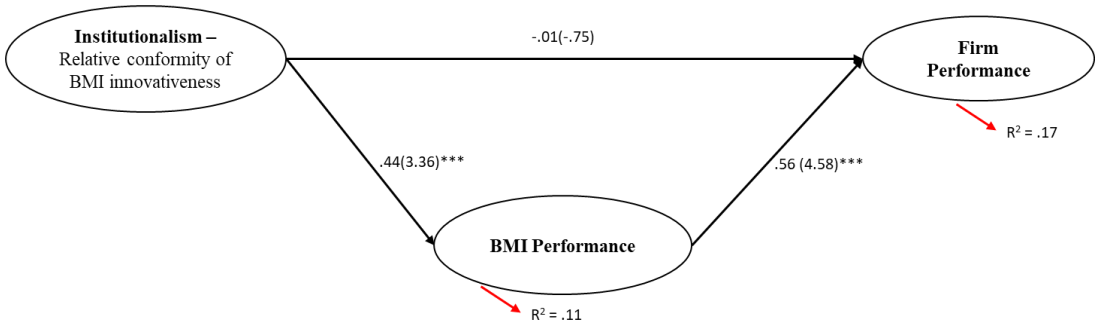
Firms conforming to average BMI innovativeness



$\chi 2(200) = 558.23$ RMSEA = 0.039 CFI = 0.956 NFI= 0.949 N=1174
Standardized coefficients are shown (critical ratio in parentheses)
Significance levels: ***:p < 0.01, **:p<0.05, *:p<0.1

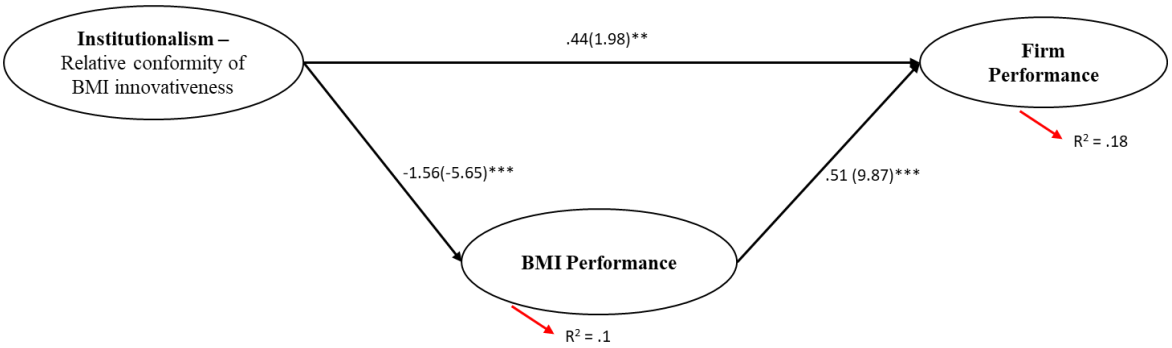
Appendix 8 Multi-group analysis results of 6_2Dist as separating indicator

Firms non-conforming to average BMI innovativeness



$\chi 2(200) = 379.02$ RMSEA = 0.048 CFI = 0.924 NFI= 0.912 N=384
Standardized coefficients are shown (critical ratio in parentheses)
Significance levels: ***:p < 0.01, **:p<0.05, *:p<0.1

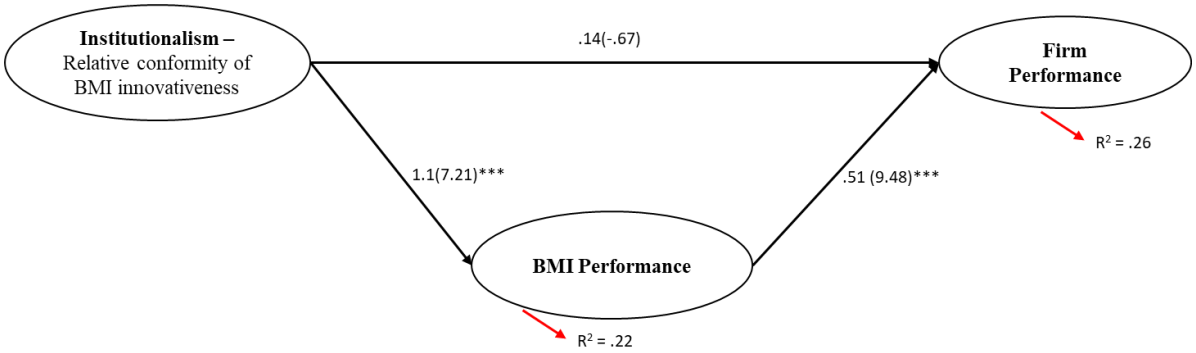
Firms conforming to average BMI innovativeness



$\chi 2(200) = 525.85$ RMSEA = 0.037 CFI = 0.962 NFI= 0.956 N=1213
Standardized coefficients are shown (critical ratio in parentheses)
Significance levels: ***:p < 0.01, **:p<0.05

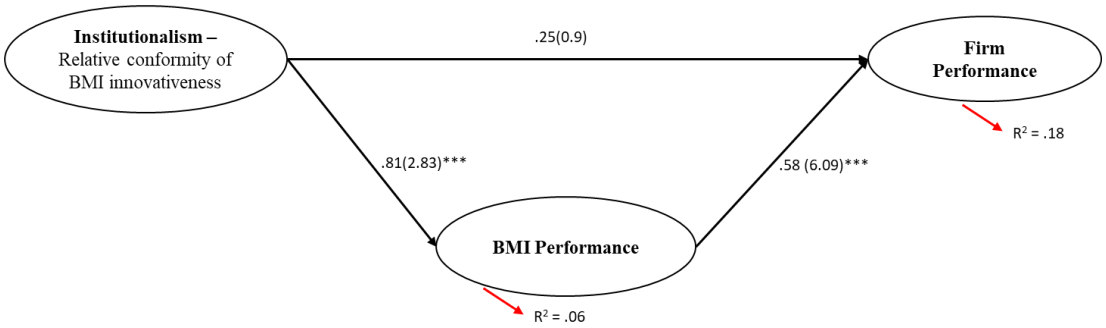
Appendix 9 Multi-group analysis results of 6_3Dist as separating indicator

Firms non-conforming to average BMI innovativeness



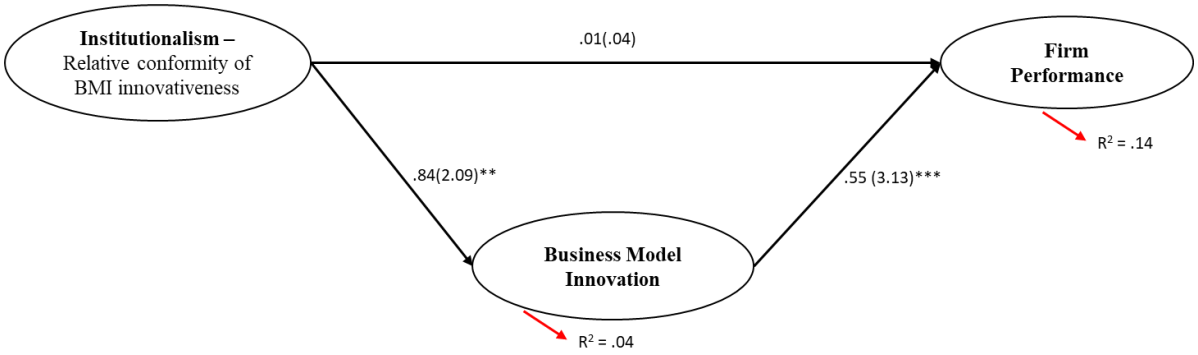
$\chi 2(200) = 440.82$ RMSEA = 0.036 CFI = 0.967 NFI= 0.962 N=933
Standardized coefficients are shown (critical ratio in parentheses)
Significance levels: ***:p < 0.01

Firms conforming to average BMI innovativeness

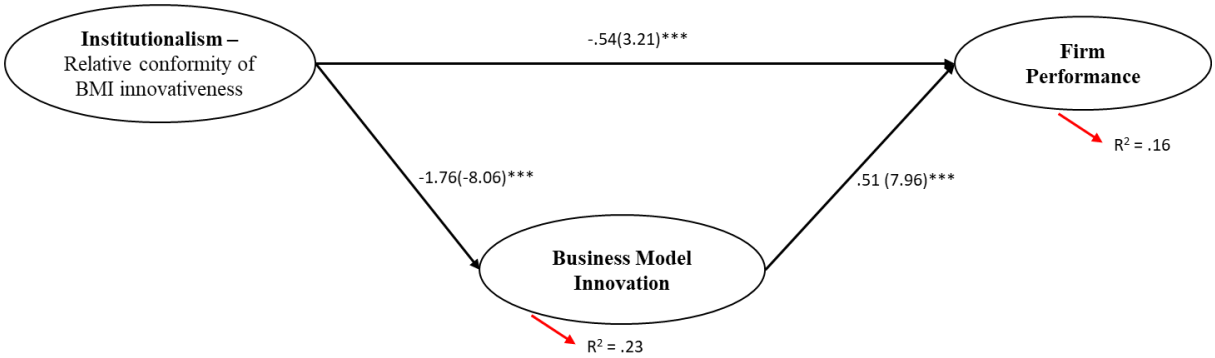


$\chi 2(200) = 368.765$ RMSEA = 0.036 CFI = 0.961 NFI= 0.955 N=664
Standardized coefficients are shown (critical ratio in parentheses)
Significance levels: ***:p < 0.01

Appendix 10 Multi-group analysis results of Q6_1Dist and Q6_2Dist as separating indicator

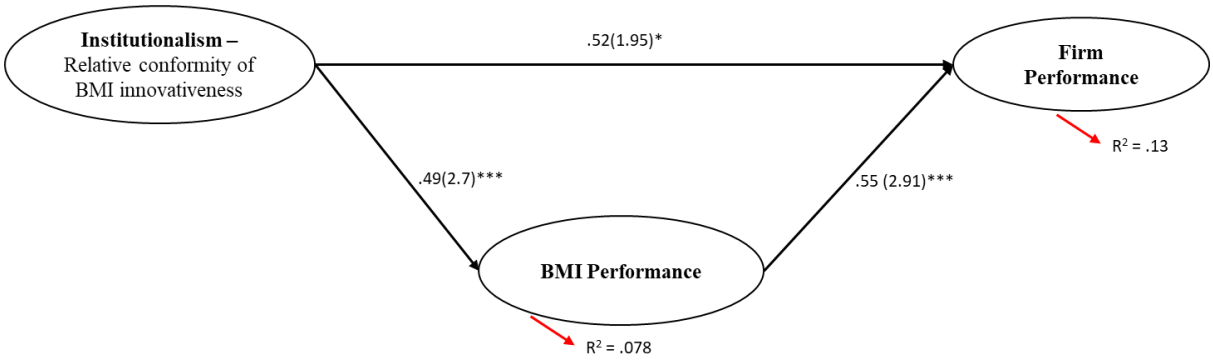


$\chi 2(180)=312.11$, RMSEA=0.055, CFI=0.906, NFI=0.890, N=247
Standardized coefficients are shown (critical ratio in parentheses)
Significance levels: ***:p < 0.01



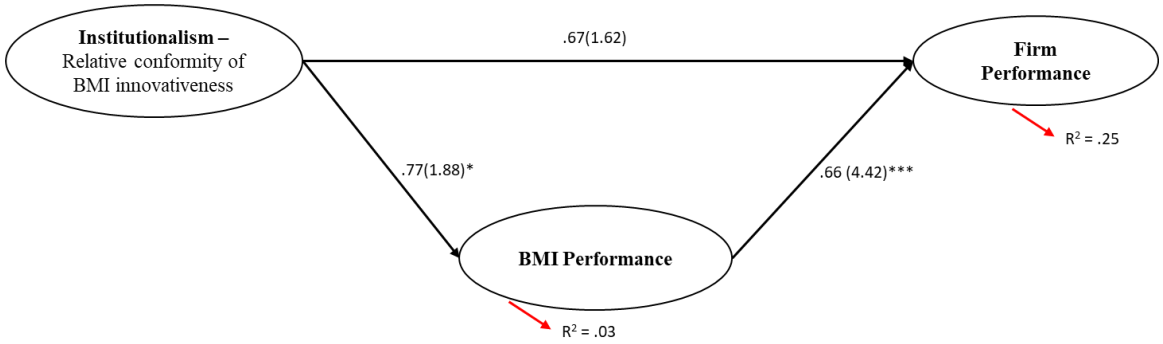
$\chi 2(180)=409.99$, RMSEA=0.035, CFI=0.968, NFI=0.962, N=1,037
Standardized coefficients are shown (critical ratio in parentheses)
Significance levels: ***:p < 0.01

Appendix 11 Direct and indirect effects of regression analysis in manufacturing industry



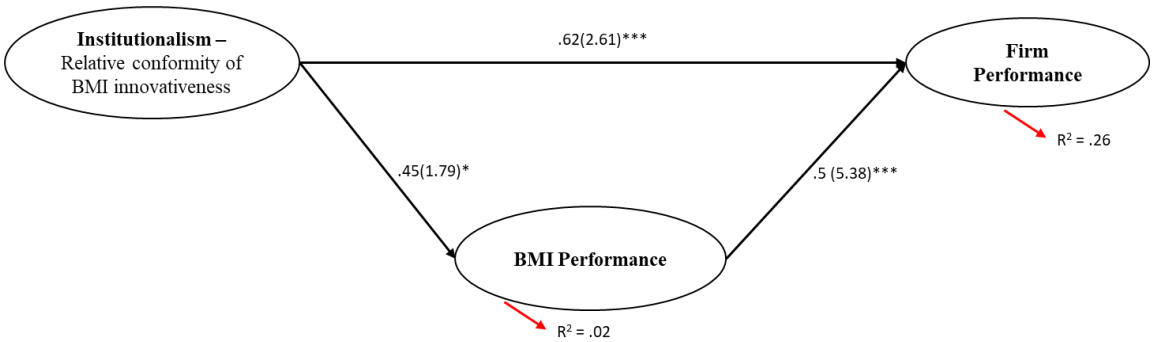
$\chi^2(200) = 316.686$ RMSEA = .048 CFI = 0.936 NFI=.926 N=249
Standardized coefficients are shown (critical ratio in parentheses)
Significance levels: ***:p < 0.01, **:p<0.05, *:p<0.1

Appendix 12 Direct and indirect effects of regression analysis in wholesale and retail trade; repair of motor vehicles and motorcycles industry



$\chi 2(200) = 270.82$ RMSEA=0.039 CFI=0.960 NFI=0.954 N=231
Standardized coefficients are shown (critical ratio in parentheses)
Significance levels: ***:p < 0.01, **:p<0.05, *:p<0.1

Appendix 13 Direct and indirect effects of regression analysis in other services industry



$\chi 2(200) = 319.02$ RMSEA=0.044 CFI= 0.947 NFI=0.938 N=308
Standardized coefficients are shown (critical ratio in parentheses)
Significance levels: ***:p < 0.01, **:p<0.05, *:p<0.1