EFFECTS OF TRANSFORMATIONAL AND TRANSACTIONAL LEADERSHIP STYLES ON INNOVATIVE WORK BEHAVIOR: THE ROLE OF EMPLOYEE'S LOCUS OF CONTROL

A Thesis

Presented to the Faculty

of ISM University of Management and Economics

in Partial Fulfillment of the Requirements for the Degree of

Master of Innovation and Technology Management

by

Natalija Demeško

January 9, 2017

_____

Abstract

The aim of the following thesis is to examine the role of locus of control (LOC) in the relationship between two leadership styles (transformational and transactional) and innovative work behavior (IWB). Based on the literature review and available theory, the thesis suggests moderation effects of internal LOC in the relationship between transformational leadership and IWB, as well as moderation effects of external LOC in the relationship between transactional leadership style and IWB. The empirical research was carried out with sample of 106 employees of the largest aircraft maintenance (MRO) company in the Baltic States, which is currently undergoing process innovation (LEAN manufacturing) implementation. Based on results of correlation and multiple regression statistical analysis, the role of locus of control as a moderator was not confirmed. The results of statistical analysis illustrate that LOC shows correlation with leadership styles, however, does not show any correlation with IWB. The thesis also presents evidence of dual control – ability of individuals to possess both internal and external LOC simultaneously. The recommendations derived from the results suggest the importance of applying both transformational and transactional leadership styles' practices in the cooperation with subordinates, by taking into account the personal differences of employees with respect to locus of control. Both leadership styles contain practices that positively affect innovative behavior of employees, therefore, it is important for leaders to combine these practices in their behavior in order to foster IWB among followers.

Keywords: Innovative Work Behavior, Transformational leadership, Transactional leadership, Locus of Control, Intrinsic and Extrinsic Motivation, Moderation

Table of Contents

List of Tables

List of Figures

Introduction

In today's world, the ability to innovate already became crucial for both businesses and societies, as it helps to develop competitive advantage (Pieterse et al., 2009; Oseebaar, 2012) and achieve important performance outcomes (Yuan & Woodman, 2010, as cited in Kroes, 2015). In the managerial world, companies acknowledge the fact that overall organizational innovation highly depends on enhancement of individual employee *Innovative Work Behavior* (IWB), thus, the ways and possibilities of development of such behavior in workplace still remains a major topic among both practitioners and scholars (De Jong & Den Hartog, 2010).

According to Jung, Chow & Wu (2003), *leadership* in particular is considered as one of the most important factors affecting employee's creativity and innovative performance. Specifically, two leadership styles – *transformational* and *transactional* – have attracted significant amount of scholar's attention over the past decade in terms of their impact on IWB. The vast majority of findings (Jung, Chow & Wu, 2003; Gumusluoglu & Ilsev, 2009; Sharifirad, 2013; Tahsildari, Hashim & Normeza, 2014; Iscan, Ersari & Naktiyok, 2014; Kroes, 2015) have shown that transformational leadership proves to have a strong positive impact on innovative work behavior and organizational innovation, while transactional leadership is expected to have a negative effect (Lee, 2008; as cited in Ossebaar, 2012). In the past, transactional leadership was believed to be a bipolar concept to transformational leadership (Burns, 1978), however, later on, a different approach was raised which implied that exclusively applying transformational leadership in the relationship between leaders and apprentices might not be as effective, as applying combination of the two leadership styles (Bass, Avolio, & Goodheim, 1987, as cited in Lowe, Kroeck & Sivasubramaniam, 1996).

Despite a negative tendency for transactional leadership, there are some studies implying that effects of this leadership style on IWB are still under-explored. Iscan, Ersari,

and Naktiyok (2014) have identified transactional leadership as having a positive, however, less significant impact on organizational performance and innovation than transformational leadership; Si & Wei (2011) (as cited in Ossebaar, 2012) concluded that transactional leadership has positive effects on employee creativity when a high empowering climate is present; as well as study of Khan, Aslam & Riaz (2012) showed a direct positive relationship between transactional leadership and IWB. Hence, it is possible to hypothesize that there are additional factors and specific circumstances that influence the relationship between transactional leadership and employee innovativeness (Ossebaar, 2012). This way, there is still some room for further research with respect to factors which could enhance employee's innovative work behavior not just from transformational leadership's perspective, but also from transactional leadership's side.

According to original behavioral patterns raised by Bass (1985) and several independent scholar's findings, one of the main differences of the two previously mentioned leadership styles is their connection to specific types of *motivation* – to be precise, transformational leadership highly affects *intrinsic* employee motivation (Barbuto Jr, 2005; Goodridge, 2006; Gumusluoglu & Ilsev, 2009), while transactional leadership is associated with *extrinsic* motivation (e.g. contingent rewards) (Bass, 1985; Odumeru & Ifeanyi, 2013). Based on Baron & Ganz (1972) study (as cited in Deci & Ryan, 1985), both intrinsic and extrinsic motivation types tend to have different effects for individuals based on their *locus of control (LOC).* An individual with external locus of control believes that events, results and outcomes depend on the forces beyond his control, such as fate, luck or chance (Noureen & Nisa Awan, 2011), whereas an individual with internal locus of control is confident that influence over outcomes depends solely on his own behavior, skills and knowledge (Babalola, 2009). Miller, Kets de Vries and Touhouse (1982) (as cited in Wheatley, Anthony and Maddox, 1988) stated that individuals with internal locus of control are more likely to be

engaged in innovation than their counterparts who exhibit external locus of control. Since the majority of organizations (especially large enterprises that seek enhancement of IWB level) employ *both* external and internal locus of control possessing employees, a question can be raised whether it is possible to enhance IWB of individuals with external locus of control and what factors can possibly trigger the enhancement?

Taking into account previously mentioned connections between [LEADERSHIP and MOTIVATION] and, respectfully, [MOTIVATION and LOCUS OF CONTROL], there is a possibility to hypothesize that there might be a specific [LEADERHIP - LOCUS OF CONTROL] connection, that can lead to possibility of maximizing the overall IWB level in the organization by applying, for instance, different leadership styles towards different employee groups based on their type of locus of control. Since individuals with external locus of control tend to show more productive behavior when they are led by extrinsic motivation (Baron & Ganz, 1972; as cited in Deci & Ryan, 1985), it is possible to hypothesize that applying transactional leadership (which is theoretically associated with extrinsic motivation) can enhance their innovative work behavior, and similarly with transformational leadership – individuals with internal locus of control might exert stronger IWB under transformational leadership, which is associated with intrinsic motivation.

This way, **the major research question** that the thesis will address is formulated as follows: *what is the role of locus of control in the relationship between transformational and transactional leadership styles and innovative work behavior?*

Hence, **the aim** of the thesis is to test the LOC construct as a moderator in the relationship between transformational and transactional leadership and innovative work behavior, and identify whether individuals with different types of LOC would require specific leadership styles in order to increase the level of their Innovative Work Behavior (IWB). In this study, it is hypothesized that external locus of control moderates the relationship between

transactional leadership and IWB, while internal locus of control moderates the relationship between transformational leadership and IWB.

In order to accomplish the aim, the following **objectives** are set:

1. To analyze transformational and transactional leadership styles, locus of control, innovative work behavior conceptualizations, and provide theoretical grounding for these concepts' linkages.
2. To design the conceptual model with relevant hypotheses that illustrates the proposed role of locus of control in the link between leadership styles and IWB.
3. Empirically evaluate the role of locus of control as a moderator in the linkage between leadership styles and IWB by conducting quantitative research.
4. Discuss scientific and practical implications of research findings and provide recommendations for further research.

In order to test the hypotheses raised in the thesis, a quantitative research was carried out by applying a survey method within the largest aircraft maintenance (MRO) company in the Baltic States, which is currently undergoing process innovation (LEAN manufacturing) implementation.

The reason why this research can be useful and unique in both theoretical and practical terms is that study takes into account personal differences of employees (i.e. applying locus of control as a moderator) when analyzing the effects of transformational and transactional leadership styles on IWB. The research also has managerial implications, as the results provide some useful insights for organizations with diversified talent pool, which aim for maximization of the overall level of innovative work behavior.

The first chapter of the thesis presents the literature review that covers theoretical definitions of IWB, transformational and transactional leadership styles and LOC concepts, as well as their linkage between each other. Also, this section explains the role of *intrinsic*

and extrinsic motivation, which serves as a connecting variable between leadership and LOC. The analysis is based on review of academic literature and scientific articles as well as discussion of previous research findings with respect to listed concepts. The chapter is finalized by formulation of major research question of the thesis.

The second chapter covers the research methodology explanation, presentation of the conceptual model and major hypotheses, as well as justification for selected research design and data analysis methods.

The third chapter presents empirical research findings, based on collected primary data. In this section, testing of the proposed hypotheses is carried out and an answer to the research question is provided.

In the fourth chapter of the thesis, the research findings are discussed with respect to previous scholar's contributions. The section covers theoretical and practical implications of the discovered results. At the end of the chapter, limitations of the study the recommendations for further research are provided.

Literature Review

The aim of this section is to examine theoretical foundation for the proposed role of locus of control in the relationship between transformational and transactional leadership and innovative work behavior. Currently, there is a significant amount of studies available on the effects of transformational leadership on IWB, some of which also incorporate transactional style as an object for comparison. The majority of scholars point out the presence of specific moderators that influence [LEADERSHIP – IWB] relationship. Based on the fact that transactional leadership shows quite inconsistent results on its relationship with IWB, it is possible to conclude that its' "sometimes positive, sometimes negative" effect might depend on certain conditions, such as presence of specific moderator variables.

From internal perspective, both types of leadership seem to show specific connection with intrinsic and extrinsic types of motivation. Interestingly, the same connection is observed with locus of control – several studies indicate that internal LOC is associated with intrinsic motivation, whereas external LOC is related to extrinsic type of motivation. Taking into account similar connection with motivation, there is a possibility to raise a hypothesis that there is a relationship between internal LOC and transformational leadership and, respectfully, external LOC and transactional leadership. For this reason, the major **research question** is to find out the role of LOC in the [Transformational Leadership – IWB] and [Transactional leadership – IWB] relationships and check the possibility of LOC construct being a potential moderator in the linkage.

With the goal of preparing a proper background for the research, it is important to analyze the constructs from theoretical perspective and explore their linkages between each other. In order to make the analysis consistent, the section is divided into three parts – "Concept definition", "Construct relationship analysis" and "Research problem".

The focus of the first sub-section is on definition of concepts of innovative work behavior, transformational and transactional leadership styles and locus of control. This part covers theoretical definitions and dimensions of each concept based on both classic theories of original authors and modern scholar's insights.

The second sub-section focuses on theoretical grounding for the linkages between previously discussed concepts. This part also presents the evidence of specific relationship between transformational and transactional leadership styles with LOC through connecting elements – intrinsic and extrinsic motivation. This part is primarily based on overview of findings described in prior empirical studies and theoretical articles.

The last sub-section is finalized by identification of the research gap in the current literature and formulation of the major research question of the thesis.

Concept definition

Innovative Work Behavior

The field of innovative work behavior and organizational innovation has been attracting significant attention from both practitioner and theorist side for the last two decades (Tahsildari, Hashim & Normeza Wan, 2014). Competitive business environment has created conditions such that modern companies cannot survive without incorporating at least some degree of innovation in their operations or product development. According to Cainelli et al. (2004) (as cited in Tahsildari et al. 2014), innovating firms tend to have higher levels of productivity and economic growth comparing to zero-innovating companies. As birth of new ideas primarily happens in the minds of individuals (Mumford, 2000; as cited in Den Hartog & De Jong, 2010), the majority of firms indicate that main source of innovation is related to none other element than company's *employees* and their *behavior* (Dörner, 2012).

Definition

Since currently there is no one-agreed-upon characterization of innovative work behavior (IWB) concept, several different definitions are present in the literature.

According to De Spiegelaere, Van Gyes and Van Hootegem (2014), the most widely used definition of IWB concept was developed by West & Farr (1989), who state that innovative work behavior represents actions of individuals that involve "*intentional introduction and application (within individual, group or organization) of ideas, processes, products or procedures which are relevant to the new unit of adoption, designed to significantly benefit the individual, the group, organization or wider society (p.9)".* Eventually, this definition was adapted by other scholars, including Farr & Ford (1990) and Jannsen (2000), who also refer to creation and application of new ideas as the key element of IWB.

As literature indicates, in the past, concept of innovative work behavior was associated solely with creativity and generation of new ideas (De Jong & Den Hartog, 2010). However, eventually, it was determined that individual creativity does not necessarily lead to innovativeness (Miron, Erez & Naveh, 2004; as cited in Dörner, 2012). Modern scholars imply that IWB represents a more complex set of behavioral patterns that involves both generation and implementation of creative ideas in practice (Khan, Aslam & Riaz, 2012; Tahsildari, et al., 2014). Scott & Bruce (1994) describe IWB as a product of four interacting elements - individual, leader, work group and climate for innovation. Possible practical examples of IWB include development of new corporate strategies, application of untried technologies, proposition of new working methods and delegation of resources to implement innovations (Kheng, Mahmood & Beris, 2013).

Table 1. Definition of Innovative Work Behavior by different authors

Authors	Definition	Application in the literature by different scholars
West & Farr (1989)	"Intentional introduction and application (within individual, group or organization) of ideas, processes, products or procedures which are relevant to the new unit of adoption, designed to significantly benefit the individual, the group, organization or wider society." (p.9)	▪ Jannsen (2000) ▪ Reuvers, Van Engen, Vinkenburg & Wilson–Evered (2008) ▪ Babalola (2009) ▪ Dörner (2012) ▪ Kheng, June & Mahmood (2013) ▪ Kheng, Mahmood & Beris (2013) ▪ De Spiegelaere, Van Gyes and Van Hootegem (2014)
Farr and Ford (1990)	"An individual behavior that aims to achieve the initiation and intentional introduction (within a work role, group or organization) of new and useful ideas, processes, products and procedures."(p.63)	▪ De Jong & Den Hartog (2010) ▪ Sharifirad (2013) ▪ Kroes (2015)
Scott & Bruce (1994)	"We viewed individual innovative behavior as an outcome of four interacting systems – individual, leader, work group and climate for innovation." (p.582)	▪ Reuvers, van Engen, Vinkenburg & Wilson–Evered (2008) ▪ Pieterse, Van Knippenberg & Stam (2009) ▪ Khan, Aslam & Riaz (2012) ▪ Tahsildari, Hashim & Wan Normeza (2014)
Jannsen (2000)	"IWB is defined here as the intentional creation, introduction and application of new ideas within a work role, group or organization, in order to benefit role performance, the group, or the organization." (p.288)	▪ Ramamoorthy, Flood, Slattery & Sardessai (2005) ▪ Reuvers, Van Engen, Vinkenburg & Wilson–Evered (2008) ▪ Oukes (2010) ▪ Khan, Aslam & Riaz (2012) ▪ De Spiegelaere, Van Gyes and Van Hootegem (2014) ▪ Tahsildari, Hashim & Normeza Wan (2014) ▪ Kaur & Gupta (2016)
Oukes (2010)	"By engaging in innovative behaviors employees, develop, carry, react to and modify ideas that would otherwise not be developed." (p.14)	▪ N/A
Khan, Aslam & Riaz (2012)	"IWB is a dynamic and a complex phenomenon that also encompasses creativity." (p.17)	▪ N/A
Kheng, June & Mahmood (2013)	"An employee's action directed at the generation, application and implementation of novelty ideas, products, processes and methods to his or her job position, departmental unit or organization." (p.49)	▪ N/A

Source: prepared by author based on literature review

After comparing several definitions of IWB (see Table 1), it is possible to observe the presence of common elements and translation of the same idea by different authors that IWB addresses both creation and application of new ideas, products, processes or procedures. All mentioned definitions directly or indirectly originate from West and Farr's (1989) work, including the one developed by Jannsen (2000), who is also often cited by scholars in the literature. This way, based on **West & Farr's (1989)** widely accepted definition, in this thesis, IWB concept is defined as individual behavior that involves intentional introduction and implementation of new ideas, products, processes or procedures, which incorporate certain benefit to the individual, group, organization and wider society.

Dimensions

The majority of scholars agree on the fact that IWB represents a multi-stage process, thus, current body of knowledge distinguishes several dimensions that are linked precisely to different stages of the innovation process (Den Hartog & De Jong, 2010). However, the number of proposed dimensions can vary with respect to different authors (see Table 2).

Table 2. Dimensions of Innovative Work Behavior by different authors

Authors	Dimensions of IWB	Application in the literature by different scholars
Kanter (1988) (p. 173)	▪ Idea generation ▪ Coalition building ▪ Idea realization ▪ Transfer / diffusion	▪ Scott & Bruce (1994) ▪ De Jong & Den Hartog (2010) ▪ Kheng, June & Mahmood (2013)
Scott & Bruce (1994) (p.581-582)	▪ Problem recognition/ Idea generation ▪ Coalition building ▪ Implementation of innovation	▪ Pieterse, Van Knippenberg & Stam (2009) ▪ Babalola (2009) ▪ De Jong & Den Hartog (2010) ▪ Khan, Aslam & Riaz (2012) ▪ Tahsildari, Hashim & Normeza Wan (2014)
Jannsen (2000)	▪ Idea generation ▪ Idea promotion ▪ Idea realization	▪ Ramamoorthy, Flood, Slattery & Sardessai (2005) ▪ Reuvers, van Engen, Vinkenburg & Wilson–Evered (2008)
De Jong & Den Hartog (2010)	▪ Opportunity exploration ▪ Idea generation ▪ Idea championing ▪ Idea implementation	▪ Oukes (2010) ▪ Sharifirad (2013) ▪ Kroes (2015)

Source: prepared by author based on literature review

Earlier works of Kanter (1988) describe IWB as a four-dimensional process, consisting of *idea generation, coalition building, idea realization* and *diffusion of innovation.* Comparing to the predecessor, Scott & Bruce (1994) distinguish three separate elements - *problem recognition and generation of ideas, coalition building*, and *implementation of innovation*. Similarly, Jannsen (2000) describes IWB as a three-stage process, which includes the same elements - *idea generation, idea promotion* and idea *realization.* Eventually, Den Hartog & De Jong (2010) expanded the list of IWB components of Scott & Bruce (1994) to a four-stage process that includes *opportunity exploration, idea generation, idea championing* and *implementation.* The authors pinpoint that earlier description of 'idea generation' stage by Scott & Bruce (1994) was relatively broad, thus, Den Hartog & De Jong (2010) have distinguished opportunity exploration from this particular stage as a separate dimension.

The review of different scholar's presentation of IWB dimensions clearly illustrates a similar pattern of elements that are linked to different stages of innovation process. Since the latest four-dimensional model of **De Jong & Den Hartog (2010)** incorporates all previously mentioned definitions, it will be used in this thesis in order to measure IWB construct. The dimensions include: opportunity exploration, idea generation, idea championing and idea implementation.

Opportunity exploration stage involves identification of potential improvements with respect to products, services and incremental processes. According to Den Hartog & De Jong's (2010) insights, realization of a need for innovation can happen by chance or, for instance, as a quick and necessary response to suddenly occurred problem.

Idea Generation takes place once a potential opportunity was identified, and involves reorganization of available information into a clear concept. This stage strongly depends on individual's creativity and the ability to see a different picture as well as application of 'out of the box' thinking manner.

Idea Championing is an analogue of Kanter's (1988) component of 'coalition building', and refers to promotion of new ideas in organization and acquisition of the power necessary to move the idea into reality (Kanter, 1988; Kroes, 2015). The stage is characterized by creation of coalitions in order to build support for the proposed innovation within the organizations and convince employees to become part of the implementation process. At this point, it is important to 'sell' the idea, as in the majority of cases potential users are reluctant to become engaged in innovation implementation due to uncertainty in its value (De Jong & Den Hartog, 2010).

Idea Implementation is the final element of innovative work behavior and represents the incorporation of new ideas into regular organizational processes and its diffusion (De Jong & Den Hartog, 2010) (see Figure 1).

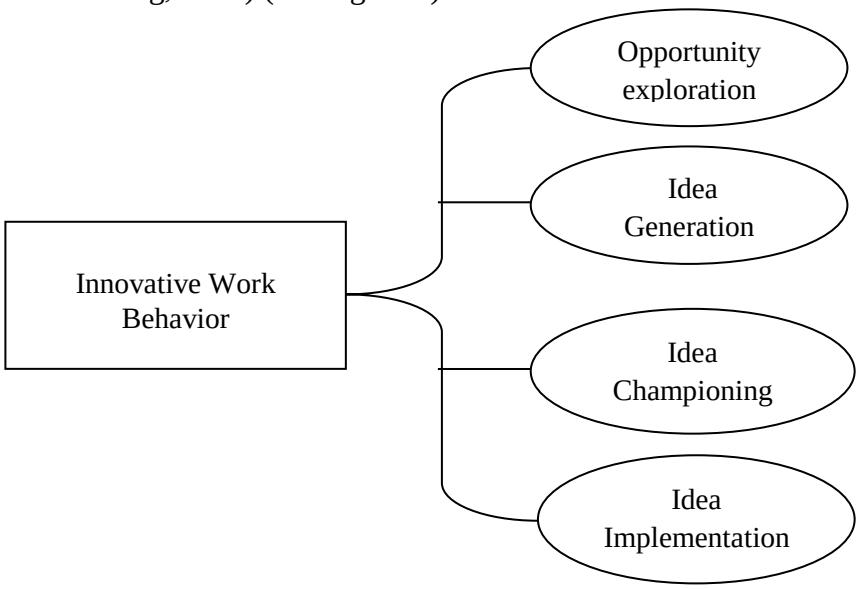


Figure 1. Dimensions of IWB

Source: Den Hartog & De Jong (2010)

To conclude, in the current business environment IWB constitutes essential conditions for improving efficiency and increasing enterprise value (Bowe et al, 2010 as cited in Tahsildari et al., 2014). Subsequently, the importance of innovative behavior has not been underestimated from theoretical perspective, and factors that highly affect and can possibly enhance level of IWB at work continue to remain a prevailing topic among scholars. Based

on West & Farr's (1989) definition, this thesis will refer to IWB as an individual behavior that involves intentional introduction and implementation of new ideas, products, processes or procedures, that incorporate certain benefit to the individual and the organization overall. The construct will be analyzed based on four major dimensions presented by De Jong & Den Hartog (2010) – opportunity exploration, idea generation, idea championing and idea implementation.

Transformational and Transactional Leadership

Leadership represents an important element in the organizational success, as it stimulates goal achievement, innovation diffusion and guides individual employees and groups through organizational changes (Aarons, 2006). According to Jung, Chow & Wu (2003), leadership in particular is regarded as one of the most supreme factors affecting employee's creativity and innovative performance. Riaz (2009) (as cited in Khan, Aslam & Riaz, 2012) investigated the role of leadership style in the prediction of decision making, and the results indicated that particularly *transformational* and *transactional* leaders were the most effective decision makers. Therefore, it is not surprising that transformational and transactional leadership styles continue to remain prevailing theory in the field of leadership.

Definition

As a pioneer of transformational and transactional leadership terminology, James Burns (1978) has derived both concepts in his analytical-observational study of different political leaders' biographies. The study was based on analysis of personal leader's characteristics and behavior in the context of different situations (i.e. Contingency Theory of Leadership) (Simić, 1998). Original definition by Burns (1978) describes transformational leadership as a "*process in which leaders and followers raise one another to higher levels of morality and motivation*" (Burns, 1987, p.20), while transactional leadership "*occurs when one person takes the initiative in making contact with others for the purpose of an exchange*

of valued things. "(Burns, 1987, p.19). In other words, transactional leadership is based on contractual obligations of an individual in exchange for instrumental rewards (such as financial payment), and constant monitoring of performance in terms of compliance with organizational standards (Bodla & Nawaz, 2010; Odumeru & Ifeanyi, 2013), whereas transformational leadership involves proactive behavior of a leader that focuses on collective interests and inspiration of followers to achieve more than it is initially expected (Bodla & Nawaz, 2010; Kroes, 2015). Several definitions of two discussed leadership styles are presented in Table 3.

Table 3. Definitions of Transformational and Transactional Leadership styles

Author	Transformational Leadership	Transactional Leadership	Application in the literature by different scholars
Burns (1978)	"process in which leaders and followers raise one another to higher levels of morality and motivation" (p. 20)	"occurs when one person takes the initiative in making contact with others for the purpose of an exchange of valued things. "(p.19)	▪ Lowe,Kroeck & Sivasubramaniam (1996) ▪ Barbuto Jr (1997) ▪ Barbuto Jr (2005) ▪ Iscan, Ersari & Naktiyok (2014)
Bass (1985, 1990)	"occurs when leaders broaden and elevate their interests of their employees, when they generate awareness and acceptance of the purposes and mission of the group, and they stir their employees to look beyond their own self-interest for the good of group". (p.21)	"when managers engage in a transaction with their employees: they explain what is required of them and what they will receive if they fulfill these requirements." (p.19)	▪ Lowe,Kroeck & Sivasubramaniam (1996) ▪ Den Hartog, Muijen & Koopman (1997) ▪ Jung, Chow & Wu (2003) ▪ Tahsildari, Hashim & Normeza Wan (2014)
Pieterse, Van Knippenberg, Schippers & Stam (2009)	"is defined as a style of leadership that transforms followers to rise above their self-interest by altering their morale, ideals, interests, and values, motivating them to perform better than initially expected." (p.2)	"is based on an exchange relationship in which the leader makes clear what is expected of followers." (p.2)	▪ N/A
Bodla & Nawaz (2010)	"Transformational leaders are proactive, raise follower awareness for transcendent collective interests, and help followers achieve extraordinary goals."(p.210)	"is an exchange process based on the fulfillment of contractual obligations and is typically represented as setting objectives and monitoring and	▪ N/A

		controlling outcomes." (p.210)	
Iscan, Ersari & Naktiyok (2014)	"defined as leaders, who positively envision the future scenarios for the organizations, engage primarily in improving employees' self-confidence by helping them to realize their potential, communicate an achievable mission and vision of the organization." (p.882)	"Is conceptualized as the exchange relationship between leaders and their followers." (p.882)	▪ N/A

Source: prepared by author based on literature review

The available literature clearly illustrates that classic definitions of Burns (1978) and his apprentice Bass (1985, 1990) still remain the main influence for modern scholars' characterization of transformational and transactional leadership. Bernard Bass (1985, 1990), by taking into account earlier works of Burns (1978), further developed the theory by specifically describing elements of each leadership style (Simić, 1998). Therefore, in this study, two constructs are defined based on **Bass (1985, 1990)** characteristics, who states that transformational leaders take into account interests of their employees and inspire followers to perform beyond expectations and seek new solutions, whereas transactional leaders clearly explain their subordinates what is expected from them and what they will get in return for their performance.

Dimensions

Nowadays, when analyzing the sole concept of transformational and transactional leadership the majority of modern scholars (Jung, Chow & Wu, 2003; Judge, Woolf, Hurst & Livingston, 2006; Gumusluoglu & Ilsev, 2009; Warrilow, 2012, as cited in Odumeru & Ifeanyi, 2013; Ahmad, Abbas, Latif & Rasheed, 2014; Kroes, 2015) refer to original dimensions raised by Bass (1985; 1990), who states that **transformational leadership** type consists of four unique, but highly interrelated behavioral components (Jung, Chow & Wu, 2003): *inspirational motivation, intellectual stimulation, idealized influence and individualized consideration*; while **transactional leadership** consists of three major

dimensions - *contingent reward*, *management by exception (active)*, *management by exception (passive)*, and one non-leadership dimension – *laissez-faire management* (Judge & Piccolo, 2004).

Eventually, Bass together with his colleague Avolio (1991) (as cited in Judge, Woolf, Hurst & Livingston, 2006) has developed a Full Range Leadership Model that illustrates the difference between all eight behavioral dimensions of transformational and transactional leadership based on their level of effectiveness and activity (see Figure 2).

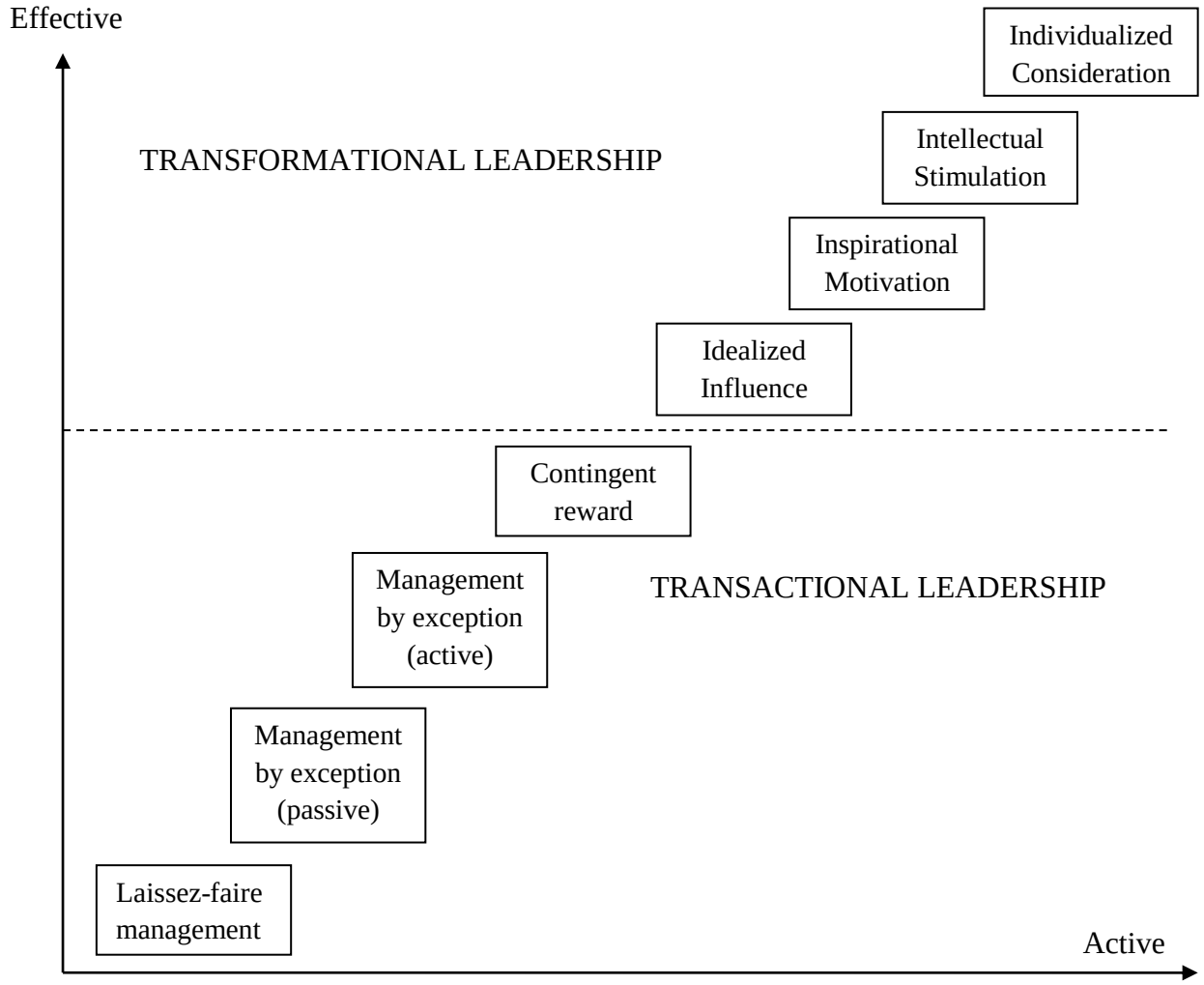


Figure 2. The Full Range Leadership Model

Source: Judge, Woolf, Hurst & Livingston (2006) (original source - Bass and Avolio, 1991)

The first four dimensions – individualized consideration, intellectual stimulation, inspirational motivation and idealized influence – serve as the major building blocks for

transformational leadership. Empirical evidence indicates that leaders who are able to apply these four behaviors have the capability to influence intrinsic motivation of employees, remodel their values, build a clear long-term vision, promote creative solutions, and lead followers to performance beyond expectations (House & Shamir, 1993, Jung & Avolio, 2000, as cited in Jung, Chow & Wu, 2003; Gumusluoglu & Ilsev, 2009).

Individualized consideration refers to the ability of a leader to objectively evaluate skills of his followers and acknowledging the specifics and differences of each individual by building a one-to-one approach (Gumusluoglu, 2009). Such leader provides mentor's support to the subordinates in the development of their abilities (Jung, Chow & Wu, 2003) as well as shows recognition of the individual's contribution to the group (Odumeru & Ifeanyi, 2013). It is possible to parallel individualized consideration with higher order needs of Maslow's (1943) Hierarchy of Human Needs: this component of transformational leadership addresses each individual team members' need for self-actualization and self-esteem (i.e. higher order needs of the Maslow's pyramid). By applying individualized consideration, leaders delegate certain level of autonomy to their followers and, as a result, provide them an opportunity for fulfillment of the working needs and exercising capabilities in the working environment (Ahmad, Abbas & Rasheed, 2014). According to the Full Range Leadership Model of Bass & Avolio (1991), individualized consideration is the most effective and active component of transformational leadership.

By using ***intellectual stimulation***, leader challenges assumptions (Odumeru & Ifenayi, 2013) and puts the main emphasis on creativity and innovative thinking by encouraging followers to think 'out-of-the-box' without losing the connection to the common mission (Gumusluoglu, 2009). In this case, transformational leader promotes creative, but at the same time rational problem-solving (Bass, 1985), that eventually leads to enhancement of individual decision-making skills of each team member (Ahmad, Abbas & Rasheed, 2014).

From leader's perspective, ***inspirational motivation*** involves communication of a concise and appealing long-term vision, goals and objectives to employees (Jung, Chow & Wu, 2003); stimulation of enthusiasm towards its achievement (Kroes, 2015) by appointing meaning to each activity (Odumeru & Ifeanyi, 2013) and expressing belief in employees' skills (Gumusluoglu & Ilsev, 2009). Inspirational motivation from the leader's side is critical for triggering follower's performance beyond expectations (Odumeru & Ifeanyi, 2013).

Idealized Influence (or Charismatic Role Modeling) refers to behavior when leader manages to build respect, loyalty and strong compliance from subordinates' side by becoming a role-model and emphasizing the importance of collaborative sense of mission (Gumusluoglu, 2009; Ahmad, Abbas & Rasheed, 2014). According to classical theory of transformational leadership by Bass (1985), idealized influence (or in other words – *charisma*) is a crucial factor for transformational process as charismatic leaders gain great power over their subordinates, once they start strongly identifying themselves with their leaders. Frequently, transformational leadership is associated with charismatic leadership, and as a result, two terms are used interchangeably (Hunt & Conger, 1999; as cited in Judge, Woolf, Hurst & Livingston, 2006). Yet, some scholars argue that these are absolutely separate leadership styles. For instance, Barbuto Jr. (1997) distinguishes transformational leadership from charismatic based on the following argument - charismatic leader builds follower's commitment on unquestionable (and often blind) obedience which usually results in idolization and strong emotional attachments (Bass, 1985; as cited in Barbuto Jr., 1997); while transformational leader, in turn, focuses on directing the follower's commitment towards achievement of organizational goals without causing self-immolation from the subordinate's side. Hence, it is incorrect to state that charismatic and transformational leadership are fully interchangeable terms. Barbuto Jr. (1997) disagrees with theory of Bass (1985) and implies that leaders can be transformational even without incorporating

charismatic style in their behavior, meaning that the sole concept of transformational leadership should not necessarily include idealized influence (or charisma) as a major component. According to Barbuto's Jr. (1997) arguments, focusing on individual consideration, intellectual stimulation, and inspirational motivation should be sufficient enough in order to become a transformational leader. However, all four components presented by Bass (1985) are still widely used in theory by modern scholars; thus, classic approach that all four patterns of behavior are necessary in order to become a transformational leader is still pre-dominant in the literature.

In terms of **transactional leadership**, the four major characteristics which constitute this type of leadership include contingent reward, management by exception (active and passive), and laissez-faire management (Bass, 1985).

Contingent Reward is the main dimension of transactional leadership, and represents an exchange of employee efforts and accomplishments for certain rewards (Bass, 1985). The aim of contingent reward is to stimulate extrinsic employee motivation (Oseebaar, 2012; Odumeru & Ifeanyi, 2013). According to Lowe, Kroeck & Sivasubramaniam (1996), from the perspective of a follower, leader may enhance working unit effectiveness by properly managing reward distribution system, especially, if rewards are highly valued by the individuals (Bass, 1990).

Management by Exception (active). This component implies that leader constantly monitors the performance of subordinates and actively looks for deviations (Bass 1985) and enforces rules to avoid mistakes (Oseebaar, 2012).

Management by Exception (passive) involves behavior when leader takes actions and intervenes with his team only when deviations from acceptable performance standards have already occurred (Oseebaar, 2012). It does not involve active monitoring of performance, and the actions are usually taken by the leader post-factum.

Laissez-Faire leadership. This component represents absence of any leadership, i.e. behavior includes denial of responsibilities and avoidance of decision-making (Bass, 1985). According to the Full Range Leadership Model by Bass & Avolio (1991), laissez-faire management represents the most passive out of all components and the least effective leader's behavior (i.e. absence of any leadership), for this reason, it is usually omitted by scholars in their studies of transactional leadership (Barbuto Jr., 2005).

In order to complete the research, the thesis will refer to classic dimensions of **Bass (1985)** when defining transformational and transactional leadership constructs:

- 4 dimensions will be applied to measure transformational leadership: individualized consideration, intellectual stimulation, inspirational motivation and idealized influence.
- 3 dimensions will be applied to measure transactional leadership: contingent reward, management by exception (active) and management by exception (passive). Laissez-faire management dimension is not applied in this study, since it represents the absence of leadership, and thus, is irrelevant for the research.

Comparison of two leadership styles

Based on previously listed behavioral patterns, Odumeru & Ifeanyi (2013) in their comparative analysis of transactional and transformational leadership have drawn a parallel between two leadership styles and McGregor's Theory X and Theory Y. Authors state that transactional leadership can be linked to the traditional Theory X, where it is implied that individuals are rewarded or punished with respect to their behavior and accomplishments; whereas, transformation leadership is related with Theory Y, that emphasizes a supportive, trustful relationship between leader and subordinates, where employees are encouraged and inspired to achieve better results. Odumeru & Ifeanyi (2013) also pinpoint that transformational leadership is *proactive* and is directed towards changes in the organizational culture; while transactional leadership is *responsive,* that takes into account boundaries and

works in line with organizational procedures and culture. The comparison of two leadership styles is presented in Table 4.

Table 4. Comparison of Transformational and Transactional Leadership theories

Transformational Leadership	**Transactional Leadership**
Dimensions (Bass, 1985): 1) Inspirational Motivation 2) Intellectual Stimulation 3) Idealized Influence 4) Individualized Consideration	Dimensions (Bass, 1985): 1) Contingent rewards 2) Passive management by exception 3) Active management by exception 4) Laissez-faire management* (n/a)
Maslow's (1943) hierarchy of needs: Transformational leadership addresses higher level needs (such as self-esteem and self-actualization)	Maslow's (1943) hierarchy of needs: Transactional leadership addresses basic/lower level needs (such as physiological and safety needs)
Focus on intrinsic employee motivation (Gumusluoglu & Ilsev, 2009)	Focus on extrinsic employee motivation (Bass, 1985; Oseebaar, 2012; Odumeru & Ifeanyi, 2013)
Leadership is proactive (Odumeru & Ifeanyi, 2013)	Leadership is responsive (Odumeru & Ifeanyi, 2013)
Working to change the organizational culture (Odumeru & Ifeanyi, 2013)	Working within the organizational culture (Odumeru & Ifeanyi, 2013)
Resemblance to Theory Y (Odumeru & Ifeanyi, 2013)	Resemblance to Theory X (Odumeru & Ifeanyi, 2013)

Source: prepared by author based on literature review

According to the Full Range Leadership Model of Bass & Avolio (1991), transactional leadership falls into less effective and more passive category, and this fact seems to indicate a certain superiority of transformational leadership over transactional. However, researchers argue that two styles can actually complement each other (Judge, Woolf, Hurst & Livingston, 2006). Initially, Burns (1978) theorized that distinction between transactional and transformational leadership is dichotomous, meaning that leaders can apply transactional or transformational style only on mutually-exclusive basis (Hackman, 2009). However, this dichotomy separating the two forms into distinct roles has not proved to be accurate – further studies of leadership by Bass (1985) and his colleagues Avolio, & Goodheim (1987) showed that leaders can exert behavior that employs both transformational and transactional approaches at the same time (Conger & Kanungo, 1998), hence, there also

exists an opinion that two constructs can be regarded as complementary rather than opposite (Lowe, Kroeck & Sivasubramaniam, 1996). According to Bass (1985), both styles may be linked to the achievement of desired goals and objectives, and this statement can be supported by the study performed by Advani & Abbas (2015), who after completing research of Pakistanian banking sector, have identified that both transactional and transformational leadership can have a strong and positive relationship with employee's performance. Scholars also imply that solely applying transformational leadership in the total absence of transactional relationship between leaders and followers is likely to be ineffective (Bass, Avolio, & Goodheim, 1987). This way, it is theorized that transformational leadership needs to be combined together with transactional leadership style, in order to achieve more efficient operations (Chen J, & Chen I., 2007, as cited in Khan, Aslam & Riaz, 2012). Similarly Hackman (2009) states that transformational leadership augments the effects of transactional leadership. This theory can be supported by research performed by Turkish scholars Iscan, Ersari and Naktiyok (2014) who have determined that both transformational and transactional leadership styles exert positive effect on organizational performance and overall level of organizational innovation, however, the significance of these two leadership styles' effects was different – transactional showed positive, but not meaningful relationship, while transformational leadership showed strong positive relationship beyond the effects of transactional leadership. Augmentation effect serves as an additional argument against 'the old dichotomy belief' that two concepts are bipolar in their nature; this way, the vast majority of modern theorists acknowledge the complementarity approach by pointing out the fact that application of one leadership style in the workplace might not bring superior task performance, as the combination of both transformational and transactional leadership types (Bass, Avolio, & Goodheim, 1987; as cited in Lowe, Kroeck & Sivasubramaniam, 1996; Bass, 1985; as cited in Oseebaar, 2012).

To conclude, transformational and transactional types of leadership are referred to as one of the most prevalent theories in the field of leadership (Odumeru & Ifeanyi, 2013). In the majority of cases transformational leadership is regarded as a crucial element for achievement of desired organizational goals and objectives (Bass 1985; Lowe, Kroeck & Sivasubramaniam, 1996) and is believed to be more likely to encourage innovation within the organization comparing to its counterpart (Kanter, 1983, as cited in Iscan, Ersari and Naktiyok, 2014). However, it is important not to underestimate the role of transactional leadership, as certain evidence is present in the modern research (to be covered in the upcoming sections) indicating that applying this style of leadership can also lead to positive outcomes.

Locus of Control

The role of personality in work environment continues to be one of the most researched fields in the organizational psychology. Even though the majority of theorists usually limit their studies of work behavior to the perspective of main 5 personality traits (i.e. Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism) (Ng, Sorensen & Eby, 2006), recently other dimensions have started to come into play and become more prevailing in the literature. One of the prospective personality traits is *Locus of Control (LOC).*

Definition

The concept of Locus of Control was developed by American psychologist Julian Rotter (1966), and was widely applied in health and educational psychology for many decades. Eventually, the concept found its place in the field of organizational behavior as well.

The available definitions of LOC (see Table 5) are based on original definition of Rotter (1966) that continues to be pre-dominant in the literature. It describes LOC concept as

"*the degree to which the individual perceives that the reward follows from, or is contingent upon, his own behavior or attributes versus the degree to which he feels the reward is controlled by forces outside of himself and may occur independently of his own actions." (p.1)* Johnson, Stone, Altmaier & Berdahl (1998), Ng, Sorensen & Eby (2006), Boshoff & Van Zyl (2011) and Noureen & Nisa Awan (2011) provide similar definitions to Rotter's (1966), and connect the essence of LOC construct to individual belief to control outcomes. Another scholar Babalola (2009) describes LOC as a personality predisposition that is based on individual's perception of their ability to change the situation.

Quite often *Locus of Control* is being confused with *Perceived Locus of Causality* (PLOC) (Koestner & Zuckerman, 1994; as cited in Turban, Tan, Brown & Sheldon, 2007), since both terms address the effects of internal and external forces. According to Turban, Tan, Brown & Sheldon (2007), perception of control plays an important role in the development of perception of the causality of events; from this perspective, both LOC and PLOC, indeed, are regarded as closely related concepts. The same authors define perceived locus of causality as a construct that involves conviction of an individual about the degree to which one's actions are controlled by external forces or by the individual himself (i.e. level of autonomy). This way, the main difference between LOC and PLOC is illustrated by their reference to relationship between internal/external control and specific outputs: PLOC is based on determinants of *individual behavior*, while LOC is based on determinants of *outcomes* (Turban, Tan, Brown, Sheldon, 2007).

Table 5. Definition of LOC concept by different authors

Authors	Definition	Application in the literature by different scholars
Rotter (1966)	"is the degree to which the individual perceives that the reward follows from, or is contingent upon, his own behavior or attributes versus the degree to which he feels the reward is controlled by forces outside of himself and may occur independently of his own actions." (p.1)	▪ Johnson, Stone, Altmaier, Berdahl (1998) ▪ Ng, Sorensen & Eby (2006) ▪ Boshoff & Van Zyl (2011) ▪ Nisa Awan & Noureen (2011)

Johnson, Stone, Altmaier & Berdahl (1998)	"LOC has been defined as the degree to which an individual perceives having control over the environment." (p.209)	▪ N/A
Ng, Sorensen & Eby (2006)	"Is the extent to which people believe that they have control over their own fate." (p.1057)	▪ Chen, Li & Leung (2016)
Babalola (2009)	"It is a personality predisposition which describes an individual's perception of their ability to change the situation." (p.185)	▪ N/A
Boshoff & Van Zyl (2011)	"LOC refers to the extent to which individuals believe that they can control events which affect them." (p.291)	▪ N/A
Nisa Awan & Noureen (2011)	"LOC refers to the perceived source of influence over our behavior and it is the perceived control that one has over the events in his or her life." (p.2)	▪ N/A

Source: prepared by author based on literature review

Similarly as in the majority of studies available in the literature, in this thesis, the LOC construct is defined based on classic definition of **Rotter (1996),** who characterizes it as a personality variable of individual's belief of control over outcomes. Rotter (1966) distinguishes two major types of LOC – internal and external - and implies a certain dichotomy between the two. According to the scholar, *Internal LOC* refers to the individual's belief that event is dependent purely on his/her own behavior and skills, while *External LOC* focuses on individual's belief that outcome is the result of fate, luck or other external forces.

Since Locus of Control is being frequently applied as an individual characteristics variable in the literature, many scholars managed to identify interesting differences between individuals with internal and external LOC types. For instance, Elkins & Cochran (1978) determined that employees with higher internal LOC spend more time and resources on decision making, which can be explained primarily by individual's orientation towards achievements and results. Allen, Weeks & Moffat' s (2005) (as cited in Maltby, Day & Macaskill, 2010) research indicates that internals are more likely to take action on switching their job positions (as opposed to simple talks), than their external counterparts. This way, people with higher internal LOC acknowledge a strong link between their own actions and

consequences (Ng, Sorensen & Eby, 2006), whereas individuals with higher external LOC relate outcomes to faith or luck, and are less likely to initiate change (Rotter, 1966).

Boshoff & Van Zyl (2011) explored relationship between LOC and ethical employee behavior and reached a conclusion that internals show more ethical work behavior than external LOC possessing individuals. Also, internals tend to reach higher levels of academic success (Munir & Sajid, 2010) and are usually less religious than their counterparts (Rasmussen & Charman 1995; as cited in Boshoff & Van Zyl, 2011).

Another study of Munir & Sajid (2010) has examined the moderating effect of LOC on the relationship between job satisfaction and organizational commitment. The scholars have identified significant positive relationship between LOC and organizational commitment, implying that external LOC possessing individuals tend to have high continuance commitment (continuing to work in the organization because they *need* to), whereas internal LOC is associated with affective and normative commitment (continuing to work with organization, respectfully, because they *want* to and *should* do) (Munir & Sajid, 2010). The comparison of internal and external LOC is presented in Table 6.

Table 6. Comparison of Internal and External LOC

Internal LOC	**External LOC**
▪ Spend more time and resources on decision making (Elkins & Cochran, 1978) ▪ Stronger ethical behavior (Boshoff & Van Zyl, 2011) ▪ Less religious (Rasmussen & Charman 1995) ▪ More likely to take action on switching their job positions (Allen, Weeks & Moffat, 2005) ▪ Higher level of academic success (Munir & Sajid, 2010) ▪ High affective and normative commitment (Munir & Sajid, 2010)	▪ Spend less time and resources on decision making (Elkins & Cochran, 1978) ▪ Less ethical behavior (Boshoff & Van Zyl, 2011) ▪ More religious (Rasmussen & Charman 1995) ▪ Less likely to take action on switching their job positions (Allen, Weeks & Moffat, 2005) ▪ Lower level of academic success (Munir & Sajid, 2010) ▪ High continuance commitment (Munir & Sajid, 2010)

Source: prepared by author based on literature review

To conclude, the classic theory of Rotter (1966) remains a major influence for the scholars exploring LOC construct. However, taking into account the complexity of human personality, the dichotomous approach of Rotter (1966) might not be accurate in evaluating individual behavior in different circumstances and environments. For instance, April, Dharani & Peters (2012) discuss the view that some decisions of one individual can be internally controlled, while other decisions of the same individual might have purely external influence. The authors name such combination of internality and externality within one individual as *dual control*. According to April, Dharani & Peters (2012), currently there is not much theoretical discussion in the literature on how these expectancies coexist, but it can be presumed that a mix of internal and external expectancies of an individual can lead to a common expectancy that is bi-local. Thus, it is questionable, whether one individual can be labeled as pure 'Internal' or pure 'External'. Based on arguments of April, Dharani & Peters (2012), the combination approach seems to be more realistic, however, this concept is not yet predominant in the literature, as oppose to the classic Rotter's (1996) approach. Therefore, the relationship between Internal LOC and External LOC still requires further examination.

Dimensions

The current body of knowledge indicates that there is no consensus among scholars on the number of dimensions for LOC construct (Lumpkin, 1985).

Classic Rotter's (1966) theory refers to LOC as a personality variable, and does not examine specific domains of it (Kourmousi et al., 2015). The validity of Rotter's (1996) simple definition of two LOC types was questioned by Levenson (1973) who has suggested that LOC can be defined as a multidimensional construct, consisting of three major elements - *Internal Control, Powerful Others* and *Chance.* The author explains the logic behind introduction of three dimensions, instead of two classic Internal-External types, by arguing that "people who believe the world is unordered would behave and think differently from

people who believe the world is ordered, but that powerful others are in control" (p.2). Thus, Levenson (1973) has distinguished two types of externals – those who believe in external, yet, unordered control; and those, who believe in powerful others (i.e. ordered control).

According to Palenzuela (1984, 1988; as cited in Sapp & Harrod, 1993), there is no conclusions about how many dimensions ideally compromise the LOC construct. Another scholar Lumpkin (1985), who has performed a study of validity for brief locus of control scale for survey research, states that particularly *Internal Control* and *Chance* dimensions from Levenson's (1973) model are most important for the larger studies. Thus, in this thesis LOC will be referred as a two-dimensional construct with two domains out of three presented by **Levenson (1973)** – Internal Control (corresponding to Internal LOC) and Chance (corresponding to External LOC) (see Figure 3).

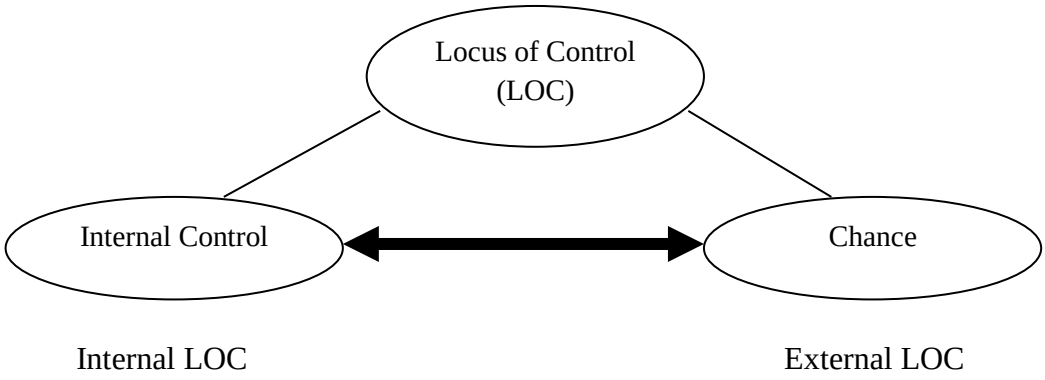


Figure 3. Dimensions of LOC

Source: prepared by author based on Levenson (1973) and Lumpkin (1985)

To summarize, LOC construct is becoming more applicable in the studies of organizational behavior as a personality variable. Some scholars pinpoint the superiority of internal LOC, especially with respect to creativity and innovation, however, available inconsistency in the research allows a conclusion that both types of LOC can be related to creativity and innovation, and one is not necessarily superior to the other. Also, it is important to note that some scholars pinpoint the possibility of dual control, i.e. combination of both

internal and external control in one individual. The vast majority of enterprises (especially larger organizations that seek innovativeness) possess employees originating from different types of LOC; this way, there is a requirement for research, which would examine the possibilities of maximizing innovative and creative behaviors not just from the internal LOC side, but also from the side of external LOC peers. In order to fill the identified gap in the research, the thesis will examine the effect of transformational and transactional leadership styles, which could possibly facilitate the exhibition of innovative behavior by employees with different types of LOC.

Construct relationship analysis

Determinants of Innovative Work Behavior

Before moving to the analysis of relationship between constructs, it is important to overview what kind of factors proved to have an impact on innovative work behavior. Modern theorists have completed significant amount of research on the determinants of IWB. For instance, Kheng, June & Mahmood (2013) list three major categories of determinants, which include individual, organizational and environmental factors. Alternatively, Oukes (2010) has classified past research into five major categories of elements, which proved to affect innovative behavior. Comparing to Kheng et al (2013), Oukes (2010) additionally has taken into account team and relationship factors.

The first group - ***individual factors*** - refers to elements related to individual characteristics or personality traits. Based on Damanpour's (1991) insights (as cited in Kheng et al, 2013), this category of determinants has been noted to be the most significant. Prior research has determined that characteristics such as education level, proactivity (Oukes, 2010) and self-efficacy (Kroes, 2015) show a positive relationship with IWB.

The second group - ***team factors*** – revolves around group dynamics; for instance, study of Axtell, Holman, Unsworth, Wall, Waterson & Harrington (2000) (as cited in Oukes,

2010) has indicated relationship between team support, team role breath, method control and IWB of employees; hence, effective teamwork is also a crucial determinant of innovative behavior.

What goes for ***organizational factors,*** Kheng, June & Mahmood (2013) have identified the significance of pro-innovation organizational climate in the encouragement of IWB, as it stimulates employees interest in exercising creativity, as in such climate individuals are not afraid to make mistakes while experimenting with innovations.

The fourth group includes ***job environment factors***, and is quite similar to the previously discussed organizational factors. The literature indicates that job environment characterized by higher levels of autonomy and psychological empowerment is more likely to enhance innovative work behavior of employees. The moderating role of psychological empowerment was identified by Pieterse et al. (2009), who determined a positive relation between the construct and IWB. Another study by Ramamoorthy et al. (2005) has showed that job autonomy is an important determinant of IWB, mostly due to the fact that individuals in autonomous settings more actively apply "trial and error" practices. The scholars indicated that IWB is primarily the result of intrinsic employee motivation, but, interestingly, in the same study Ramamoorthy et al. (2005) sequentially determined the direct positive effect of payment on IWB, which is a solely extrinsic motivator. This way, it can be concluded that not just intrinsic, but also extrinsic motivation constitutes an important element affecting innovative work behavior.

The final group - ***relationship factors*** - primarily involves determinants of IWB from perspective of transactions between individuals and their leaders. Based on Leader-Member-Exchange theory, Kheng, June & Mahmood (2013) state that quality of relationship between leader and follower is directly related with innovativeness. Leadership proved to have a significant influence on IWB, especially transformational style, where leaders inspire their

followers to perform beyond expectations (Pieterse et al, 2009). Factors such as leader's active emphatic listening (Sharifirad, 2013) and support for innovation (Hartjes, 2010; as cited in Oukes, 2010; Gumusluoglu & Ilsev, 2009) also proved to be determinants of innovative behavior of individuals. Besides leadership, scholars in addition pinpoint the significance of relationship between employees and external contacts (such as customers and competitors), that can serve as an important source of knowledge and creative ideas (Hooley & Mann, 1988; as cited in Kheng et al., 2013).

In this study, the focus of investigation is the relationship between IWB and two types of factors listed by Oukes (2010) - relationship factor (Leadership) as well as individual factor (Locus of Control).

Relationship between Leadership styles and IWB

According to previously mentioned Oukes (2010) categorization of determinants of innovative work behavior, one out of five main factors that is frequently researched by scholars with respect to IWB is relationship between leader and the follower.

Transformational leadership is being frequently associated by scholars with innovative behavior of individuals, as particularly this style proved to be closely related to organizational effectiveness (Tahsildari, Hashim & Wan Normeza, 2014), enhancement of employee's creativity (Gumusluoglu & Ilsev, 2009) and organizational innovation in general (Jung, Chow & Wu, 2003). The vast majority of studies that investigated the direct and indirect relationship between transformational leadership and IWB, managed to determine a positive relationship between the two constructs. Direct relationship between transformational leadership and innovation was confirmed by Crawford (2001) and Khan, Aslam & Riaz (2012), who have identified transformational leadership as being a major predictor of employee IWB. Sharifirad (2013) demonstrated positive relationship between the two constructs that was mediated by leader's emphatic listening and perceived psychological

safety. In the same study transformational leadership also showed both direct and indirect effect on employee well-being. In addition, Dutch scholar Kroes (2015) has determined that transformational leadership enhances employee's self-efficacy, which in turn increases IWB.

Transactional leadership, on the other hand, shows quite fluctuating results in the literature. Based on its original definition developed by Bass (1985), transactional style is expected to have a negative effect on IWB and innovation, as contingent reward system is not motivating individuals to go beyond expectations (Oseebaar, 2012); that is the main reason why many scholars prefer to assume a negative relationship between the two constructs, and several studies indeed demonstrate such relationship (Lee, 2008; as cited in Oseebaar, 2012; Khaola & Sephelane, 2013). However, in comparison with transformational leadership and its clear positive tendency, literature indicates that transactional leadership can exert not only negative, but sometimes absence (Crawford, 2001; Moss & Ritossa, 2007; as cited in Oseebaar, 2012; Pieterse et al, 2009; Turunc, Celik, Tabak & Kabak, 2010) or even positive relationship with IWB (Khan, Aslam & Riaz, 2012). For instance, Turunc, Celik, Tabak & Kabak (2010) and Crawford (2001) did not determine any linkage between transactional leadership and IWB; however, Crawford (2001) did identify a positive correlation between IWB and contingent reward practice, which constitutes a major element of transactional leadership. One more study indicating unexpectedly positive results of transactional leadership was completed by Khan, Aslam & Riaz (2012), who have examined transformational and transactional leadership styles as predictors of innovative work behavior among bank managers of Pakistan. Interestingly, both types showed strong positive relationship with innovative work behavior, despite the fact, that researchers have expected and initially raised a hypothesis that transactional leadership would have a negative impact.

Table 7. Key takeaways from literature on the relationship between leadership styles and IWB

Constructs	Authors	Key takeaway
Transformational Leadership and IWB	▪ Crawford (2001) ▪ Khan, Aslam & Riaz (2012) ▪ Sharifirad (2013)	Transformational leadership has a positive relationship with IWB.
	▪ Jung, Chow & Wu (2003)	Transformational Leadership positively affects organizational innovation.
	▪ Kroes (2015)	Transformational leadership enhances employee's self-efficacy, which in turn increases IWB.
Transactional Leadership and IWB	▪ Bass (1985) ▪ Lee (2008)	Negative relationship between transactional leadership and innovation is implied, as contingent reward system is not motivating individuals to go beyond expectations.
	▪ Crawford (2001) ▪ Moss & Ritossa (2007) ▪ Turunc, Celik, Tabak & Kabak (2010)	Transactional leadership has no relationship with IWB.
	▪ Crawford (2001) ▪ Ramamoorthy, Flood, Slattery & Sardessai (2005)	Positive correlation between IWB and contingent reward practice (element of transactional leadership).
	▪ Si & Wei (2011)	Positive effects on employee creativity under high empowering climate.
	▪ Khan, Aslam & Riaz (2012)	Positive direct relationship with IWB.

Source: prepared by author based on literature review

Inconsistencies are present in the literature (see Table 7), and they serve as a basis for hypothesizing that positive effects of transactional leadership on IWB are possible, but are dependent on some specific factors. For this matter, Dutch scholars Pieterse, Knipperberg, Schippers & Stam (2009) stated that likely explanation for inconsistency in the results of relationship between transactional leadership and IWB can involve the presence of certain moderator variables. The authors hypothesized the moderating role of psychological empowerment, which was eventually confirmed in the research - according to their empirical study, the strength of the relationship between transformational and transactional leadership and IWB depends on the level of psychological empowerment: transformational leadership is positively related to IWB only when psychological empowerment is high, while transactional

leadership has negative relationship only under the same conditions. Interestingly, subsequent study of Si & Wei (2011) (as cited in Oseebaar, 2012) has showed opposite results, as Chinese scholars concluded that transactional leadership has positive effects on employee creativity under high empowering climate. Pieterse et al. (2009) pinpoint that besides psychological empowerment there is a high likelihood of presence of additional moderators for the [Transformational Leadership - IWB] and [Transactional Leadership – IWB] relationships, which could illustrate a clear pattern and explain under which circumstances both leadership styles are *positively* associated with innovative work behavior. Hence, there is an inquiry for further studies in the field of transactional leadership, particularly on the moderators of relationship between leadership styles and IWB.

Connection between Leadership styles and LOC through Motivation

Relationship between Leadership and Motivation

HRM and social psychology literature is emphasizing the importance of motivation in both personal and work settings, as it remains a key driver for individual and organizational performance (Dobre, 2013) that eventually results in higher levels of production and operational success (Ahmad, Abbas & Rasheed, 2014). Luthans (2005) (as cited in Ahmad, Abbas & Rasheed, 2014) defines motivation as a process or force that leads individuals to the achievement of desired goals and outcomes. The authors of self-determination theory (SDT) and major contributors to the field of motivation in psychology Deci & Ryan (2000) state that individuals tend to have not only different levels, but also different types (orientation) of motivation, which is identified based on the reasons that influence individual actions. With the help of SDT theory, Deci & Ryan (2000) distinguish two major types of motivation: intrinsic and extrinsic. Intrinsic type of motivation is observed when individual carries out activity purely for his own satisfaction and enjoyment from being engaged in the task itself (Deci & Ryan, 2000; Goodridge, 2006). Extrinsic motivation represents the contrasting type

of motivation, and is present when individuals carry out activities not out of personal interest, but in a pursuit of certain (usually instrumental) outcome (Goodridge, 2006).

According to Barbuto Jr. (2005), motivation is an important element to consider when leadership development decisions are taking place in the organization. The signs of a relationship between transformational/transactional leadership styles and, respectfully, intrinsic/extrinsic motivation are observed in the classical definitions by Bass (1985; 1990), which were discussed in the construct definition section of the thesis. To recall, Bass (1990) pinpoints the fact that transactional leadership heavily relies on contingent rewards, which is a classic example of extrinsic motivator (Kalar & Wright, 2007); while transformational leadership incorporates elements, such as proactivity and decision-making autonomy that primarily relate to intrinsic motivation of an individual. This way, the original leadership definitions already put a strong accent and foundation for the connection between two respective leadership styles and intrinsic/extrinsic motivation.

The evidence of suggested relationship has also been confirmed in the prior research by several scholars. Gumusluoglu & Ilsev (2009) have explored direct relationship between transformational leadership and intrinsic motivation and eventually determined that two constructs are strongly associated. The same authors' research implies that intrinsic motivation mediates the relationship between transformational leadership and employee's creativity (Gumusluoglu & Ilsev, 2009). Similarly, Goodridge (2006) determined that transformational leadership is significantly related to autonomous motivation (which is a synonym to the intrinsic motivation term). Another study of Barbuto Jr. (2005) showed that instrumental (i.e. extrinsic) motivation had a significant correlation with self-reported transactional behaviors, whereas intrinsic process motivation was correlated with transformational behavior.

Table 8. Key takeaways from literature on the relationship between leadership styles and motivation

Authors	Findings/ Statements	Key takeaway
Bass (1985, 1990)	Transactional leadership is based on contingent reward system, which is a classic extrinsic motivator.	➢ Transactional leadership affects extrinsic motivation of individuals
Barbuto Jr. (2005)	Instrumental (i.e. extrinsic) motivation had a significant correlation with self-reported transactional behaviors, whereas intrinsic process motivation was correlated with transformational behavior.	➢ Transformational leadership is related to intrinsic motivation of individuals ➢ Transactional leadership is related to extrinsic motivation of individuals
Goodridge (2006)	Transformational leadership is significantly related to autonomous motivation (synonym to intrinsic motivation).	➢ Transformational leadership is related to intrinsic motivation of individuals
Gumusluoglu & Ilsev (2009)	Transformational leadership and intrinsic motivation and eventually determined are strongly associated. Intrinsic motivation mediates the relationship between transformational leadership and employee's creativity.	➢ Transformational leadership is related to intrinsic motivation of individuals

Source: prepared by author based on literature review

To sum up, taking into account dimensions of leadership styles derived by Bass (1985; 1990) and available evidence in the literature (Barbuto Jr., 2005; Goodridge, 2006; Gumusluoglu & Ilsev, 2009) (see Table 8), it is concluded that transformational leadership is related with intrinsic motivation, whereas transactional leadership primarily relates to extrinsic motivation of an individual.

Relationship between LOC and Motivation

The specific relationship pattern between motivation and LOC has been addressed in the literature by several scholars, who have investigated the effects of personality traits on individual behavior in different settings, such as competition, education or organizational environment.

To start with, the relationship between motivation an locus of control was suggested by Baron & Ganz (1972) (as cited in Deci & Ryan, 1985), who identified during their study of children behavior that children with internal locus of control worked better with intrinsic

motivators, whereas children with external locus of control showed better reaction to external rewards, i.e. extrinsic motivators. Another study by Lonky (1978) (as cited in Reeve, Olson & Cole, 1987), who was focusing on human behavior in competition settings, has determined that internals better respond to praise and verbal reinforcements, since such feedback is being interpreted by them as a competence appreciation, which eventually increases individual intrinsic motivation. Contrary to their peers, externals do not attribute praise to their competence, but rather relate it to external outcomes, leading to their intrinsic motivation to remain unchanged (Lonky, 1978; as cited in Reeve, Olson & Cole, 1987). Ng, Sorensen & Eby (2006) explained such relationship by the argument that internals are more likely to report higher intrinsic motivation primarily due to their perception of likelihood of achieving desirable work outcomes. Reeve, Olson & Cole (1987) also indicate a tendency of internals to show higher levels of intrinsic motivation when they succeed in their activities and lower levels when they experience failures. Runco & Pritzker (1999) attribute both Internal LOC and intrinsic motivation to the same category of autonomy-oriented personality traits, making the two constructs compatible with each other. Eventually, Ng, Sorensen & Eby (2006) by analyzing the relationships between LOC and different work outcomes in the organizational setting, confirmed that internal LOC is positively related with intrinsic task motivation.

Table 9. Key takeaways from literature on relationship between LOC and motivation

Authors	Findings/ Statements	Key takeaway
Baron & Ganz (1972)	Children with internal locus of control work better with intrinsic motivators, whereas children with external locus of control showed better reaction to external rewards, i.e. extrinsic motivators.	➢ Internal LOC has stronger relationship with intrinsic motivation ➢ External LOC has stronger relationship with extrinsic motivation
Lonky (1978)	Internals better respond to praise and verbal reinforcements, whereas Externals do not attribute praise to their competence, but rather relate it to external outcomes, leading to their intrinsic motivation to remain unchanged.	➢ Internal LOC has stronger relationship with intrinsic motivation ➢ External LOC has weaker relationship with intrinsic motivation

Runco & Pritzker (1999)	Internal LOC and Intrinsic motivation belong to the same category of autonomy-oriented personality traits.	➢ Internal LOC is related with intrinsic motivation
Ng, Sorensen & Eby (2006)	Internal LOC is positively related with intrinsic task motivation, expectancy, instrumentality, job involvement, self-development, self-efficacy, and psychological empowerment.	➢ Internal LOC is positively related with intrinsic motivation.

Source: prepared by author based on literature review

Based on findings of Baron & Ganz (1972), Lonky (1978), Runco & Pritzker (1999) and Ng, Sorensen & Eby (2006) (see Table 9), it is concluded what there is a relationship between Internal LOC and intrinsic motivation of individuals, as well as between External LOC and extrinsic motivation.

Relationship between Leadership, LOC and IWB

Prior empirical studies clearly indicate the positive connection between transformational leadership and IWB, whereas transactional leadership, so far, has received mixed evaluations of its relationship with innovative behavior. This means that there is still some room for further research on the circumstances when this leadership style exerts positive effect on subordinates' innovativeness. One of the ways of knowledge expansion in this field is identification of a moderator variable that could illustrate when the relationship is positive or negative (Pieterse et al. 2009).

The literature also indicates that extrinsically motivated individuals react better to transactional leaders (Barnard 1938, as cited in Barbuto Jr., 1997), whereas intrinsic motivation is directly related with transformational leadership (Gumusluoglu & Ilsev, 2009). Similar pattern is observed with Locus of Control construct – individuals with internal LOC have better reaction to intrinsic motivators, while external LOC is associated with extrinsic motivation (Baron & Ganz, 1972; as cited in Deci & Ryan, 1985). Hence, from both leadership and LOC perspective, motivation is a connecting element in the theoretical chain, which allows hypothesizing that internal LOC has stronger relationship with transformational leadership, whereas external LOC has stronger relationship with transactional leadership.

This way, a conclusion can be derived that ***Locus of Control might be a potential moderator for relationship between transformational and transactional leadership and IWB.***

There are several studies which support the idea of proposed research. To start with, Chinese scholars Chen, Li & Leung (2016) investigated the role of LOC in the relationship between supervisor support and innovative work behavior. The results indicated opposite moderating effects of internal LOC, which means that higher internal LOC weakens the relationship between the two constructs. The authors explain that internals can negatively react to active supervisor support, since it goes against their belief of control over personal outcomes; this way, we can hypothesize that such individuals are likely to prefer a leader that could delegate certain level of autonomy to their decision making (i.e. transformational leader), whereas externals are more passive in their nature and are in need of a strong supervisor, that could provide clear instructions and expectations (i.e. transactional leader). Moreover, External LOC leads individuals to being more attentive due to a belief that their personal outcomes are highly dependent on external factors. From leadership perspective, researchers admit that effects of a particular leadership style are likely to vary depending on employee characteristics (Howell, Dorfman & Kerr, 1993; as cited in Chen, Li & Leung, 2016). Additional empirical study that supports the idea of relationship between LOC and leadership was completed by Howell & Avolio (1993), who determined that transformational leadership measures were associated with higher internal locus of control and showed a positive relationship with business-unit performance.

Another recent study of scholars Kaur & Gupta (2016) has investigated the impact of personal characteristics on innovative work behavior of 120 teachers in India. The results of the multiple regression analysis have indicated that internal LOC had a positive correlation with IWB, and was a significant predictor of innovative behavior. The same study also showed insignificant correlation between external work locus of control and innovative work

behavior. These findings are in line with suggestions of Miller, Kets de Vries and Touhouse (1982) (as cited in Wheatley, Anthony and Maddox, 1988), who stated that individuals with internal locus of control are more likely to be engaged in innovation than their counterparts who exhibit external locus of control.

Table 10. Key takeaways from the literature review

Relationship	Authors	Key takeaways
Transformational leadership and IWB	▪ Crawford (2001) ▪ Jung, Chow & Wu (2003) ▪ Khan, Aslam & Riaz (2012) ▪ Sharifirad (2013) ▪ Kroes (2015)	➢ Transformational leadership positively affects organizational innovation and innovative work behavior.
Transactional leadership and IWB	▪ Bass (1985) ▪ Crawford (2001) ▪ Ramamoorthy, Flood, Slattery & Sardessai (2005) ▪ Moss & Ritossa (2007) ▪ Lee (2008) ▪ Pieterse et al. (2009) ▪ Turunc, Celik, Tabak & Kabak (2010) ▪ Si & Wei (2011) ▪ Khan, Aslam & Riaz (2012)	➢ Effects of transactional leadership on IWB vary, and thus, can be not only negative or neutral, but also positive. This finding suggests that there is a possibility of presence of certain moderator variables.
Transformational/ Transactional Leadership and Intrinsic/Extrinsic motivation	▪ Bass (1985, 1990) ▪ Barbuto Jr. (2005) ▪ Goodridge (2006) ▪ Gumusluoglu & Ilsev (2009)	➢ Transformational leadership affects intrinsic motivation of individuals ➢ Transactional leadership affects extrinsic motivation of individuals
LOC and Intrinsic/Extrinsic motivation	▪ Baron & Ganz (1972) ▪ Lonky (1978) ▪ Reeve, Olson & Cole (1987) ▪ Ng, Sorensen & Eby (2006)	➢ Internal LOC has stronger relationship with intrinsic motivation ➢ External LOC has stronger relationship with extrinsic motivation
Transformational/ Transactional Leadership, LOC and IWB	▪ Howell & Avolio (1993) ▪ Miller, Kets de Vries and Touhouse (1982) ▪ Kaur & Gupta (2016) ▪ Chen, Li & Leung (2016)	➢ Transformational leadership measures were associated with higher internal LOC. ➢ Internal LOC showed positive relationship with IWB, whereas External LOC showed insignificant correlation with IWB. ➢ Higher internal LOC weakens the relationship between supervisor support and innovative work behavior, meaning that individuals with higher Internal LOC are likely to prefer a leader that could delegate certain level of autonomy to their decision

		making (i.e. transformational leader), whereas externals are more passive in their nature and are in need of a strong supervisor, that could provide clear instructions and expectations (i.e. transactional leader).

Source: prepared by author based on literature review

Taking into account the findings of the literature review (see Table 10), hereby, it is possible to hypothesize that internal LOC possessing individuals are more likely to exert innovative work behavior under transformational leadership, whereas external LOC individuals are more likely to show higher IWB under transactional leadership.

Research problem

To author's knowledge, the relationship between LOC with transformational and transactional leadership and IWB was not approached directly by scholars, therefore, this thesis will contribute to this existing **gap in the research** by identifying the role of LOC in the relationship between transformational leadership and IWB as well as between transactional leadership and IWB.

The main goal of the literature review was to prepare a proper background for the research by defining and examining the relationships between constructs of interest from theoretical perspective. This chapter has presented evidence of linkages between transformational/transactional leadership, locus of control and innovative work behavior, which allow hypothesizing the potential moderation effects of locus of control in the relationship between leadership and IWB. Thus, the **research question** is formulated as follows: *what is the role of locus of control in the relationship between transformational and transactional leadership styles and Innovative Work Behavior?*

However, in order to confirm the proposed relationships and answer the research question, an empirical study needs to be carried out.

Research Methodology

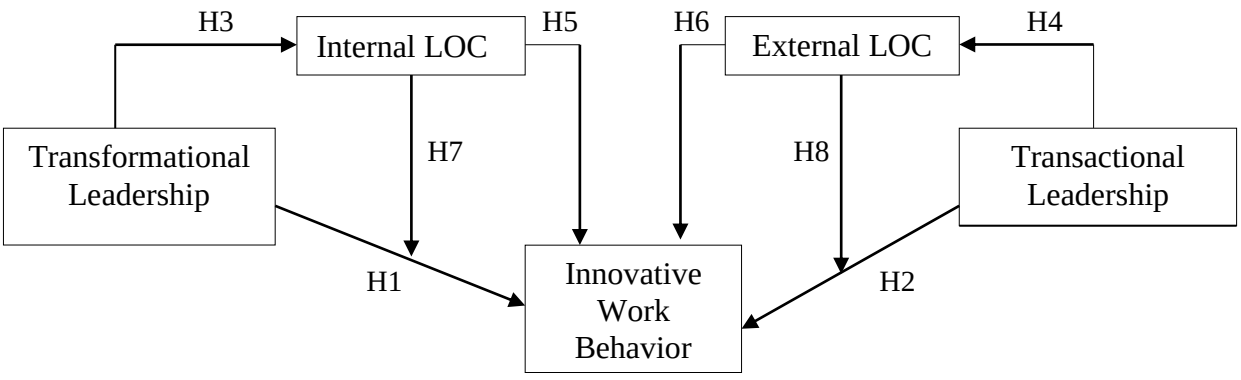
The following chapter describes the main elements of methodology that was applied in order to answer the major research problem of the thesis. The section presents discussion and justification of research design, preparation of instrument for data collection, overview of conceptual model and raised hypothesis, sample definition as well as explanation of data analysis procedures.

As it was already mentioned in the literature review section, **the research question** that is addressed in this thesis is *"What is the role of LOC in the relationship between transformational and transactional leadership styles and Innovative Work Behavior?".*

The **aim** of the research is to test the LOC construct as a moderator in the relationship between transformational and transactional leadership and innovative work behavior, and identify whether individuals with different types of LOC would require specific leadership styles in order to increase the level of their IWB.

In order to illustrate the main idea of the research, a conceptual model was prepared. The model represents LOC as a moderator in the relationship between transformational leadership and IWB as well as between transactional leadership and IWB (see Figure 4).

Figure 4. Conceptual model



Source: prepared by author

The research hypotheses are formulated as follows:

H1 *Transformational Leadership has a positive relationship with IWB.*

H2 *Transactional Leadership has a positive relationship with IWB.*

H3 *Transformational Leadership has stronger positive relationship with Internal LOC, comparing to External LOC.*

H4 *Transactional Leadership has stronger positive relationship with External LOC, comparing to Internal LOC.*

H5 *Internal LOC has a positive relationship with IWB.*

H6 *External LOC has a positive relationship with IWB.*

H7 *LOC moderates the relationship between Transformational Leadership and IWB in such a way, that positive relationship between the two constructs is stronger when LOC is Internal.*

H8 *LOC moderates the relationship between Transactional Leadership and IWB in such a way, that positive relationship between the two constructs is stronger when LOC is External.*

Research design

Quantitative research design was applied as a framework for this study, as it is typically used in science for theory verification and hypotheses testing (Punch, 2000). This type of research is characterized by carefully developed conceptual frameworks and measurements aiming to give the data numerical structure (Punch, 2000). Since the idea of empirical study was based on pre-specified research questions, structured design and pre-structured data, quantitative research design was more suitable for this study.

Research instrument

The data collection was carried out by applying survey method in the form of questionnaire, as this type of research represents an efficient way to gather large amounts of information about individual characteristics, attitudes and behaviors in a relatively short time (Gravetter & Forzano, 2006).

The questionnaire applied in this study was designed to measure four main constructs: transformational leadership, transactional leadership, locus of control and innovative work behavior. The research instrument incorporates several different scales:

- In order to measure construct of **Innovative Work Behavior (IWB)**, the scale developed by De Jong and Den Hartog (2008) was applied. It consists of 10 items which represent the 4 dimensions of IWB, discussed in the literature review: opportunity exploration (2 questions), idea generation (3 questions), idea championing (2 questions) and idea implementation (3 questions). The measurement scale compromised a 7-point Likert scale with the values ranging from "strongly disagree" [1] to "strongly agree" [7].
- **Transformational/ Transactional Leadership** constructs were measured by applying MLQ (5X) scale developed by Bass & Avolio (1995). The questions were retrieved from validity study of the MLQ 5X form by Antonakis (2001). Transformational leadership was measured by 10 items, which represent the key dimensions of this leadership style: individualized consideration (4 items), intellectual stimulation (2 items), inspirational motivation (2 items) and idealized influence (2 items). Similarly, transactional leadership was measured with 6 items, which corresponded to the dimensions discussed in the literature review: contingent reward (2 items), management by exception (active) (2 items) and management by exception (passive) (2 items). All items represented descriptive statements of leader's behavior, which respondent needed to rate on a 7-point Likert scale, with values ranging from "strongly disagree" [1] to "strongly agree" [7].
- **Locus of Control (LOC)** construct was measured by applying a brief scale developed by Lumpkin (1985), which is based on six items from original Rotter's (1996) scale with the format suggested by Levenson (1973). The original Rotter's (1966) scale asks respondents to select one out of two bipolar statements that more closely represent the respondent's personality. The forced choice answer format was criticized by Levenson

(1973), so she suggested applying a 6-point Likert scale for measurement, so that LOC domains could be statistically independent of one another. Klockars & Varnum (1975) (as cited in April, Dharani & Peters, 2012) have tested the application of Likert scale and concluded that it is more consistent to apply in comparison with classic forced-choice extremes. Lumpkin (1985) has used a 5-point Likert scale, but some researchers have expanded it to 7 points. In this study, following the path of Sapp & Harrod (1993), and to maintain the consistency of the questionnaire, 7-point Likert scale with values ranging from "strongly disagree" [1] to "strongly agree" [7] was used (see Table 11).

Table 11. Research instrument (questionnaire)

Construct	Questions	Original Author	Application of scale in the research
Innovative Work Behavior (IWB)	**Opportunity exploration** 1. I pay attention to issues that are not part of my daily work. 2. I wonder how things can be improved. **Idea Generation** 3. I search out new working methods, techniques or instruments. 4. I generate original solutions for problems. 5. I find new approaches to execute tasks. **Idea Championing** 6. I make important organizational members enthusiastic for innovative ideas. 7. I attempt to convince people to support an innovative idea. **Idea Implementation** 8. I systematically introduce innovative ideas into work practices. 9. I contribute to the implementation of new ideas. 10. I put effort in development of new things.	De Jong & Den Hartog (2008)	▪ Oukes (2010) ▪ Sharifirad (2013) ▪ Kroes (2015)
Transformational Leadership	*The person I'm rating:* **Idealized Influence** 11. Goes beyond self-interest for the good of the group. 12. Acts in ways that builds my respect. 13. Specifies the importance of having a strong sense of purpose. 14. Considers the moral and ethical consequences of decisions. **Inspirational Motivation** 15. Talks optimistically about the future. 16. Expresses confidence that the goals will be achieved.	MLQ 5X by Bass & Avolio (1995) as presented in Antonakis (2001)	▪ Antonakis (2001) ▪ Jung, Chow & Wu (2003) ▪ Barbuto Jr (2005) ▪ Goodridge (2006) ▪ Pieterse et al. (2009) ▪ Gumusluoglu & Ilsev (2009) ▪ Khan, Aslam & Riaz (2012) ▪ Iscan , Ersari & Naktiyok (2014)

	Intellectual Stimulation 17. Re-examines critical assumptions to question whether they are appropriate. 18. Gets me to look at problems from many different angles. **Individualized Consideration** 19. Treats me as an individual rather than just as a member of a group. 20. Considers me as having different needs, abilities, and aspirations from others.		
Transactional Leadership	*The person I'm rating:* **Contingent reward:** 21. Discusses in specific terms who is responsible for achieving performance targets. 22. Makes clear what one can expect to receive when performance goals are achieved. **Management by exception (active)** 23. Concentrates his/her full attention on dealing with mistakes, complaints and failures. 24. Keeps track of all mistakes. **Management by exception (passive)** 25. Waits for things to go wrong before taking action. 26. Shows that he/she is a firm believer in "If it ain't broke, don't fix it."	MLQ 5X by Bass & Avolio (1995) as presented in Antonakis (2001)	▪ Antonakis (2001) ▪ Barbuto Jr (2005) ▪ Goodridge (2006) ▪ Pieterse et al. (2009) ▪ Gumusluoglu & Ilsev (2009) ▪ Khan, Aslam & Riaz (2012) ▪ Iscan , Ersari & Naktiyok (2014)
Locus of Control (LOC)	**Internal Control** 27. When I make plans, I am almost certain that I can make them work. 28. Getting people to do the right things depends upon ability; luck has nothing to do with it. 29. What happens to me is my own doing. **Chance** 30. Many of the unhappy things in people's lives are partly due to bad luck. 31. Getting a good job depends mainly on being in the right place at the right time. 32. Many times I feel that I have little influence over the things that happen to me.	Brief scale of Lumpkin (1985) based on Rotter (1966) & Levenson (1973)	▪ Elkins & Cochran (1978), ▪ Ng, Sorensen & Eby (2006), ▪ Johnson, Stone, Altmaier & Berdahl, 1998) ▪ Sapp & Harrod (1993)
Demographic variables	33. **Age:** 1) up to 25 2) 25-40 3) over 40 34. **Gender** 1) Male 2) Female 35. **Educational level** 1) No education 2) Secondary education 3) Unfinished higher education 4) Higher education		

Source: prepared by author

Besides the construct measurement, several control variables were included to the questionnaire (age, gender and educational level). Previous studies have found interesting patterns, for instance, between male and female individuals with respect to innovate behavior - Arif, Zubair & Mazoor (2012) have determined in their study of IWB and supportive climate among employees of advertisement agencies that women tend to behave more innovatively as compared to men. Hereby, this study shall examine for differences between groups of individuals based on demographic variables with the aim of identifying any specific patterns between individual characteristics, leadership perceptions, IWB and LOC.

Research sample

In order to collect sufficient amount of primary data, it was important to carefully select the sample for empirical study based on relevant criteria.

To start with, the thesis addresses innovative work behavior of individuals, thus, the potential respondents were required to originate from innovative organization. In addition, the pool of IWB exerting individuals needed to be large enough to ensure the availability of individuals with different types of LOC. This way, small and medium size enterprises were regarded as too risky, and hence, not suitable to be applied as a sample for this particular research.

Taking into account the raised criteria, the author has approached the largest aircraft maintenance (MRO) company in the Baltic States that is currently undergoing LEAN manufacturing implementation. The organization has agreed to participate in the study in exchange for the accessibility to the results. The selected company was regarded as a suitable sample for the research primarily due to the following reasons:

- ✓ Incorporation of high scale process innovation through adaptation of LEAN manufacturing ensures the innovativeness of organization. Particularly for this study, approaching organization with an active process innovation is more efficient comparing

to a company which focuses solely on product innovation, since process innovation ensures that employees from all layers (without exceptions), are required to exert IWB at least to certain degree. With product innovation, there is no such guarantee, since it would be extremely hard to track employees who actually participate in the innovation process.

- ✓ With 790 employees, the company is officially regarded as large organization (according to Eurostat (2016), category 'large' is attributed to organizations employing more than 250 individuals). This fact significantly increases the probability to locate individuals with different types of LOC.
- ✓ Finally, IWB is not industry specific, and since author did not manage to locate completed studies on IWB that would be investigating aircraft maintenance industry, the research would be a unique addition to the current body of knowledge on IWB in different business environments.

Data collection method

The primary data was gathered via online survey, as this particular tool allowed timely collection of information as well as better probability of higher response rate. In addition, electronically collected data is more convenient to run and analyze through statistical software. From the respondent side, in the fast-moving business environment such survey is easier to complete and is less time consuming in comparison with physical surveys.

The author has approached HR unit's assistance in order to make the online questionnaire accessible to all 790 employees of organization and communicate the importance of participation in the survey. Since the participating organization was highly international, two questionnaire versions were prepared in main languages which are highly applied in the organization – English and Russian (see Appendix 1 and 2). Once the questionnaire was translated to Russian, it was provided to the language expert for additional

check of translation accuracy. In order to increase the probability of participation, respondents were granted anonymity. Eventually, the number of respondents who participated in the research reached 111, which constitutes 14 % response rate.

Data analysis methods

The collected data was processed through statistical software package for social sciences (SPSS). In order to analyze the data and test the raised hypotheses, the following tools were applied:

- *Descriptive statistics* were generated in order to get the characteristics of the sample.
- *Cronbach's Alfa* test was used in order to check reliability and internal consistency of applied scales.
- *Shapiro-Wilk test* was used in order to check the normality of distribution.
- *Mann-Whitney U test* was applied to test the differences between the means and compare different groups of individuals based on demographic variables.
- *Pearson* and *Spearman correlation* (r_s) tests were used for investigation of the existence of relationship between two variables (Gravetter & Forzano, 2006).
- *Multiple Regression test* was applied to examine the relationship between two specific variables while controlling the influence of the third one (Gravetter & Forzano, 2006). In this case, the tool was applied to measure the moderation effect of LOC in the relationship between transformational leadership and IWB, as well as transactional leadership and IWB.

Empirical Research Findings

The following section presents the results of empirical research that was conducted in order to answer the major research question of the thesis. This chapter covers overview of descriptive statistics of the sample, reliability analysis of applied scales and hypothesis testing by application of correlation and regression analysis. The chapter is finalized by summary of the major findings.

The collection of data took 2 weeks, from 13th October, 2016 until 27th October, 2016. In order to ensure 1 response per person, the online questionnaire had a limitation of one response per IP address. The data collected from two different language questionnaires was combined into one database and processed through SPSS.

Descriptive statistics

111 individual responses were collected; however, only 106 respondents have fully completed the questionnaire. Thus, by applying complete case analysis method, in the research only 106 respondents' answers were statistically processed. The respondent profile is presented in Table 12.

Table 12. Respondent profile

Respondent characteristics	Result		
Age		Number of respondents	Percentage
	Under 25 years	11	10.4 %
	25-40 years	85	80.2 %
	Over 40 years	10	9.4 %
Gender	Male	62	58.5%
	Female	44	41.5%
Education	Unfinished higher education	7	6.6%
	Higher education	99	93.4%

Source: prepared by author based on collected data

Out of 106 respondents, 58.5% were male and remaining respondents (41.5%) were female. All respondents had higher education, or were in progress of receiving a degree. In terms of age, the largest group of respondents was between 25-40 years old (80.2%), whereas

the remaining respondents were almost equally distributed between the other two age groups - 10.4% were under 25 years, and 9.4% were over 40 years.

Reliability analysis of scales

Before moving on to hypothesis testing with correlation and regression analysis, it is important to determine the extent to which the items from applied scales are consistent with each other, and are working in the same direction (Punch, 2000). In order to check the internal consistency and reliability of applied scales, *Cronbach's Alfa* scores were calculated. This particular test produces values between 0 and 1.00, with a higher score indicating higher degree of internal consistency and reliability (Gravetter & Forzano, 2006). According to Hinton, McMurray & Brownlow (2004), for the scale to be considered reliable and consistent, the score of Cronbach's Alfa should be > 0.6.

The results of reliability test are provided in Table 13.

Table 13. Reliability test results

Scale	Cronbach's Alfa (α) value	Number of items in the scale	Action
IWB	**0,864**	**10 items**	**All 10 items are kept in the analysis**
opportunity exploration	0,667	2 items	Accepted
idea generation	0,770	3 items	Accepted
idea championing	0,749	2 items	Accepted
idea implementation	0,757	3 items	Accepted
Transformational Leadership	**0,936**	**10 items**	**All 10 items are kept in the analysis**
individualized consideration	0,896	4 items	Accepted
intellectual stimulation	0,859	2 items	Accepted
inspirational motivation	0,759	2 items	Accepted
Idealized influence	0,878	2 items	Accepted
Transactional Leadership	**Not applicable***	**6 items**	**4 items are kept in the analysis, however, as separate constructs**
contingent reward	0,670	2 items	Accepted as a separate dimension
management by exception (active)	0,461	2 items	Rejected due to Alfa being lower than 0.6 threshold
management by exception	0,702	2 items	Accepted as a

(passive)			separate dimension
contingent reward + management by exception (passive)(overall Cronbach's Alfa after removal of management by exception (active))	0,204	4 items	Rejected due to very low Alfa score (two dimensions cannot be combined for averaging)
Locus of Control	**Not applicable**	**6 items**	**All 6 items are kept in the analysis as separate constructs**
Internal control (Internal LOC)	0,593	3 items	Accepted with limitation (small difference from the threshold)
Chance (External LOC)	0,710	3 items	Accepted

** - The overall Cronbach's Alfa for Transactional leadership was not possible to calculate, as one dimension has generated lower score than allowed, while the remaining two dimensions generated a low combined score. Thus, in order to ensure higher reliability, the remaining two dimensions were kept as separate constructs.*

Source: prepared by author based on results generated from SPSS

The **Innovative Work Behavior (IWB) scale** consisted of 10 items developed by De Jong & Den Hartog (2008), and was measuring four main dimensions of the IWB construct. The first dimension - *opportunity exploration* - was measured by two items that generated the score of 0,667; *idea generation* was measured by three items and generated the score of 0,770; *idea championing* was measured by two items and resulted in Cronbach's Alfa of 0,749; finally, *idea implementation* was measured by three items and generated the score of 0,757. The overall Cronbach's Alfa for all ten items is 0,864 meaning that applied scale can be considered reliable; thus, no items should be removed from the analysis.

Transformational leadership scale consisted of 10 items from MLQ 5X of Bass (1985). *Individualized consideration* was measured by 4 items and has generated a score of 0,896; *intellectual stimulation* resulted in a score of 0,859, *inspirational motivation* – 0,759, and, finally, *idealized influence* – 0,878. The overall Cronbach's Alfa score for

transformational leadership construct is 0,936, which is considered as highly reliable. Therefore, none of the items needed to be removed from the analysis.

Transactional leadership scale was measured by six items from MLQ 5X of Bass (1985). *Contingent reward* has generated a score of 0,670, *management by exception (active)* – 0,461; *management by exception (passive)* - 0,702. Since one of the dimensions has generated a low reliability score, the scale needed to be adjusted towards higher reliability by removing low reliability item of *active management by exception*. If contingent reward dimension is combined together with passive management by exception, the Cronbach's Alfa is only 0,204, which is not acceptable for the analysis. Thus, transactional leadership scale cannot be presented as an average of these two dimensions. However, two dimensions generate acceptable reliability scores separately from each other. Therefore, two dimensions constituting transactional leadership can be accepted for the analysis as separate constructs.

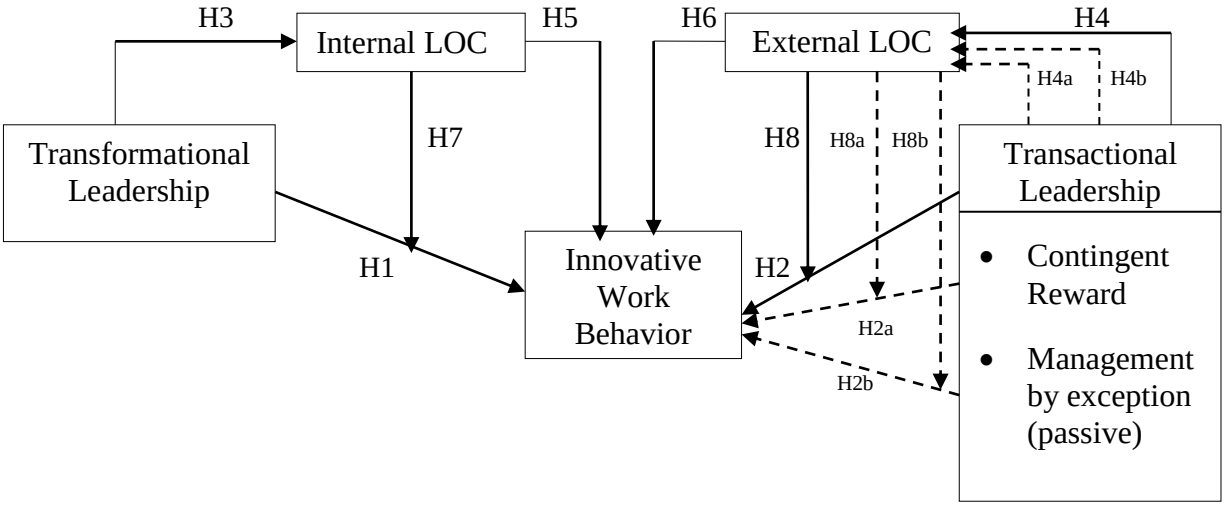
Locus of Control scale was measured by 6 items from scale of Lumpkin (1985). Internal control (Internal LOC) was measured by three items and has generated Cronbach's Alfa of 0,593, which is slightly lower than acceptability threshold of 0.6. Since the difference is not substantial, the item will be kept in the analysis, however, it will be regarded as a limitation to the research. *Chance* dimension (External LOC) was measured by three items and generated 0,726 score, which is considered to be a good reliability.

Based on the results of the reliability test, it can be concluded that two applied scales (IWB and transformational leadership) are reliable, and do not require any removal of items. In terms of Locus of Control scale, the *internal control* dimension was kept in the analysis, however, its' slightly lower reliability will be considered as a limitation to the research. Transactional leadership scale needed adjustment towards higher reliability; therefore, one dimension (*active management by exception*) was removed from further analysis, and the remaining two dimensions (*contingent reward* and *passive management by exception*) were

kept as separate constructs. This decision required change in the conceptual model, thus, it was revised accordingly and several more supporting hypotheses (H2a, H2b, H4a, H4b, H8a, H8b) were added.

The updated conceptual model is presented in Figure 5.

Figure 5. Revised conceptual model



Source: prepared by author

The updated list of hypotheses is presented in Table 14.

Table 14. Updated list of hypotheses

Hypotheses			Notes
H1	Transformational Leadership has a positive relationship with IWB.		
H2	Transactional Leadership has a positive relationship with IWB.		*** H2 can be confirmed only, if H2a and H2b are confirmed simultaneously.
	H2a	Contingent Reward has a positive relationship with IWB.	
	H2b	Passive Management by exception has a positive relationship with IWB.	
H3	Transformational leadership has stronger positive relationship with Internal LOC, comparing to External LOC.		
H4	Transactional Leadership has stronger positive relationship with External LOC, comparing to Internal LOC.		*** H4 can be confirmed only, if H4a and H4b are confirmed simultaneously.
	H4a	Contingent Reward has stronger positive relationship with External LOC, comparing to Internal LOC.	
	H4b	Passive management by exception has stronger positive relationship with External LOC, comparing to Internal LOC.	
H5	Internal LOC has a positive relationship with IWB.		
H6	External LOC has a positive relationship with IWB.		

H7	LOC moderates the relationship between Transformational Leadership and IWB in such a way, that positive relationship between the two constructs is stronger when LOC is Internal.		
H8	LOC moderates the relationship between Transactional Leadership and IWB in such a way, that positive relationship between the two constructs is stronger when LOC is External.		*** H8 can be confirmed only, if H8a and H8b are confirmed simultaneously.
	H8a	LOC moderates the relationship between Contingent Reward and IWB in such a way, that positive relationship between the two constructs is stronger when LOC is External.	
	H8b	LOC moderates the relationship between Passive management by exception and IWB in such a way, that positive relationship between the two constructs is stronger when LOC is External.	

Source: prepared by author

After completion of reliability analysis, several new variables were created in SPSS in order to present the averages of respective items:

- A variable of innovative work behavior was created by averaging all 10 items of four main dimensions of IWB.
- Four variables were created by averaging scores for each IWB dimension separately - opportunity exploration, idea generation, idea championing, idea implementation.
- A variable of transformational leadership was created by averaging all 10 items of four main dimensions of transformational leadership.
- Four variables were created by averaging scores for each transformational leadership dimension separately - individualized consideration, intellectual stimulation, inspirational motivation, idealized influence.
- Two variables were created by averaging scores for each transactional leadership dimension separately – contingent reward, passive management by exception.
- A variable was created by averaging 3 items of Internal LOC construct.
- A variable was created by averaging 3 items of External LOC construct.

The computed variables were applied for further analysis.

Analysis of distribution normality

In order to assess normality of distribution, Shapiro-Wilk test was carried out. Particularly this test is considered to be more applicable for analysis of samples up to n = 2000, and is considered by many researchers to be more powerful comparing to the alternatives (Saculinggan & Balase, 2013).

Summary of results of distribution normality test is presented in Table 15.

Table 15. Shapiro-Wilk test results of distribution normality

Scale	Statistic (W)	Sig.	Result
Innovative work behavior	0,986	0,342	Normal
Opportunity exploration	0,925	0,000	Significantly different from normal
Idea generation	0,960	0,003	Significantly different from normal
Idea championing	0,956	0,001	Significantly different from normal
Idea implementation	0,961	0,003	Significantly different from normal
Transformational leadership	0,974	0,033	Significantly different from normal
Individualized consideration	0,960	0,003	Significantly different from normal
Intellectual stimulation	0,914	0,000	Significantly different from normal
Inspirational motivation	0,949	0,000	Significantly different from normal
Idealized influence	0,937	0,000	Significantly different from normal
Contingent reward	0,949	0,000	Significantly different from normal
Management by exception (passive)	0,979	0,086	Normal
Internal control (Internal LOC)	0,942	0,000	Significantly different from normal
Chance (External LOC)	0,976	0,051	Normal

Source: prepared by author based on results generated from SPSS (ref. Appendix 3)

Statistically, the distribution can be regarded as normal, if *p* value (*Sig*. in Table 15) is > 0,05. Based on this threshold, only three scales has generated scores higher than 0,05 – IWB (W=0,986, Sig. = 0,342), passive management by exception (W=0,979, Sig.=0,086) and external LOC (W=0,976, Sig.= 0,051). Other scales have generated scores lower than 0.05 threshold, and thus, are considered to be significantly different from normal distribution. This way, Pearson's correlation will be applied for the pairs of constructs with normal distribution, and Spearman's correlation method will be applied for the remaining items.

Comparison of means

With aim to identify whether there is a difference between divergent groups of individuals with respect to demographic variables, a comparison of means was carried out.

The descriptive statistics have shown that all respondents had higher education, or were in progress of receiving a degree. Subsequently, the analysis of means with respect to education would not indicate any difference between these two groups, as they are extremely similar in nature. Therefore, education variable was not analyzed in this matter.

What goes for age, the vast majority of respondents (80.2%) belongs to the same age group of 25-40 years, meaning that comparison based on age would also not yield any results.

Final variable – gender - represents two independent samples of male (58.5%) and female (41.5%) respondents. In this case, Mann-Whitney U test is applicable for comparison of means between two groups. Statistically, the difference between two samples can be regarded as significant, if Sig. < 0.05.

The results of Mann-Whitney U test are summarized in Table 16.

Table 16. Results of Mann-Whitney U test

Construct	Male mean rank	Female mean rank	Asymp. Sig. (2-tailed)	Result
Innovative work behavior	53,73	53,18	0,928	No difference
Opportunity exploration	48,26	60,89	0,034	Significant difference
Idea generation	53,35	53,72	0,951	No difference
Idea championing	54,16	52,57	0,790	No difference
Idea implementation	55,71	50,39	0,376	No difference
Transformational leadership	55,83	50,22	0,354	No difference
Individualized consideration	56,10	49,83	0,295	No difference
Intellectual stimulation	54,23	52,48	0,771	No difference
Inspirational motivation	54,18	52,55	0,785	No difference
Idealized influence	55,45	50,75	0,436	No difference
Contingent reward	54,61	51,93	0,656	No difference
Management by exception (passive)	50,63	57,55	0,250	No difference
Internal control (Internal LOC)	58,49	46,47	0,045	Significant difference
Chance (External LOC)	56,35	49,48	0,254	No difference

Source: prepared by author based on results generated from SPSS

Based on results of Mann-Whitney test, there is a significant difference between male and female respondents in terms of *opportunity exploration* (Sig. = 0,034 < 0.05). According to the results, women are more likely to explore new opportunities at work comparing to their male colleagues.

Another significant difference was found with respect to Internal LOC (Sig. = 0,045 < 0.05). The results indicate that men are more likely to have higher Internal LOC than women.

The remaining items did not yield any significant results, as all scores show Sig. > 0.05, meaning that there is no significant difference between women and men with respect to these constructs.

Correlation analysis

Based on normality tests results, both Pearson's and Spearman's correlations were applied to test the respective relationships between variables. The interpretation of correlation coefficients is defined based on Evans (1996) categorization: [0.00 - 0.19] - "very weak"; [0.20 - 0.39] - "weak"; [0.40 - 0.59] - "moderate"; [0.60 - 0.79] - "strong"; [0.80 - 1.0] - "very strong".

Correlation between Transformational Leadership and IWB

Spearman's correlation test was applied in order to identify relationship between transformational leadership and IWB, as well as between components of the two constructs. The results are presented in Table 17.

Table 17. Correlation between Transformational Leadership and IWB

Construct	Transformational Leadership	Individualized consideration	Intellectual stimulation	Inspirational motivation	Idealized influence
IWB	**Rho=0,182***	**Rho=0,150**	**Rho=0,213****	**Rho=0,124**	**Rho=0,182***
Sig. (2-tailed)	**0,061**	**0,125**	**0,028**	**0,204**	**0,062**
Opportunity Exploration	Rho=0,057 Sig.=0,564	Rho=0,068 Sig.=0,489	Rho=0,088 Sig.=0,369	Rho=0,054 Sig.=0,580	Rho=0,056 Sig.=0,565
Idea Generation	Rho=0,150 Sig.=0,126	Rho=0,144 Sig.=0,141	Rho=0,153 Sig.=0,117	Rho=0,112 Sig.=0,252	Rho=0,146 Sig.=0,136
Idea Championing	Rho=0,161* Sig.=0,100	Rho=0,110 Sig.=0,263	Rho=0,181* Sig.=0,064	Rho=0,089 Sig.=0,365	Rho=0,183* Sig.=0,060

Idea Implementation	Rho=0,186* Sig.=0,056	Rho=0,138 Sig.=0,160	Rho=0,244** Sig.=0,012	Rho=0,152 Sig.=0,120	Rho=0,163* Sig.=0,095

* - relationship is statistically significant at Sig. < 0.1 (90% confidence level)
** - relationship is statistically significant at Sig. < 0.05 (95% confidence level)

Source: prepared by author based on results generated from SPSS (ref. Appendix 4)

According to the results, transformational leadership shows very weak positive relationship with IWB (Rho=0,182, Sig = 0,061). The statistical significance can be confirmed at Sig.<0.1 (90% confidence level), but cannot be confirmed at Sig.<0.05 (95% confidence level), which should be taken into account. Hereby, H1 is supported, however, with caution of 90% confidence level, which should be taken into account as a partial limitation.

The components of transformational leadership show different correlation results with respect to IWB. Intellectual stimulation has a positive weak and statistically significant relationship with IWB (Rho=0,213, Sig = 0,028) at 95% confidence level; idealized influence has a very weak and statistically significant relationship with IWB (Rho=0,182, Sig = 0,062) at 90% confidence level. The remaining two dimensions of transformational leadership – individualized consideration (Rho=0,150, Sig = 0,125) and intellectual stimulation (Rho=0,124, Sig = 0,204) – show statistically insignificant relationship with IWB.

The examination of relationship between transformational leadership and IWB component-wise shows that transformational leadership has a very weak positive relationship with idea championing (Rho=0,161, Sig.=0,100) and idea implementation (Rho=0,186, Sig.=0,056). Both relationships can be considered significant only at 90% confidence level.

Among the components of transformational leadership, intellectual stimulation shows correlation with idea championing (Rho=0,181, Sig = 0,064) and idea implementation (Rho=0,244, Sig = 0,012). The relationship with idea championing is very weak, and is considered significant only at 90% confidence level; whereas positive relationship with idea implementation is weak and statistically significant at 95% confidence level. Similarly,

idealized influence shows relationship with the same IWB dimensions - idea championing (Rho=0,183, Sig = 0,060) and idea implementation (Rho=0,163, Sig = 0,095). Both relationships are positive, very weak, and statistically significant at 90% confidence level.

Correlation between Transactional Leadership components and IWB

The relationships between components of transactional leadership and IWB were examined by applying both Pearson's and Spearman's correlation tests. Pearson's correlation was used to test the relationship between management by exception (passive) and IWB, since both constructs had normal distribution. Contingent reward construct did not have normal distribution, therefore, its relationship with IWB was tested by Spearman's correlation. The results are presented in Table 18.

Table 18. Correlation between Transactional Leadership components and IWB

Construct	Contingent Reward	Management by exception (Passive)
IWB	**Rho=0,247****	**Rho=0,143**
Sig. (2-tailed)	**0,011**	**0,143**
Opportunity Exploration	Rho=0,082 Sig.(2 tailed) = 0,403	Rho=0,119 Sig.(2 tailed) = 0,225
Idea Generation	Rho=0,218** Sig.(2 tailed) = 0,025	Rho=0,236** Sig.(2 tailed) = 0,015
Idea Championing	Rho=0,202** Sig.(2 tailed) = 0,038	Rho=0,106 Sig.(2 tailed) = 0,278
Idea Implementation	Rho=0,221** Sig.(2 tailed) = 0,023	Rho=0,051 Sig.(2 tailed) = 0,603

* - relationship is statistically significant at Sig.<0.1 (90% confidence level)
** - relationship is statistically significant at Sig.<0.05 (95% confidence level)
Source: prepared by author based on results generated from SPSS (ref. Appendix 4)

Based on the results, there is a positive correlation between Contingent Reward practice and IWB (Rho=0,247, Sig = 0,011) meaning that H2a can be supported. The relationship is weak, however, statistically significant at 95% confidence interval.

Management by exception (passive) does not show statistically significant relationship with IWB (Rho=0,143, Sig = 0,143), therefore, H2b is rejected.

Regarding H2 ("*Transactional Leadership has a positive relationship with IWB.")*, it can be supported only if H2a and H2b are both supported simultaneously. In this case, H2a

was supported on 95% confidence level, whereas, H2b was rejected. Thus, based on results of both H2a and H2b, H2 is rejected.

If examining component-wise, the results indicate that contingent reward practice has weak positive relationships with three out of four IWB components – idea generation (Rho=0,218, Sig = 0,025), idea championing (Rho=0,202, Sig = 0,038) and idea implementation (Rho=0,221, Sig = 0,023). Alternatively, management by exception (passive) has a weak positive relationship only with idea generation (Rho=0,236, Sig = 0,015). All indicated relationships are statistically significant on 95% confidence level.

Correlation between Leadership and LOC

In order to check the relationship between leadership styles and different types of LOC, both Pearson and Spearman correlation tests were applied. The relationship between external LOC and management by exception (passive) was tested by Pearson's correlation, since both constructs had normal distribution. The remaining constructs did not have normal distributions, therefore, they were tested by Spearman's correlation. The results are presented in Table 19.

Table 19. Correlation between Leadership and LOC

Construct	Internal LOC	External LOC
Transformational Leadership	Rho=0,298*** Sig.(2 tailed) = 0,002	Rho=0,112 Sig.(2 tailed) = 0,252
Individualized consideration	Rho=0,259*** Sig.(2 tailed) = 0,007	Rho=0,129 Sig.(2 tailed) = 0,187
Intellectual stimulation	Rho=0,229** Sig.(2 tailed) = 0,018	Rho=0,152 Sig.(2 tailed) = 0,119
Inspirational motivation	Rho=0,216** Sig.(2 tailed) = 0,026	Rho=0,002 Sig.(2 tailed) = 0,987
Idealized influence	Rho=0,286*** Sig.(2 tailed) = 0,003	Rho=0, 087 Sig.(2 tailed) = 0,373
Contingent Reward	Rho=0,256*** Sig.(2 tailed) = 0,008	Rho=0,154 Sig.(2 tailed) = 0,116
Management by exception (passive)	Rho=0,145 Sig.(2 tailed) = 0,139	Rho=0,299*** Sig.(2 tailed) = 0,002

* - relationship is statistically significant at Sig.<0.10 (90% confidence level)
** - relationship is statistically significant at Sig.<0.05 (95% confidence level)
*** - relationship is statistically significant at Sig.<0.01 (99% confidence level)

Source: prepared by author based on results generated from SPSS (ref. Appendix 4)

Transformational leadership and its respective components (individualized consideration, intellectual stimulation, inspirational motivation and idealized influence) show positive weak, however statistically significant correlation with Internal LOC. The same constructs did not show any statistically significant correlation with External LOC, as all indicators showed Sig. >0.05 and coefficients below 0.2. This way, it can be concluded that transformational leadership has a stronger positive relationship with Internal LOC, which means that H3 is supported.

In terms of transactional leadership, the analysis was conducted separately for each dimension. Interestingly, contingent reward, being the core dimension of transactional leadership, has generated a positive weak, but statistically significant correlation with internal LOC (Rho = 0,256, Sig. = 0,008) at 99% confidence interval, whereas its relationship with external LOC (Rho = 0,154, Sig. = 0,116) is statistically insignificant. This way, H4a, stating that contingent reward has stronger relationship with external LOC, is rejected.

Management by exception (passive), on the contrary, has statistically significant correlation with External LOC (Rho = 0,299, Sig. = 0,002) at 99% confidence interval, and statistically insignificant relationship with internal LOC (Rho = 0,145, Sig. = 0,135). Hereby, H4b stating that passive management by exception has stronger relationship with external LOC, is confirmed.

H4 can be confirmed only if both components of transactional leadership show stronger relationship with External LOC simultaneously. The results indicate that passive management by exception has a stronger relationship with External LOC, however, contingent reward, on the contrary, shows stronger relationship with Internal LOC. This means, that it cannot be concluded that transactional leadership has stronger relationship with external LOC. Subsequently, H4 is rejected.

Correlation between LOC and IWB

The relationships between different types of LOC and IWB were examined by applying both Pearson's and Spearman's correlation test. Pearson correlation was used to identify relationship between external LOC and IWB, as distributions of both constructs were normal. Spearman's correlation was used to test the remaining pairs. The results are presented in Table 20.

Table 20. Correlation between LOC and IWB

Construct	Internal LOC	External LOC
IWB	Rho=0,091 Sig.(2 tailed) = 0,354	Rho = 0,111 Sig.(2 tailed) = 0,257
Opportunity Exploration	Rho=0,001 Sig.(2 tailed) =0,988	Rho=0,027 Sig.(2 tailed) = 0,785
Idea Generation	Rho=0,200** Sig.(2 tailed) = 0,040	Rho=0,114 Sig.(2 tailed) = 0,245
Idea Championing	Rho=0,011 Sig.(2 tailed) = 0,911	Rho=0,086 Sig.(2 tailed) = 0,379
Idea Implementation	Rho=0,015 Sig.(2 tailed) = 0,879	Rho=0,083 Sig.(2 tailed) = 0,395
Internal LOC	Rho=1.000	Rho=-0,004 Sig.(2 tailed) = 0,965
External LOC	Rho=-0,004 Sig.(2 tailed) = 0,965	Rho=1.000

** - relationship is statistically significant at Sig.<0.05 (95% confidence level)
Source: prepared by author based on results generated from SPSS (ref. Appendix 4)

The analysis of relationship between Internal LOC and External LOC indicates an absolute absence of correlation between the two constructs (Rho=-0,004, Sig. = 0,965). Also, according to the results, neither internal LOC (Rho=0,091, Sig = 0,354), nor external LOC (Rho=-0,111, Sig = 0,257) has shown statistically significant relationship with IWB. This way, the hypotheses that internal LOC (H5) and external LOC (H6) are positively correlated with IWB are rejected.

If examining component wise, internal LOC has a statistically significant relationship with one component of IWB - idea generation (Rho=0,200, Sig. = 0,040). The relationship is

weak, however, statistically significant at 95% confidence interval. What goes for external LOC construct, it does not show any significant relationship with any of IWB dimensions.

Multiple regression analysis

Multiple regression analysis represents a tool that is applied for analysis of relationship between a single dependent variable and several independent (predictor) variables (Hair, Black, Babin & Anderson, 2010). By adding predictor variables one at a time into the regression analysis, it is possible to observe how each additional variable contributes to the prediction after the influence of the earlier independent variables has already been taken into account (Gravetter & Forzano, 2006).

In this research, multiple regression technique is applied for testing the moderation effect of LOC in the relationship between transformational leadership and IWB (H7), as well as between components of transactional leadership and IWB (H8a and H8b). Moderation term (also known as *interaction effect*) implies that independent-dependent variable relationship is being affected by another independent variable in a way that it changes the form of the initial relationship (Hair, Black, Babin & Anderson, 2010).

The moderator represents a compound variable formed by multiplying the independent variable X_1 by moderator X_2, which is eventually entered into the regression equation (Hair, Black, Babin & Anderson, 2010). Therefore, several additional variables were generated in SPSS that represent the interactions between transformational leadership and internal LOC (TFLxINLOC), contingent reward and external LOC (CRxEXLOC), and management by exception (passive) and external LOC (MPxEXLOC).

To determine whether the moderator effect exists and is significant, it is necessary to estimate the original (unmoderated) equation and afterwards a separate moderated equation for comparison (Hair, Black, Babin & Anderson, 2010). For this purpose, several regression models were prepared (see Appendix 5):

- Model 1A: Unmoderated equation of transformational leadership, internal LOC and IWB as dependent variable;
- Model 1B: Moderated equation of transformational leadership, internal LOC, IWB as dependent variable, and interaction variable of TFLxINLOC (moderator);
- Model 2A: Unmoderated equation of contingent reward, management by exception (passive), external LOC and IWB as dependent variable;
- Model 2B: Moderated equation of contingent reward, management by exception (passive), external LOC and IWB as dependent variable, and interaction variables of CRxEXLOC and MPxEXLOC.

Assumptions

Prior to conducting a multiple regression analysis, several pre-conditions must be tested in order to avoid wrong validity estimates and ensure that results truly represent the sample. According to Hair, Black, Babin & Anderson (2010), these conditions are represented by the following assumptions:

- linearity of the relationship between dependent and independent variables;
- normality of error distribution;
- homoscedasticity;
- independence of errors;
- absence of multicollinearity between independent variables.

The first assumption - *linearity of the relationship between dependent and independent variables* – is checked by assessment of residuals and partial regression plots, which illustrate the relationship between single independent and dependent variable (Hair, Black, Babin & Anderson, 2010). In this case, the scatterplots resemble linear relationships (see Appendix 6), therefore, this assumption is confirmed.

The second assumption - *normality of error distribution* - is checked by visual examination of the normal probability plots of the residuals (Hair, Black, Babin & Anderson, 2010). All four models have normal probability plots of the residuals, as residual line is closely following the diagonal (see Appendix 7). Hereby, this assumption is confirmed.

The third assumption of *homoscedasticity* implies constant (equal) variance of errors across all levels of independent variables (Osbourne & Waters, 2002). Homoscedasticity is checked by visual examination of a plot of the standardized residuals (errors) by the regression standardized predicted value (Hair, Black, Babin & Anderson, 2010). If residuals are randomly located around 0 (the horizontal line) in a way that they provide a relatively even distribution, then homoscedasticity can be confirmed. Based on the generated plots (see Appendix 8), this assumption is confirmed.

Fourth assumption - *independence of errors* – can be assessed based on Durbin-Watson statistic. According to Ho (2013), residuals are considered uncorrelated if Durbin-Watson statistic is close to 2, and the acceptable range is $1.5 < d < 2.5$. Based on the results, all statistics are close to 2 (see Table 20 and 21), therefore, the assumption of independence of errors is confirmed.

Fifth assumption – *absence of multicollinearity between independent variables* **–** can be assessed based on Variance Inflation Factor (VIF): if values are more than 10, then there is a strong evidence of multicollinearity (Hair, Black, Babin & Anderson, 2010). Model 1A and 2A show VIF close to 1, which is considered a good indicator of absence of multicollinearity. In Model 1B and 2B VIF scores are high, however, it is easily explained by the presence of interaction variables. This fact does not impact the analysis, as it is logical to observe multicollinearity between independent and interaction variables, since independent variables form the interactions, and thus, will show strong correlation with them.

To conclude, all five assumptions were supported, therefore, it is possible to conduct multiple regression analysis and interpret the generated results.

Results of analysis

The comparison of the first two models (1A and 1B) examining the moderation effects of internal LOC is presented in Table 21.

Table 21. Results of multiple regression (moderation of Internal LOC)

Model:	B	Sig.	VIF	R	R^2	R^2 (adj.)	Std. Error of the Estimate	R Square Change	Sig. F Change	Durbin-Watson
1A. Dependent: - IWB Predictors: - TFL - INLOC	 0,095 0,118	 0,156 0,152	 1,087 1,087	0,230[a]	0,053	0,034	0,72884	0,053	0,061	1,997
1B. Dependent: IWB Predictors: - TFL - INLOC - TFLxINLOC	 0,045 0,070 0,010	 0,909 0,857 0,897	 37,302 22,656 74,568	0,230[a]	0,053	0,025	0,7323 4	0,053	0,134	2,003

Note: *IWB = Innovative Work Behavior*
TFL =Transformational leadership
INLOC = Internal LOC
TFLx INLOC = interaction between Transformational leadership and Internal LOC

Source: prepared by author based on results generated from SPSS

According to Hair, Black, Babin & Anderson (2010), if change in R^2 is significant, then the moderation effect is present. When comparing results for model 1A and 1B, it is clear that several indicators - R, R^2, and R^2 change - have not changed when the interaction variable was added. Model 1A can be considered statistically significant at 90% confidence interval (Sig.=0,061), however, if analyzing component-wise, neither transformational leadership (B=0,095, Sig.=0,156), nor internal LOC (B=0,118, Sig.=0,152) serves as a significant predictor for dependent variable (IWB). Model 1B illustrates that once the interaction variable is added, the model becomes insignificant (Sig.= 0,134). Therefore, interaction of TFLxINLOC does not change the relationship between independent and dependent variables, meaning that multiple regression analysis does not show any moderation effect of internal LOC on the relationship between transformational leadership and IWB. This

way, H7 is rejected.

The comparison of the next two models (2a and 2b) examining the moderation effects of external LOC is presented in Table 22.

Table 22. Results of multiple regression (moderation of External LOC)

Model:	B	Sig.	VIF	R	R^2	R^2 (adj.)	Std. Error of the Estimate	R Square Change	Sig. F Change	Durbin-Watson
2A. Dependent: IWB Predictors: - CR - MP - EXLOC	 0,128 0,106 0,013	 0,023 0,078 0,850	 1,104 1,182 1,162	0,272 [a]	0,074	0,047	0,72426	0,074	0,049	2,003
2B. Dependent: IWB Predictors: - CR - MP - EXLOC - CRxEXLOC - MPxEXLOC	 0,028 0,132 -0,068 0,027 -0,009	 0,876 0,465 0,826 0,560 0,840	 11,723 10,648 23,030 25,181 24,606	0,279 [a]	0,078	,032	0,72992	0,078	0,145	1,995

Note: *CR = contingent reward*
MP = Management by Exception
EXLOC = External LOC
CRxEXLOC = interaction between contingent reward and External LOC
MPxEXLOC = interaction between passive management by exception and External LOC

Source: prepared by author based on results generated from SPSS

The comparison of Model 2A and 2B shows that R, R^2 and R^2 change have almost no change after addition of interactions, whereas R2 (adj.) has extremely small decrease which could be attributed to change in the number of variables in the model.

Model 2A indicates that contingent reward (B=0,128, Sig.=0,023) and management by exception (passive) (B=0,106, Sig.=0,078) can be regarded as statistically significant predictors of dependent variable (IWB), whereas external LOC is not (B=0,013, Sig.=0,850). The overall model is significant (Sig.=0,049) at 95% confidence interval. However, Model 2B illustrates that once the interaction variables are added, the regression model becomes insignificant (Sig.= 0,145), and neither contingent reward, nor passive management by exception show any stronger prediction power. At this point, it is possible to reject both H8a and H8b, as moderation effect of external LOC is not observed with respect to contingent

reward or passive management by exception constructs. Hereby, it can be concluded that multiple regression analysis does not show any moderation effect of external LOC on the relationship between overall transactional leadership and IWB. This way, H8 is rejected.

Summary of Empirical Research Findings

Based on performed statistical analysis, the following findings of empirical research can be summarized:

- There is a significant difference between male and female employees with respect to two constructs – opportunity exploration and internal LOC. According to the results of empirical research, women are more likely to explore new opportunities at work comparing to their male colleagues; whereas, men show higher levels of internal LOC comparing to women.
- The correlation analysis indicates that transformational leadership has shown very weak positive relationship with IWB, therefore, H1 is supported, but only at 90% confidence level. The strongest relationship was found with two components - idea championing and idea implementation. Component-wise, only two out of four elements of transformational leadership – idealized influence and intellectual stimulation - have shown positive correlation with IWB. To be precise, intellectual stimulation shows correlation with idea championing and idea implementation. Similarly, idealized influence shows relationship with the same IWB dimensions - idea championing and idea implementation.
- H2a (contingent reward has a positive relationship with IWB) was supported on 95% confidence level, and H2b (passive management by exception has a positive relationship with IWB) was rejected. Thus, H2 (transactional leadership has a positive relationship with IWB) was rejected. If examining component-wise, the results illustrate that contingent reward practice has weak positive relationships with three

out of four IWB components – idea generation, idea championing and idea implementation. Alternatively, passive management by exception has a weak positive relationship only with idea generation.

- Transformational leadership and its respective components (individualized consideration, intellectual stimulation, inspirational motivation and idealized influence) show positive weak, however statistically significant correlation with internal LOC. The same constructs did not show any statistically significant correlation with external LOC. This way, H3 stating that transformational leadership has stronger relationship with internal LOC, is supported.
- Contingent reward dimension of transactional leadership has a positive weak, but statistically significant correlation with internal LOC, while its relationship with external LOC is weaker and is statistically significant only at 90% confidence interval. Subsequently, H4a (contingent reward has stronger relationship with external LOC) is rejected. At the same time, management by exception (passive) has statistically significant correlation with external LOC, and weaker relationship with internal LOC, meaning that H4b (passive management by exception has stronger relationship with external LOC) is supported. Since only one out of two components of transactional leadership has stronger relationship with external LOC, H4 (transactional leadership has stronger relationship with external LOC) is rejected.
- There is an absence of correlation between internal LOC and external LOC. Neither internal LOC, nor external LOC has showed statistically significant relationship with IWB. The hypotheses that internal LOC (H5) and external LOC (H6) have positive relationship with IWB are rejected. Component-wise, internal LOC has a statistically significant relationship with one component of IWB - idea generation. What goes for external LOC construct, it does not show any significant relationship with any of IWB

dimensions.

- H7 is rejected, as multiple regression analysis did not show any moderation effects of internal LOC on the relationship between transformational leadership and IWB.
- H8, H8a and H8b are rejected as multiple regression analysis did not show any moderation effects of external LOC on the relationship between components of transactional leadership and IWB.
- As both H7 and H8 were rejected, it can be concluded that Locus of Control does not serve as a moderator in the relationship between transformational leadership and IWB, as well as between transactional leadership and IWB.

Discussion

The following section presents the discussion of empirical research findings with respect to current body of knowledge. This section focuses on theoretical as well as managerial implications of discovered results with respect to raised hypotheses. The chapter is finalized by discussion of limitations of the current study as well as suggestions for further research.

The main question of the thesis was to find out the role of locus of control in the relationship between two major leadership styles – transformational and transactional - and IWB. Based on the results of this study, there is no empirical evidence of any impact of locus of control on the discussed relationships. The research did not show any direct relationship between LOC and IWB, as well as confirmed the absence of moderation effect of this personality variable on the relationship between leadership styles and IWB. The results will be discussed and compared with the findings discussed in the literature review section.

Implications for current theory

The first two hypotheses (H1 and H2) addressed direct relationship between leadership styles on innovative work behavior. The results indicate that transformational leadership has a positive, but very weak relationship with IWB. These findings are in line with literature review findings that provide evidence of both direct (Crawford, 2001; Khan, Aslam & Riaz, 2012) and indirect (Sharifirad, 2013; Kroes, 2015) positive impact on IWB, and on organizational innovation overall (Jung, Chow and Wu, 2003). However, it is important to highlight that at the same time, these findings deviate from the discussed literature due to low strength of indicated relationship, as other scholars suggest a strong linkage between the two constructs. A possible explanation for weakness of the whole relationship can be presented by the fact that only two out of four practices of transformational leadership (intellectual stimulation and idealized influence) in this study

have shown positive relationship with IWB, whereas, remaining two elements – inspirational motivation and individualized consideration - did not show any relationship with IWB. This deviates from findings of Crawford (2001), who identified in the analysis of five organizational sources (educational, medical, manufacturing, sales and service), that all four elements of transformational leadership positively correlate with innovative behavior. The difference in results can be attributed to specifics of analyzed industry or cultural context, which leads to a conclusion that in this particular context of analysis, inspirational motivation and individualized consideration does not play as important role as intellectual stimulation and idealized influence in stimulating innovative behavior.

The connection between transactional leadership and IWB was analyzed component-wise. Interestingly, the strongest positive relationship was found between the main element of transactional leadership - contingent reward practice - and IWB. Comparing with the literature review, this finding contradicts to the classic arguments of Bass (1985) that instrumental rewards negatively affect innovative behavior of individuals since it does not motivate them to perform beyond expectations. However, this finding is in line with works of Crawford (2001), who has confirmed in his study positive correlation between contingent reward and IWB, as well as with study of Ramamoorthy, Flood, Slattery & Sardessai (2005), who have determined that payment (being a classic example of contingent reward) has direct positive effect on innovative work behavior. Authors suggest that individuals can perceive innovative behavior as on the job performance rather than discretionary behaviors, and therefore, can be expecting rewards for innovative activities, such as idea generation and implementation. This study extend the current literature by presenting additional evidence that, despite negative approach of some scholars, contingent reward has an important role in enhancement of innovative work behavior, especially, as the results show, for idea generation, idea championing and idea implementation activities.

Even though positive relationship between contingent reward practices with IWB was confirmed, second analyzed dimension of transactional leadership – passive management by exception - did not show any connection to the construct. For this reason, the hypothesis that overall transactional leadership has a positive relationship with IWB was rejected. This is in line with findings of Crawford (2001) and Turunc, Celik, Tabak & Kabak (2010), who similarly did not confirm any relationship between transactional leadership as an overall construct and IWB. Yet, there is a contradiction to studies of Lee (2008) and Si & Wei (2012), who implied a negative relationship between the constructs, as well as to Khan, Aslam & Riaz (2012), who determined a positive direct relationship; whereas, this study confirms positive relationship only with respect to one dimension – contingent reward. The difference in results between two elements of transactional leadership can be explained by Full Range Leadership theory of Bass and Avolio (1991) (see Figure 2 on p.22), which implies that contingent reward is more active and effective practice on the continuum, comparing to passive management by exception, and therefore, is more likely to have an effect on IWB. The study extends the knowledge of relationship between leadership and innovative behavior by illustrating that both transformational and transactional leadership styles possess certain elements that positively affect IWB. Additionally, it is concluded that some practices, despite belonging to the same leadership style, may have very much different impact on the IWB construct.

Further two hypotheses (H3 and H4) addressed direct relationship between leadership styles and locus of control. The results imply that transformational leadership and its respective components (individualized consideration, intellectual stimulation, inspirational motivation and idealized influence) have positive relationship with internal LOC, and show no relationship with external LOC. These findings are in line with arguments of Howell & Avolio (1993), whose study illustrate that transformational leadership measures are

associated with higher internal locus of control and show a positive relationship with business-unit performance. One more supporting study was performed by Chen, Li & Leung (2016), who determined that higher internal LOC weakens the relationship between the supervisor support and innovative work behavior. The authors explain that individuals with internal LOC are likely to prefer a leader that is less controlling and provides autonomy for subordinate's decision-making. Hereby, this study supports the findings of literature review that transformational leadership would have stronger effect on individuals with internal LOC, comparing to their external peers.

In terms of transactional leadership, the results show that contingent reward has stronger relationship with internal LOC, whereas passive management by exception has stronger relation to external LOC. According to the Full Range Leadership model of Bass and Avolio (1991) (see Figure 2 on p.22), contingent reward among all elements of transactional leadership is the closest to transformational leadership dimensions on the activity/effectiveness continuum, therefore, it can serve as a possible explanation why contingent reward also shows relationship with internal LOC together with other transformational leadership dimensions. This study adds a conclusion to the findings of literature review that different leadership practices show specific linkage to certain LOC type, meaning that their effectiveness can rise, if applied to this specific type of individuals.

Two more hypotheses (H5 and H6) focused on relationship between locus of control and innovative work behavior. According to the results of this study, neither internal LOC, nor external LOC has shown statistically significant relationship with IWB. It is important to pinpoint that component-wise the results have shown that internal LOC has a positive relationship with one component of IWB - idea generation. This means that individuals with higher internal LOC are expected to have higher engagement in idea generation process. This finding contradicts with research of Kaur & Gupta (2016), who have explored the impact of

personal characteristics on innovative work behavior of 120 teachers in India, and determined that internal LOC has a positive relationship and is a strong predictor of innovative behavior. The difference in results can be attributed to the fact, that both studies were performed in different cultural contexts (India vs. Lithuania) and in different environments (education vs. business). What goes for external LOC construct, it does not show any significant relationship with any of IWB dimensions. This is in line with findings of Kaur & Gupta (2016), who did not confirm in their study any significant relationship between external LOC and IWB. Hereby, this study adds to the existing literature that impact of locus of control on IWB can vary with respect to different cultural contexts and environments.

An important finding was derived based on examination of relationship between internal LOC and external LOC, which illustrates an absolute absence of correlation between the two constructs. This means that instead of belonging solely to one type, each individual possesses unique combination of both types of LOC. Moreover, since this study indicates absolute absence of correlation, it can be concluded that combination of intensities of each type is very much different with each individual. Comparing with literature review findings, the results contradict with Rotter's (1966) classic theory of dichotomy between internal and external LOC types, as it requires perfect negative relationship to be in place. Yet, the findings are in line with suggestions of April, Dharani & Peters (2012) regarding existence of dual control, where one individual can possess both types of LOC and apply them effectively with respect to different situations. Therefore, this study provides evidence of dual control concept, which, according to April, Dharani & Peters (2012), is still not yet predominant in the literature.

One more important question of the research was to examine locus of control as a moderator in the relationship between leadership styles and IWB (H7 and H8). The study suggested that internal LOC moderates the relationship between transformational leadership

and IWB, while external LOC moderates the link the between transactional leadership and IWB. The literature review presented strong pre-requisites to suggest moderation effect of LOC, however, this study did not present any empirical evidence of existence of moderation effect neither from Internal LOC, nor from External LOC side. The result is explained by absence of direct relationship between both types of LOC and IWB. Also, in this study all identified correlations were either weak, or very weak, which could also be a potential reason for no effect detection. Thus, it is suggested to perform further studies in this field and test the moderation effect in different industries and cultural contexts by applying larger sample.

Practical implications

Besides theoretical value, the empirical research findings also suggest several practical implications.

To start with, applying combination of two leadership styles' practices is important, as certain elements from both styles have shown direct positive relationship with innovative behavior of employees. Chen & Chen (2007) (as cited in Khan, Aslam & Riaz, 2012) states that applying both transformational and transactional leadership styles simultaneously can help achieve more efficient operations and high innovative performance. According to Bass (1990), leadership practices are possible to learn, therefore, both styles can be developed within organization by organizing separate training for managers. Such trainings would provide a possibility to not only evaluate their current leadership style, but eventually enhance their skills by learning complementing practices (Bass, 1990).

Specifically, the study illustrates importance of contingent reward practice for innovative work behavior, especially for idea generation, idea championing and idea implementation processes. Thus, it can be concluded that innovative behavior of employees is led not only by intrinsic motivation, but also by extrinsic motivation. Hereby, it is crucial that organization would have a clear motivation system with respect to creative activities, such as

additional payment, special gifts for best ideas, or any other means of instrumental rewards, as long as they are valued by the employees.

The study also presents evidence that passive management by exception has a statistically significant positive relationship with idea generation, meaning that in practical terms, brainstorming should not be interfered or monitored by management. According to Sharifirad (2013), leaders may censor follower's viewpoints that do not conform with their own beliefs, which eventually increases subordinate dependency and limit innovativeness. Based on results, it can be concluded that when employees are given enough autonomy to think through and present new ideas, there is a better chance to develop more creative and innovative concepts, which otherwise would not arise under strict boundaries and pressure from management side.

Despite the fact that locus of control did not show any relationship with IWB, the study confirmed that it has specific linkage with leadership styles. Transformational leadership and contingent reward practice has stronger bond with internal LOC, meaning that these types of leadership practices most likely will be more effective to subordinates with higher internal LOC, whereas, passive management by exception would be more effective for external peers. Therefore, for leaders and managers it is crucial to keep in mind personal differences of employees when applying different leadership styles in the workplace, as its' effectiveness can directly depend on the personality type of subordinates.

Another interesting finding was identified during comparison between male and female individuals. The results indicate that there is a significant difference between male and female employees with respect to two constructs – opportunity exploration and internal LOC. Hereby, women are more likely to explore new opportunities at work comparing to their male colleagues, meaning, that it is wise to create gender-diversified teams for brainstorming purposes. Men, in turn, have shown higher levels of internal LOC comparing to women. In

general, men by their nature are more self-confident and led by belief that outcomes depend solely on their own actions, especially in the family settings. From the managerial side, these findings imply that male employees might be more suitable for goal-oriented positions, whereas, female employees could be effectively engaged in creative works.

Limitations and suggestions for further research

It is important to note several important limitations of this study that might have a certain impact on the discovered results. To start with, the sample size was relatively small, and data was collected in a specific cultural context with a focus on one industry, which could be a potential reason for observing deviating results. Therefore, for future research it is strongly suggested to gather a larger sample of participants and do comparison within different cultural contexts, companies or even between several industries.

Secondly, there is a risk that at some point the provided answers of research participants might have been biased or untruthful, since the questionnaire was highly based on self-reporting. Further studies can benefit from applying experimental design instead of survey, which would involve forming two groups of individuals with dominant type of locus of control, where each group would receive different treatment in the form of specific leadership style. Afterwards, it would be possible to measure impact of leadership styles on innovative behavior and compare the results between the groups.

Thirdly, the collected data on Internal LOC construct was used in the analysis despite the fact that its reliability was slightly lower than the allowed threshold. Also, one dimension of transactional leadership – active management by exception – was removed from the analysis due to low reliability, which could also have an impact on the overall results. Finally, some hypotheses were accepted only at 90% confidence level. However, there is a possibility that results would reach higher confidence level, if research was carried out with a larger sample.

Conclusion

The role of innovative work behavior at workplace and possibilities of its enhancement continue to be a discussable topic among both practitioners and scholars. In order to expand the knowledge in this field, the main focus of this study was to examine the role of particular personality trait - locus of control - in the relationship between transformational and transactional leadership styles and innovative work behavior.

Literature review has discussed the conceptualizations of innovative work behavior, leadership styles and locus of control, in a way to provide theoretical grounding for these concepts' linkages. The findings of the literature review include:

- Evidence that both transformational and transactional leadership styles can exert positive relationship with IWB. The vast majority of studies imply that transformational leadership has strong positive effect on IWB, whereas, effects of transactional leadership can vary from negative to positive. This indicates the presence of certain moderator elements, which can affect the direct relationship between leadership and IWB.
- The relationship between leadership and locus of control was illustrated through the connecting variable – motivation. Literature implies that both transformational leadership and internal LOC are related to intrinsic motivation, whereas, transactional leadership and external LOC are linked to extrinsic motivation of individual.
- Previously discussed linkages allowed hypothesizing that transformational leadership is more effective for individuals with higher internal LOC, and transactional leadership – for individuals with external LOC, meaning that LOC can be a potential moderator in the relationship between leadership styles and IWB.

The **empirical research** aimed to test the LOC construct as a moderator in the relationship between transformational and transactional leadership and innovative work behavior, and identify whether individuals with different types of LOC would require specific leadership styles in order to increase the level of their IWB. The findings are as follows:

- Locus of control does not serve as a moderator in the relationship between leadership styles and IWB. However, there is a specific connection between leadership styles and LOC: transformational leadership as well as contingent reward practice of transactional leadership proved to be correlated with internal LOC, while, passive management by exception practice was related to external LOC.
- Neither of the LOC types has shown direct relationship with IWB.
- Transformational leadership and contingent reward practice of transactional leadership showed a positive relationship with IWB, whereas passive management by exception practice did not show any relationship.
- There is an absence of any relationship between Internal LOC and External LOC, meaning that individuals can possess both types of locus of control simultaneously.

Taking into account the results of empirical study, the following **theoretical implications** were derived:

- The study extends the knowledge of relationship between leadership and innovative behavior by illustrating that both transformational and transactional leadership styles possess certain elements that positively affect IWB. Additionally, it is concluded that some practices, despite belonging to the same leadership style, may have very much different impact on innovative behavior.

- Impact of locus of control on IWB can vary with respect to different cultural contexts and environments.
- The study supports the findings of literature review that transformational leadership would have stronger effect on individuals with internal LOC, comparing to their external peers. Additionally, different leadership practices show specific linkage to certain LOC type, meaning that their effectiveness can rise, if applied to this specific type of individuals.
- The findings of the study also support the theory of dual control that is still not yet predominant in the literature.

Besides theoretical implications, several **practical suggestions** were provided:

- Leaders should keep in mind personal differences of employees when applying different leadership styles in the workplace, as its' effectiveness can directly depend on the personality type of subordinates.
- Both leadership styles contain practices that positively affect innovative behavior of employees; therefore, it is important for leaders to combine these practices in their behavior in order to foster IWB among subordinates.
- Male employees might be more suitable for goal-oriented positions, whereas, female employees could be effectively engaged in creative works.

The study has several **limitations**, including small sample size, possible subjectivity of respondents and limited reliability of several scales. For the future studies, it is highly recommended to apply larger sample in different research contexts, or organize the study in an experimental design.

References

Aarons, G.A. (2006). Transformational and Transactional Leadership: Association With Attitudes Toward Evidence-Based Practice. *Psychiatric Services.* Vol. 57, No. 8, pp. 1162-1169.

Advani, A., Abbas, Z. (2015). Impact of Transformational and Transactional Leadership Styles on Employees' Performance of Banking Sector in Pakistan. *Global Journal of Management and Business Research.* Vol.15, No. 5, pp. 29-36.

Ahmad, F., Abbas, T., Latif, S., Rasheed, A. (2014). Impact of Transformational Leadership on Employee Motivation in Telecommunication Sector. *Journal of Management Policies and Practices*. Vol. 2, No.2, pp. 11-25.

Antonakis, J. (2001). The validity of the transformational, transactional, and laissez-faire leadership model as measured by the Multifactor Leadership Questionnaire (5X). Dissertation Abstracts International, (University Microfilms No. 3000380). Retrieved from http://scholarworks.waldenu.edu/cgi/viewcontent.cgi?article=1007&context=dilleyos

April, K.A., Dharani, B., Peters, K. (2012). Impact of Locus of Control Expectancy on Level of Well-Being. *Review of European Studies*. Vol. 4, No. 2, pp. 124-136.

Arif, S., Zubair, A., Mazoor, Y. (2012). Innovative Work Behavior and Communication Climate among Employees of Advertising Agencies. *FWU Journal of Social Sciences*. Vol. 6, No. 1, pp. 65-72.

Babalola, S.S. (2009). Women Enterpreneurial Innovative Behavior: The Role of Psychological Capital, *International Journal of Business and Management*. Vol. 4, No. 11, pp. 184-190.

Barbuto, Jr., J.E. (1997). Taking the Charisma Out of Transformational Leadership. *Journal of Social Behavior and Personality*. Vol. 12, No. 3, pp. 689-697.

Barbuto, Jr., J.E. (2005). Motivation and Transactional, Charismatic, and Transformational Leadership: A Test of Antecedents. *Journal of Leadership and Organizational Studies*, Vol. 11, No. 4, pp. 26-39.

Bass, B.M. (1985). Leadership and performance beyond expectations. New York: Free Press.

Bass, B.M. (1990). From Transactional to Transformational Leadership: Learning to Share the Vision. *Organizational Dynamics*. Vol. 18, Issue 3.

Bass, B.M., Avolio, B.J., & Goodheim, L. (1987). Biography and the assessment of transformational leadership at the world class level. *Journal of Management*, Vol. 13, pp. 7-19.

Bass, B.M., Avolio, B.J. (1991). The full range of leadership development: Basic and advanced manuals. Binghampton, NY: Bass, Avolio and Associates.

Bodla, M.A., Nawaz, M.M. (2010). Comparative Study of Full Range Leadership Model among Faculty Members in Public and Private Sector Higher Education Institutes and Universities. *International Journal of Business and Management.* Vol. 5, No.4, pp. 208- 211.

Boshoff, E., Van Zyl, E.S. (2011). The relationship between locus of control and ethical behavior among employees in the financial sector. *Koers*, Vol. 76, No. 2, pp. 283-303.

Burns, J.M. (1978). Leadership. New York: Harper & Row.

Chen, T., Li, F., Leung, K. (2016). When does supervisor support encourage innovative behavior? Opposite moderating effects of general self-efficacy and internal locus of control. *Personnel Psychology,* Vol. 69, Issue 1, pp.123-158.

Conger, J. A., Kanungo, R. N. (1998). Charismatic Leadership in Organizations (pp. 9-18). Thousand Oaks, CA: Sage.

Crawford, C. B. (2001). Leadership and Innovation: Champions and Techies as Agents of Influence. A Paper Presented to the Association of Leadership Educators at

Conference Review Committee. Fort Hays State University. Retrieved from http://www.leadershipeducators.org/Resources/Documents/Conferences/Minneapolis/InnovationandLeadership.pdf

De Jong, J., Den Hartog, D. (2010). Measuring Innovative Work Behavior. *Creativity and Innovation Management*, Vol. 19, No. 1, pp. 23-36.

De Spiegelaere, S., Van Gyes, G., Van Hootegem, G. (2014). The Innovative Work Behaviour concept: definition and orientation. *Gedrag & Organisatie*, Vol. 27, No. 2, pp. 139–156.

Deci, E.L., Ryan, R.M. (1985). Intrinsic motivation and Self-determination in Human Behavior. New York: Plenum.

Deci, E.L., Ryan, R.M. (2000). Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions. *Contemporary Educational Psychology*, Vol. 25, pp. 54–67.

Dobre., O.I. (2013). Employee motivation and organizational performance. *Review of Applied Socio- Economic Research*. Vol. 5, No. 1, pp. 53-60.

Dörner, N. (2012). Innovative work behavior: The roles of employee expectations and effects on job performance (Doctoral dissertation). University of St.Gallen, Bamberg. Retrieved from http://www1.unisg.ch/www/edis.nsf/SysLkpByIdentifier/4007/$FILE/dis4007.pdf

Elkins, G.R. Cochran, W. (1978). Internal and External Locus of Control Determinants of Decision Making in a Game of Skill. *Psychological reports*, Vol. 42, pp. 1311-1314.

Eurostat, (2016). Small and medium-sized enterprises (SMEs). Retrieved from http://ec.europa.eu/eurostat/web/structural-business-statistics/structural-business-statistics/sme?p_p_id=NavTreeportletprod_WAR_NavTreeportletprod_INSTANCE_vxlB58HY09rg&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&p_p_col_id=column-2&p_p_col_pos=1&p_p_col_count=4

Evans, J. D. (1996). Straightforward statistics for the behavioral sciences. Pacific Grove, CA: Brooks/Cole Publishing.

Farr, J. & C. Ford (1990), Individual innovation, In: West, M.A. & J.L. Farr (1990), Innovation and creativity at Work: Psychological and Organisational Strategies, Chichester: John Wiley, pp. 63-80.

Goodridge, D. (2006). Relationships Between Transformational and Transactional Leadership with Motivation of Subordinates. John Molson School of Business (Master Thesis). Retrieved from http://spectrum.library.concordia.ca/9143/1/MR20813.pdf

Gravetter, F.J, Forzano, L.B. (2006). Research methods for the behavioral sciences (2nd edition). Belmont, CA: Wadsworth / Thomson Learning.

Gumusluoglu, L., Ilsev, A. (2009). Transformational leadership, creativity, and organizational innovation. *Journal of Business Research*, Vol. 62, pp. 461-473.

Hackman, M. Z. (2009). Leadership. (pp.101-133). Long Grove, IL: Waveland Press, Inc.

Hair, Black, Babin, Anderson (2010). Multivariate Data Analysis, A global perspective (7th Edition) (p.180-185). Upper Saddle River, NJ: Pearson Education.

Hinton, P.R., McMurray, I., Brownlow, C. (2004). SPSS Explained (1st Edition). New York, NY: Routledge (Taylor & Francis) (p.364)

Ho, R. (2013). Handbook of Univariate and Multivariate Data Analysis with IBM SPSS (2nd edition). Boca Raton: CRC Press.

Howell, J. M., Avolio, B.J. (1993). Transformational Leadership, Transactional Leadership, Locus of Control, and Support for Innovation: Key Predictors of Consolidated-Business-Unit Performance. *Journal of Applied Psychology*, Vol. 78, No. 6, p.891.

Iscan, O.F., Ersari, G., Naktiyok, A. (2014). Effect of Leadership Style on Perceived Organizational Performance and Innovation: The Role of Transformational Leadership beyond the Impact of Transactional Leadership – An Application among

Turkish SME' s. *Procedia - Social and Behavioral Sciences*. Vol. 150, pp. 881–889.

Jannsen, O. (2000). Job demands, perceptions of effort-reward fairness and innovative work behaviour. *Journal of occupational and organizational psychology*. Vol. 73. pp. 287-302.

Johnson, B. G., Stone, G.L., Altmaier, E.M., Berdahl, L.D. (1998). The relationship of demographic factors, locus of control and self-efficacy to successful nursing home adjustment. *Gerontologist.* Vol. 38, No. 2, pp. 209-216.

Judge, A.T., Woolf, E.F., Hurst, C., Livingston, B. (2006). Charismatic and Transformational Leadership. A Review and an Agenda for Future Research. *Journal of Work and Organizational Psychology,* Vol. 50, No. 4, pp. 203-214.

Judge, A.T., Piccolo, R.F. (2004). Transformational and Transactional Leadership: A Meta-Analytic Test of Their Relative Validity. *Journal of Applied Psychology.* Vol. 89, No. 5, pp. 755–768.

Jung, D.I, Chow, C., Wu, A. (2003). The role of transformational leadership in enhancing organizational innovation: Hypotheses and some preliminary findings. *The Leadership Quarterly*, Vol. 14, pp. 525-544.

Kalar, T., & Wright, D.L. (2007). Leadership theory and motivation of medical imaging employees. *Radiology Management*, Vol. 29, No. 6, pp. 20-28.

Kanter, R. M. (1988). When a thousand flowers bloom: structural, collective and social conditions for innovation in organizations. *Research in Organizational Behavior*. Vol. 10, pp. 169-211.

Kaur, K.D., Gupta, V. (2016). The Impact of Personal Characteristics on Innovative Work Behaviour: An Exploration into Innovation and Its Determinants amongst Teachers. *The International Journal of Indian Psychology.* Vol. 3, Issue 3, No. 11, pp. 158-172.

Khan, M.J., Aslam, N., Riaz, M.N. (2012). Leadership Styles as Predictors of Innovative Work Behavior. *Pakistan Journal of Social and Clinical Psychology,* Vol.9, No. 2, pp. 17-22.

Khaola, P.P., Sephelane, R.L. (2013). Leadership, organizational citizenship and innovative work behaviours in Lesotho: Exploratory evidence. *Journal of Language, Technology & Entrepreneurship in Africa*, Vol. 4, No. 2, pp. 47-58.

Kheng, Y.K., June, S., Mahmood, R. (2013). The Determinants of Innovative Work Behavior in the Knowledge Intensive Business Services Sector in Malaysia. *Asian Social Science*, Vol. 9, No. 15, pp. 47-59.

Kheng, Y.K., Mahmood, R., Beris, S. J. H. (2013). A Conceptual Review of Innovative Work Behavior in Knowledge Intensive Business Services among Knowledge Workers in Malaysia. *International Journal of Business, Humanities and Technology* Vol. 3, No. 2, pp. 91- 99.

Kourmousi, N., Xythali, V., Koutras, V. (2015). Reliability and Validity of the Multidimensional Locus of Control IPC Scale in a Sample of 3668 Greek Educators. *Social Sciences,* Vol. 4, pp. 1067-1078.

Kroes, B. (2015). The relationship between transformational leadership and innovative work behavior: The role of self-efficacy and the effect of perceived organizational support on Innovative Work Behavior. Tillburg University. (Master Thesis). Retrieved from https://www.tilburguniversity.edu/upload/a0563698-81f3-4b6c-b31a-65bf06e9eec3_997301HRS%20Bouke%20Kroes.pdf

Lee, J. (2008). Effects of leadership and leader–member exchange on innovativeness. Journal of Managerial Psychology, Vol. 23, pp. 670–687.

Levenson, H. (1973). Reliability and Validity of the I, P and C Scales – A Multidimensional View of Locus of Control. *American Psychological Association Convention.*

Montreal, Canada, Retrieved from http://files.eric.ed.gov/fulltext/ED087791.pdf

Lowe, K. B., Kroeck, K. G., & Sivasubramaniam, N. (1996). Effectiveness correlates of transformational and transactional leadership: A meta-analytic review of the MLQ literature. *The Leadership Quarterly*, Vol. 7, No. 3, pp. 385-415.

Lumpkin, J. R. (1985). Validity of a brief locus of control scale for survey research. *Psychological Reports*, Vol. 57, pp. 655-659.

Maltby, J., Day, L., Macaskill, A. (2010). Personality, Individual Differences and Intelligence. 2nd edition. Canada: Pearson Education.

Maslow, A. H. (1943). A Theory of Human Motivation. *Psychological Review*. Vol. 50, No 4, pp. 370-396.

Munir, S., Sajid, M. (2010). Examining Locus of Control (LOC) as a Determinant of Organizational Commitment among University Professors in Pakistan. *Journal of Business Studies Quarterly*. Vol. 1, No. 3, pp. 78-93

Ng, T. W. H., Sorensen, K.L., Eby, L.T. (2006). Locus of control at work: a meta-analysis. *Journal of Organizational Behavior*, Vol. 27, pp. 1057-1087.

Noureen, G., Nisa Awan, R. (2011). Locus of Control as Moderator of Relationship between Leadership Behaviors of Principals and their faculty outcomes: A Path-Goal Approach. Cambridge Business & Economics Conference (June 27-28, 2011). Retrieved from http://ijsse.com/sites/default/files/issues/2011/v1i4/paper%2028/paper%2028.pdf

Odumeru, J. A., Ifeanyi, G. O. (2013). Transformational vs. Transactional Leadership theories: Evidence in Literature. *International Review of Management and Business Research*. Vol 2. Issue 2, pp. 355-361.

Osbourne, J.W., Waters, (2002). Four assumptions of multiple regression that researchers

should always test. *Practical Assesment, Research & Evaluation*. Vol. 8, No. 2.

Oseebaar, D. (2012). How Transformational and Transactional Leadership relate to Employee Innovativeness: A Review. University of Amsterdam. Bachelor Thesis of Industrial and Organizational Psychology. Retrieved from http://scriptiesonline.uba.uva.nl/document/520373

Oukes, T. (2010). Innovative work behavior: A case study at a tire manufacturer. Bachelor Thesis. University of Twente. Retrieved from http://essay.utwente.nl/62728/1/Bacheloropdracht_T._Oukes_September_2011(publieke_versie).pdf

Pieterse, A.N., Van Knippenber, D., Schippers, M., Stam, D. (2009). Transformational and transactional leadership and innovative behavior: The moderating role of psychological empowerment. *Journal of Organizational Behavior.* Vol. 31, Issue 4, pp. 609–62.

Punch, K.F. (2000). Introduction to social research: Quantitative and qualitative approaches. London : SAGE Publications

Ramamoorthy, N., Flood, P.C., Slattery, T., Sardessai, R. (2005). Determinants of Innovative Work Behaviour: Development and Test of an Integrated Model. *Creativity and Innovation Management.* Vol. 14, No. 2, pp. 142-149.

Reeve, J., Olson, B.C., Cole, S.G. (1987). Intrinsic motivation in Competition: The Intervening Role of Four Individual Differences following objective Competence Information. *Journal of Research in Personality,* Vol. 21, pp. 147-170.

Reuvers, M., van Engen, M.L., Vinkenburg, C.J., Wilson-Everd, E. (2008). Transformational Leadership and Innovative Work Behavior: Exploring the relevance of Gender Differences. *Creativity and innovation management,* Vol. 17, Issue 3, pp. 227–244.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of

reinforcement. *Psychological Monographs: General and Applied.* Vol. 80, No. 1.

Runco, M.A., Pritzker, S.R. (1999). Encyclopedia of Creativity (Two-Volume Set). Vol.1. (p. 162). San Diego, CA: Academic Press.

Saculinggan, M., Balase, E.A. (2013). Empirical Power Comparison Of Goodness of Fit Tests for Normality In The Presence of Outliers. *Journal of Physics: Conference Series,* Vol. 435. doi:10.1088/1742-6596/435/1/012041

Sapp, S.G., Harrod, W.J. (1993). Reliability and validity of a brief version of Levenson's Locus of Control scale. *Psychological Reports*, Vol. 72, pp. 539-550.

Scott, S. G., Bruce, R. A. (1994). Determinants of innovative behavior: a path model of individual innovation in the workplace. *The Academy of Management Journal*. Vol. 37, No. 3, pp. 580-607.

Sharifirad, M. S. (2013). Transformational leadership, innovative work behavior, and employee well-being. *Glob Bus Perspect*. Vol 1, pp. 198-225.

Si, S., Wei, F. (2012). Transformational and transactional leaderships, empowerment climate, and innovation performance: A multilevel analysis in the Chinese context. *European Journal of Work and Organizational Psychology*, Vol.21, pp. 299-320.

Simić, I. (1998). Transformational Leadership – The Key to successful management of Transformational Organizational Changes. *Economics and Organization*, Vol.1, No 6, pp. 49 – 55.

Tahsildari, H., Hashim, M. T., Normeza, W. (2014). The Influence of Transformational Leadership on Organizational Effectiveness through Employee's Innovative Behavior. *Journal of Economics and Sustainable Development.* Vol.5, No. 24, pp. 225-235.

Turban, D. B., Tan, H. H., Brown, K. G., Sheldon, K. M. (2007). Antecedents and Outcomes of Perceived Locus of Causality: An Application of Self-Determination Theory. *Journal of Applied Social Psychology,* Vol. 37, No. 10, pp. 2376–2404.

Turunc, O., Celik, M., Tabak, A., Kabak, M. (2010). The impact of transformational leadership and contingent reward leadership styles on innovative behavior: mediating role of leader-member exchange quality. *International journal of business and management studies*, Vol. 2, No. 1, ISSN: 1309-8047 retrieved from http://www.sobiad.org/ejournals/journal_IJBM/arhieves/2010_1/08omer_turunc.pdf

West, M.A., and Farr, J.L. (1989) Innovation at work. In M.A. West and J.L. Farr (Eds), Innovation and creativity at work: Psychological and organizational strategies (pp. 3–13). Chichester, England: Wiley.

Wheatley, W. J., Anthony, W.P., Maddox, E.N. (1988). The relationship of locus of control and vividness of imagination measures to simulation performance. *Developments in Business Simulation & Experiental Exercises*, Vol. 15, pp. 134-137.

Appendices

Appendix 1. Questionnaire (English version)

Questionnaire link: https://kwiksurveys.com/s/1yLvKGFF

Dear Respondent,
Thank you very much for delegating your time to complete this survey. The purpose of this research is to get a better understanding on the role of particular personality trait – locus of control – in the relationship between leadership and innovative work behavior.
The survey is fully anonymous, and it should take no more than 5 minutes to complete. All questions are presented in the form of statements and should be rated on a scale from 1 (strongly disagree) to 7 (strongly agree).

1. Please rate your behavior in the work environment with respect to the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1. I pay attention to issues that are not part of my daily work.	○	○	○	○	○	○	○
2. I wonder how things can be improved.	○	○	○	○	○	○	○
3. I search out new working methods, techniques or instruments.	○	○	○	○	○	○	○
4. I generate original solutions for problems.	○	○	○	○	○	○	○
5. I find new approaches to execute tasks.	○	○	○	○	○	○	○
6. I make important organizational members enthusiastic for innovative ideas.	○	○	○	○	○	○	○
7. I attempt to convince people to support an innovative idea.	○	○	○	○	○	○	○
8. I systematically introduce innovative ideas into work practices.	○	○	○	○	○	○	○
9. I contribute to the implementation of new ideas.	○	○	○	○	○	○	○
10. I put effort in development of new things.	○	○	○	○	○	○	○

2. Please rate your leader's (direct manager's) behavior with respect to the following statements.

	Strongly Disagree	Disagree	Somewhat disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
11. My leader goes beyond self-interest for the good of the group.	○	○	○	○	○	○	○
12. My leader acts in ways that builds my respect.	○	○	○	○	○	○	○
13. My leader specifies the importance of having a strong sense of purpose.	○	○	○	○	○	○	○
14. My leader considers the moral and ethical consequences of decisions.	○	○	○	○	○	○	○
15. My leader talks optimistically about the future.	○	○	○	○	○	○	○
16. My leader expresses confidence that the goals will be achieved.	○	○	○	○	○	○	○
17. My leader re-examines critical assumptions to question whether they are appropriate.	○	○	○	○	○	○	○
18. My leader gets me to look at problems from many different angles.	○	○	○	○	○	○	○
19. My leader treats me as an individual rather than just as a member of a group.	○	○	○	○	○	○	○
20. My leader considers me as having different needs, abilities, and aspirations from others.	○	○	○	○	○	○	○
21. My leader discusses in specific terms who is responsible for achieving performance targets.	○	○	○	○	○	○	○

22. My leader makes clear what one can expect to receive when performance goals are achieved.	○	○	○	○	○	○	○
23. My leader concentrates his/her full attention on dealing with mistakes, complaints and failures.	○	○	○	○	○	○	○
24. My leader keeps track of all mistakes.	○	○	○	○	○	○	○
25. My leader waits for things to go wrong before taking action.	○	○	○	○	○	○	○
26. My leader shows that he/she is a firm believer in "If it ain't broke, don't fix it."	○	○	○	○	○	○	○

3. Please express your opinion with respect to the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
30. When I make plans, I am almost certain that I can make them work.	○	○	○	○	○	○	○
31. Getting people to do the right things depends upon ability; luck has nothing to do with it.	○	○	○	○	○	○	○
32. What happens to me is my own doing.	○	○	○	○	○	○	○
33. Many of the unhappy things in people's lives are partly due to bad luck.	○	○	○	○	○	○	○
34. Getting a good job depends mainly on being in the right place at the right time.	○	○	○	○	○	○	○
35. Many times I feel that I have little influence over the things that happen to me.	○	○	○	○	○	○	○

4. Please indicate your age:
    - up to 25
    - 25-40
    - over 40
5. Please indicate your gender:
    - Male
    - Female
6. Please indicate your education level:
    - No education
    - Secondary education
    - Unfinished higher education
    - Higher education

Appendix 2. Questionnaire (Russian version)

Questionnaire link: https://kwiksurveys.com/s/RUiMHi2A

Уважаемый респондент,
Благодарю за желание принять участие в данном опросе, цель которого является установить роль локуса контроля в связи между лидерством и инновационным поведением в организации. Опрос является анонимным, и его заполнение не займет более 5 минут. Все вопросы предоставлены в виде утверждений, которые нужно оценить по 7-бальной шкале от 1 (совершенно несогласен) до 7 (совершенно согласен).

1. Оцените Ваше поведение на рабочем месте в соответствии со следующими утверждениями:

	Совершенно не согласен	Не согласен	Частично не согласен	Нейтрален	Частично согласен	Согласен	Совершенно согласен
1. Я обращаю внимание на вещи, которые не входят в мои прямые обязанности.	○	○	○	○	○	○	○
2. Я задумываюсь об улучшении вещей вокруг.	○	○	○	○	○	○	○
3. Я ищу новые техники и методы работы.	○	○	○	○	○	○	○
4. Я ищу оригинальные решения проблем.	○	○	○	○	○	○	○
5. Я нахожу новые способы выполнения работ.	○	○	○	○	○	○	○
6. Мне удается вызвать энтузиазм со стороны важных представителей нашей организации относительно новых идей и предложений.	○	○	○	○	○	○	○
7. Я стараюсь убедить людей поддержать инновационную идею.	○	○	○	○	○	○	○
8. Я систематически внедряю инновационные идеи в работу.	○	○	○	○	○	○	○

9. Я участвую во внедрении новых идей в работу на уровне организации.	○	○	○	○	○	○	○
10. Я вкладываю силы в развитие новых идей.	○	○	○	○	○	○	○

2. Оцените поведение вашего лидера (прямого начальника) в соответствии со следующими утверждениями:

	Совершенно не согласен	Не согласен	Частично не согласен	Нейтрален	Частично согласен	Согласен	Совершенно согласен
11. Мой лидер забывает о личном интересе ради блага команды.	○	○	○	○	○	○	○
12. Мой лидер вызывает у меня уважение.	○	○	○	○	○	○	○
13. Мой лидер всячески подчеркивает важность наличия цели в работе.	○	○	○	○	○	○	○
14. Мой лидер учитывает моральные и этические последствия своих решений.	○	○	○	○	○	○	○
15. Мой лидер оптимистически говорит о будущем.	○	○	○	○	○	○	○
16. Мой лидер выражает уверенность, что все цели будут достигнуты.	○	○	○	○	○	○	○
17. Мой лидер ставит под вопрос основные предположения, чтобы удостовериться в их целесообразности.	○	○	○	○	○	○	○
18. Мой лидер вдохновляет меня смотреть на проблемы с разных перспектив.	○	○	○	○	○	○	○
19. Мой лидер относится ко мне не только как к	○	○	○	○	○	○	○

члену команды, но и как к личности.							
20. Мой лидер учитывает мои индивидуальные потребности, нужды и стремления.	○	○	○	○	○	○	○
21. Мой лидер четко дает понять, кто является ответственным за достижение конкретных целей.	○	○	○	○	○	○	○
22. Мой лидер четко дает понять, какую награду можно ожидать, если цели будут достигнуты.	○	○	○	○	○	○	○
23. Мой лидер концентрирует все свое внимание на борьбу с ошибками, жалобами и неудачами.	○	○	○	○	○	○	○
24. Мой лидер фиксирует все мои ошибки.	○	○	○	○	○	○	○
25. Мой лидер принимает меры только тогда, когда что-то пошло не так.	○	○	○	○	○	○	○
26. Моему лидеру подходит девиз “Не сломано – не чини”.	○	○	○	○	○	○	○

3. Оцените Ваши взгляды в соответствии со следующими утверждениями:

	Совершенно не согласен	Не согласен	Частично не согласен	Нейтрален	Частично согласен	Согласен	Совершенно согласен
27. Я уверен, что могу свои планы воплотить в жизнь.	○	○	○	○	○	○	○
28. Получение подходящей	○	○	○	○	○	○	○

работы зависит только от способности. Везение здесь не при чем.							
29. Все, что происходит со мной, зависит только от меня.	○	○	○	○	○	○	○
30. Большинство несчастий в жизни людей происходит из-за невезения.	○	○	○	○	○	○	○
31. Чтобы получить хорошую работу, нужно оказаться в нужном месте, в нужный час.	○	○	○	○	○	○	○
32. Я часто испытываю чувство, что не могу влиять на вещи, происходящие со мной.	○	○	○	○	○	○	○

4. Ваш возраст:
   - ○ до 25
   - ○ 25-40
   - ○ больше 40

5. Ваш пол:
   - ○ Мужской
   - ○ Женский

6. Укажите уровень Вашего образования:
   - ○ Без образования
   - ○ Среднее образование
   - ○ Высшее неоконченное образование
   - ○ Высшее образование

Appendix 3. Normality of distribution test results

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
IWB	,068	106	,200*	,986	106	,342
Opportunity Exploration	,163	106	,000	,925	106	,000
Idea Generation	,139	106	,000	,960	106	,003
Idea Championing	,133	106	,000	,956	106	,001
Idea Implementation	,105	106	,006	,961	106	,003
Transformational Leadership	,081	106	,085	,974	106	,033
Idealized Influence	,124	106	,000	,960	106	,003
Inspirational Motivation	,162	106	,000	,914	106	,000
Intellectual Stimulation	,133	106	,000	,949	106	,000
Individualized consideration	,144	106	,000	,937	106	,000
Contingent Reward (Transactional Leadership)	,140	106	,000	,949	106	,000
Passive management by exception (Transactional Leadership)	,092	106	,027	,979	106	,086
Internal LOC	,137	106	,000	,942	106	,000
External LOC	,105	106	,006	,976	106	,051

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Source: generated by author through SPSS

Appendix 4. Correlation analysis

a) Transformational Leadership (with components) and IWB (with components)

Meanings:

IWB - Innovative Work Behavior
TFL – Transformational Leadership
INAVTF – Idealized Influence
IMAVFL- Inspirational Motivation
ISAVFL – Intellectual Stimulation
ICAVTFL –Individual Consideration
OPAV – Opportunity Exploration
IGAV - Idea Generation
ICAV - Idea Championing
IMAV - Idea Implementation
CRTF – Contingent Reward
MPTF – Management by Exception (Passive)
INLOC – Internal LOC
EXLOC – External LOC

Correlations

			IWB	TFL
Spearman's rho	IWB	Correlation Coefficient	1,000	,182
		Sig. (2-tailed)	.	,061
		N	106	106
	TFL	Correlation Coefficient	,182	1,000
		Sig. (2-tailed)	,061	.
		N	106	106

Correlations

			IWB	INAVTF	IMAVFL	ISAVFL	ICAVTFL
Spearman's rho	IWB	Correlation Coefficient	1,000	,182	,124	,213*	,150
		Sig. (2-tailed)	.	,062	,204	,028	,125
		N	106	106	106	106	106
	INAVTF	Correlation Coefficient	,182	1,000	,670**	,769**	,738**
		Sig. (2-tailed)	,062	.	,000	,000	,000
		N	106	106	106	106	106
	IMAVFL	Correlation Coefficient	,124	,670**	1,000	,613**	,600**
		Sig. (2-tailed)	,204	,000	.	,000	,000
		N	106	106	106	106	106
	ISAVFL	Correlation Coefficient	,213*	,769**	,613**	1,000	,730**
		Sig. (2-tailed)	,028	,000	,000	.	,000
		N	106	106	106	106	106
	ICAVTFL	Correlation Coefficient	,150	,738**	,600**	,730**	1,000
		Sig. (2-tailed)	,125	,000	,000	,000	.
		N	106	106	106	106	106

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

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

Correlations

			OPAV	IGAV	ICAV	IMAV	TFL	INAVTF	IMAVFL	ISAVFL	ICAVTFL
Spearman's rho	OPAV	Correlation Coefficient	1,000	,535**	,195*	,232*	,057	,056	,054	,088	,068
		Sig. (2-tailed)	.	,000	,045	,017	,564	,565	,580	,369	,489
		N	106	106	106	106	106	106	106	106	106
	IGAV	Correlation Coefficient	,535**	1,000	,603**	,527**	,150	,146	,112	,153	,144
		Sig. (2-tailed)	,000	.	,000	,000	,126	,136	,252	,117	,141
		N	106	106	106	106	106	106	106	106	106
	ICAV	Correlation Coefficient	,195*	,603**	1,000	,757**	,161	,183	,089	,181	,110
		Sig. (2-tailed)	,045	,000	.	,000	,100	,060	,365	,064	,263
		N	106	106	106	106	106	106	106	106	106
	IMAV	Correlation Coefficient	,232*	,527**	,757**	1,000	,186	,163	,152	,244*	,138
		Sig. (2-tailed)	,017	,000	,000	.	,056	,095	,120	,012	,160
		N	106	106	106	106	106	106	106	106	106
	TFL	Correlation Coefficient	,057	,150	,161	,186	1,000	,941**	,776**	,878**	,869**
		Sig. (2-tailed)	,564	,126	,100	,056	.	,000	,000	,000	,000
		N	106	106	106	106	106	106	106	106	106
	INAVTF	Correlation Coefficient	,056	,146	,183	,163	,941**	1,000	,670**	,769**	,738**
		Sig. (2-tailed)	,565	,136	,060	,095	,000	.	,000	,000	,000
		N	106	106	106	106	106	106	106	106	106
	IMAVFL	Correlation Coefficient	,054	,112	,089	,152	,776**	,670**	1,000	,613**	,600**
		Sig. (2-tailed)	,580	,252	,365	,120	,000	,000	.	,000	,000
		N	106	106	106	106	106	106	106	106	106
	ISAVFL	Correlation Coefficient	,088	,153	,181	,244*	,878**	,769**	,613**	1,000	,730**
		Sig. (2-tailed)	,369	,117	,064	,012	,000	,000	,000	.	,000
		N	106	106	106	106	106	106	106	106	106
	ICAVTFL	Correlation Coefficient	,068	,144	,110	,138	,869**	,738**	,600**	,730**	1,000
		Sig. (2-tailed)	,489	,141	,263	,160	,000	,000	,000	,000	.
		N	106	106	106	106	106	106	106	106	106

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

b) Transactional Leadership components and IWB (components)

			IWB	CRTF
Spearman's rho	IWB	Correlation Coefficient	1,000	,247*
		Sig. (2-tailed)	.	,011
		N	106	106
	CRTF	Correlation Coefficient	,247*	1,000
		Sig. (2-tailed)	,011	.
		N	106	106

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

Correlations

		IWB	MPTF
IWB	Pearson Correlation	1	,143
	Sig. (2-tailed)		,143
	N	106	106
MPTF	Pearson Correlation	,143	1
	Sig. (2-tailed)	,143	
	N	106	106

**** Constructs of IWB and Passive management by exception had normal distribution, therefore, were tested via Peason' s correlation test.*

Correlations

			OPAV	IGAV	ICAV	IMAV	CRTF	MPTF
Spearman's rho	OPAV	Correlation Coefficient	1,000	,535**	,195*	,232*	,082	,119
		Sig. (2-tailed)	.	,000	,045	,017	,403	,225
		N	106	106	106	106	106	106
	IGAV	Correlation Coefficient	,535**	1,000	,603**	,527**	,218*	,236*
		Sig. (2-tailed)	,000	.	,000	,000	,025	,015
		N	106	106	106	106	106	106
	ICAV	Correlation Coefficient	,195*	,603**	1,000	,757**	,202*	,106
		Sig. (2-tailed)	,045	,000	.	,000	,038	,278
		N	106	106	106	106	106	106
	IMAV	Correlation Coefficient	,232*	,527**	,757**	1,000	,221*	,051
		Sig. (2-tailed)	,017	,000	,000	.	,023	,603
		N	106	106	106	106	106	106
	CRTF	Correlation Coefficient	,082	,218*	,202*	,221*	1,000	-,139
		Sig. (2-tailed)	,403	,025	,038	,023	.	,155
		N	106	106	106	106	106	106
	MPTF	Correlation Coefficient	,119	,236*	,106	,051	-,139	1,000
		Sig. (2-tailed)	,225	,015	,278	,603	,155	.

	N	106	106	106	106	106	106

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

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

c) Leadership and Locus of Control

Correlations

			INLOC	EXLOC	TFL	INAVTF	IMAVFL	ISAVFL	ICAVTFL
Spearman's rho	INLOC	Correlation Coefficient	1,000	-,004	,298**	,286**	,216*	,229*	,259**
		Sig. (2-tailed)	.	,965	,002	,003	,026	,018	,007
		N	106	106	106	106	106	106	106
	EXLOC	Correlation Coefficient	-,004	1,000	,112	,087	,002	,152	,129
		Sig. (2-tailed)	,965	.	,252	,373	,987	,119	,187
		N	106	106	106	106	106	106	106
	TFL	Correlation Coefficient	,298**	,112	1,000	,941**	,776**	,878**	,869**
		Sig. (2-tailed)	,002	,252	.	,000	,000	,000	,000
		N	106	106	106	106	106	106	106
	INAVTF	Correlation Coefficient	,286**	,087	,941**	1,000	,670**	,769**	,738**
		Sig. (2-tailed)	,003	,373	,000	.	,000	,000	,000
		N	106	106	106	106	106	106	106
	IMAVFL	Correlation Coefficient	,216*	,002	,776**	,670**	1,000	,613**	,600**
		Sig. (2-tailed)	,026	,987	,000	,000	.	,000	,000
		N	106	106	106	106	106	106	106
	ISAVFL	Correlation Coefficient	,229*	,152	,878**	,769**	,613**	1,000	,730**
		Sig. (2-tailed)	,018	,119	,000	,000	,000	.	,000
		N	106	106	106	106	106	106	106
	ICAVTFL	Correlation Coefficient	,259**	,129	,869**	,738**	,600**	,730**	1,000
		Sig. (2-tailed)	,007	,187	,000	,000	,000	,000	.
		N	106	106	106	106	106	106	106

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

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

			CRTF	MPTF	INLOC
Spearman's rho	CRTF	Correlation Coefficient	1,000	-,139	,256**
		Sig. (2-tailed)	.	,155	,008
		N	106	106	106
	MPTF	Correlation Coefficient	-,139	1,000	,145
		Sig. (2-tailed)	,155	.	,139
		N	106	106	106
	INLOC	Correlation Coefficient	,256**	,145	1,000
		Sig. (2-tailed)	,008	,139	.
		N	106	106	106

			CRTF	EXLOC
Spearman's rho	CRTF	Correlation Coefficient	1,000	,154
		Sig. (2-tailed)	.	,116
		N	106	106
	EXLOC	Correlation Coefficient	,154	1,000
		Sig. (2-tailed)	,116	.
		N	106	106

		MPTF	EXLOC
MPTF	Pearson Correlation	1	,299**
	Sig. (2-tailed)		,002
	N	106	106
EXLOC	Pearson Correlation	,299**	1
	Sig. (2-tailed)	,002	
	N	106	106

**** Constructs of Passive management by exception and External LOC had normal distribution, therefore, were tested via Peason' s correlation test.*

4) Locus of Control and IWB

Correlations

			OPAV	IGAV	ICAV	IMAV	INLOC	EXLOC
Spearman's rho	OPAV	Correlation Coefficient	1,000	,535**	,195*	,232*	,001	,027
		Sig. (2-tailed)	.	,000	,045	,017	,988	,785
		N	106	106	106	106	106	106
	IGAV	Correlation Coefficient	,535**	1,000	,603**	,527**	,200*	,114
		Sig. (2-tailed)	,000	.	,000	,000	,040	,245
		N	106	106	106	106	106	106
	ICAV	Correlation Coefficient	,195*	,603**	1,000	,757**	,011	,086
		Sig. (2-tailed)	,045	,000	.	,000	,911	,379
		N	106	106	106	106	106	106
	IMAV	Correlation Coefficient	,232*	,527**	,757**	1,000	,015	,083
		Sig. (2-tailed)	,017	,000	,000	.	,879	,395
		N	106	106	106	106	106	106
	INLOC	Correlation Coefficient	,001	,200*	,011	,015	1,000	-,004
		Sig. (2-tailed)	,988	,040	,911	,879	.	,965
		N	106	106	106	106	106	106
	EXLOC	Correlation Coefficient	,027	,114	,086	,083	-,004	1,000
		Sig. (2-tailed)	,785	,245	,379	,395	,965	.
		N	106	106	106	106	106	106

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

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

		IWB	EXLOC
IWB	Pearson Correlation	1	,111
	Sig. (2-tailed)		,257
	N	106	106
EXLOC	Pearson Correlation	,111	1
	Sig. (2-tailed)	,257	
	N	106	106

Correlations

			IWB	INLOC
Spearman's rho	IWB	Correlation Coefficient	1,000	,091
		Sig. (2-tailed)	.	,354
		N	106	106
	INLOC	Correlation Coefficient	,091	1,000
		Sig. (2-tailed)	,354	.
		N	106	106

Appendix 5. Multiple regression results

MODEL 1a. Dependent variable – IWB; Independent – Transformational Leadership, Internal LOC;

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	,230[a]	,053	,034	,72884	,053	2,876	2	103	,061	1,997

a. Predictors: (Constant), INLOC, TFL

b. Dependent Variable: IWB

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3,055	2	1,528	2,876	,061[b]
	Residual	54,714	103	,531		
	Total	57,769	105			

a. Dependent Variable: IWB

b. Predictors: (Constant), INLOC, TFL

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	4,223	,462		9,149	,000					
TFL	,095	,066	,143	1,430	,156	,184	,139	,137	,920	1,087
INLOC	,118	,082	,144	1,444	,152	,185	,141	,138	,920	1,087

a. Dependent Variable: IWB

Collinearity Diagnostics

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	TFL	INLOC
1	1	2,955	1,000	,00	,00	,00
	2	,030	9,898	,07	,95	,23
	3	,015	14,214	,93	,05	,76

a. Dependent Variable: IWB

MODEL 1b. Dependent variable – IWB; Independent – Transformational Leadership, Internal LOC; Moderator – TFLxINLOC

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	,230[a]	,053	,025	,73234	,053	1,904	3	102	,134	2,003

a. Predictors: (Constant), TFLxINLOC, INLOC, TFL

b. Dependent Variable: IWB

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3,064	3	1,021	1,904	,134[b]
	Residual	54,705	102	,536		
	Total	57,769	105			

a. Dependent Variable: IWB

b. Predictors: (Constant), TFLxINLOC, INLOC, TFL

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	4,463	1,907		2,341	,021					
	TFL	,045	,391	,068	,115	,909	,184	,011	,011	,027	37,302
	INLOC	,070	,375	,086	,188	,851	,185	,019	,018	,044	22,656
	TFLxINLOC	,010	,075	,108	,130	,897	,229	,013	,013	,013	74,568

a. Dependent Variable: IWB

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	TFL	INLOC	TFLxINLOC
1	1	3,925	1,000	,00	,00	,00	,00
	2	,050	8,870	,01	,00	,00	,01
	3	,024	12,689	,00	,02	,02	,00
	4	,000	109,043	,98	,98	,97	,99

a. Dependent Variable: IWB

MODEL 2a. Dependent variable – IWB; Independent – Contingent Reward, Management by Exception (passive), External LOC;

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	,272[a]	,074	,047	,72426	,074	2,710	3	102	,049	2,003

a. Predictors: (Constant), EXLOC, CRTF, MPTF

b. Dependent Variable: IWB

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4,264	3	1,421	2,710	,049[b]
	Residual	53,505	102	,525		
	Total	57,769	105			

a. Dependent Variable: IWB

b. Predictors: (Constant), EXLOC, CRTF, MPTF

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	4,247	,388		10,934	,000					
	CRTF	,128	,055	,231	2,303	,023	,196	,222	,219	,906	1,104
	MPTF	,106	,059	,184	1,779	,078	,143	,173	,170	,846	1,182
	EXLOC	,013	,069	,019	,189	,850	,111	,019	,018	,861	1,162

a. Dependent Variable: IWB

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	CRTF	MPTF	EXLOC
1	1	3,818	1,000	,00	,00	,01	,00
	2	,105	6,019	,00	,31	,40	,00
	3	,053	8,502	,03	,10	,22	,97
	4	,023	12,778	,97	,59	,37	,02

a. Dependent Variable: IWB

MODEL 2b. Dependent variable – IWB; Independent – Contingent Reward, Management by Exception (passive), External LOC; Moderator – CRxEXLOC, MPxEXLOC;

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	,279[a]	,078	,032	,72992	,078	1,686	5	100	,145	1,995

a. Predictors: (Constant), MPTFxEXLOC, CRTF, EXLOC, MPTF, CRTFxEXLOC

b. Dependent Variable: IWB

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4,491	5	,898	1,686	,145[b]
	Residual	53,279	100	,533		
	Total	57,769	105			

a. Dependent Variable: IWB

b. Predictors: (Constant), MPTFxEXLOC, CRTF, EXLOC, MPTF, CRTFxEXLOC

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	4,575	1,213		3,772	,000					
	CRTF	,028	,182	,052	,157	,876	,196	,016	,015	,085	11,723
	MPTF	,132	,180	,230	,734	,465	,143	,073	,070	,094	10,648
	EXLOC	-,068	,308	-,102	-,221	,826	,111	-,022	-,021	,043	23,050
	CRTFxEXLOC	,027	,046	,282	,585	,560	,216	,058	,056	,040	25,181
	MPTFxEXLOC	-,009	,046	-,096	-,202	,840	,154	-,020	-,019	,041	24,606

a. Dependent Variable: IWB

Coefficients

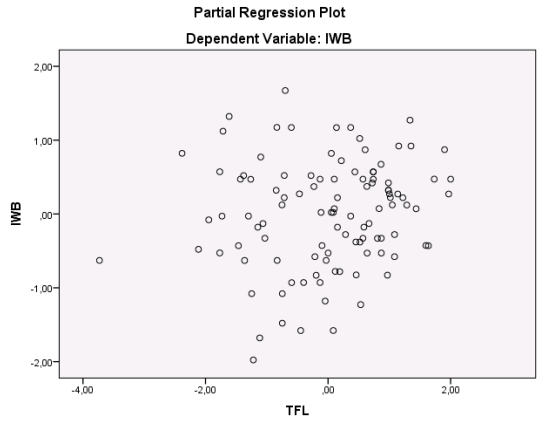
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	4,575	1,213		3,772	,000					
	CRTF	,028	,182	,052	,157	,876	,196	,016	,015	,085	11,723
	MPTF	,132	,180	,230	,734	,465	,143	,073	,070	,094	10,648
	EXLOC	-,068	,308	-,102	-,221	,826	,111	-,022	-,021	,043	23,050

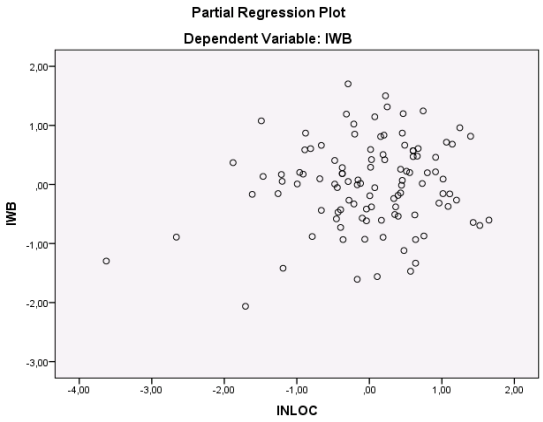
CRTFxEXLOC	,027	,046	,282	,585	,560	,216	,058	,056	,040	25,181
MPTFxEXLOC	-,009	,046	-,096	-,202	,840	,154	-,020	-,019	,041	24,606

a. Dependent Variable: IWB

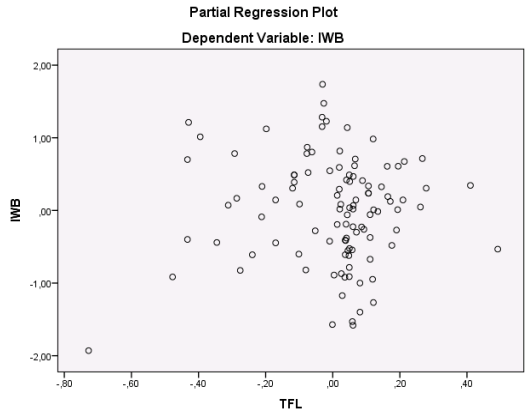
Appendix 6. Linearity of the relationship between dependent and independent variables

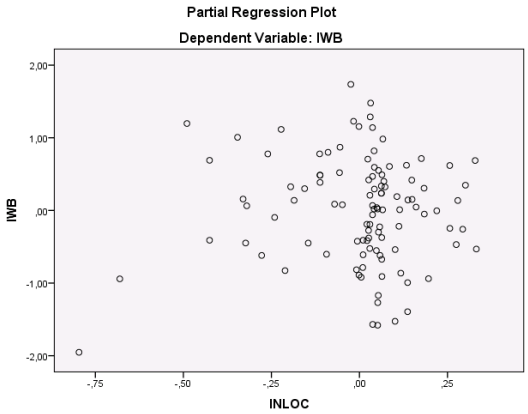
Model 1A



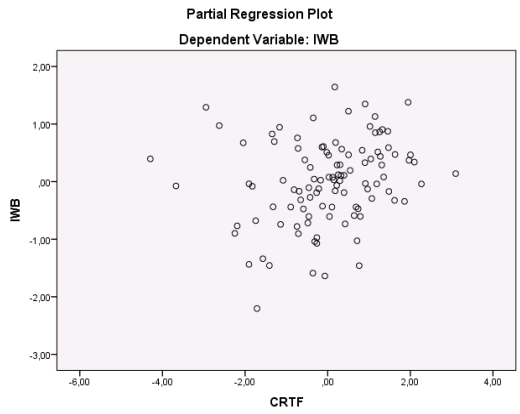


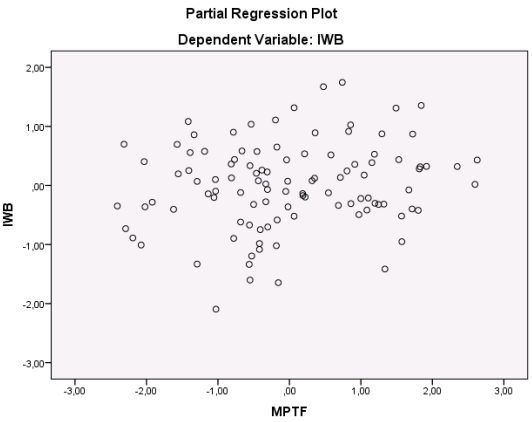
Model 1B

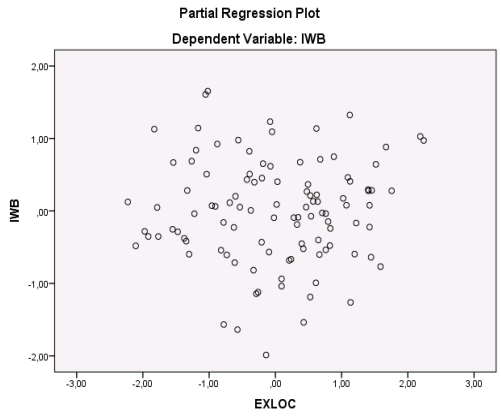




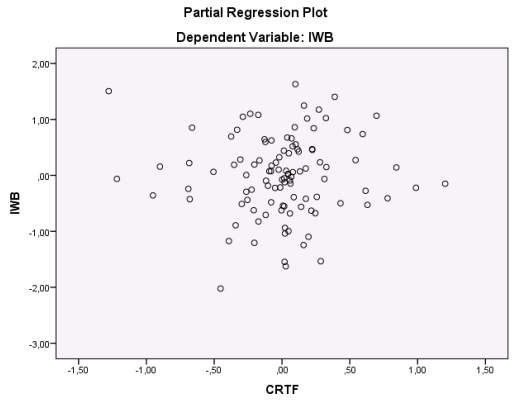
Model 2A

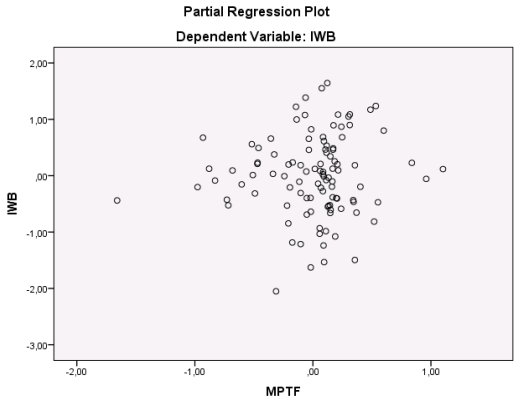


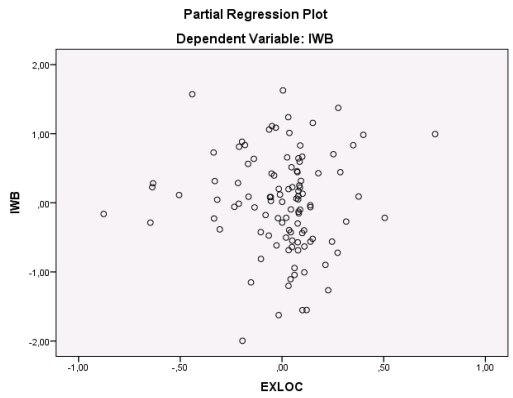



Partial Regression Plot
Dependent Variable: IWB
IWB
EXLOC

Model 2B

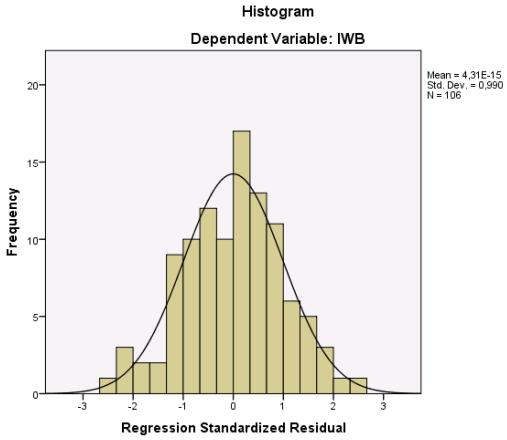

Partial Regression Plot
Dependent Variable: IWB
IWB
CRTF

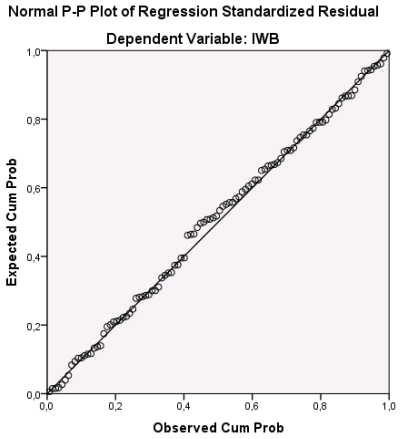

Partial Regression Plot
Dependent Variable: IWB
IWB
MPTF


Partial Regression Plot
Dependent Variable: IWB
IWB
EXLOC

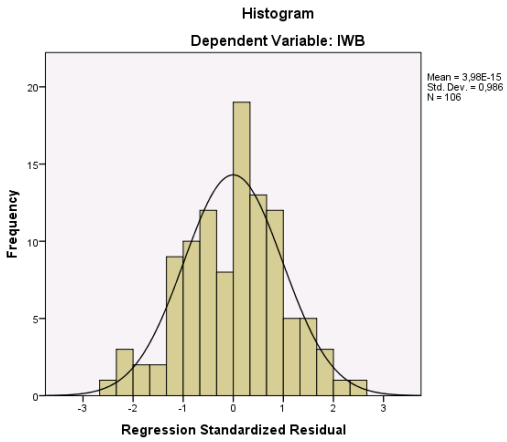
Appendix 7. Normality of error distribution

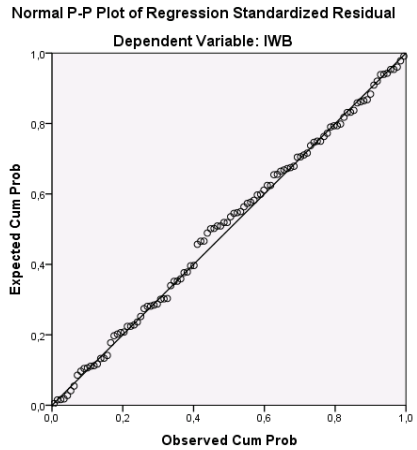
Model 1A



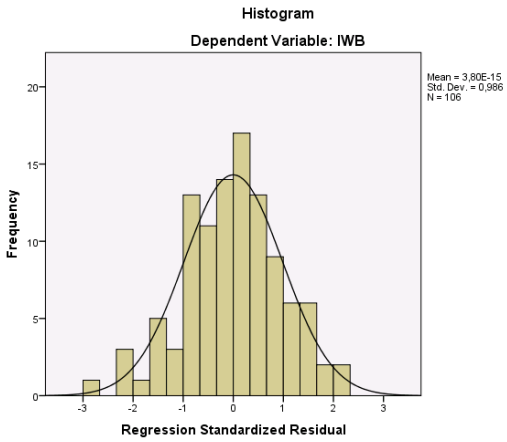


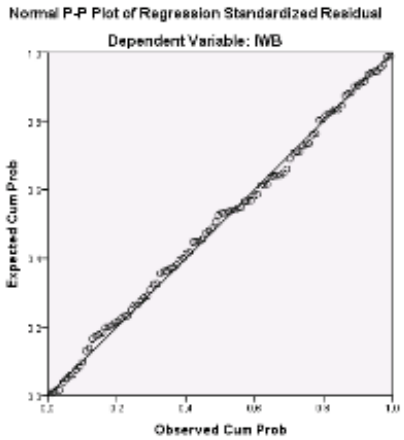
Model 1B



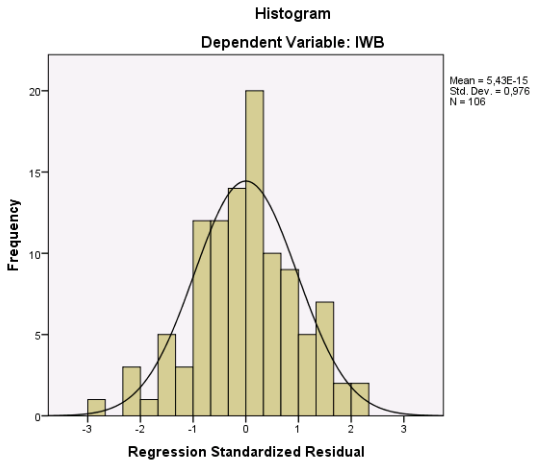


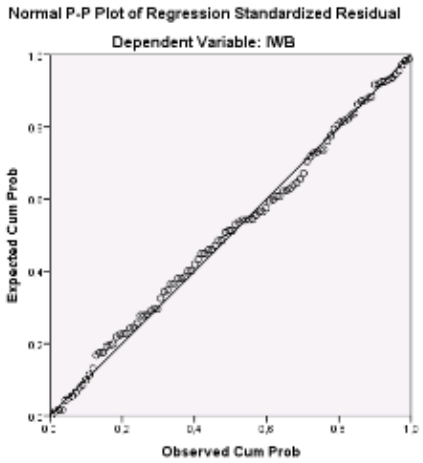
Model 2A





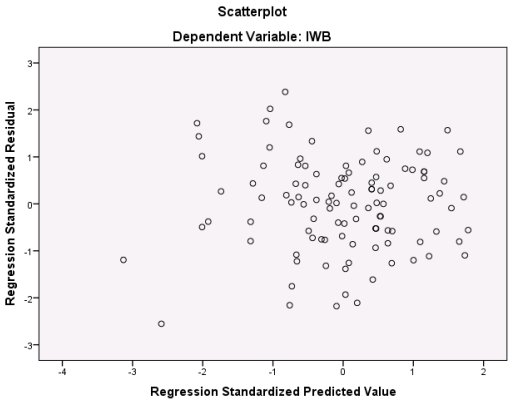
Model 2B



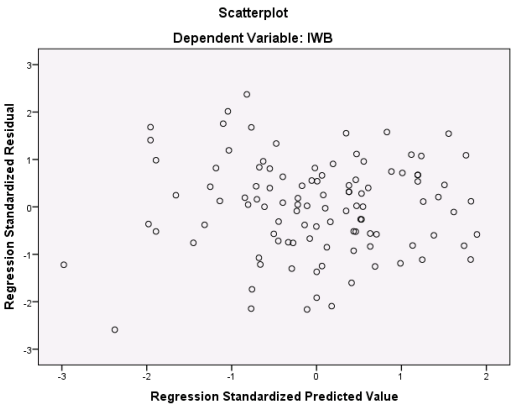


Appendix 8. Homoscedasticity

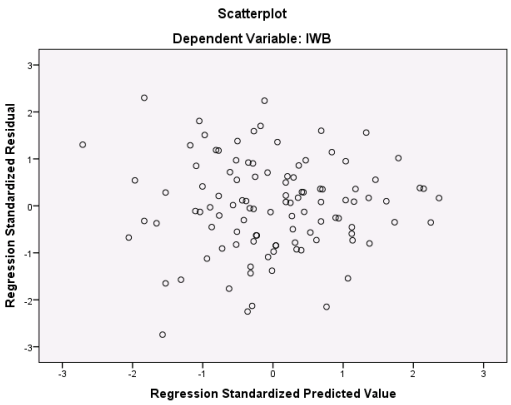
MODEL 1A



MODEL 1B



MODEL 2A



MODEL 2B