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RELATIONSHIP BETWEEN TRANSFORMATIONAL LEADERSHIP AND  
INNOVATIVE WORK BEHAVIOR: THE CASE OF COMPANIES IN ESTONIA

Bachelor Thesis

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I have written this Bachelor Thesis independently. Any ideas or data taken from other authors or other sources have been fully referenced.

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## Introduction

Innovation has been and still is one of the most important driving forces of the business world (Turnbull et al, 2019). Today, innovation is one of the determinants of the company's competitiveness (OECD, 2007). Some even argue that the main point of the businesses is to create innovation, which not only benefits the growth of the business, but also solves problems for the world population (Ahlstrom, 2010). As the world develops, people's wants and necessities change. Regardless of the industry, each and every company has to innovate, come up with new products, services and strategies in order to stay competitive and active (De Brentani, 2001). The most well-known and profitable companies nowadays are the ones that innovate and create unique value with their innovativeness. This fact can clearly be seen from "BCG Most Innovative Companies 2021" report. At the top of the list of 50 most innovative companies of 2021 we see Apple, Alphabet, Amazon, Microsoft and Samsung. The report proves that the companies that innovate the most, also have the biggest market share and overall business growth. (BCG Most Innovative Companies, 2021)

Another important factor for business growth today is effective leadership (Hargis et al., 2011). To stay competitive, firms also have to update their leadership styles and approaches. With the constant generation changes, it should not come as a surprise that their leadership and management approaches should also change with them, so that the company can get the best results and use the workforce maximally (Schroth, 2019). One of the main goals of effective leadership is to promote innovation in the organization, which in the end will yield in business growth. In fact, one of the most influential factors affecting the innovation in organization is leadership style (Mittal & Dhar, 2015).

Throughout history, human race has seen and experienced many different leadership behaviors. Various religious or political leaders have used and are still using the same management approaches, as the ones used within the organizations. Among those approaches, Transformational Leadership seems to stand out the most due to its characteristics to stimulate followers to think outside the box and thus, stimulate to build high innovative climate (Brown & Trevino, 2006). For example, as Bass & Bass (2008) explain, Jesus, Mohammed and Buddha were all transformational leaders, while Greek gods demonstrated both transformational and transactional leadership styles. This shows that transformational leadership is important and effective in every sphere of life. Even more, study by Judge & Piccolo (2004) shows that when it comes to leadership styles, transformational Leadership has the highest overall validity in the organizations. As Bass explained in his 1990 paper,

employees show more effort while working for transformational leaders and overall effectiveness of the organization is much higher under transformational leadership, compared to other leadership styles.

There have been done several studies, trying to link transformational leadership and innovative work behavior together, however, mainly these studies also bring in the moderator, like knowledge sharing or psychological empowerment (Suhana et al., 2019, Pieterse et al. 2010, Bhatnagar, 2012). Looking at the characteristics of transformational leadership, which will be explained in the following chapters, the author has a solid ground to think that transformational leadership and its dimensions have potential to build and cause innovative work behavior without any help from the external mediators or moderators. Thus, this paper will test the hypothesis that transformational leadership is directly related to innovative behavior at the workplace, as well as the hypothesis that each of transformational leadership dimensions are related to innovative work behavior. Similar studies have been previously done in other countries, like Lebanon (Ahmad, Easa & Mostepha, 2019), Netherlands (Suhana, 2019), Turkey (Gumusluoglu & Ilsev, 2009), however there is no empirical evidence on this relationship in the case of Estonia. Thus, this paper will try to fill the gap about relationship of transformational leadership and innovative work behavior in the case of the companies in Estonia. It should also be noted that most of the previous studies linking transformational leadership with innovative work behavior used Bass (1985) four dimensions and characteristics of a transformational leader (Basu & Green, 1997; Khan et al., 2018; Wang et al., 2011; Pieterse et al., 2010; Afsar, Badir & Saeed, 2014; Ahmad, Easa & Mostapha, 2019). The author of this paper will be using Podsakoff et al. (1990) six dimensions, which might also cause different results in the end.

Today Estonia is considered to be a strong innovator among EU countries, on its way to become one of the innovation leaders (European Innovation Scoreboard, 2020). That is why, the author of this paper believes that this research will be very beneficial to Estonian companies to maximize their value and optimize the usage of workforce by employing leadership behavior such as transformational leadership, which will result in more innovation in the end.

The aim of this study is to examine the relationship between transformational leadership (and its dimensions) and innovative work behavior in the case of the companies in Estonia.

Following tasks will be fulfilled to achieve the aim of the thesis:

- Review and analyze literature on Transformational Leadership,

- Review and analyze literature on Innovative Work Behavior,
- Review studies on relationship between Transformational Leadership and Innovative Work Behavior.

- Conduct surveys with the employees in the companies in Estonia,
- Analyze and discuss findings within the context of proposed hypotheses.

This paper is made up of two parts. The first, theoretical part, will review the literature on transformational leadership, innovative work behavior and briefly discuss innovation in Estonia. The second, empirical part will contain data collected through conducted surveys and the deep, quantitative analysis of the same data.

**Keywords:** Transformational Leadership, Innovation at Workplace, Innovative Work Behavior, Leadership Style, Companies in Estonia.

## 1. Theoretical Background

In the theoretical part of the thesis, the author of the paper is going to define and talk about each of the components of the study. First, the definition of transformational leadership and its six main dimensions will be explained, as well as the analytical overview of the past researches done on the topic. Next, the author of the paper will define innovative work behavior and its causes, along with deep analysis of the past studies on the subject. Then, the author of the paper will link transformational leadership and each its dimensions with innovative work behavior and will explore the previous studies done on the relationship. Since the relationship will be analyzed in the case of companies in Estonia, small chapter, describing the Estonian business specifics and innovation will be included in the end as well.

### 1.1 Transformational Leadership

Transformational Leadership (TL) was firstly introduced by Downton in 1973, and it gained even more attention after 1978, when James MacGregor Burns Published the book “Leadership” and defined the term Transformational Leadership (TL). According to Burns (1978), transformational leadership is all about transforming the attitudes, behaviors and motivations of everyone within the company to maximize the results in the future (Burns, 1978). When the leader is able to transform the morale and values of the employees, establish and share the group goals among them, while taking into consideration each of the employees’ interests, problems and aspirations, he is considered to be transformational (Bass,1985). Transformational leaders not only expect the highest performance from their employees, but also demonstrate the same high performance themselves, thus they lead by example. Through

their charisma, transformational leaders inspire their followers and motivate them to perform beyond the expectations, bringing collective, organizational interest above the individual interest (Bass, 1985, Wright et al., 2012, Podsakoff et al., 1990). In other words, transformational leadership is the leader's systematic effort to transform the employees' way of thinking and unite them with the same organizational goals (Jensen et al., 2019).

After Burns (1978), transformational leadership became the research topic of a lot of scholars including Bass & Riggio (2006), Basu & Green (1997), Podsakoff et al (1990), Pieterse et al (2010). In fact, transformational leadership is the most researched style of leadership to this day (Judge & Piccolo, 2004). Today, it has been accepted by most of the practitioners that transformational leadership really is the most ideal style of leadership to manage organization, especially in this globalized and ever-evolving world (Khan et al., 2012). Looking through the years of experience and evidence, it can clearly be seen that transformational leadership is the most effective in the case of political or religious leaders, business leaders, military officers, educators and other important vocations (Bass & Bass, 2008).

To fully understand the term transformational leader, researchers started listing main characteristics of the one. Bass (1985) distinguished four main components of the TL which are: idealized influence (ID), inspirational motivation (IM), intellectual stimulation (IS) and individualized consideration (IC). Despite the popularity of this transformational leadership theoretical framework, some scholars (Bryman 1992, Yukl, 1999) prove that there is still a confusion about the rightfulness of these sub-dimensions and whether or not they are related with transformational leadership at all. Over the years, the distinction between idealized influence and inspirational motivation has also been harder to see (Barbuto, 1997). That is why several authors have tried to come up with further sub-divisions and characteristics of transformational leadership. Raferty & Griffin in their 2004 research list five subdivisions: vision, inspirational communication, supportive leadership, intellectual stimulation and personal recognition. Jensen et al in their 2019 research also underline the importance of vision for the transformational leadership, stating that developing, sharing and sustaining organizational vision are the three most crucial characteristics of a transformational leader. Jensen et al (2019) believe that these three steps "are intertwined in the sense that they all reflect the same latent ambition to transform the employees to share and act on the vision and that the behaviors are only theoretically meaningful if used together" (Jensen et al, 2019, p.10).

Podsakoff, MacKenzie, Moorman and Fetter in their 1990 study decided to integrate all the characteristics of a transformational leader and give us one full model of it. The authors

even tested their model on the sample of 988 managers and non-managers employed in a diversified petrochemical company in the US, and found six main behaviors that characterize a transformational leader. In Table 1, we can see those six characteristics of transformational leader, as articulated by Podsakoff et al (1990). In this study, the author of this paper will use the model developed by Podsakoff et al (1990) to analyze transformational leadership at companies in Estonia and its effect on employee innovativeness, since this model considers all of the behaviors associated with Transformational Leadership.

Table 1.

*6 main Dimensions of Transformational Leader*

Dimension	Explanation
Identifying and articulating a vision (IV)	Leader identifies new opportunities for followers and in general, organization. A leader also identifies and articulates correctly all the organizational visions, thus inspiring followers to share the same organizational vision.
Providing an appropriate model (AM)	Leader is an example for the followers, demonstrating the same values and opinions that he embraces
Fostering the Acceptance of Group Goals (GG)	Leader sets a visible, common goals and preaches the followers to cooperate for achieving this common goal.
High performance expectations (HP)	Leader expects a high quality performance from the followers at all times.
Providing individualized support (PS)	Leader openly demonstrates the respect towards followers and takes into consideration each and every one of their needs and feelings.
Intellectual stimulation (IS)	Leader challenges followers to think differently, out of the box.

Source: compiled by the author, based on Podsakoff et al (1990).

Since most of the studies (Sethibe & Steyn, 2016; Chaar & Easa, 2020; Tajasom et al. 2015; Khan Aslam & Riaz, 2012), linking transformational leadership dimensions and innovative work behavior were measuring TL using the MLQ (Bass & Avolio 2000) , which considers four-dimensional model of TL, as proposed by Bass (1985), this study might yield different, even more deeper results, since it takes into consideration 6 dimensions of TL as proposed by Podsakoff et al (1990). If we try to connect Podsakoff et al (1990) 6 dimensional model with Bass (1985) 4 dimensional model, then, identifying and articulating a vision and providing an appropriate model will be more or less equal to idealized influence and inspirational motivation; high performance expectation will be equal to inspirational motivation, providing individualized support is the same as individual consideration and the last component, intellectual stimulation, is the same for the both models. Fostering the

acceptance of group goals is the additional component that Podsakoff et al. (1990) added, that the Bass (1985) model does not consider.

For the empirical part of the study, the author used the questionnaire developed by Podsakoff et al (1990) to assess the transformational leadership of the leaders through their employees. The questionnaire consisted of 22 questions, each of them relating to one of the 6 dimensions of transformational leader. There were 5 questions related to identifying and articulating a vision (IV), 4 questions related to fostering the acceptance of group goals (GG), 3 questions related to high performance expectations (HP), 3 questions related to intellectual stimulation (IS), 4 questions related to providing individualized support (PS) and 3 questions related to providing an appropriate model (AM).

The author of the paper decided to measure TL through the questionnaire developed by Podsakoff et al (1990), because the studies, that the author analyzed were all done on the basis of Multifactor Leadership Questionnaire (Bass & Avolio, 2000). Most of those studies, done in the similar as well as different economies from Estonia, prove that there is relationship between TL and IWB. The author of the paper assumed, that by measuring TL with questionnaire developed by Podsakoff et al. (1990), the study results might be a bit different, and they might provide fresh perspective. Before using the questionnaire, the author of this paper also did some research to make sure it would be valid for the companies in Estonia. Indeed, previous research by Kasemaa, Liik & Meerits (2016) proves that transformational leadership measurement developed by Podsakoff et al. (1990) is valid and reliable measure of transformational leadership and its dimensions for Estonian companies and their culture.

Author of the paper believes that due to its characteristics that can transform and transcend the attitudes of employees, motivate them and encourage their creativity, transformational leadership is the best suited leadership that will support the employee innovative behavior in the company.

### **1.2. Innovative Work Behavior**

Innovation is one of the main characteristics of our technological era. It is through innovation, that we evolve, simplify everyday tasks, but also make our lives more interesting. "The Foundation of innovation is ideas, but it is people who develop, carry, react to and modify ideas" (Van de Ven, 1986, p.592)

Innovative work behavior (IWB) is one of the most important employee performance in order to help the company sustain its place in ever-evolving business world. Apart from helping the company, innovative behavior plays a crucial role in one's self-development and

raises one's competitiveness (Jain, 2015). Innovative behavior can be characterized variously and be made up of many different actions, but mainly there are three distinguished stages of it, that researchers like Scott & Bruce (1994), Jain (2015), Carmeli, Meitar & Weisber (2006) approve of. The first stage has to do a lot with an individual's creativity and includes recognizing the problem and generating solutions for this problem. For the second stage, individual tries to involve other workers into this problem-solving and spread their ideas and innovativeness. During the final, third stage, person actually implements the solution, creating a kind of model of innovation, useful for the individuals as well as the whole and organization. (Scott & Bruce, 1994; Jain, 2015) To put it simply, innovative work behavior is a set of activities designed to establish and implement the systems, strategies, processes or products that are new for the organization (Basu & Green, 1997).

Innovative work behavior has been an interest of researchers for quite some time, however, over the course of years the exact dimensions and characteristics of it were not discovered, since most of the researchers regarded it as one-dimensional (Kleysen & Street, 2001). Many researchers like De Jong & Hartog (2010); Ramamoorthy et al (2005); Kleysen & Street (2001) have tried to come up with a proper measure for innovative work behavior.

De Jong & Hartog (2001) developed a measure of innovative work behavior taking into account its four main dimensions: Idea exploration, generation, championing and implementation. However, after comprehensive survey analysis with 703 knowledge workers and their supervisors in 94 knowledge intensive service firms, they found that instead of four dimensions, innovative work behavior is one-dimensional. During the study the authors also came up with a 10 question survey, designed for leaders to assess the innovativeness of their employees.

Kleysen & Street (2001) decided to go through 28 articles about innovation ranging from the year 1963 to 1997 to identify the main dimensions of innovative work behavior. After three rounds of coding they identified five main dimensions of individual innovative work behavior which are: opportunity exploration, generativity, formative investigation, championing and application. In the table below (Table 2), you will see the explanation of each dimension as articulated by Kleysen & Street (2001).

Table 2.

*Five main dimensions of Innovative Work Behavior*

Dimension	Explanation
Opportunity Exploration	Looking for and recognizing new opportunities in order to use them to innovate.

Generativity	Generating opportunities, ideas, solutions and other factors needed for change, in order to progress the employees as well as the organization and the products/services the organization offers.
Formative Investigation	Formulating the ideas and solutions and then applying and evaluating them through the process of investigation.
Championing	Using socio-political behaviors such as mobilization, persuasion, negotiation and challenging in order to realize all the ideas and solutions with the potential to innovate.
Application	Actually implementing innovations and establishing them to be a regular, natural part of the organization.

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Source: Adapted from Kleysen & Street (2001).

After a comprehensive study with 225 employees of 9 organizations, Kleysen & Street (2001) came up with a revised measure of individual innovative behavior, that consists of 14 questions, representing all of their 5 hypothesized dimensions. The survey questions are designed for employees to assess their own innovativeness.

This study employed the questionnaire developed by Kleysen & Street (2001) (Appendix) to measure innovative behavior of the employees of companies in Estonia, since it is ready to use and can be answered by the employees of the organization.

Many researchers in the past have tried to also distinguish and establish different sets of factors affecting innovative work behavior (Scott & Bruce, 1994; Jain, 2015; Pieterse et al. 2010). Scott & Bruce (1994) came up with a version of a model for the individual innovative behavior, explaining it “as the outcome of four interacting systems- individual, leader, work group, and climate for innovation” (Scott & Bruce, 1994, p.582). Scott & Bruce used structural equation analysis to test whether or not their proposed factors really affected workplace innovative behavior. For their findings they analyzed 172 survey answers from engineers, technicians and scientist employed in the research & development section of the major U.S corporation and actually found that about 37% of the variations in innovative behavior were indeed caused by these factors. They found that, “leadership, support for innovation, managerial role expectations, career stage and systematic problem-solving style to be significantly related to individual innovative behavior” (Scott, 1994, p. 600).

Jain (2015) decided to list all the organizational variables affecting innovative work behavior based on previous researches in order to come up with the conceptual framework. Unlike Scott & Bruce (1994), who listed four sets of factors, Jain (2015) decided to categorize everything in three different sets of factors:

- Individual Factors: psychological capital, psychological empowerment
- Inter-Personal Factors: transformational leadership, leader-member exchange (LMX), knowledge sharing in social network
- Contextual Factors: job context, supportive organizational climate

As it can be seen, transformational leadership is already a part of Inter-Personal factors affecting innovative work behavior, however some of the previous researches imply that transformational leadership is only effective for innovative work behavior, when psychological empowerment is high (Jain, 2015; Pieterse et al., 2010). Based on the nature of these factors, “it may be suggested that the three sets of factors have independent as well as combined or mediated effect on employee innovative behavior”. (Jain, 2015, p.11). The author of this paper also believes that transformational leadership has enough impact on innovative work behavior without any moderators or mediators.

### **1.3. Relationship between Transformational Leadership and Innovative Work Behavior**

Innovation in organizations is caused and affected through many different factors. “The most influential factor is leadership style in which transformational leadership has found to be significantly correlated with the innovative work behavior in the organizations” (Khan, Aslam & Riaz, 2012, p. 20). Even though there are many empirical studies done about transformational leadership and innovative work behavior separately, evidence, demonstrating exact specific relationship between them, is still scarce (Janssen, 2002). However, logically thinking, taking into account the inspirational and transcending characteristics of a transformational leadership, this style of leadership should definitely be related to innovative work behavior (Bass, 1985; Muchiri et al. 2020).

As already mentioned, the author of this paper will use the Podsakoff et al (1990) definition and measurement of transformational leadership. Thus, the author of the paper suspects that each dimension of transformational leadership will have some relationship with innovative work behavior individually, which will cause the overall relationship between transformational leadership and innovative work behavior in the end as well.

In the next part of the thesis, the author of this paper links each dimension of TL (as articulated by Podsakoff et al. (1990)) with IWB, connects TL with IWB and looks through the previous empirical studies done on this relationship.

By identifying and articulating a vision (IV), transformational leader recognizes new opportunities for the individuals as well as the organization as a whole and establishes

company vision, which commits all the employees to the same, united goal (Podsakoff et al., 1990). Through identifying new opportunities, the leader demonstrates creativity and openness to new ideas. As Scott & Bruce (1994) prove, this leader behavior stimulates the followers to also be innovative, question their assumptions, look at problems in new ways and come up with new and innovative solutions. This whole process causes overall company climate to be more innovative which leads to company innovations as well as new and innovative products and services (ibid). If the leader articulates the vision to be more innovative and open to new problem-solving methods, the overall organizational climate will be very innovation-prone, supportive and encouraging, which always yields in more individual innovative behavior. (Janssen, 2000)

Fostering the acceptance of group goals (GG), once again helps the leader establish company vision and ask the followers to commit to one big goal (Podsakoff et al, 1990). By articulating a company mission and vision, leader brings and attaches more importance to the contribution of each individual employee and makes them more inclined to transcend their personal goals into more collective, and desirable for the company, thus increasing intrinsic motivation, which has been proven to lead to more creativity and innovation. (Afsar, Badir & Saeed 2014; Jung, Chow, & Wu, 2003). Sharing team values and beliefs encourages followers to come up with new, innovative ideas and work as efficiently and effectively as possible (Zheng et al., 2016). By defining common goals, leader also establishes social relationships, which greatly influence the level of knowledge sharing, which in turn is one of the most important factors for innovative behavior. (Yu, Yu & Yu, 2013)

Through high performance expectations (HP) leader once again establishes the overall company climate and demonstrates that only the ones who are willing to work beyond expectations and think outside the box really do belong in their organization. (Podsakoff et al., 1990) By creating an organizational climate that encourages and values innovation, leaders can boost the creativity and innovativeness of their employees. (Yukl, 2001). Previous research has also shown that by expecting high performance from the followers, transformational leader increases organizational innovation (Afsar, Badir & Saeed, 2014).

The evidence from previous studies show that through providing an appropriate model (AM), the leader uses their own charisma, work-drive, commitment and attitude to demonstrate the role model for the employees ((Muchiri et al., 2020). In addition, as the authors pointed out, leader's role model characteristics build trust and respect between followers and their leaders (ibid). This tends to shape the employee behavior, inspiring them

to be more innovative, optimistic and open to new ideas, which in turn also stimulates employee intrinsic motivation, creativity and self-efficiency (Ibid).

By providing individualized support (PS), leader gives attention to each of his/her employee's needs, problems, interests and aspirations and develops a relationship with each and every one of their follower (Podsakoff et al, 1990). As Scott & Bruce proved in their 1994 study, "innovative behavior is related to the quality of the supervisor-subordinate relationship" (Scott & Bruce, 1994, p. 600). Employees who reported to have individual relationships with their leaders consisting of trust and support, also regarded their organization to be supportive of innovation, which made them to be more innovative as well. (Scott & Bruce, 1994; Gumusluoglu & Ilsev, 2009) Also, if the leader gives the followers an individualized consideration and attention, followers are more inclined to reciprocate and demonstrate more creativity and innovativeness (Afsar, Badir & Saeed, 2014).

Through intellectual stimulation (IS) leader challenges employees to think out-of-the-box, be creative and look at old problems in new ways (Podsakoff et al., 1990). As the result of their study, Sethibe & Steyn (2016) found that out of all the transformational leadership dimensions, intellectual stimulation has the highest impact on innovative behavior, thus it "suggests that intellectual stimulation is essential when the leader's objective is to improve the creativity of employee and when transforming ideas are generated into tangible products or process" (Sethibe & Steyn, 2016, p.12).

The author of this paper argues that from the finding above, it is possible that all the six dimensions of transformational leadership could stimulate innovative work behaviors in the followers. "The aspects of transformational leadership arouse intellectual stimulation, intrinsic motivation, support for innovation and employee creativity, which closely match with antecedents stimulating innovative behavior among employees" (Afsar, Badir & Saeed, 2014, p.1275). Previous researches also prove that transformational leaders, through their characteristics of individual recognition and attention and encouraging everyone for more new, effective and out-of-the box solutions and ideas, do in fact yield innovation in the workplace. (Khan et al, 2018; Janssen, 2002; Harborne & Johne, 2003; Basu & Green, 1997; Ahmad et al., 2019)

There have been many studies done inspecting the direct relationship between the transformational leadership and IWB in the past and most of those studies use Bass (1985) four dimensional definition of transformational leadership and also use the Multifactor Leadership Questionnaire (MLQ) (Bass & Avolio, 2000) developed by the same authors to measure transformational leadership (Sethibe & Steyn, 2016; Afsar, Badir & Saeed, 2014;

Khan, Aslam & Riaz, 2012). It should also be noted that, most of the studies that the author of this paper could get her hands on were done in more Eastern and Exotic countries compared to Estonia, like Taiwan, China, Malaysia, Lebanon (Zheng et al., 2016; Sethibe & Steyn, 2016; Ahmad, Char & Easa, 2020; Tajasom et al., 2015 ). So it is hard to make assumptions that the results in the case of Estonian companies will be the same. So, in a way, this thesis will also fill the research gap for the Estonia and other countries and economies like Estonia.

Usually, researchers study the overall relationship between TL and IWB, however there were few studies done, where the authors also studied the relationship between each dimension of the TL and IWB. Although most of them used Bass (1985) four dimensions and MLQ (Bass & Avolio, 2000) to define TL. (Afsar, Badir & Saeed, 2014; Jung, Chow & Wu, 2003; Sethibe & Steyn, 2016)

Sethibe and Steyn in their 2016 research studied the effect of transformational leadership and each of its components on innovative behavior on the sample of 3180 employees from 52 South African companies. For defining TL they used Bass 4-dimensional model and used the questionnaire developed by the same author (MLQ). As for innovative work behavior, they decided to integrate De Jong (2010) and Kleysen & Street (2001) questionnaires and created a new one, consisting of 8 questions. After conducting the correlation and regression analysis, the authors found that, transformational leadership has a positive effect on innovative behavior. When they tested the effect of each of the TL 4 dimension and IWB, they found that inspirational motivation and intellectual stimulation had a positive significant effect on IWB, with intellectual stimulation having the highest effect. Surprisingly, they found a significant, but negative relationship between idealized influence and IWB and for individual consideration, they found no significant relationship.

Ahmad, Char & Easa in their 2020 study also studied the relationship between TL and innovation with the mediating role of knowledge sharing in the case of the banks in Lebanon. They also studied how each component of TL affected IWB. Although since Lebanon is still a developing country and its economy is a typical model for a service-oriented economy (Ahmad, Char & Easa, 2020), the results might be different for Estonia. The researchers gathered the data from 310 employees of 35 Lebanese banking sector. After conducting an analysis through structural-equation modeling (SEM), the researchers found that TL positively affects IWB. Even though Knowledge sharing proved to have a mediating role on the relationship between TL and IWB, it was proved that overall, TL has positive effect on IWB. They measured TL with the Bass 4 dimensional model and MLQ. Overall

they found that all four dimensions together, meaning TL bundle, had a positive and significant relationship with innovation. They tested the effects of each dimensions on both product and process innovation and found that, idealized influence, inspirational motivation and individual consideration all had positive and significant effect on product innovation, while intellectual stimulation was found to have a negative and significant effect on product innovation. As for the process innovation, Inspirational motivation and individual consideration both had positive and significant effects, intellectual stimulation had significant but negative effect and idealized influence had no significant relationship with process innovation. Although product and process innovation is not the same as IWB, since IWB causes the product and process innovation in the end.

Tajasom et al in their 2015 research studied the role of TL in innovation performance of Malaysian SMEs. They collected the data by surveying 241 CEOs and senior managers of Malaysian SMEs. They used MLQ developed by Bass and Avolio (2000) to measure TL, analyzed the results through multiple regression analysis and found that the components of TL which are: idealized influence, intellectual stimulation and individualized consideration have positive and significant effects on innovation performance of the SMEs in Malaysia.

Harborne and Johne (2003) claimed that for optimizing innovative behavior, transformational leadership was the best fit leadership style. To prove their hypothesis, they tested it on a purposive sample of 10 consumer financial service businesses located in the UK. Transformational Leader is supposed to be open to every new suggestion and thought, which is crucial for the second step of innovative behavior at work- introducing and spreading innovation among employers and other workers. Transformational leaders can also demonstrate innovative behavior through coming up with different, new solutions and ideas. Basu & Green (1997) also proved that transformational leadership is one of the main causes of innovative behavior in organizations. This time they collected data from 225 followers and 58 leaders in a Fortuna 500 manufacturing plant and proved that followers with supportive and transformational leaders were more likely to be innovative. Transformational leader provides new opportunities and inspiration to followers, thus promoting the innovation among them. Zheng et al. (2016) distributed the surveys among high echelon leaders in mainland China and analyzed the returned 188 answers through structural equation modelling. They found that transformational leaders through their characteristics of individual recognition and attention and encouraging everyone for more new, effective and out-of-the box solutions and ideas, do in fact yield innovation in the workplace in the end. Khan et al. (2018) even found a very important finding that innovation is only possible in the

organizations with appropriate culture and internal characteristics and they proved that through transformational leadership it is possible to achieve those organizational characteristics. They obtained data from 396 French firms and after using partial least squares structural equation modelling approach (PLS-SEM), their results proved that overall organizational performance is clearly connected with the level of innovation in the organizations and this innovation needs “a conducive learning environment which is an outcome of transformational leadership” (Khan et al., 2018, p.10).

Janssen in 2002 study tested whether there is a direct and specific relationship between TL and IWB. The researcher gathered the data through surveying 170 employees of the energy supplier company in Netherlands and through hierarchical regression analysis found that there is indeed positive and highly significant relationship between TL and IWB. Ahmad, Easa and Mostapha in their 2019 study observed the direct effect of transformational leadership on innovation, on the case of Lebanese Banks. After the comprehensive quantitative and exploratory analysis among 310 employees in 27 banks, they found that around 75% of the innovative behavior in the Lebanese Banks were caused by Transformational Leadership.

Gumusluoglu and Ilsev in their 2007 study also wanted to find the impact of TL on follower's creativity at individual level as well as organizational level. They gathered the data by surveying 163 R&D personnel and managers at 43 SME sized software development companies in Turkey. The result of hierarchical linear modeling showed that there was a significant and positive relationship between TL and employee creativity. And through the regression analysis they also found that there is positive association between TL and organizational innovation, which is measured with market-oriented criterions developed for specifically developing and newly developing countries.

Khan, Aslam and Riaz (2012) examined the role of different leadership styles, among which was also transformational leadership, as predictor of innovative work behavior. They conducted a survey with 100 bank managers in Taiwan using a Multifactor Leadership Questionnaire developed by Bass and Avolio in 2000. After conducting a stepwise regression analysis, the authors found that Transformational leadership positively predicted innovative work behavior. Jung, Chow and Wu in their 2003 research also tested the relationship, this time on the case of 32 Electronics industry companies in Taiwan. After conducting a survey with 96 representatives from the companies, they tested the hypotheses through partial least squares structural equation modelling (PLS) technique and found that there is a direct and positive relationship between TL and IWB. “These results support our proposition that

transformational leadership by the top manager can enhance organizational innovation directly and also indirectly by creating an organizational culture in which employees are encouraged to freely discuss and try out innovative ideas and approaches.”(Jung, Chow, and Wu -2003, p.539.)

Although, based on the results of most of the studies, there is a positive and significant relationship between transformational leadership and innovative work behavior, there have been some researches that prove otherwise. For example, Wang et al in their 2011 study found that transformational leadership style might not be the best one for all the employees, and it might not end up with positive results for everyone. This is due to the different levels of intrinsic motivation in different employees. However, it should be noted that the data for their study was collected through 117 independent samples over 113 primary published and unpublished studies on Transformational Leadership, thus their data was secondary. Wilson-Evered, Harten and Neale (2001) in their longitudinal study of 45 groups of employees at a specialist metropolitan teaching hospital also found no significant relationship between transformational leadership and team innovation.

From the review above, it can be deduced that transformational leadership has the potential to influence innovative work behavior. The studies analyzed above were done in similar economic countries like Netherlands and France, as well as much different economies like Lebanon, China, Malaysia, Taiwan, compared to Estonia. However, as most of these studies prove, regardless of the country, there seems to be a positive and significant relationship between transformational leadership and innovative work behavior. This relationship has yet to be proved in the case of Estonia and this thesis works as an establishment grounds for the future research on this topic.

From the studies above, the author of this study proposes the following hypotheses to be tested:

H1: Transformational Leadership will have a positive and significant relationship with Innovative Work Behavior.

H1a: Identifying and articulating a vision will have a positive and significant relationship with Innovative Work Behavior.

H1b: Fostering acceptance of group goals will have a positive and significant relationship with Innovative Work Behavior.

H1c: High performance expectations will have a positive and significant relationship with Innovative Work Behavior.

H1d: Providing an appropriate model will have a positive and significant relationship with Innovative Work Behavior.

H1e: Providing individualized support will have a positive and significant relationship with Innovative Work Behavior.

H1f: Intellectual stimulation will have a positive and significant relationship with Innovative Work Behavior.

#### **1.4. Innovation in Estonia**

Since Estonia is one of the transition countries, on its way to becoming one of the developed countries (Raji 2019, Masso & Vahter, 2008), it is important to find out whether transformational leadership does really play a role in innovative work behavior.

Nowadays Estonia can truly be considered as one of the innovation-driven countries. This can also be seen on the latest, 2019 version of European Innovation Scoreboard where, Estonia is among the strong innovators, meaning that the country's innovation performance is above or close to EU average. (European Innovation Scoreboard, 2020)

Today, Estonia is one of the leading countries in terms of implementing E-governance solutions and cyber-security. During the latest, 2019 parliamentary elections, 38% of the participants voted through internet (Estonian Chamber of Commerce and Industry, n.d.) Apart from E-governance, the government of Estonia invests a lot in innovation for the improvement of public as well as private sector firms (Raji, 2019). Startup Estonia is one of the clear examples of government's support to new and innovative companies (Startup Estonia, n.d.). Estonia is also the first country that gives the non-residents opportunity to apply for e-residency. Overall business environment in Estonia is striving to achieve long-term economic growth. (Estonian Chamber of Commerce and Industry, n.d)

Study by Raji (2019) in the case of public-sector firms in Estonia found that the most significant drivers of innovation in public-sector Estonian companies are internal drivers such as management and employees and the public organization itself. Even though the study was done on the case of public-sector companies, due to the similar culture, the results and findings can also be generalized for other companies in Estonia. As the study found, Estonian public firms mainly innovate in order to increase efficiency and improve working condition of employees, which are one of the main goals of the transformational leadership itself. The research also found organizational innovation to be one of the most significant types of innovations in Estonian public sector firms. (Raji, 2019)

In this thesis, the author of the paper concentrated on the transformational leadership and innovative work behavior in some of the private sector companies in Estonia. In general,

private sector firms in Estonia are known to be more innovative (Invest in Estonia, 2019) than public sector firms. Furthermore, research studying the relationship between TL and IWB has not been done in the case of companies in Estonia, thus this research shall yield in some new interesting findings.

## **2. Empirical Study**

Since the research is concerned with relationship between two variables, namely- transformational leadership and innovative work behavior, the empirical part is done using quantitative research methods. The author of the paper chose the employees of companies in Estonia as the research population. Since the research was done during Covid-19 lockdown in Estonia, the author of the paper could not use simple random sampling and had to use convenient sampling method instead. The author contacted the employees of innovative companies in Estonia personally, through their LinkedIn profiles, and asked each of them to participate in the study. The questionnaires were distributed through Google Forms and they required no personal information. After making sure that questionnaire was safe to use and required no personal information, participants were asked to share the survey among their colleagues as well. The author of the paper sent about 170 invitations to survey candidates and in the end got 106 responses, which makes the survey response about 62%. All the analysis was done through the software STATA.

### **2.1. Measures**

Through the questionnaire provided by Podsakoff et al (1990), the author assessed the transformational leadership of the leaders in the organization, in the viewpoint of their employees. The employees had to answer 22 questions, out of which 5 questions were about identifying and articulating vision (IV), involving items like: “My supervisor is always seeking new opportunities for the organization”/ “My supervisor is able to get others committed to his/her dream of the future”; 4 questions were about fostering acceptance of group goals (GG), involving items like: “My supervisor fosters collaboration among work groups”/ “My supervisor encourages employees to be “team players””; 3 questions were about high performance expectations (HP), involving items like: “My supervisor shows us that he/she expects a lot from us”/ “My supervisor will not settle for the second best”; 3 questions were about intellectual stimulation (IS), involving items like: “My supervisor has stimulated me to think about old problems in new ways”/ “My supervisor has ideas that have forced me to rethink some of my own ideas I have never questioned before”; 4 questions were about providing individual support (PS), involving items like: “My supervisor shows respect for my personal feelings” / or reversed item like: “My supervisor acts without

considering my feelings” ; and 3 questions were about providing an appropriate model (AM), involving items like: “My supervisor leads by example”/ “My supervisor provides a good model to follow”. The questionnaire was rated on a seven-point scale. The responses were rates as follows: strongly disagree (1), disagree (2), somewhat disagree (3), neither agree nor disagree (4), somewhat agree (5), agree (6), strongly agree (7).

The innovative work behavior was assessed with questionnaire, consisting of 14 items- developed by Kleysen and Street (2001) (Appendix). The innovative work behavior measured individual innovative behavior. Even though Kleysen & Street (2001) believe that IWB is a multi-dimensional measure, some additional studies are needed to point out the exact dimensions, thus, even though the questionnaire has different questions regarding different dimensions of IWB, in the end, it is still measuring IWB as a one-dimensional concept. The questionnaire is developed in a way that employees could assess their own individual innovative behavior. The questionnaire was rated on a six-point scale, ranging from never (1), almost never (2), sometimes (3), fairly often (4), very often (5) and always (6).

Multiple regression model was used to test the relationships between each of the dimensions of TL and IWB as well as overall relationship between TL and IWB. Before that, descriptive statistics (including Mean, St. Deviation and Cronbach’s Alpha), correlation, and linear regression model assumptions were also tested to find out if the questions were a good fit to measure each dimension and if the analysis method was fit for the data.

## **2.2. Survey Demographics**

From the 106 participants, 53 of them turned out to be woman, 51 of them men and 2 of them preferred not to specify their gender. The sample represented by 48% of men, and 50 % of women, taking into account that 2% of participants did not indicate their gender, turned out to be a nice surprise, since the survey results is equally representative of both genders.

Out of the whole survey sample, 38% of them were aged between 18 and 24, 47% of them were aged between 25 and 34 and the rest, 15 % were aged between 35 and 44. The fact that there are a lot of young people among the participants was expected, since the sample consisted of the innovative companies in Estonia and these companies encourage young and creative minds to work with them.

Out of the 106 survey participants, 12 (11%) of them had high school diploma, 11 (10%) of them some college credit, but no degree, 41 (39%) of them had completed bachelor’s degree, 38 (36%) of them – master’s degree, and only 4 (4%) of them had doctorate degree. Looking at the age of the participants, these results were expected. 12

participants with only high school diploma and 11 participants with some college credits were grouped together, in the category of “below bachelor’s degree”.

The survey participants were also asked how many years they had been working in the organization. Most of them – 51 (48%) people stated that they had been working in the company for 1 to 5 years, 47 (44%) of them less than one year, 7 (7%) of them 5 to 10 years and only 1 (1%) of them was there for 10 to 15 years. Looking at these responses it can be said that most of the survey participants are well accustomed to their company’s climate, vision and mission. The fact that there is also large number of people, who have just recently started working in their respective companies is not a surprise, since the survey was conducted in the innovative companies, which always look for new personnel who is willing to take part in the further progress of the company.

Survey participants were also asked to specify the industry that their company operated in. 58% of the respondents work in the technology industry; 12% of them in the banking industry; 9 % of them in the service industry; 8 % of them in the transportation and energy industry and others (13%) were dispersed in industries like consumer goods, gaming, fintech, consulting, healthcare and telecommunications. These results once again did not come as a surprise, since Estonia is a technologically inclined country and most of the innovations do really happen in the technology industry.

All of the survey demographic measurements can be seen in Table 3.

Table 3.

*Survey Demographics*

Variable	Numerical	Percentages
Gender	Men-51	Men-48%
	Women-53	Women-50%
	Prefer not to say-2	Prefer not to say-2%
Age	18-24 - 40	18-24 – 38%
	25-34 – 50	25-34 – 47%
	35- 44 – 16	35-44 – 15%
Education	Below Bachelor’s Degree – 23	Below Bachelor’s Degree – 21%
	Bachelor’s Degree – 41	Bachelor’s Degree – 39%
	Master’s Degree – 38	Master’s Degree – 36%
	Doctorate Degree - 4	Doctorate Degree – 4%
Years Spent in the company	Less than 1 – 47	Less than 1 – 44 %
	1 to 5 – 51	1 to 5 – 48%
	5 to 10 – 7	5 to 10 – 7%
	10 to 15 - 1	10 to 15 – 1%
Industry	Technology - 62	Technology – 58%
	Banking - 13	Banking – 12%

Service - 10	Service – 9%
Transportation & Energy - 9	Transportation & Energy – 8%
Other - 12	Other – 13%

Source: Compiled by the author based on the data from the surveys.

### 2.3. Empirical Analysis

First, to check the overall statistics of the data and also its reliability, the author of the paper performed some statistical analysis, which involves finding out means, st. deviations and Cronbach's Alphas of each component. In the following table (Table 4) you will see the results for the TL, each of its components and each of the questions under the components. First, the author of the paper found out the means, and st. deviations of each question in each component and tested the reliability of each question to measure each component through Cronbach's Alpha. As already mentioned before, TL was measured through 6 components, and each of the components were measured through different number of questions as followed: IV (5 questions); GG (4 questions); HP (3 questions); IS (3 questions); PS (4 questions) and AM(3 questions). As it can be seen from the table below (Table 5), all of the Cronbach's Alphas for all the questions and dimensions are more than 0.7, which means that they are all good and reliable measures.

Table 5.

*Means, st. deviations and Cronbach's Alphas for TL dimensions and questions*

Variable	Mean	ST. Deviation	Cronbach's Alpha
IV01	5.38	1.24	0.93
IV02	4.86	1.43	0.93
IV03	4.86	1.33	0.93
IV04	4.91	1.42	0.93
IV05	5.42	1.49	0.93
<b>IV</b>	<b>5.08</b>	<b>1.22</b>	<b>0.95</b>
GG01	5.25	1.35	0.91
GG02	5.32	1.47	0.91
GG03	5.49	1.42	0.91
GG04	5.27	1.52	0.91
<b>GG</b>	<b>5.33</b>	<b>1.27</b>	<b>0.95</b>
HP01	5.29	1.35	0.89
HP02	4.43	1.62	0.89
HP03	4.46	1.41	0.89
<b>HP</b>	<b>4.72</b>	<b>1.32</b>	<b>0.95</b>
IS01	4.95	1.45	0.84
IS02	4.97	1.50	0.84
IS03	5.06	1.39	0.84
<b>IS</b>	<b>4.99</b>	<b>1.26</b>	<b>0.95</b>
PS01	5.31	1.50	0.75
PS02	5.30	1.46	0.75

PS03	5.28	1.71	0.75
PS04	5.25	1.74	0.75
<b>PS</b>	<b>5.29</b>	<b>1.22</b>	<b>0.95</b>
AM01	5.35	1.38	0.89
AM02	5.25	1.49	0.89
AM03	5.39	1.41	0.89
<b>AM</b>	<b>5.33</b>	<b>1.30</b>	<b>0.95</b>
<b>TL</b>	<b>5.13</b>	<b>1.037</b>	

Source: Compiled by the author.

The author of the paper also tested Cronbach's alpha for the questions of IWB and found that for all 14 items, Cronbach's alpha was 0.9419, which is also a very high, meaning that all the 14 questions are a good measure of IWB. As for the means and the standard deviations of IWB items, they can be seen on Table 6.

Table 6.

*Means, st.deviation and Cronbach's Alphas for IWB questions.*

Variable	Mean	St. Deviation	Cronbach's Alpha
IWB1	4.58	1.05	0.94
IWB2	4.46	1.10	0.94
IWB3	4.25	1.17	0.94
IWB4	4.72	1.16	0.94
IWB5	4.52	1.13	0.94
IWB6	4.43	1.10	0.94
IWB7	4.13	1.23	0.94
IWB8	4.66	1.21	0.94
IWB9	4.37	1.18	0.94
IWB10	4.31	1.27	0.94
IWB11	4.33	1.15	0.94
IWB12	4.56	1.13	0.94
IWB13	4.36	1.22	0.94
IWB14	4.23	1.17	0.94
<b>IWB</b>	<b>4.42</b>	<b>0.88</b>	

Source: Compiled by the author.

The study further employed the Pearson Correlation analysis in STATA to test the relationship between each dimensions of TL and IWB. The results can be seen in Table 7. All of the relationships were statistically significant.

Table 7.

*Pearson Correlation between each TL dimensions, TL and IWB*

	IV	GG	HP	IS	PS	AM	IWB	TL
IV	1.00							
GG	0.82***	1.00						
HP	0.62***	0.59***	1.00					
IS	0.79***	0.78***	0.62***	1.00				
PS	0.46***	0.44***	0.07***	0.41***	1.00			

AM	0.86***	0.81***	0.55***	0.72***	0.57***	1.00		
IWB	0.92***	0.89***	0.67***	0.84***	0.60***	0.96***	1.00	
TL	0.92***	0.90***	0.71***	0.88***	0.59***	0.92***	0.99***	1.00

Notes. \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

IV=identifying and articulating a vision; GG=fostering the acceptance of group goals;

HP=high performance expectations; IS=intellectual stimulation; PS= providing individual support; AM= providing an appropriate model.

Source: Compiled by the author.

As it can be seen, there are positive and quite strong relationships between each component of TL and IWB as well as overall TL and IWB. Between IV and IWB there is a correlation coefficient of 0.92, between GG and IWB there is a correlation coefficient of 0.89, between HP and IWB coefficient is 0.67, between IS and IWB coefficient is 0.84, between PS and IWB coefficient is 0.60, between AM and IWB coefficient is 0.96. The strongest correlations between TL dimensions and IWB were between AM and IWB, and IV and IWB. And the lowest correlation is between PS and IWB. Also, we can see that between TL and IWB there is very high 0.99 correlation coefficient. In the table above, it can also be seen that among TL components, there is a highest correlation of 0.86 between IV and AM, which might create a multicollinearity problem for the multiple regression analysis. This will be further checked before performing multiple regression model. Among all the TL dimensions, IV has the highest correlation 0.92 with TL; and PS has the lowest 0.59 correlation with TL. This means that identifying and articulating a vision is the most important component of transformational leadership, while providing individualized support might not have that big of an influence on TL.

In addition to the preliminary analysis above, multiple linear regression was also used to examine the relationship between TL dimensions and the IWB. In order to conduct a full multiple linear regression analysis, one needs to check for the normality of residuals, outliers, heteroscedasticity and multicollinearity.

The analyses were presented in two models. The first model tested the relationship between TL (all dimensions together) and IWB and it was done through simple linear regression model. The second model tested the relationship between each of the TL dimensions (IV, GG, HP, IS, PS, AM) and IWB and it was done through multiple linear regression model.

Before conducting the linear regression models there are several assumptions that the data needs to meet. The author of the paper tested all the assumptions for both, Model 1 and Model 2. Firstly, the author made sure that all the independent and dependent variables are

numerical, measured at continuous level. Author also made sure that there are linear relationships between TL and IWB as well as each dimension of TL (IV, GG, HP, IS, PS, AM) and IWB. This was done through generating scatterplots in STATA software and in those scatterplots, the author checked that there were no significant outliers in each variable. All the variables were independent from each other and normally distributed. The author also checked for the heteroscedasticity problem and found that values of probability (p-value) for each regression were more than 0.05, thus data showed homoscedasticity. Last but not least, the author checked for the multicollinearity problem. As the author already mentioned, during the Pearson Correlation test, two components of TL- IV and AM were highly correlated. The author checked the variance inflation factor (VIF) through STATA for the second regression model and found that IV and AM both had VIF more than 5, thus there was a multicollinearity problem between these variables. The VIF results can be seen on Table 8. To solve this problem, the author decided to omit the AM variable, since IV is measured by more number of questions (IV – 5 questions; AM – 3 questions), and thus is more informative in this case.

Table 8.  
*Variance Inflation Factors (VIF) for the Model2.*

Variable	VIF
IV	5.28
AM	5.08
GG	4.08
IS	3.29
HP	2.05
PS	1.74

*Notes.* IV=identifying and articulating a vision; GG=fostering the acceptance of group goals; HP=high performance expectations; IS=intellectual stimulation; PS= providing individual support; AM= providing an appropriate model.

Source: compiled by the author.

Model 1 shows the simple linear regression model between TL and IWB. Prob >F is 0, which means that the regression is statistically significant on 0.05 significance level. The model's goodness of fit measure – R-squared – also shows to be 0.98, which means that the model explains about 98% of variability of IWB.  $P > |t|$  is 0 for the both TL coefficient and constant, which means that TL is related to IWB in statistically significant way. As for the coefficients, TL coefficient= 0.87 while Constant= 0.53. This means that even if TL in the firm equals to 0, the IWB will be 0.53, but with each point increase in TL, IWB will also

increase by 0.87 points. As it can be seen the first model Proved the first hypothesis H1, meaning that TL has positive and significant effect on IWB in the Estonian companies.

Since the author of the paper decided to omit the variable AM, because of the multicollinearity, Model 2 shows the multiple linear regression model between IV, GG, HP, IS, PS, and IWB. Prob > F is 0, which means that the regression model is statistically significant on 0.05 significance level. The goodness of fit of the model is 0.95, which means that the model explains around 95% of variability of IWB. Also, the relationship between IWB and each of the TL components are statistically significant, since for all of them  $P > |t|$  is 0, only for IS is 0.03, but it is still less than 0.05. This means that IV, GG, HP, IS and PS all have statistically significant relationship with IWB. As for the coefficients, coefficient for IV was 0.28, for GG it was 0.19, for HP it was 0.13, for IS it was 0.09 and for PS it was 0.18. As it can be seen from the results, there is a positive and significant relationship between all the TL dimensions and IWB. Thus, all the following hypotheses: H1a, H1b, H1c, H1d, H1e were accepted. As for the H1f, which stated that AM also had positive and significant relationship with IWB, it can also be accepted, since the effects of AM and IV are more or less the same, and also, the Pearson correlation analysis showed to be a positive and significant relationship between AM and IWB.

The results of the linear regression analysis of both models can be seen on Table 9.

Table 9.

*Results of linear regression analysis*

	Model1		Model2	
	Beta	Constant	Beta	Constant
TL	0.87***	0.53		0.54
IV			0.28***	
GG			0.19***	
HP			0.13***	
IS			0.09**	
PS			0.18***	
R squared	0.98		0.95	
Adjusted R Squared	0.98		0.95	

Notes. \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

IV=identifying and articulating a vision; GG=fostering the acceptance of group goals;

HP=high performance expectations; IS=intellectual stimulation; PS= providing individual support;

Source: compiled by the author.

## **2.4. Discussion of the results**

### **Relationship between TL & IWB.**

As the study in the employees of Estonian companies shows, there is indeed a positive and significant relationship between TL and IWB, as well as each of TL dimensions and IWB. Overall, the study found there to be a positive linear relationship between TL and IWB. This means that with every point increase in the TL measurement, IWB will also increase by 0.87 points. Pearson's correlation analysis also showed a very high (almost perfect) correlation between TL and IWB, meaning that as TL increases, IWB will surely also increase. This result was expected, as most of the authors (Zheng et al., 2016; Gumusluoglu & Islev, 2009; Khan, Aslam & Riaz, 2012; Jassen, 2000; Ahmad, Easa & Mustapha, 2019; Afsar & Badir, 2014) already claim TL to be the best fit leadership style for increasing IWB. As Scott & Bruce (1994) claimed, this finding also proves that leadership style does have a positive and significant effect on IWB, and that among leadership styles, transformational leadership is the most effective, when it comes with causing innovative work behavior (Khan, Aslam & Riaz, 2012). Multiple regression and Pearson's correlation analysis results show that transformational leaders through their six dimensions and characteristics that motivate followers, commit them to the same organizational vision and mission, acting as a perfect role models and expecting the same performance from their followers stimulate innovative work behavior in the case of employees of companies in Estonia.

### **Relationship between IV & IWB and AM & IWB.**

The results of the multiple regression analysis also indicate there to be a positive and significant relationship between TL dimensions and IWB. If we look at the coefficients of the independent variables, identifying and articulating a vision (IV) has the strongest influence on IWB, meaning that as IV score increases, IWB score will also increase by 0.28 points. This means that when the leader correctly identifies the company vision, demonstrates it and makes it clear, employees are more inclined to act as innovators, striving towards company vision with new innovative ways. Through Pearson's correlation analysis the author of the paper found there to be very high, almost perfect correlation between IWB & AM and between IV & IWB. This means that increase in any of the scores of AM and IV will surely yield in higher employee innovative behavior. After examining the correlations of each dimensions TL with each other, the author found IV and AM to be the most highly correlated, which created a multicollinearity problem for the regression analysis, although the problem was easily solved through omitting AM from the analysis. The author made this decision based on the fact that characteristics of these two dimensions seem to be very similar to one

another. By identifying and articulating a vision and acting in accordance to this vision, the leader naturally becomes an appropriate model for the perfect employee in the organization. Also, looking at the questions from the Podsakoff et al. (1990) questionnaire, IV and AM questions seem to have a similar tone, asking about more or less the same behaviors. For example, some of the 5 items under IV was: leader inspires others with his/her plans for the future; leader is always seeking new opportunities for the organization; while the some of the 3 items under AM was: Leader leads by “doing” rather than simply by “telling”; Leader leads by example. IV and AM as articulated by Podsakoff et al. (1990) seem to have the same characteristics as the idealized influence and inspirational motivation as articulated by Bass (1985). This study found that transformational leadership characteristics such as identifying and articulating a vision and providing an appropriate model, thus demonstrating the ideal employee and motivating employees with the vision, are very important factors for increasing the innovative work behavior in the employees. Identifying and articulating a vision (IV) and providing an appropriate model (AM) have already been said to be the core dimensions of transformational leadership (Podsakoff et al. 1990), which was proved by this study results as well, since IV & AM seem to have the strongest effect on IWB. These findings were partially supported with previous study results. Sethibe & Steyn (2016) found there to be significant and positive correlations among idealized influence and IWB and inspirational motivation and IWB, however, multiple regression analysis showed that, while there was a positive and significant relationship between inspirational motivation and IWB, idealized influence demonstrated negative and significant relationship with IWB (Sethibe&Steyn, 2016). Tajasom et al. (2015), on the contrary found that idealized influence had positive and significant effect on innovative performance, while inspirational motivation demonstrated no significant relationship. These variations in the findings might be caused by the fact that other authors used MLQ (Bass & Avolio, 2000) for measuring TL dimensions, while author of the paper used Podsakoff et al. (1990) measure. Also, the variations can be caused by different organizational cultures and attitudes of employees in different countries.

#### **Relationship between IS & IWB.**

Pearson’s correlation analysis also showed there to be quite strong correlation between intellectual stimulation (IS) and IWB. However, multiple regression analysis showed that even through the effect might be there, it is not as big as expected. Out of all the TL dimensions, IS seems to have the weakest influence on IWB, meaning that as IS score increases by one point, IWB will increase by 0.09 points. This finding was not expected, since intellectual stimulation is regarded to be one of the main causes of employee innovative

behavior, because their characteristics, of stimulating followers to think more out of the box, be more creative and innovative seem almost the same (Sethibe & Steyn, 2016). This finding was partially against most of the previous findings. In Sethibe & Steyn (2016) research both correlation and multiple regression analysis showed that among all TL dimensions, IS had the strongest positive and significant influence on IWB. Tajasom et al. (2015) also supported these findings. However, there were some studies (Ahmad, Easa & Mostapha, 2019), that found IS to have significant, but negative effect on innovation in organization. This variation in results might be caused by the different country specifics and cultures. Also, TL dimensions in this study were measure by different scale, provided by Podsakoff et al. (1990), and different questions associated with IS might have caused the variations. As the analysis proved, survey participants don't regard intellectual stimulation from the leaders as a big and important push towards innovation, but their attitude towards it, is not negative either.

#### **Relationship between GG & IWB, PS & IWB, HP & IWB.**

As for the other dimension of TL, fostering acceptance of group goals (GG), providing individual support (PS) and high performance expectations (HP) seem to have around the same effect on IWB. Respectively, by one point increase in GG score, IWB will also increase by 0.19 points; by one point increase in PS score, IWB will also increase by 0.18 points and by one point increase in HP score, IWB will also increase by 0.13 points. Pearson's correlation analysis also showed the TL dimensions: GG, HP and PS to be strongly correlated with IWB, however a bit less compared to other dimensions. If we look at the size of their effects from the multiple regression analysis, the results are consistent, meaning that GG, HP and PS do have positive and significant effect on IWB, although it's not as strong as the effect of IV and AM on IWB. Some of the previous studies also support these findings, while some of them found surprisingly no relationships. Sethibe & Steyn(2016) found positive and significant correlation among individual consideration and IWB, however multiple regression analysis later proved that there is no significant relationship between individual consideration and IWB (Sethibe & Steyn, 2016). On the contrary, Ahmad, Easa & Mostapha (2019) found that among other TL dimensions, individualized consideration had the strongest significant and positive relationship with innovation. Tajasom et al. (2015) found individualized consideration to also have positive and significant relationship with innovation processes. Scott & Bruce (1994) also proved that good leader-member relationship, as well as managerial expectations have a positive effect on IWB. This study supported hypothesis, that high performance expectations, individual consideration and

fostering the acceptance of group goals have positive and significant effect on IWB. Thus in Estonia, employees appreciate leaders who have personal and good relationships with followers, who encourage collaboration among groups and expect the best performance from everyone. And those employees show their appreciation by being more innovative and invested in the company goals.

Overall, all of the hypotheses stated in this thesis were accepted. The study found that with the sampled companies in Estonia, innovative work behavior is tightly connected with transformational leadership and all of its six dimensions. Survey respondents, working in the companies in Estonia, proved that they are willing to demonstrate more individual and organizational innovativeness if the leader demonstrates company vision, is committed to this vision and encourages employees towards the same values and vision, if the leader shows regards to the employees feelings and acts accordingly.

### **Conclusion**

This thesis explored the relationship between transformational leadership (and its six dimensions) with innovative work behavior in the case of companies in Estonia. Theoretical overview of the previous studies showed the importance of leadership style and organizational innovation. Based on the vast extent of past researches, transformational leadership has been distinguished as the best fit leadership style for cultivating innovative behavior among employees. The author of this paper has listed and explained all the dimensions of transformational leadership and their importance for innovative work behavior.

The hypotheses that TL would be positively and significantly related to IWB as well as all of the TL dimensions (IV, AM, HP, PS, IS, GG) would have positive and significant effect on IWB were tested on the data gathered surveying employees from companies in Estonia. Since the study was done during COVID-19 lockdown in Estonia, approaching the survey candidates was only possible by contacting them individually, through their LinkedIn profiles. Since it is easier to find employees of already well-known, innovative and established companies on LinkedIn, the survey participants can all be considered as workers of the innovative companies in Estonia, however, this assumption might not be fully backed up, hence the author of the paper decided to generalize the survey participants as the employees of companies in Estonia.

The author of the paper employed Pearson's correlation analysis and multiple regression analysis on the data acquired from the survey answers and found that there is indeed a positive and significant relationship between TL and IWB. The author also found there to be positive and significant relationship between each TL dimensions and IWB.

Hence, this study findings suggest that innovative work behavior in the companies in Estonia is greatly affected through leadership. Based on these findings, the leaders and managers of different Estonian companies can gain a bit of perspective on how to increase the innovativeness of their employees. The study shows that by demonstrating TL characteristics, the leader is very likely to cause employee innovative behavior. The study also showed that, the leaders should mostly concentrate on identifying and articulating vision, and being appropriate model, since these behaviors were found to be the most influential for increasing innovative work behavior.

Although the study was done on pretty small sample, it gave some insight into the innovative companies of Estonia. Nonetheless, the study had many limitations, mainly due to the lack of communication with the study sample, caused by the COVID-19 restrictions. Future research should be done on a greater scale, gathering data from more companies in Estonia, or just focusing on one specific industry/sector. Also, if the two-way perspective could be achieved by surveying leaders as well as employees, the results will be more deep and representative. Since the covid-19 lockdown limited the communication very much, it was not possible to approach leaders individually for this study.

This study findings can be very useful for Estonian companies, since Estonia is a start-up inclined country (Startup Estonia, n.d.), and innovation is very helpful for the new companies to distinguish and establish themselves. However, this thesis is just a starting point for further exploring the relationship between TL and IWB in Estonia. Future research, concentrating deeper on the causes and effects of each TL dimension is needed, in order for Estonian managers to gain a deeper perspective and be able to change leadership practices for the better. Exact behaviors should be analyzed and explored to find out what exactly is providing an appropriate model, intellectual stimulation, high performance expectations and all other TL dimensions, so that the leaders know exactly how to approach them, thus how to be more transformative and cause employee innovative behavior.

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## Appendix

Revised measure of individual innovative behavior designed by Kleysen & Street  
(2001)

Question Code	In your current job, how often do you...
IWB1	Look for opportunities to improve an existing process, technology, product, service or work relationship?
IWB2	Recognize opportunities to make a positive difference in your work, department, organization, or with customers?
IWB3	Pay attention to non-routine issues in your work, department, organization or the marketplace?
IWB4	Generate ideas or solutions to address problems?
IWB5	Define problems more broadly in order to gain greater insight into them?
IWB6	Experiment with new ideas and solutions?
IWB7	Test-out ideas or solutions to address unmet needs?
IWB8	Evaluate the strengths and weaknesses of new ideas?
IWB9	Try to persuade others of the importance of a new idea or solution?
IWB10	Push ideas forward so that they have a chance to become implemented?
IWB11	Take the risk to support new ideas?
IWB12	Implement changes that seem to be beneficial?
IWB13	Work the bugs out of new approaches when applying them to an existing process, technology, product or service?
IWB14	Incorporate new ideas for improving an existing process, technology, product or service into daily routines?

*Notes.* Based on a six-point behavioral frequency scale with “never” =1, “almost never”=2, “sometimes”=3, “fairly often”=4, “very often”=5, and “always”=6.

Source: Compiled by the author, based on Kleysen & Street (2001).

## Resüme

Innovatsioon on üheks peamistest teguritest, mis aitab ettevõtetel püsida konkurentsivõimelistena. Tänapäeval on äri alustamine lihtne, kuid raske seda säilitada ja kasvatada, milles innovatsioon on osutunud ülioluliseks. Organisatsiooniinnovatsioon algab individuaalsest innovaativsest töökäitumisest. Kui töötajad demonstreerivad uuendusmeelsust, toetab kogu ettevõtte kliima ka innovatsiooni, andes tulemuseks kogu ettevõtte kasvu. Teine samamoodi oluline tegur organisatsiooni kasvuks on juhtimisstiil. Kui töötajaid juhitakse kõige paremini sobivate juhtide kaudu, edendades tõhusust ja tulemuslikkust, on ettevõtte suunatud rohkem kasvule, edukas ja konkurentsivõimelisem.

Varasemad uuringud on näidanud, et juhtimisstiil mõjutab märkimisväärselt innovatiivset töökäitumist. Üks juhtimisstiil, mis oli üks silmapaistvamaid ja seotud innovatsiooniga, oli ümberkujundav juhtimine. Varasemad uuringud on keskendunud ümberkujundava juhtimise ja uudse töökäitumise vahelise täpse seose leidmisele, kuid enamik neist uskusid, et suhe on elujõuline ainult mõne vahendaja ja moderaatori abiga. Selle dokumendi eesmärk on tõestada, et ümberkujundava juhtimise ja uuendusliku töökäitumise vahel on juba olemas positiivne ja märkimisväärne suhe, ilma väliste või sisemiste vahendajate ja moderaatorite abita. Uuring süvendab ka selle selgitamist, kas ümberkujundamise juhtimise kõigil kuuest dimensioonist on mingi suhe uudse töökäitumisega ja milline neist mõjutab kõige tugevamalt innovatiivset töökäitumist. See uurimus on tehtud Eesti ettevõtete kohta. Tuleb märkida, et varem pole Eesti puhul selliseid uuringuid tehtud, seega täidab see uuring Eesti ettevõtete uurimislünga.

Uuringu andmed koguti 106 Eesti ettevõtte töötaja küsitluse kaudu. Uuring koosnes kahest osast: ühes osas paluti töötajatel hinnata oma juhtide ümberkujundavat juhtimist; teises osas paluti töötajatel hinnata nende endi innovatiivset käitumist. Uuringu tulemusi analüüsiti Pearsoni korrelatsioonianalüüsi ja mitmekordse regressioonanalüüsi abil. Tulemused tõestasid, et ümberkujundava juhtimise ja innovatiivse töökäitumise vahel on positiivne ja märkimisväärne seos. Uuringust selgus ka, et ümberkujundamise juhtimise kõigil kuuel dimensioonil on positiivne ja oluline mõju innovatiivsele töökäitumisele.

Uuringutulemused võivad olla kasulikud Eesti ettevõtetele, mis soovivad olla innovatiivsemad. Juhid saavad kaasata ümberkujundavat juhtimiskäitumist, et seada ettevõtte õigele teele suurema innovatsiooni ja kasvu suunas. Kuna uuring viidi läbi vähestes ettevõtetes, on tulevase uuringu läbiviimine, keskendudes suuremale numbrile, enamiku Eesti ettevõtete tulemuste üldistamiseks. Samuti võiksid tulevased uuringud keskenduda rohkem

ümberkujundamise juhtimise igale dimensioonile, nende põhjustele ja olulisusele, nii et organisatsioonide juhid teaksid täpselt, millist käitumist ja kuidas neid organisatsiooni üldise kasvu jaoks rakendada.

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