

# Leadership style & business model innovation: Evidence from Dutch digital agencies

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Master thesis - Part-time Master Business Administration (PMB)

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## Executive summary

Two centuries ago utilizing the economies of scale was enough to gain a competitive advantage. Today, the market is much more complex and to gain or maintain a competitive advantage leaders need to continuously redesign (innovate) their business model to adapt to the ever changing market. Designing a business model is not as easy as it seems. Some even call it an art. Scholars agree about the fact that leadership is very important when designing a business model. Leadership influences business model innovation in the way the leader interacts with their followers. Transformational leaders stimulate creativity, new knowledge creation, capacity for innovation, creating a learning environment and creating a vision for innovation. Transactional leaders provide contingent rewards to motivate the followers to achieve goals related to innovation and monitor. reward or punish (un)desired behaviour.

The aim of this study is to provide insight in the influence of the different types of leadership on business model innovation in Dutch digital agencies. A quantitative method is be used in the form of a survey sent out to a sample of managers working for firm's that are operating in the digital agency industry. The insights provided are not as straightforward as previous research suggested.

This study found that both transformational- & transactional leadership are negatively influencing business model innovation. It provides evidence that there is no such thing as a "cookie-cutter" or "one size fits all" type of leadership for your business model innovation needs in digital agencies.

The presumed reasons for these effects are: A mismatch in focus between the leader and follower; A lack of personality traits to effectively transfer the leaders goals to the follower; The low reliability of the transactional leadership variable and its position in the digital agency industry; The relatively low business model innovation score, because employees develop themselves outside the firm's view.

I want to emphasize that the reason above are hypotheses, which need to be checked in future research. There is still a lot to learn about the digital agency industry. It is a relatively new industry which makes it a very interesting environment for scholars to try and explain the influence (the type of) leadership has (business model) innovation, and much more.

# Table of content

<b>Chapter 1: Introduction</b>	<b>5</b>
<b>Chapter 2: Literature review and theory</b>	<b>8</b>
Leadership	8
Transformational leadership	9
Transactional leadership	10
Business model innovation	11
Leadership and innovation in digital agencies	15
<b>Chapter 3: Methodology</b>	<b>19</b>
Variables & survey	19
Control variables	20
Sample and data collection	22
Data analysis method	23
<b>Chapter 4: Analysis and results</b>	<b>24</b>
Reliability	24
Correlation and hierarchical regression	26
Hypotheses	30
<b>Chapter 5: Discussion and conclusions</b>	<b>32</b>
<b>Chapter 6: Limitations and future research</b>	<b>36</b>
<b>References</b>	<b>37</b>
<b>Appendices</b>	<b>45</b>
Appendix 1 - Survey questions	45
Appendix 2 - Histograms of variables	52

# Chapter 1: Introduction

In the 19th century, having a competitive advantage meant the firm was good at utilizing the economies of scale. It was a suppliers market with the cost of a product being the main differentiator. Today, the market is more complex and additional aspects have become important and need to be taken into account when doing business. With these additional aspects becoming more important it is harder to achieve a competitive advantage for firms.

Today, a competitive advantage can be achieved by managers designing their business model. Designing the elements of a business model helps managers ask themselves and answer important questions about their business, products and potential customers. When having answered these questions, a business model will reflect the hypothesis of managers about what clients want, how the clients want it, what clients are willing to pay, how managers can organize to best meet the customer needs and get paid for doing so (Teece, 2010). Asking these questions regarding the business model is normal for a startup. It is normal because the firms needs to set a baseline and a primary direction. For well established firms this threshold is higher. It is not every day that the business model is reconsidered or updated. The strong culture, its beliefs and dominant logic from the current successful business model does not provide much incentive to search for alternatives (Chesbrough & Rosenbloom, 2002). Based on a survey taken by the Economist in 2012 more than half of senior managers will favor new business models above new services and products to maintain their competitive advantage (Amit, R., & Zott, C., 2012).

Changing a business model is not as easy as it seems. Teece (2010) calls designing good business models an 'art'. The art is in the delicate job leaders have when uncovering the desires of customers, next to the future behavior of costs and and their competitors. It is a process of trial and error, a challenge when changing the business model(s) of an established firm is leading the change in the organization. To change a (part of) a firm, the one in charge needs authority, but, because of the trial and error process, interaction and testing between departments on operation level is required (Chesbrough, 2010).

Chesbrough (2010) also finds that relying on the CEO to lead the business model change could be a problem. The CEO could owe their position to the current business model, he or she is comfortable with the existing situation and may find that themselves threatened

by the new business model. It is important for a firm to identify leaders for change, in order to manage and design a new and better business model. Leaders can create a vision that helps employees adopt a long-term mindset that is important for exploration (Ravasi & Schultz, 2006). Exploring new possibilities within or outside the current business model. Not having an overarching vision to bind a firm together could result in units competing instead of collaborating with each other O'Reilly, & Tushman (2008).

It is not only the leader, but an entire leadership team is needed when developing a vision and getting commitment from all teams. The leader needs to be skilled in defining the boundaries and the ways to use existing assets within the different teams. But also the skills to resolve possible conflicts when they arise. (O'Reilly & Tushman, 2008). Teece (2010), Ravasi & Schultz, (2006), Chesbrough (2010), Svejenova, Planellas, & Vives, (2010), Zott & Amit (2011) and Amit & Zott (2012) recognise the importance of leadership in business model innovation. Over the years scholars have researched multiple types of leadership. In 1985 Bass distinguished three types of leadership in the model Full Range of Leadership model, being *Transformational*, *transactional* and *laissez-faire*. According to Bass, transformational is the most effective type of leadership and laissez-faire the least effective type of leadership. Over 30 years later the types of leadership as introduced by Bass still stand and are widely used. That is why these grounded types of leadership will be used in this research, except for laissez-faire, because it is known for its lesser effectiveness.

The interest in the concept of business models have only recently emerged and management seems to have a great influence on the concept. It is interesting to see how it interacts with types of leadership that are commonly used in the literature over the past decades. Some scholars suggest that a particular type of leadership is needed for business model innovation (Svejenova, Planellas, & Vives, 2010). Based on the research of Smith, Binss and Tushman (2010), it is said that effectively managing business models relies on leadership. Leadership need to be able to set goals and generate commitment to support the chase the vision. Leadership also needs to be able to make decisions, engage in conflict and need to be willing to learn. Which seems to match more with transformational- than transactional leadership. Santos, Spector, van der Heyden (2009) emphasize that in business model innovation it is important to put focus on the certain behavior aspects. Behavioural aspects like organizational justice and mutual engagement. Teece (2010) suggest that a better appreciation of business models and their role in entrepreneurship, innovation and

performance should also benefit the understanding of a firm and the role of entrepreneurs in society. To (partly) validate these interesting suggestions, this research focuses on how leadership and business model innovation influence each other. This study tries to fill the gaps discussed above and will research the effects within digital agencies. In order to reach this better understanding of the relation between the type of leadership and business model innovation the following research question is formulated for my study:

*What influence does the type of leadership have on business model innovation on Dutch digital agencies?*

A quantitative method will be used in the form of a survey sent out to a sample of managers working for firms that are operating in the digital agency industry. Analysing these retrospective cases using a deductive method will provide insight into the influence of type of leadership on BMI in the context of digital agencies.

This study has practical, theoretical and empirical contributions. Firstly, it will provide insight on how leadership is conducted within digital agencies in the Netherlands and insight on how business model innovation is conducted within digital agencies in the Netherlands. Secondly, this study will uncover the effects the type of leadership has on business model innovation within digital agencies within the Netherlands. Which will (partly) fill the gaps in the current literature as stated earlier in this chapter. Lastly, this research will help raise awareness among firms on how their leadership type will possibly influence the firm's business model innovation so the managers can adjust their designs accordingly. It will emphasize for managers in digital agencies, and possibly beyond, that there is no such thing as a "cookie-cutter" or "one size fits all" type of leadership that can be used in their trade to positively influence business model innovation.

The next chapter consists of a review of the existing literature on types of leadership and business model innovation. With these insights gathered, two hypotheses and a conceptual model will be developed and revealed. The third chapter will outline the methods used for hypothesis testing. The fourth chapter contains the results and summarizes the main outcomes. In the fifth chapter these results are discussed and the conclusion is unraveled. Finally the limitations and advice for future research chapter concludes this thesis.

## Chapter 2: Literature review and theory

This research is focussed on researching the relation between leadership style and business model innovation. To be able to conduct this research, an in-depth understanding of both leadership types and business model innovation need to be gained. This chapter focuses on an extensive literature review and hypothesis development regarding (types of) leadership and (types of) business model innovation. First, leadership in general is explained, secondly, transformational- & transactional leadership types specifically are highlighted. Thirdly, the concept of business model innovation is explained. Lastly, the effects of the combination of leadership and (business model) innovation in digital agencies is emphasised.

### Leadership

Leadership viewed as the personality of the leader is a phenomenon that is used in a process or a trait perspective (Kotter, 1990). Leadership as a process means that certain behaviour is observed as leadership. It is something that can be learned and expressed as interactions between the leader and the followers. From a trait perspective, leadership is made up of personal features, such as height and intelligence. This suggest leadership is biological and in part defined from birth. But, leadership involves more than only the personality or traits of a leader (Kotter, 1990).

In 2012, Northouse published a book on leadership combining the available knowledge on leadership in business. Northouse (2012) defines leadership a process where the leader, as an individual, influences a group of other individuals trying to achieve a common goal. Leadership as a trait or process, amongst other things, is merged into leadership types. There are multiple types of leadership a leader can use to express their leadership. The type of leadership defines the way a leader tries to influence the group of individuals to achieve a common goal. There are multiple leadership types, but the work of Burns (1978) is getting more attention in organizations. Burns distinguishes two types: Transactional- & transformational leadership. *Transactional leadership* focuses on setting clear goals and objectives and encourage the achievement of these goals via rewards or punishment. *Transformational leadership* focussed on stimulating the achievement of goals



by inspiring others. Bass (1985) conceptualized multiple types of leadership and several leadership factors. Bass' study explained that there are seven leadership factors: charisma, individualized consideration, inspirational, contingent reward, intellectual stimulation, management-by-exception and laissez-faire leadership. In 1988, Bass concluded that charismatic and inspirational leadership are different, although they often are not distinguishable in statistical research. Transactional and transformational leadership types have their own effects on the performance, innovation and the change of an organization (Howell & Avolio, 1993). Further in this chapter both of the leadership types will be explained, starting with transformational leadership.

According to Bass (1985) the impact of leadership on performance and the leadership behaviors is influenced by personality traits and character. For example, locus of control, self-determination and self-confidence. The inner direction of a leader determines if they believe in the fact that they control their own life (internally oriented) or that their life is controlled by their environment, fate, luck and/or other people (externally oriented). Internally oriented leaders are dealing better with stressful situations, show more confidence and focus on firm strategies with higher risks and levels innovativeness. Internally oriented leaders radiate confidence and determination in their vision and achieve higher firm performance when compared with externally oriented leaders (Anderson, 1977; Miller, de Vries, & Toulouse, 1982; Miller & Toulouse, 1986).

## Transformational leadership

Transformational leadership is focused on creating a connection between the follower and the leader (House, 1976). Transformational leaders want to transform an organization to reflect the leader's vision. Transformational leaders try to achieve this by using multiple psychological mechanisms.

Seven years after Burns (1978) introduced the concept of transformational leadership, Bass (1985) extended that work. Bass explained the psychological mechanisms that underlie transformational leadership as well as transactional leadership. Based on the research of Bass (1985) the following four elements of transformational leadership were uncovered. In 2003, Bass, Avolio, Jung, and Berson (2003) continued with a study based on the findings of Bass (1985). The four elements of transformational leadership were uncovered: Idealized influence, Individualized consideration, Intellectual stimulation and Inspirational motivation.

Below, all four dimensions will be explained and it will be discussed how they are used by leaders to envision a bright future, motivate and foster growth among their followers. *Individualized consideration* means that the leader acts as a coach for each individual team member and wants to motivate each follower to new levels of their potential (Bass et al., 2003). It is easier for the leader to achieve this by creating a culture of support within the firm and being aware of the needs of their followers.

*Intellectual stimulation* refers to stimulating the followers to be curious. Curious in a way that the second guess assumptions, try to find new solutions for problems and constantly looking for new ways to address old situations. The leader can achieve this by creating an environment where the follower has the feeling that mistakes are tolerated, new ideas and creativity are welcomed. *Inspirational motivation* means that leader share an inspirational motivation for their followers and they provide the followers with a meaningful vision and a challenging workspace. The leader radiates enthusiasm and optimism to lift the spirits of his or her followers (Bass et al., 2003). *Idealized influence* means that a leader is respected, admired and trusted by its followers. Followers idolize their leaders and pursue their leaders goals. It is crucial for leaders to, among other things, act selfless, be consistent and have good values and morals to achieve having an idealized influence (Bass et al., 2003).

Overall transformational leadership seems to have a positive effect on the performance of a firm (Avolio, Waldman, & Einstein, 1988; Bass & Yammarino, 1991; Hater & Bass, 1988; Keller, 1992; Yammarino & Bass, 1990). Transformational leaders inspire followers to think about new ways to solve problems, develop themselves and reach a higher potential. The by Bass (1985) identified personal traits, locus of control, self-determination and self-confidence, are positively associated with leaders that use a transformational leadership style by their follows. As discussed in the previous chapter leadership with a internal orientation have a positive effect on the firms performance. Transformational leaders strengthen the effects of internal orientation by motivating and lifting the performance of their followers even higher.

## Transactional leadership

Transactional leadership is, just as transformational leadership, a concept defined by Burns (1978) and later continued on by Bass (1985). In transactional leadership the leader rewards or disciplines the follower for doing the right or wrong thing in a firm (Burns 1978; Bass,

1985). A transactional leadership style is based on motivating followers by providing something valuable for them in exchange for their services provided. Transactional leadership does not focus on personal development or intrinsic motivation (Kuhnert, 1994). There are three subtypes recognized for transactional leadership: contingent reward, active management-by-exception and passive management-by-exception (Bass, 1985). All three subtypes are explained below. Leader who use *contingent rewards* offer followers rewards to motivate them in exchange for the desired behavior. For example, a sales manager is financially rewarded when reaching a certain sales target. *Managing by exception* means that the follower is corrected via negative feedback, negative reinforcement and/or corrective criticism when the performance is below a certain point. The difference between *active and passive management-by-exception* is that the leader actively monitors and adjusts the performance of their followers or, in the case of passive management-by-exception, only intervenes when mistakes are made.

The effects of transactional leadership on firm performance vary. In some studies contingent reward positively influences the performance (Klimoski & Hayes, 1980; Podsakoff, Todor & Skov, 1982). In others contingent rewards had a negative influence on firm performance (Bass & Avolio, 1990; Bass, Waldman, Avolio, & Bebb, 1987; Hater & Bass, 1988). Negative reinforcement, as is used by managing by exception, has an overall negative effect on performance (Bass & Yammarino, 1991; Yammarino & Bass, 1990).

## Business model innovation

Business model innovation starts with the concept of a business model. Business model is a relatively new construct, and literature on this topic is developing largely in silos. Timmers (1998) called a business model “an architecture” and Chesbrough & Rosenbloom (2002) explains it as “A heuristic logic that connects technical potential with the realization of economic value” (p. 1). In 2001 Porter expressed criticism on the concept of a business model. He argued that the concept was unclear, not theoretically grounded and superficial.

In 2008, Johnson et al. published their definition of a business model, which Clauss (2017) extended with work from Baden-Fuller and Haefliger (2013); Massa and Tucci (2013); Morris et al. (2005); Spieth et al. (2014); Teece (2010); Zott and Amit (2013). Clauss (2017) concluded that a business models consist of three elements that together create and

deliver value. These three elements are value proposition, value capturing and value creation. The *value proposition* is the element of the business model that explains how a firm creates value for its customers. It tells what problem a firm solves. *Value creation* explains how the solution is delivered from within the firm to the customer. Finally, the *capturing of value* explains how a profit is made from offering the solution to the customer that ensures a sustainable performance (Osterwalder & Pigneur, 2010). This is the same widely supported definition Osterwalder & Pigneur (2010) found. the definition that a business model defines how a firm creates value, delivers it to the client and captures value created.

Once a business model is in use, this does not mean it will never be changed. Business model innovation is becoming a more and more important topic. Firms are moving from stable competition to hypercompetition (Volberda et al., 2017). Therefore it is crucial to continuously renew a firm's business model to maintain a sustainable competitive advantage. It is characterized as a process of changing the existing business model, relations and roles in order to deliver value and create a competitive advantage (Aspara et al., 2010). By exploiting certain technological innovation a firm can have value potential, but for it to create value and be sustainable, a unique business model is needed (Chesbrough, 2010; Zott et al., 2011). In the study of Johnson et al. (2008) there were multiple scenarios uncovered where it is advised to change the business model of a firm, for example to reach new clients by moving or expanding to new market segments, to capitalize on new technologies or to just to stay ahead of the competition because of the ever changing market needs. These are all reasons why business model innovation is important to secure the firm's future competitive advantage.

There are different views on how a business model can be innovated, for example by changing one or more of the three elements of which a business model consists: value proposition, value creation and value capture (Baden-Fuller and Mangematin, 2013; Baden-Fuller and Haefliger, 2013; Johnson et al., 2008; Winter and Szulanski, 2001). But also Amit & Zott (2012) made an effort in creating an unified understanding of what business model innovation is and how it can be achieved. In their study Amit & Zott (2012) have found that innovating a business model can be done in a number of ways. Changing one or more of the following three will result in a new business model: *Adding novel activities*, for example by adding packaging lines to the production line of the firm. That way a new type of service can be offered. *Linking activities in novel ways*, for example, adding insurance

packages to the smartphone that is sold. *Changing one or more parties that perform any of the activities*, changing the key partners can result in a reduction of risk.

These views on business model innovation can be linked using the ten subconstructs of business model innovation identified by Clauss (2017). Clauss (2017) identified that in the time period from 2002 until 2014 there were 120 possible business model innovation constructs. These constructs were aggregated to ten sub constructs of three business model innovation dimensions. The business model innovation dimensions are mentioned earlier in this research: value proposition innovation, value creation innovation and value capture innovation. The sub constructs are new capabilities, new price, new revenue models, new technologies/equipment, new customer segments/markets, new offerings and/or cost structures, new processes and structures, new channels, new partnerships and new customer relationship (Clauss, 2017).

When applying the findings of Amit & Zott (2012) on business model innovation to the sub constructs of Clauss (2017), these subconstructs are corresponding to the findings of Amit & Zott (2012). For example, the subconstruct “New capabilities” (Clauss, 2017) is a form of “Adding novel activities” (Amit & Zott, 2012). Also, the sub construct “New customer segments/markets” (Clauss, 2017) is a form of “Linking activities in novel ways” (Amit & Zott, 2012). The three dimensions and ten subconstructs of business models innovation as described above will be used for this research. In Table I the main constructs, dimensions and sub-constructs that are used in this study are displayed.

Table I

*Variables, dimensions and sub-constructs*

<u>Construct</u>	<u>Dimension</u>	<u>Sub-construct</u>	
Business model innovation	Value creation innovation	New capabilities	
		New technology/ equipment	
		New partnerships	
		New processes	
	Value proposition innovation	New offerings	
		New customers and markets	
		New channels	
		New customer relationships	
		New revenue models	
Transformational leadership	Value capture innovation	New cost structures	
		Idealized influence	
			Inspirational motivation
			Intellectual stimulation
	Individual consideration		
	Transactional leadership	Contingent reward	
			Management-by-exception

Note. The constructs, dimensions and sub-constructs are adapted from various sources: “Measuring business model innovation: conceptualization, scale development, and proof of performance.” Clauss, T. (2017), *R&D Management*, 47(3), 385-403.; “Leadership and performance beyond expectations” Bass, B. M. (1985), Collier Macmillan.;

## Leadership and innovation in digital agencies

During my daytime job I work at a Dutch Digital Agency called Hoppinger. Digital Agencies are firms that are specialized in web design, web development, online marketing and (mobile) app development services. In 2016 the trade association Dutch Digital Agencies (DDA) reported that the digital industry is one of the largest growing industries in the Dutch economy<sup>1</sup>. From my personal experience, Dutch digital agencies are constantly innovating to keep up with the ever changing market and the continuing growth. This varies from small innovations to innovating their entire business model and reconsidering their market positioning strategy. By experiencing this change at first hand and seeing how the innovation process was organized, it made me wonder how leadership is influencing this innovation process. My colleagues at Hoppinger and friends working at other digital agencies are proud of what they do. We have an impact on other firms with our work which makes it a meaningful experience.

Leadership is important for change and the innovative capability of a firm (Jansen et al., 2009, Vaccaro et al., 2012). Transformational leaders seem to focus more on innovation when compared to transactional leaders (Church & Waclawski, 1998; Howell & Higgins, 1990). In recent studies transformational leadership is linked to, amongst other things, enhanced innovative capacity and creativity (Gumusluoglu & Ilsev, 2009; Jansen et al., 2009). Transformational leadership also has an impact on the firms culture. In turn, this culture influences the innovation capabilities of a firm. Chesbrough (2010) found that employee empowerment is a driving force in business model innovation. For example, transformational leadership empowers employees to be autonomous (Amabile, Conti, Coon & Lazenby, 1996; Martins & Terblanche, 2003; Tellis et al., 2009). Transformational leadership also empowers employees to set clear goals (Martins & Terblanche, 2003; Pinto & Prescott, 1988). Bock (2012) also identified that a creative culture has a positive effect on business model innovation by stimulating calculated risk taking and having clear goals to pursue. Transformational leadership encourages communication and trust, which enables the followers to share more knowledge (Senge, 1990). Transformational leadership is also influencing absorptive capacity amongst followers and the firm itself. Zahra and George

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<sup>1</sup> <https://www.dutchdigitalagencies.com/nl/actueel/294/pdigitale-industrie-blijft-eacuteeacuten-van-de-grootste-groeisectoren>

(2002) found that the absorptive capacity of a firm involves clear responsibilities and roles, the availability of skills and competences for absorption of knowledge, which are acquisition, implementation, transformation and use. This allows the firm to respond to changes in the environment. That way absorptive capacity stimulates innovation. A transformational leader focuses on intellectual capital and learning. That way, the leader positively influences learning and challenges the firm's current level of organizational innovation (Glynn, 1996; Hurley and Hult, 1998). The transformational leader plays a key part in creating a learning organization. A transformational leader is able to create a firm environment that stimulates organizational learning (Sarros, 2005; Senge, 1990). Transformational leadership stimulates creativity through intrinsic motivation. Transformational leaders are seen as role models, creating a vision of innovation. This vision of innovation creates a common goal for a firm, allowing the transformational leader to motivate the followers to think in different ways and seeking new opportunities with individualized consideration and intellectual stimulation (Bass, 1999). This creates a fertile basis for teams full of innovative people, motivating them to innovate (Senge, 1990). Transformational leadership also shape a firm's potential to be innovative by creating a environment for generating and implementing knowledge, making the firm a place for continuous improvement (Van de Ven, 1986).

Multiple studies have found that transformational leadership stimulates creativity and the capacity of innovation. It is also believed that it stimulates the creation of new knowledge (Gumusluoglu & Ilsev, 2009; Jansen et al., 2009; Jung, Chow, & Wu, 2003; Vera & Crossan, 2004). Jansen et al. (2009) and Vaccaro et al., (2012) also have found empirical evidence that transformation leadership is positively related to business model innovation within a firm. As discussed at the beginning of the chapter digital agencies are constantly innovating, adapting to the ever changing market and keeping up with the competition. The evidence gathered that transformational leadership is positively influencing business model innovation by influencing the firm's culture, playing a key part in creating a environment suited of learning and creating a vision of innovation matches with the experiences gathering working at digital agencies. It matches the innovative culture that is needed within an digital agency to stay ahead. This leads to the following hypothesis:

*Hypothese 1: Transformational leadership will have a positive influence on business model innovation within Dutch digital agencies.*



In contrast with transformational leadership, scholars are not as unanimous regarding the influence of transactional leadership on business model innovation. Prasad and Junni (2016) found that both transformational and transactional leadership increases the firm's innovation in a stable environment. They argue that by providing contingent rewards, the followers are motivated to achieve goals related to innovation that are set by the leaders. Through active management by exception the leaders monitor and reward the achievement of these goals. On the other hand, Pieterse et al. (2010) argue that transactional leadership can be negatively related to innovative behavior. This is because of the focus it has on the current role performance and less on creating novel activities. This current role focus has a special detrimental effect on jobs where innovation is not a part of that current role. Transactional leadership can be perceived by the followers as demotivating and controlling which will cause them to be less innovative (Deci & Ryan, 1987). Pieterse et al. (2010) found in their empirical study that innovative behavior is negatively affected by transactional leadership and positively affected by transformational leadership when the level of psychological empowerment is elevated. Psychological empowerment in this case means that the employee believes he or she is in control of their actions and the meaningfulness of their job. They have the perception that they are able to perform the task at hand well and they are having an impact on their surroundings. When psychological empowerment is low, both types of leadership do not influence the innovative behavior significantly. Multiple studies found that transactional leadership will negatively influence innovation. This is because transactional leadership increased the internal contextual variables like complexity of communication due to increased bureaucracy. It focuses on the current job performance, which demotivates the follower to innovate. Transactional leadership also demotivates because transactional leadership is perceived as controlling. Studies suggest that transactional leadership will negatively influence innovation when the environment is dynamic, which the environment of the Dutch digital agencies is. A controlling leader in a dynamic environment will find themselves unable to adopt to the changing environment. Also, the role of employees with an average digital agency is not focussed on innovation, but focussed on the project at hand. For example, creating a web application for a client within a specified set of time. This could result in a focus on current role performance and not on innovation as Deci & Ryan (1987) found. These results lead to the second hypothesis:

*Hypotheses 2: Transactional leadership will have a negative influence on business model innovation within Dutch digital agencies.*

The two hypotheses together create the conceptual model as shown in Figure I.

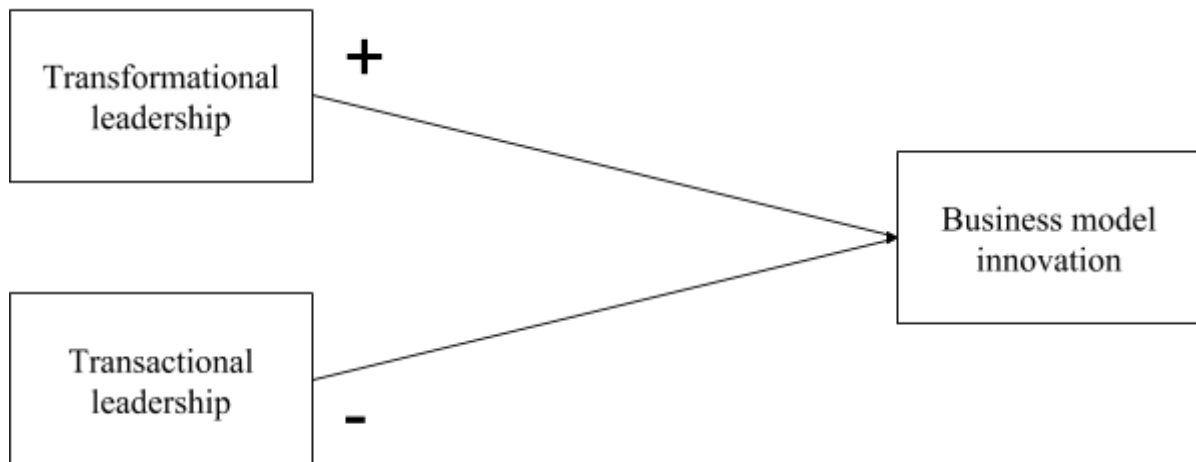


Figure I: Conceptual model

## Chapter 3: Methodology

This research is based on survey data. In this chapter the methodology of how this survey data is gathered for this study will be explained. First, the survey and its variables will be discussed. Secondly, the creation of the sample that is used will be explained. Thirdly, the data collection method including the procedure and response rate are presented. Finally, the data analysis method is explained. The survey that is sent out is attached as Appendix 1 - Survey questions.

### Variables & survey

The variables used in this study are: *Transformational Leadership (independent)*, *Transactional leadership (independent)* and *Business model innovation (dependent)*. Because business model innovation is relatively new there are not many ways to measure it. For example, Zott, C., & Amit, R. (2007) measured business model innovation by linking it to firm performance, and Spieth & Schneider (2016) created a formative measure for business model innovation based on interview data. Both are not applicable since this research intends to measure business model innovation in relation to leadership and not in relation to performance. The dependent variable *Business model innovation* will be measured based on the survey created by Clauss (2017). According to Clauss (2017), business model innovation is measured on three subprocess: *Value proposition innovation*, *Value creation* and *Value capture innovation*. To keep the survey manageable in size, the focus of this research is on internal innovation. Therefore the dimension Value proposition innovation of business model innovation and all its questions related to this dimension are dropped. Value creation and Value capture innovation remain. For all the variables in this study, the mean of all questions regarding the specific variable is used.

To measure the independent variables *transformational leadership* and *transactional leadership* the survey created by Avolio, Bass & Jung (1999) will be used. They created a series of surveys which can be used to determine the type of leadership. The series of surveys is called Multifactor Leadership Questionnaire (MLQ). There are different versions of the MLQ, used to determine several types of leadership, like transactional, transformational and avoidant leadership styles, but also different aspects, like leadership effectiveness. For this

research the MLQ 6S is used (Avolio, Bass & Jung, 1999). To keep the survey manageable this shorter version of the most commonly used MLQ 5X was selected. The MLQ 5X is not available free of charge and therefore will not be used for this research. A free alternative will be used: MLQ 6S. The MLQ 6S exists of 21 items and measures seven factors measuring transformational, transactional and laissez-faire leadership. Because laissez-faire leadership is less effective than transformational- and transactional leadership as mentioned before, the questions regarding laissez-faire leadership are dropped from the survey. The factors that remain in the survey for transformational leadership are *Idealized influence*, *Inspirational motivation*, *Intellectual stimulation* and *Individual consideration*. For transactional leadership the factors that remain in the survey are *Contingent reward* and *Management-by-exception*. The survey that is sent out is attached as Appendix 1 - Survey questions.

## Control variables

In the survey four control variables will be used: *Firm size*, *Firm performance*, *Tenure of the leader* and *Level of education*.

Vaccaro et al. (2012) find that the *firm size* influences the amount of management innovation in relation to the leadership type. In their study, they refer to multiple scholars that conclude that the impact of leadership decreases when a firm grows (Koene et al., 2002, Nahavandi and Malekzadeh, 1993) because of the increased bureaucratic formalization, spatial separation and organizational contexts. Within smaller firms it is easier for the leader to effectively influence its followers because of the direct and regular contact which is increasingly hard to achieve when a firm is growing (Atwater and Bass, 1994). For over 35 years, scholars claim that the effectiveness of leadership is dependent on firm size (Mintzberg, 1973, Hambrick and Mason, 1984, Hambrick, 1989). This also has its effects on innovation. Based on the studies above it can be expected that the firm's size can influence the effectiveness of leadership and thereby can influence business model innovation. To maintain the anonymity of the respondents, a scale will be used in the survey to determine the firm size. The scale as used by the DDA<sup>2</sup> will be used with the exception of the scale "1-3" because it does not have any member associated with this firm size.

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<sup>2</sup> <https://www.dutchdigitalagencies.com/nl/Leden>

An increasing number of scholars found that business model innovation is influencing *firms performance*. In the article of Zott & Amit (2011) the IBM Global Business Service study of 2005 is mentioned, concluding that firms that financially outperformed the other firms were putting twice as much emphasis on business model innovation. They focus on business model innovation as core of their corporate renewal and transformation (Demil & Lecocq, 2010; IBM Global Business Services, 2006; Ireland, Hitt, Camp, & Sexton 2001; Johnson, Christensen, & Kagermann, 2008; Sosna, Trevinyo-Rodríguez, & Velamuri, 2010). But does firm performance also influence business model innovation? Chesbrough (2010) finds that business model innovations often conflicts with the current business model. Managers exploiting that current successful business model are likely to feel threatened by the business model innovation and will resist it. When allocating new budgets, the established business model will be favored. When the current business model is not performing well and the revenue and profits are falling, the business model innovation get more important. Chesbrough (2010) mentions two examples in his article about the music- and the pharmaceutical industry. The expectation is that firm performance will influence business model innovation positively when the firm's performance is down and negatively when the firm's performance is high. Firm performance can be measured in many ways. Because the sample used for this research partly exists of leaders with no direct access to financial results of the firm they work for, the questions regarding firm performance will be for them to give an indication how the firm performed in comparison to their competitors based on growth in number of employees, growth in their sales, growth in market share and growth in profitability.

Vaccaro et al., (2012) cited Finkelstein and Hambrick (1990) in their article suggesting that the *leaders tenure* is negatively related to experimentation and change. Two components of business model innovation. Finkelstein and Hambrick (1990) suggest in their study that the tenure of the executive team will have a significant effect on strategy and performance. They claim that long tenured managerial team will follow more persistent strategies. Long tenured top team members are more convinced of the current organizational ways and committed to their own prior actions. Finkelstein and Hambrick (1990) cite Katz (1982) that tenure is also associated with increased organization complexity, and cite March and March (1977) that the long term process of filtering and socializing could reduce the diversity in the firm. Chesbrough (2010) suggests that the CEO is in the best position to lead

the business model innovation, but also could feel threatened by the business model innovation because the current business model innovation could be one of the reasons the CEO rose to power. Therefore would be tempted to retard the process. Chesbrough (2010) suggests that general managers would have the authority to execute the process of business model innovation, but would not be able to manage the experimentation that comes with the process of business model innovation, because the general manager generally rotates to another position every two to three years.

Hambrick and Mason (1984) argue that *level of education* is, to some extent, an indicator of a person's values and cognitive preference. Hambrick and Mason (1984) give the example of the decision of a research and development investment decision that needs to be made. Top management is involved in these decisions by considering the factors, interpreting the data using their own values and cognitive preference. The top management's previous work experiences and education will have significant influence on this (Hambrick and Mason, 1984). Daellenbach et al. (1999) summarize that past research concluded that the level of education of the CEO is related in a positive way with openness to innovation. The entire survey is attached as Appendix 1.

## Sample and data collection

The sample of digital agencies approached for this survey was mainly focused on the members of the trade association Dutch Digital Agencies (DDA). The DDA consists of approximately 142 members. These member firms range from 10 to 250+ employees. When contacting the DDA with the request if they were willing to send out the survey to their members, they declined due to privacy reasons. Because the digital agency branch is closely intertwined, digital agencies in the sample were reached using my own network and the professional network of my colleagues and friends. The targeted audience is the middle management because, as mentioned earlier, the focus of this study is on internal innovation. It is unclear how many requests were sent out precisely because it could be that someone did send the survey out to a leader working at a digital agency without notifying me. I have sent out a total of 65 messages directly contacting leaders at digital agencies and received 34 confirmations that they filled in the survey. Due to the fact that the survey is filled in anonymously I am unable to verify if the survey really was filled in, but I assume that if I receive a confirmation,

they filled in in the survey. Three LinkedIn posts were shared by three different people which were viewed over 5000 times in total.

The LinkedIn posts will not be used in the response rate calculation because it is unclear how many respondents filled in the survey based on these posts. No comments are placed under the LinkedIn posts confirming that the survey was filled in. In total the survey is started 88 times, which means minimal one question is answered. Incomplete responses are excluded from the analysis because if a survey is not completed important variables are (partially) skipped and would make it impossible to analyse the effects of the variables on each other in that given case. In total 55 complete responses are registered. The response rate based on the sent out direct messages (34 responses out of 65 sent messages) is 52%.

## Data analysis method

In order to uncover the effects of the leadership type on business model innovation multiple data analysis methods are applied. For the data analysis IBM SPSS Statistics 25 is used. To ensure the reliability of the data the Cronbach's Alpha is used and an outlier analysis is performed. The total number of questions per variable is reduced if it will significantly increase (+.10) the reliability, measure by the Cronbach's Alpha, of the variable. Any outliers significantly affecting the skew of the variable are removed. To empirically study the relations between the variables created after the reliability test a correlation matrix and hierarchical regression is created. After analysing the correlation matrix and hierarchical regression the hypotheses are revisited and deemed supported or not supported.

## Chapter 4: Analysis and results

In this chapter the analysis and results are presented. The analysis consist of a reliability check of all the variables calculated with use of the Cronbach's Alpha and a visual representation in a histogram to gain contextual insight of the responses. Secondly, the descriptive statistics and correlation coefficients will be presented in a matrix. This matrix is important because it shows how the variables respond to each other. It will show the relation (correlation) between the variables. Thirdly, a hierarchical regression analysis will be made with business model innovation (BMI) as the dependent variable. This analysis will show to what extend the independent variables have an effect on BMI. Finally, the results of the analysis will be held against the research question and hypothesis.

A robustness check of the dataset is incorporated in the reliability, correlation and regression analysis. This robustness check is conducted by randomly removing 9% of the responses of the dataset with a maximum of one response per day. The reliability, correlation and regression analysis are done with both  $N = 55$  and  $N = 50$ . This will result in Table II till IV having multiple columns and/or rows measuring the same construct twice. Once where  $N = 55$  and once where  $N = 50$ .

### Reliability

To verify if the groups of questions within the survey measure the same construct, the reliability is measured using the Cronbach Alpha. The groups of questions used in the survey are: *BMI*, *transactional leadership*, *transformational leadership*, *firm performance*, *level of education*, *tenure of the leader* and *firm size*. Besides a reliability check using the Cronbach's Alpha, the skewness and kurtosis level will be checked to verify if the results are distributed normally.

The Cronbach's Alpha calculation for level of education, tenure of the leader and firm size are not applicable because the variable only consist of one question. The question groups measuring BMI and Transformational leadership have a high (.700+) Cronbach's Alpha and don't have any questions that significantly increase the Cronbach's Alpha (+.10) when excluded. Transactional leadership and Firm performance show a low Cronbach's Alpha when measured using all the questions in the initial question group. Transactional leadership



measures a Cronbach's alpha of .486. Removing three question (Q11, Q12 and Q18) from Transactional leadership raises the Cronbach's Alpha to .664. Removing one more question (Q24) would raise the Cronbach's Alpha to .688, but removing more questions would weaken the variable even more. Therefore there is chosen to continue measuring Transactional leadership using Q11, Q12 and Q18. Because of this low Cronbach's Alpha the results using the Transactional leadership variable should be used with caution. Firm performance measures a Cronbach's alpha of .621. Excluding two questions (Q5.3 Q5.4) raises the Cronbach's alpha to .712, above the commonly used threshold of validity .700+. The results of the reliability test are shown in Table II. The robustness check where the reliability test is executed with N = 55 and N = 50 results in a Cronbach's Alpha change of approximate -2 to +2%.

For almost all the variables the skewness and kurtosis levels are between the acceptable limits. The acceptable range for skewness and kurtosis is from -1.95 to 1.95. For degree the kurtosis value is relatively high. A bachelor's degree is the most common degree within the respondents, followed by the master degree. This could be explained by the fact that firms in the digital agency sector are focussing their recruitment efforts on bachelor and master degrees. The Tenure variable is skewed toward the "5+ year tenure", which suggests that the range of questions in the survey questions could have been set wider to provide a better view of the actual tenure of the leadership. In Appendix 2 the histograms of all the variables are attached.

Table II

*Reliability test results*

<u>Variable</u>	<u>N</u>	<u>Cronbach alpha</u>	<u>Items</u>	<u>Mean</u>	<u>S.D.</u>	<u>Skewness</u>	<u>Kurtosis</u>
Performance	55	.712	2	118.05	.606	.107	-.318
Performance	50	.695	2	118.04	.596	-.085	-.621
Degree	55	N/A	1	26.33	.795	.482	2.479
Degree	50	N/A	1	26.30	.789	.442	2.873
Tenure	55	N/A	1	2.51	1.169	-1.160	.90
Tenure	50	N/A	1	6.28	.991	-1.126	.035
Employees	55	N/A	1	6.31	.979	.339	-.418
Employees	50	N/A	1	2.52	1.199	.358	-.499
Transformational	55	.738	12	3.41	.726	.382	-.359
Transformational	50	.757	12	3.68	.415	-.884	1.857
Transactional	55	.664	3	3.68	.404	-.840	1.547
Transactional	50	.654	3	3.39	.721	-.884	1.857
BMI	55	.821	20	2.30	.516	.288	-.121
BMI	50	.835	20	2.31	.53	.306	-.241

## Correlation and hierarchical regression

Table III presents the descriptive statistics and correlations between the study variables. The Spearman type of matrix is used because of the categorical variables that are used in the survey. The correlation matrix calculation is two-tailed because the correlations between the variables are not expected to be only positive. The measures for all the variables use a five point Likert scale, therefore unstandardized betas are reported. Both Transactional- & Transformational leadership seem to be negatively correlated with BMI. This finding will be further examined in the next subchapter “Hypothesis”. An interesting significant positive correlation is the relation between transformational and transactional leadership while these types of leadership contradict each other in theory. These results suggest that if the leader increases one of the leadership styles they will also increase in the other. All variables except

the types of leadership positively correlate with business model innovation. The results of the robustness check show approximately a change of -3% to +3% in correlation to BMI. Except for degree (-41%) and firm performance (+63%). No correlation coefficient exceeds .750, that means there is no need to test for multicollinearity to check if they possibly measure the same construct.

Table IV presents a hierarchical regression with business model innovation (BMI) as dependent variable. The first one (Model 1) includes only the control variable. Subsequently the two leadership variables were introduced one by one in Model 2 and Model 3. In Model 4 all variables are incorporated in the regression analysis. Model 5 to 8 follow the same order of adding the variables, but the regression analysis is run with  $N = 50$  as a robustness check of the dataset. In all the Models (1 to 8) degree, transactional and transformational leadership are negatively correlating with business model innovation. Based on Model 4 when transformational leadership is increased by one, BMI is decreasing with .39. For transactional leadership this negative correlation is smaller, .08. This model predicts 21% of the influence on business model innovation. When comparing Model 4 and Model 8 with each other to verify the robustness of the dataset a relatively large difference is noticeable for transactional- (50%) & transformational (11%) leadership.

Table III

*Descriptive statistics and correlations*

Correlation	Variable	1	1	2	2	3	3	4	4	5	5	6	6	7	7
Spearman's rho	1. BMI														
		Correlation Coefficient													
		Sig. (2-tailed)													
		N													
	2. FirmPerformance	Correlation Coefficient	.102	.166											
		Sig. (2-tailed)	.457	.248											
		N	55	50											
	3. Degree	Correlation Coefficient	.051	-.075	-.021										
		Sig. (2-tailed)	.711	.584	.884										
		N	55	50	50										
	4. Employees	Correlation Coefficient	.281*	-.140	-.118	.319*	.297*								
		Sig. (2-tailed)	.037	.307	.415	.018	.036								
		N	55	50	50	55	50								
	5. Tenure	Correlation Coefficient	.094	.260	.276	-.081	-.134	-.120	-.181						
		Sig. (2-tailed)	.497	.505	.052	.557	.354	.384	.208						
		N	55	50	50	55	50	55	50						
	6. TransformationalLeadership	Correlation Coefficient	-.416**	-.402**	-.144	-.179	-.118	-.124	-.178	-.132	-.050	-.024			
		Sig. (2-tailed)	.002	.004	.295	.214	.390	.392	.193	.359	.716	.868			
		N	55	50	55	50	55	50	55	50	55	50			
	7. TransactionalLeadership	Correlation Coefficient	-.341*	-.352*	-.049	-.037	.056	.017	.142	.205	-.218	-.200	.481**	.443**	
		Sig. (2-tailed)	.011	.012	.720	.800	.683	.909	.300	.154	.111	.165	.000	.001	
		N	55	50	55	50	55	50	55	50	55	50	55	50	

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

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

Table IV

*Hierarchical regression with business model innovation as dependent variable*

	<u>Model 1</u>		<u>Model 2</u>		<u>Model 3</u>		<u>Model 4</u>		<u>Model 5</u>		<u>Model 6</u>		<u>Model 7</u>		<u>Model 8</u>	
<u>Controls</u>	$\beta$	t	$\beta$	t	$\beta$	t	$\beta$	t	$\beta$	t	$\beta$	t	$\beta$	t	$\beta$	t
Performance	.04	.346	-.01	-.088	.06	.476	.00	.037	.12	.881	.05	.402	.14	1.052	.08	.581
Degree	-.03	-.326	-.04	-.416	-.02	-.254	-.03	-.366	-.04	-.444	-.05	-.511	-.05	-.509	-.05	1.547
Tenure	.09	1.148	.08	1.074	.05	.712	.06	.870	.09	1.076	.09	1.097	.05	.659	.07	.840
Employees	.10	1.633	.07	1.204	.12*	1.894	.08	1.340	.11	1.654	.08	1.332	.13**	2.031	.10	1.547
Transformational			-.46**	-2.717			-.39*	-1.955			-.44**	.402			-.34	-1.683
Transactional					-.19*	-1.957	-.08	-.747					-.21**	-2.035	-.12	-.974
R <sup>2</sup>	.08		.20		.143		.21		.10		.21		.17		.22	
Adjusted R <sup>2</sup>	.00		.12		.055		.11		.15		.12		.08		.12	
F-value	1.02		2.40*		1.63		2.07*		1.19		2.30*		1.84		2.07	
N	55		55		55		55		50		50		50		50	

p < .10; \* p < .05; \*\* p < .01; \*\*\* p < .001

## Hypotheses

The results show that the hypothesized positive relationship between transformational leadership and business model innovation (Hypothesis 1) is not supported (Model 2:  $\beta = -.46$ ;  $p < .05$ ). Hypothesis 2, in which a negative relationship is proposed between transactional leadership and business model innovation, is supported (Model 3:  $\beta = -.19$ ;  $p < .10$ ). The measured correlations for both hypotheses are significant. Both hypotheses keep the same outcome when subjected to the robustness check. In Figure II and III the interaction between transformational and transactional leadership and business model innovation is displayed in a scatterplot.

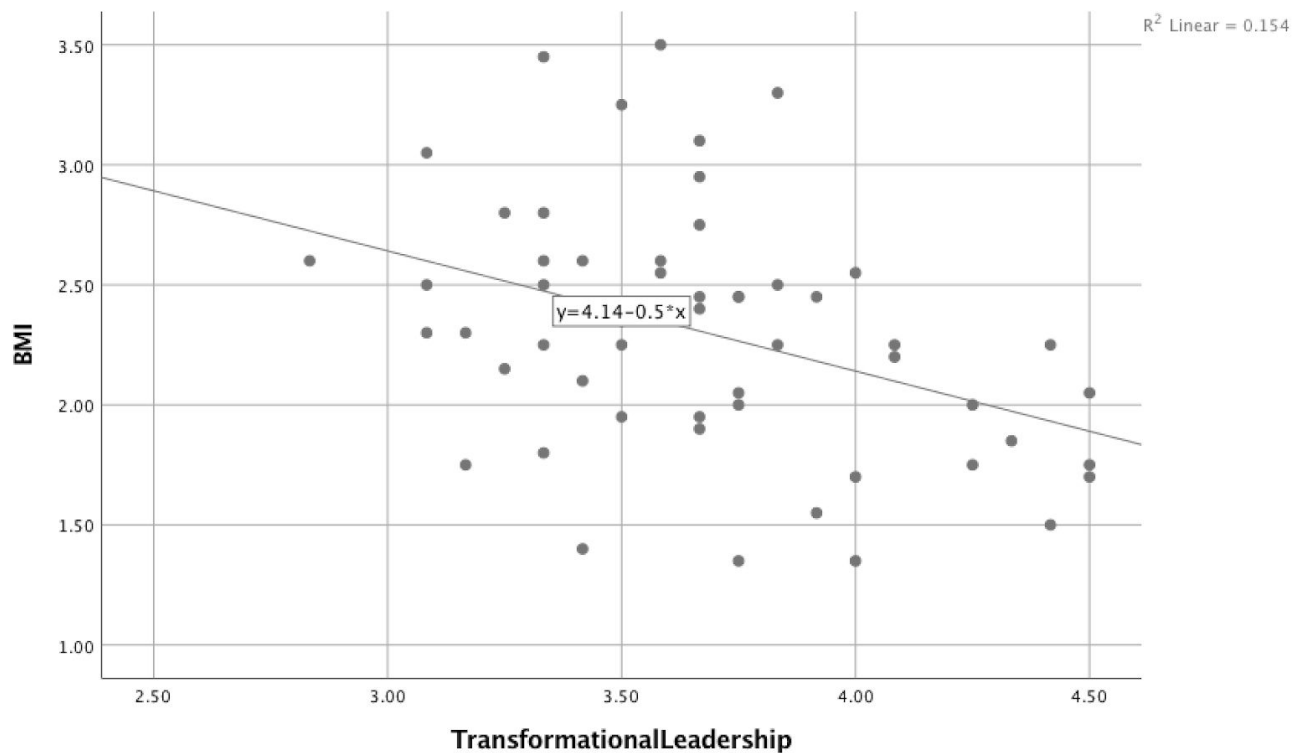


Figure II - Scatterplot and regression line BMI and Transformational leadership

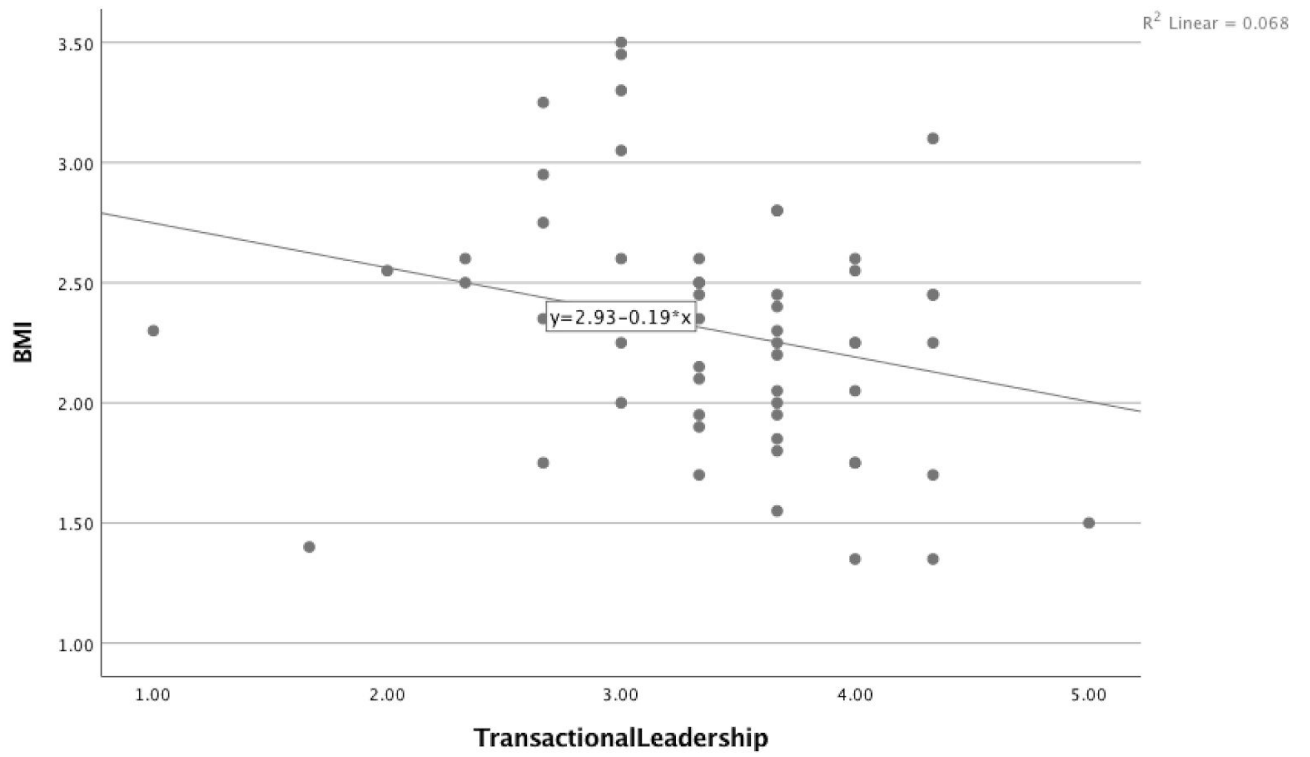


Figure III: Scatterplot and regression line BMI and Transactional leadership

## Chapter 5: Discussion and conclusions

Innovation in general has received a lot of attention in the past years, but business model innovation only recently begun to be focused upon more often. By linking business model innovation with classical leadership types in Dutch digital agencies contributes to new insights how they interact and why. Insights which are particularly interesting because it combines two relatively new phenomena (business model innovation and digital agencies) and one firmly founded one (transformational- & transactional leadership).

This study hypothesized (hypothesis 1) that transformational leadership would positively influence business model innovation by stimulating creativity under their followers, capacity for innovation and new knowledge creation (Gumusluoglu & Ilsev, 2009; Jansen et al., 2009; Jung, Chow, & Wu, 2003; Vaccaro et al., 2012; Vera & Crossan, 2004). Influencing the firm's culture and playing a key part in creating a vision of innovation and a learning environment. Although previous research suggests that transformational leadership may increase business model innovation this study shows the opposite. Based on the results from this study transformational leadership seems to have no positive influence on business model innovation. In fact, the negative influence it has is relatively strong (-0.34 to -0.46) and significant. These results do not support hypothesis 1. Concluding that if the transformational leadership value raises with one point, business model innovation will drop with 0.34 to 0.46 points. The range is explained by the addition of transactional leadership to the model and the robustness check that is executed. When going through the results, they could be explained in multiple ways. Firstly, compared to the previous studies, this study targets an unique population: Dutch digital agencies. On average, developers outnumber other types of employees within Dutch digital agencies. Developers seem to flourish when given a complex but clear task. Where transformational leadership motivates followers to be more autonomous and encourages calculated risk taking. There seems to be a mismatch between the comfort zone of the developer and what the leader is trying to encourage the developer to become. This mismatch could be a reason why applying transformational leadership to this group of employees, could have no effect or even a negative effect on business model innovation. Secondly, comparing the mean of transformational- & transactional leadership the respondents scored ~8% higher on transformational leadership, being the dominant type of



leadership. According to Bass (1985) the impact of leadership is influenced by character and personality traits. For example, locus of control, self-determination and self-confidence. It could be that the leaders themselves find that they are transformational leaders, but they are not impacting their followers significantly because the leaders lack these traits. Resulting in an unclear vision, which results in a negatively influence on business model innovation.

Regarding transactional leadership this study hypothesized (hypothesis 2) that transactional leadership would negatively influence business model innovation. The focus of transactional leadership is on current role performance and less on creating novel activities, and transactional leadership is perceived as demotivating and controlling, which caused followers to be less innovative, especially in dynamic environments (Pieterse et al., 2010; Deci & Ryan, 1987). In line with previous research transactional leadership influences business model innovation negatively in this study as well. Hypothesis 2 is significantly supported, even when stressed by the robustness check. The influence is relatively small (-0.08 to -0.12), three to four times smaller than the negative influence transformational leadership has on business model innovation. Even in the dynamic environment, wherein digital agencies operate, innovation does not seem to suffer as much as predicted by other studies it would.

In retrospect there are some particularities. For instance, the low reliability of the transactional leadership variable creates doubt regarding the position of transactional leadership in this industry. As mentioned before, digital agencies operate in a dynamic environment where, amongst other things, technology is progressing at a rapid pace. You can argue that the baseline innovation rate would be higher if you compare the digital agency industry with another industry and therefore the type of leadership for running a digital agency needs to be more entrepreneurial by default to lead a successful firm. In that case, to what extent does transactional leadership even exist within the digital agency industry? Also, the business model innovation mean seems to be relatively low. Even though the digital agency industry seems to be very innovative. This could be caused by the focus of this study on the middle management. In the middle management layer of a firm there could be less emphasis placed on business model innovation and more on other types of innovation in order to make the operation run as smooth as possible. Lastly, being a developer or designer at a digital agency does not mean you have graduated “development” or “design” university. More than half of developers who start their study computer science already know how to

write code. They seem to be motivated to develop themselves outside the formalized institutions (e.g. university or work). Learning about new technologies, exploring and implementing (small) process changes. This could partly explain why the business model innovation score is relatively low. (A part of) the firm's employees is learning new things outside the firm view, where it seems no training is actively given, but in fact the employees are training themselves.

The managerial and practical relevance of this study is primarily that there is no such thing as a "cookie-cutter" or "one size fits all" type of leadership for your business model innovation needs in digital agencies. The insights provided are not as straightforward as previous research suggested. Leaders within Dutch digital agencies seem to identify more with transformational leadership than with transactional leadership. Based on the survey results the mean of transformational leadership is approximately 8% higher than transactional leadership (3.41 vs 3.68). Even though it is less effective in stimulating business model innovation than transactional leadership. Lastly, it is important for leaders to know what type of leadership they want to focus on and if they own the correct personality traits of effectively motivate their followers. This study also provides empirical evidence how digital agencies handle business model innovation. Most dominant method is looking for new partnerships (mean: 2.75), followed by new cost structures (mean: 2.16) and the least dominant method is new processes (mean: 1.90).

This study also has a theoretical relevance. The gaps identified at the beginning of this study are, that *a specific leadership type could be needed for business model innovation*, that *effective management of complex business models relies more on transformational leadership*, the *importance of mutual engagement and organizational justice is needed for business model innovation* and *providing better understanding of the role of business models in innovation and performance*. Based on the evidence from this study none of the selected types of leadership will positively influence business model innovation within this context. Transformational leadership is influencing business model innovation more negatively than transactional leadership does, which seems to contradict the presumed importance of mutual engagement and organizational justice. Firm performance is positively influencing business model innovation, this could be because it provides financial and mental space to innovate instead of focussing on surviving the current period.

Concluding, transformational- & transactional leadership are both negatively influencing business model innovation. Overthrowing hypothesis 1 and support hypothesis 2. Both for their presumed reasons, but there is still a lot to learn about the digital agency industry. It is a relatively new industry which makes it a very interesting environment for scholars to try and explain the influence (the type of) leadership has (business model) innovation.

## Chapter 6: Limitations and future research

In this chapter the limitations of recommendations for future research will be presented. This study is constrained by at least three limitations: Relatively small dataset, low reliability of transactional leadership.

The *relatively small dataset* makes the generalizability of this study harder. The conducted robustness checks on the reliability and correlation analysis showed no consistent significant differences. As well for the control variables in the regression analysis. Only The variables for transformational- & transactional leadership showed a relatively large change. Future research with a larger dataset within the digital agency industry could provide additional generalizability.

The *transactional leadership variable has a low reliability*. Due to this low reliability three out of six questions were dropped due in an attempt to raise the Cronbach's alpha. Still the Cronbach's alpha was not raised above the guideline value of .700. Replicating this research with a different leadership questionnaire could provide a more reliable view on transactional leadership and could also influence how it interacts with business model innovation.

*Focus on top level management*. As mentioned in Chapter 5: "Discussion and conclusions" the mean of business model innovation is relatively low and this could be caused by the focus on the mid level management. Shifting the focus from mid level management to top level management could provide new insights, because they possibly are more focussed on business model innovation. Where the mid level management is more focussed on running an as optimized as possible operation.

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# Appendices

## Appendix 1 - Survey questions

### Level of education

#### **Q2. What is the highest degree or level of school you have completed?**

No schooling completed

High school graduate, diploma or the equivalent

Bachelor's degree

Master's degree

MBA

Doctorate degree

Source: Qualtrics, Provo, UT

### Leaders tenure

#### **Q3. For how long are you working at the current digital agency?**

Less than 1 year / 1-2 years / 3-4 years / 5 or more years

Source: Personal experience that people often do not work longer at digital agencies than 5 years.

### Number of employees

#### **Q4. How many employees are there working at your digital agency?**

10-24 / 25-49 / 50-99 / 100-250 / 250+

Source: Retrieved from <https://www.dutchdigitalagencies.com/nl/Leden>

## Firm performance

**Q5. How much better or worse do you think your digital agency performed in the past year compared to the competitors?**

Q5.239 Growth in sales

Q5.240 Growth in market share

Q5.241 Growth in number of employees

Q5.242 Growth in profitability

Options: Much better / Somewhat better / About the same / Somewhat worse / Much worse

Source: Kellermanns & Eddleston (2006)

## Transformational leadership

**Q7. I make others feel good to be around me**

Not at all / Once in a while / Sometimes / Fairly often / Frequently, if not always

**Q8. I express with a few simple words what we could and should do**

Not at all / Once in a while / Sometimes / Fairly often / Frequently, if not always

**Q9. I enable others to think about old problems in new ways**

Not at all / Once in a while / Sometimes / Fairly often / Frequently, if not always

**Q10. I help others develop themselves**

Not at all / Once in a while / Sometimes / Fairly often / Frequently, if not always

Source: Avolio, Bass & Jung (1999); Restivo, A. Multifactor Leadership Questionnaire. Retrieved from <http://alrestivo.com>

## Transactional leadership

**Q11. I tell others what to do if they want to be rewarded for their work**

Not at all / Once in a while / Sometimes / Fairly often / Frequently, if not always

**Q12. I am satisfied when others meet agreed-upon standards**

Not at all / Once in a while / Sometimes / Fairly often / Frequently, if not always

Source: Avolio, Bass & Jung (1999); Restivo, A. Multifactor Leadership Questionnaire. Retrieved from <http://alrestivo.com>

### Transformational leadership

**Q13. Others have complete faith in me**

Not at all / Once in a while / Sometimes / Fairly often / Frequently, if not always

**Q14. I provide appealing images about what we can do**

Not at all / Once in a while / Sometimes / Fairly often / Frequently, if not always

**Q15. I provide others with new ways of looking at puzzling things**

Not at all / Once in a while / Sometimes / Fairly often / Frequently, if not always

**Q16. I let others know how I think they are doing**

Not at all / Once in a while / Sometimes / Fairly often / Frequently, if not always

Source: Avolio, Bass & Jung (1999); Restivo, A. Multifactor Leadership Questionnaire. Retrieved from <http://alrestivo.com>

### Transactional leadership

**Q17. I provide recognition/rewards when others reach their goals**

Not at all / Once in a while / Sometimes / Fairly often / Frequently, if not always

**Q18. As long as things are working, I do not try to change anything**

Not at all / Once in a while / Sometimes / Fairly often / Frequently, if not always

Source: Avolio, Bass & Jung (1999); Restivo, A. Multifactor Leadership Questionnaire. Retrieved from <http://alrestivo.com>

### Transformational leadership

**Q19. Others are proud to be associated with me**

Not at all / Once in a while / Sometimes / Fairly often / Frequently, if not always

**Q20. I help others find meaning in their work**

Not at all / Once in a while / Sometimes / Fairly often / Frequently, if not always

**Q21. I get others to rethink ideas that they had never questioned before**

Not at all / Once in a while / Sometimes / Fairly often / Frequently, if not always

**Q22. I give personal attention to others who seem rejected**

Not at all / Once in a while / Sometimes / Fairly often / Frequently, if not always

Source: Avolio, Bass & Jung (1999); Restivo, A. Multifactor Leadership Questionnaire. Retrieved from <http://alrestivo.com>

Transactional leadership

**Q23. I call attention to what others can get for what they accomplish**

Not at all / Once in a while / Sometimes / Fairly often / Frequently, if not always

**Q24. I tell others the standards they have to know to carry out their work**

Not at all / Once in a while / Sometimes / Fairly often / Frequently, if not always

Source: Avolio, Bass & Jung (1999); Restivo, A. Multifactor Leadership Questionnaire. Retrieved from <http://alrestivo.com>

Business model innovation - New capabilities

**Q27. Our employees constantly receive training in order to develop new competences**

Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree

**Q28. Relative to our direct competitors, our employees have very up-to-date knowledge and capabilities**

Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree

**Q29. We constantly reflect on which new competencies need to be established in order to adapt to changing market requirements**

Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree

Source: Clauss (2017)



Business model innovation - New technology/ equipment

**Q30. We keep the technical resources of our company up-to-date. Relative to our competitors our technical equipment is very innovative**

Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree

**Q31. We regularly utilize new technical opportunities in order to extend our product and service portfolio**

Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree

Source: Clauss (2017)

Business model innovation - New partnerships

**Q32. We are constantly searching for new collaboration partners**

Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree

**Q33. We regularly utilize opportunities that arise from integration of new partners into our processes**

Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree

**Q34. We regularly evaluate the potential benefits of outsourcing**

Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree

**Q35. New collaboration partners regularly help us to further develop our business model**

Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree

Source: Clauss (2017)

Business model innovation - New processes

**Q36. We were recently able to significantly improve our internal processes**

Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree

**Q37. We utilize innovative procedures and processes during the manufacturing of our products**

Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree

**Q38. Existing processes are regularly assessed and significantly changed if needed**

Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree

Source: Clauss (2017)

Business model innovation - New revenue models

**Q39. We recently developed new revenue opportunities (eg additional sales, cross-selling)**

Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree

**Q40. We increasingly offer integrated services (eg maintenance contracts) in order to realize long-term financial returns**

Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree

**Q41. We recently complemented or replaced one-time transaction revenues with long-term recurring revenue models (eg Leasing)**

Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree

**Q42. We do not rely on the durability of our existing revenue sources**

Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree

Source: Clauss (2017)

Business model innovation - New cost structures

**Q43. We regularly reflect on our price-quantity strategy**

Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree

**Q44. We actively seek opportunities to save manufacturing costs**

Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree

**Q45. Our production costs are constantly examined and if necessary amended according to market prices**

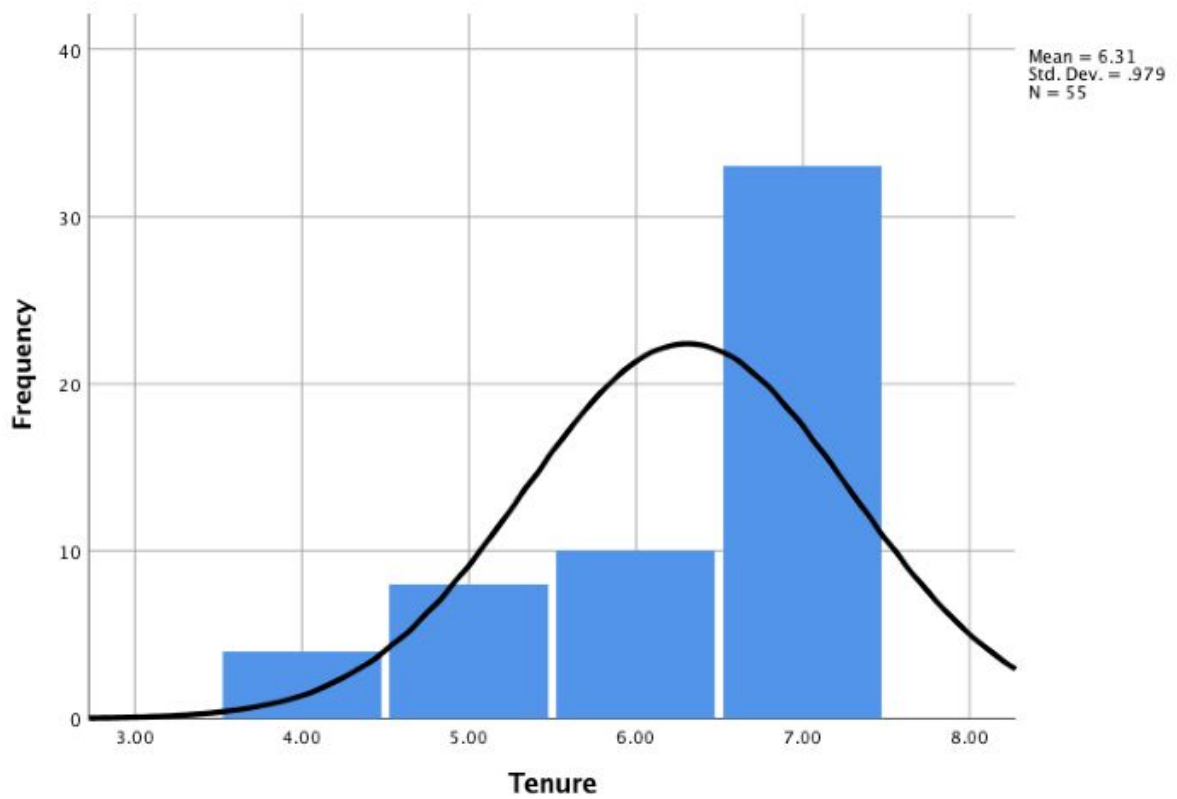
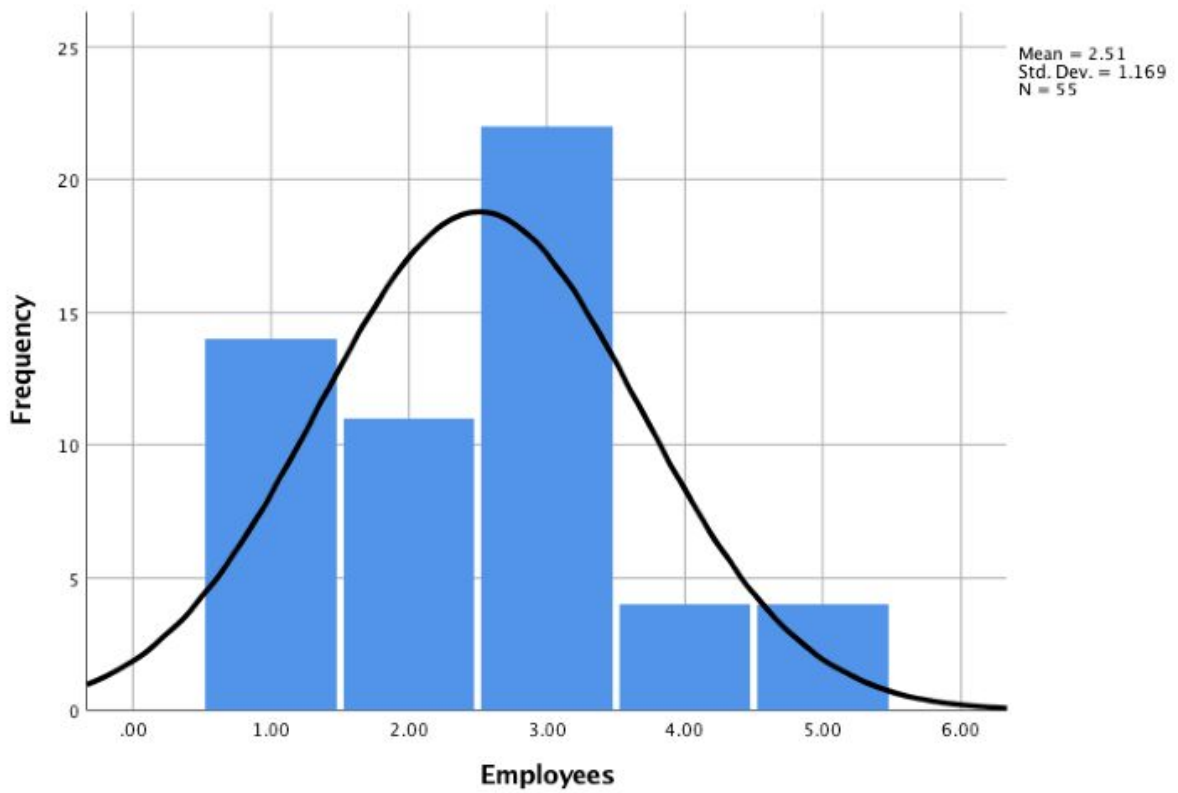
Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree

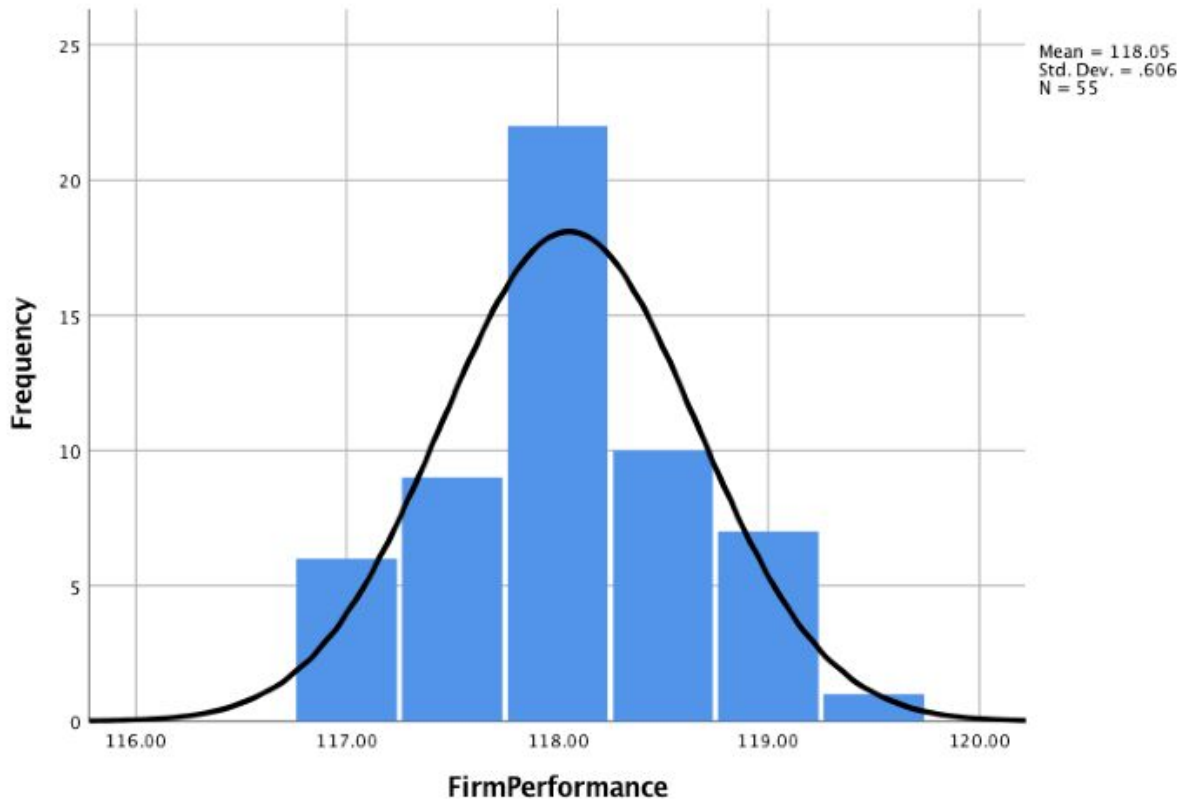
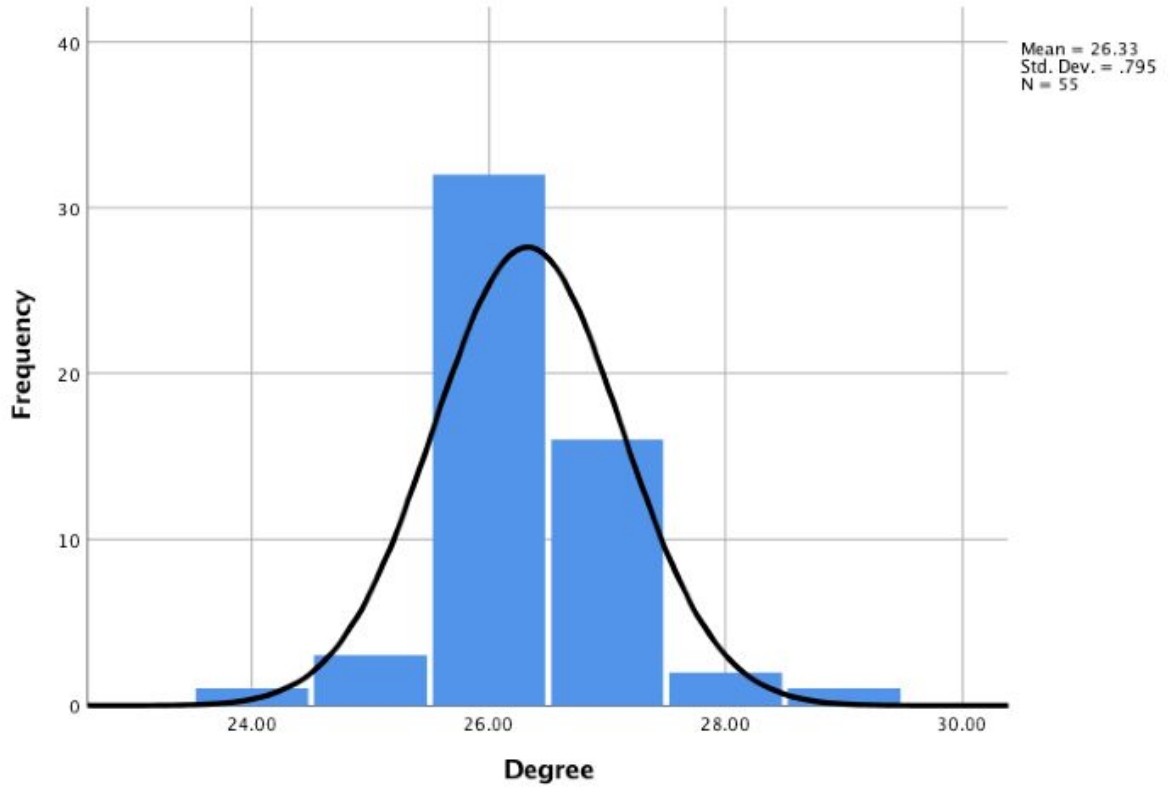
**Q46. We regularly utilize opportunities which arise through price differentiation**

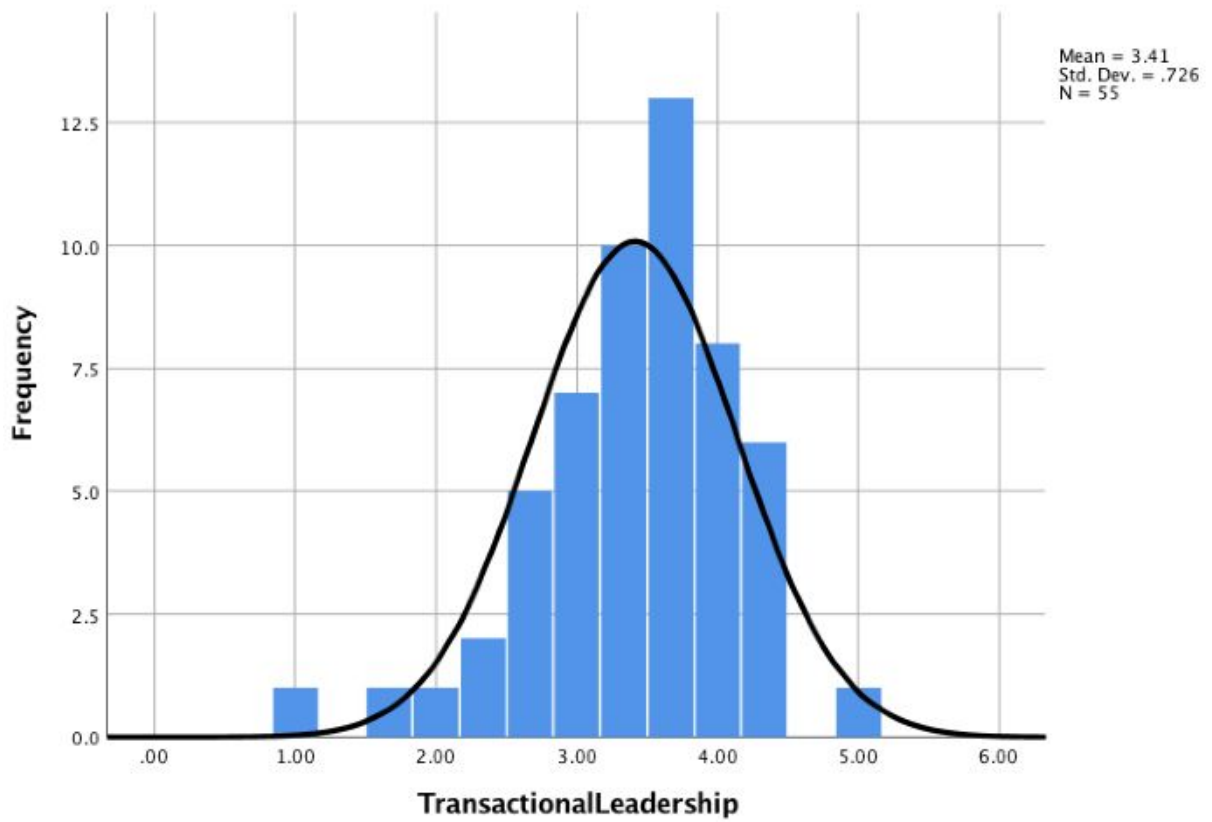
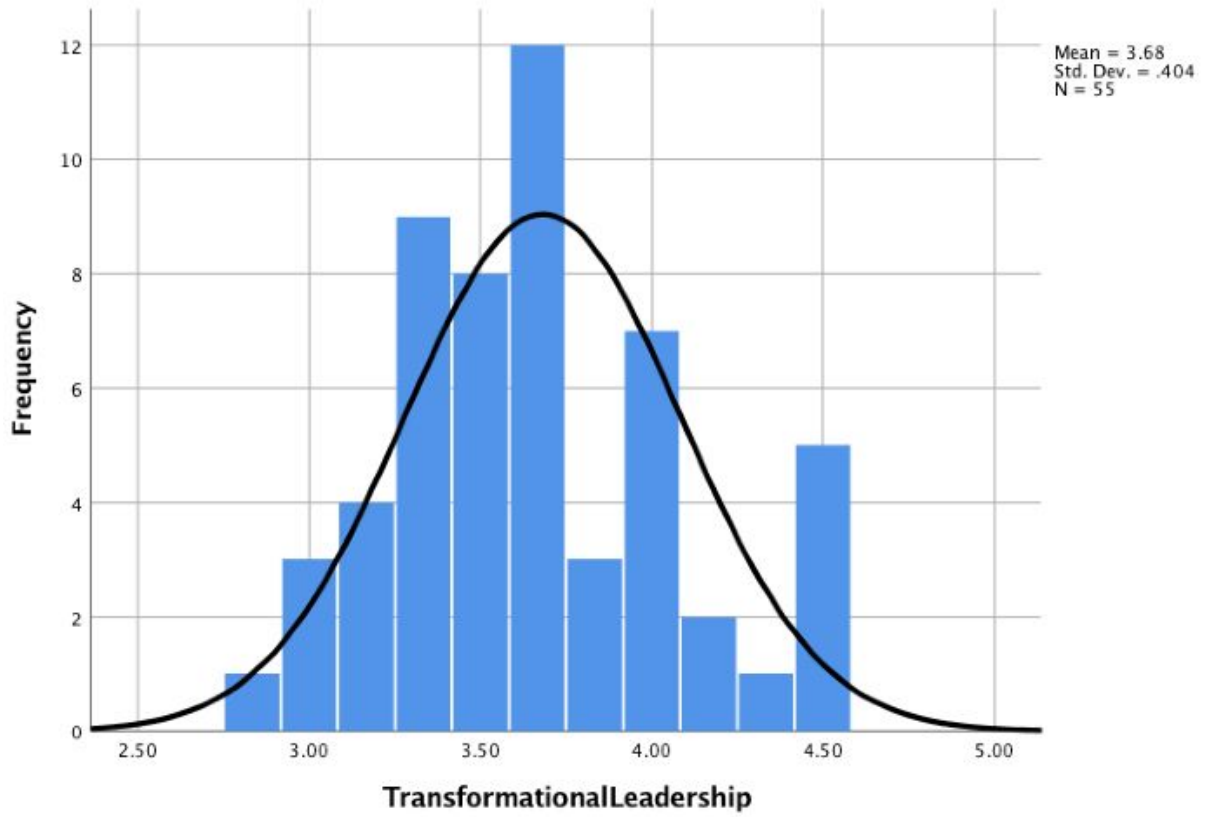
Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree

Source: Clauss (2017)

## Appendix 2 - Histograms of variables







## Graph

