Online ISSN 2345-0037. ORGANIZATIONS AND MARKETS IN EMERGING ECONOMIES, 2018, VOL. 9, No. 1 (17)
DOI: https://doi.org/10.15388/omee.2018.10.00002

EXPLORING THE RELATIONSHIP BETWEEN INNOVATIVE WORK BEHAVIOR AND LEADERSHIP: MODERATING EFFECT OF LOCUS OF CONTROL

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Abstract. *The topic of innovative work behavior has recently received an increased amount of attention due to a highly competitive, complex, and dynamic economic environment. This paper examines the effect of the leadership styles (transformational and transactional) on innovative work behavior. Moreover, the study explores moderation effects of internal and external locus of control in the relationship between transformational and transactional leadership and innovative work behavior. The findings indicate the importance of alignment of the transformational and transactional leadership styles with employees' locus of control while aiming to transform organizational and individual resources into innovative outcomes. More specifically, the results show that contingent reward has stronger relationship with internal locus of control, whereas passive management by exception has stronger relation to external locus of control proving that enhancement of external employee motivation may boost employee innovative work behavior. Therefore, this study confirms that different leadership practices show specific linkage to certain locus of control type subordinates, meaning that their effectiveness can rise, if applied to this specific type of individuals. The research contributes to the existing knowledge of leadership styles and locus of control role in managing innovative work behavior and overall to the knowledge about how innovation can be managed in modern organizations.*

Key words*: innovative work behavior, transformational leadership, transactional leadership, locus of control*

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Introduction

In today's world, the ability to innovate is 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). Companies acknowledge the fact that overall organizational innovation highly depends on enhancement of individual employee Innovative Work Behavior (IWB). Therefore, the ways and possibilities of innovative behavior of employees in the workplace enhancement remain a major topic among practitioners and scholars (De Jong & Den Hartog, 2010).

According to Jung, Chow and Wu (2003), leadership is considered as one of the most, if not the most, important factors affecting employees' creativity and innovative performance. Two leadership styles – transformational and transactional – have attracted significant amount of scholars' 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 IWB and organizational innovation, while transactional leadership is expected to have a negative effect (Lee, 2008). However, the findings are inconsistent as the existing literature indicates that transactional leadership can exert not only negative relationship, but sometimes absence of any (Crawford, 2001; Moss & Ritossa, 2007; Pieterse et al., 2009; Turunc, Celik, Tabak & Kabak, 2010), or even positive relationship with IWB (Khan, Aslam & Riaz, 2012).

Despite the importance given to leadership impact on IWB, the research is far from complete as studies paid very little attention to the extent that locus of control (LOC) could drive IWB, moreover, there is little research, and it is inconsistent, about how organizational and individual factors interplay in the relationship between LOC and IWB.

We argue that, if individuals with external locus of control tend to show more productive behavior when they are led by extrinsic motivation (Baron & Ganz, 1972), it is possible to hypothesize that transactional leadership style may enhance their IWB, and similarly, transformational leadership style may enhance IWB of the individuals with internal LOC.

This paper aims to test the LOC construct as a moderator in the relationship between transformational and transactional leadership and IWB, and identify whether individuals with different types of LOC would require specific leadership styles in order to increase the level of their IWB. In this study, it is also hypothesized that external LOC moderates the relationship between transactional leadership and IWB, while internal LOC moderates the relationship between transformational leadership and IWB.

1. Theoretical framework and hypotheses

The field of IWB and organizational innovation has attracted significant attention from practitioner and theorist side for the last two decades (Tahsildari, Hashim & Normeza Wan, 2014). According to Cainelli et al. (2004), innovating firms tend to have higher levels of productivity and economic growth compared to zero-innovating companies. As birth of new ideas primarily happens in the minds of individuals (Mumford, 2000), the majority of firms indicate the main source of innovation is related to none other element than company's *employees* and their *behavior* (Dörner, 2012).

Transformational leadership is frequently associated by scholars with innovative behavior of individuals, 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 investigated the direct and indirect relationship between transformational leadership and IWB and determined a positive relationship between the two constructs. The direct relationship between transformational leadership and innovation was confirmed by Crawford (2001) and Khan, Aslam and Riaz (2012). They identified transformational leadership as a major predictor of employee IWB. Sharifirad (2013) demonstrated positive relationship between the two constructs that was mediated by the leader's emphatic listening and perceived psychological safety.

Transactional leadership shows quite controversial results in literature. Based on its original definition developed by Bass (1985), transactional style is expected to have a negative effect on IWB, 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 (Lee, 2008). However, in comparison with transformational leadership and its clear positive tendency, literature indicates that transactional leadership can exert not only negative but sometimes absence of any relationship (Crawford, 2001; Moss & Ritossa, 2007; Pieterse et al., 2009; Turunc, Celik, Tabak & Kabak, 2010), or even positive relationship with IWB (Khan, Aslam & Riaz, 2012). Hence, we reasonably expect that transformational and transactional leadership would have a positive relationship with IWB. Following this line of reasoning, we propose the hypotheses:

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

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

The role of personality in work environment continues to be one of the most researched fields in the organizational psychology. While the majority of researchers usually focus their studies of work behavior on the perspective of 5 personality traits (Ng, Sorensen & Eby, 2006), recently other dimensions have started to come into play. LOC is one of these dimensions, which is considered as a personality variable. Some scholars

pinpoint the superiority of internal LOC, especially with respect to creativity and innovation (Kaur & Gupta, 2016; Miller, Kets de Vries & Touhouse, 1982; Anthony & Maddox, 1988), however, available inconsistency in the research suggests that both types of LOC can be related to creativity and innovation. Neither of them is observed to be superior. 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 (Chen, Li & Leung, 2016; Howell & Avolio, 1993). The vast majority of enterprises (especially larger organizations that seek innovativeness) possess employees representing different types of LOC; there is no research which would examine the possibilities of maximizing innovative and creative behaviors not just from the internal LOC, but also from the side of external LOC perspective. In order to fill the identified gap in the research, we hypothesize:

H3 – *Internal LOC has a positive relationship with IWB.*

H4 – *External LOC has a positive relationship with IWB.*

Chen, Li and 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. It suggests 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. Following this logic, 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). On the other hand, 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 individual outcomes are highly dependent on external factors. From a leadership perspective, researchers admit that effects of a particular leadership style are likely to vary depending on employee characteristics (Howell, Dorfman & Kerr, 1986). Additional empirical study, which supports the idea of relationship between LOC and leadership, was completed by Howell and Avolio (1993), who determined that transformational leadership was associated with higher internal LOC and showed a positive relationship with business-unit performance. Following this line of logic, we propose the hypotheses:

H5 – *Transformational leadership has stronger positive relationship with internal LOC than with external LOC.*

H6 – *Transactional leadership has stronger positive relationship with external LOC than with internal LOC.*

The existing literature indicates that extrinsically motivated individuals react better to transactional leaders (Barnard, 1938), whereas intrinsic motivation is directly related with transformational leadership (Gumusluoglu & Ilsev, 2009). A 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). 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. In the light of the above reasoning, the following hypotheses are developed:

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.*

2. Research methods

Data collection and sample

The empirical research employed a questionnaire designed to collect data for testing the validity of the research hypotheses. Variables in the questionnaire incorporated background information, leadership styles (transformational and transactional), locus of control (internal and external), and innovative work behavior constructs. The dependent and independent variables were assessed via seven-point Likert-type scales ranging from "strongly agree" to "strongly disagree".

The aircraft maintenance (MRO) company in the Baltic States that was undergoing LEAN manufacturing implementation was chosen for the research. The organization agreed to participate in the study in exchange for the accessibility to the results. The selected company was regarded as suitable for the research primarily due to the following reasons:

- Incorporation of high scale process innovation through adaptation of LEAN manufacturing involving all the employees ensures the innovativeness of organization. Particularly for this study, approaching organization with an active process innovation is more efficient than 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 a certain degree.
- The company is officially regarded as a large organization having 790 employees (according to Eurostat (2016), category 'large' is attributed to organizations employing more than 250 individuals). This fact significantly increases the probability of locating individuals with different types of LOC.
- Finally, this is the first study with an explicit focus on aircraft maintenance industry to the authors' knowledge. It greatly expands the existing body of IWB research on various industries.

The authors approached HRM unit for assistance in order to make the online questionnaire accessible to the managers from 7 departments: Line Maintenance, Components and Materials Sales Department, Engine department, Training department, Engineering department, IT and HRM departments. According to VanVoorhis and Morgan (2007), a suitable sample size for relationship analysis between variables is 50 responses. The questionnaire was available for all the 790 employees of the company as the company politicy was to involve all the company employees in the LEAN project expecting that everyone will participate actively. The authors speculated that the questionnaire might not be seen by every employee. The authors predicted that the questionnaire might have reached at least 400 employees. A total of 123 questionnaires were returned, which makes the response rate 31%. Cross-tabulations between the respondents and non-respondents showed no significant differences by the number of employees in the departments. Given the representative nature of the sample, there was no a priori reason to believe that the non-responders' answers would have varied significantly from those of the respondents. Out of 123 questionnaires 17 were incomplete. The remaining 106 were valid and used for the research.

Since the participating organization was highly international, two questionnaire versions were prepared in the main languages which are highly applied in the organization – English and Russian. The questionnaire was developed in the English language and translated into Russian. The parallel translation was designed to meet the requirements of content validity (McGorry, 2000). After the questionnaire was developed, the pilot study was conducted with ten people who fit the criteria of the study. It was also checked if the questions are clear to respondents in both languages; in this way skipping of the questions could be avoided. In order to increase the probability of participation, respondents were granted anonymity. The participants of the pilot study confirmed that all the questions were well-formulated and easy to understand.

Measures

Dependent variable. In this research IWB construct scale developed by De Jong and Den Hartog (2008) was applied. It consists of 10 items, which represent the 4 dimensions of IWB: opportunity exploration, idea generation, idea championing and idea implementation (Cronbach's Alfa 0.864).

Independent variables. Transformational/ Transactional Leadership constructs were measured by applying MLQ (5X) scale developed by Bass & Avolio (1991). Transformational leadership was measured by ten items that represented the key dimensions of this leadership style: individualized consideration, intellectual stimulation, inspirational motivation and idealized influence (Cronbach's Alfa 0.936). Similarly, transactional leadership was measured with 6 items: contingent reward management by exception and management by exception (Cronbach's Alfa 0.749). LOC construct was measured by Rotter's (1966) scale (Cronbach's Alfa 0.726).

Control variables. Besides the construct measurement, several three variables were included in 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, and Mazoor (2012) have determined in their study of IWB and supportive climate among employees of advertisement agencies that women tend to behave more innovatively than 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. Out of 106 respondents, 58.5% were male and the 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 of age.

Data analysis method. 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 the 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 research, multiple regression technique was applied for testing the moderation effect of LOC in the relationship between transformational leadership and IWB. 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, contingent reward and external LOC, and management by exception (passive) and external LOC. To determine whether the moderator effect exists and is significant, the original (unmoderated) equation and afterwards a separate moderated equation for comparison were estimated (Hair, Black, Babin & Anderson, 2010). For this purpose, several regression models were prepared.

3. Results

Table 1 and Table 2 show the results of testing hypotheses H1 (*Transformational Leadership has a positive relationship with IWB)* and H2 *(Transactional Leadership has a positive relationship with IWB).*

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 the 95% confidence level;

TABLE 1. **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)*

idealized influence has a very weak and statistically significant relationship with IWB (Rho=0.182, Sig. = 0.062) at the 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 the relationship between transformational leadership and IWB componentwise 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 the 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 the 90% confidence level; whereas positive relationship with idea implementation is weak and statistically significant at the 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 the 90% confidence level.

Thus, 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.

TABLE 2. **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)*

Examining componentwise, 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 at the 95% confidence level.

Based on the results, there is a positive correlation between Contingent Reward practice and IWB (Rho=0.247, Sig. = 0.011). The relationship is weak, however, statistically significant at the 95% confidence interval. Management by exception (passive) does not show statistically significant relationship with IWB (Rho=0.143, Sig. = 0.143). Thus, H2 is partly supported.

The relationships between different types of LOC and IWB (H3 and H4) were examined by applying both Pearson's and Spearman's correlation tests. 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 3.

The analysis of the 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 H3 and H4 are rejected.

Examining componentwise, 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 the 95% confidence interval. External LOC did not show a significant relationship with any of IWB dimensions.

TABLE 3. **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)*

In order to check the relationship between leadership styles and different types of LOC (H5 and H6), 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 4.

TABLE 4. **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)*

Transformational leadership shows 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. It can be concluded that transformational leadership has a stronger positive relationship with Internal LOC, which means that H5 is supported.

In terms of transactional leadership, contingent reward has indicated a positive weak, but statistically significant correlation with internal LOC (Rho = 0.256, Sig. = 0.008) at the 99% confidence interval, whereas its relationship with external LOC (Rho = 0.154, Sig. = 0.116) was statistically insignificant.

Management by exception (passive), on the contrary, has statistically significant correlation with External LOC (Rho = 0.299, Sig. = 0.002) at the 99% confidence interval, and statistically insignificant relationship with internal LOC (Rho = 0.145, Sig. = 0.135). 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. As a result, it cannot be concluded that transactional leadership has stronger relationship with external LOC.

In this research, multiple regression technique was applied for testing the moderation effect of LOC in the relationship between transformational leadership and IWB (H7). 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:

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

The comparison of the first two models (1A and 1B) examining the moderation effects of internal LOC is presented in Table 5.

TABLE 5. **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				0.230[a]	0.053	0.034	0.728	0.053	0.061	1.997
Predictors:										
TFL	0.095	0.156	1.087							
INLOC	0.118	0.152	1.087							
1B. Dependent: IWB				0.230[a]	0.053	0.025	0.732	0.053	0.134	2.003
Predictors:										
TFL	0.045	0.909	37.302							
INLOC	0.070	0.857	22.656							
TFLxINLOC	0.010	0.897	74.568							

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

According to Hair, Black, Babin and 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 the 90% confidence interval (Sig.=0.061), however, when analyzed componentwise, neither transformational leadership (B=0.095, Sig.=0.156) nor internal LOC (B=0.118, Sig.=0.152) serves as a significant predictor for a 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. The comparison of the next two models (2a and 2b) examining the moderation effects of external LOC is presented in Table 6.

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 the dependent variable (IWB), whereas external LOC is not (B=0.013, Sig.=0.850).

TABLE 6. **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:				0.272[a]	0.074	0.047	0.724	0.074	0.049	2.003
CR	0.128	0.023	1.104							
MP	0.106	0.078	1.182							
EXLOC	0.013	0.850	1.162							
2B. Dependent: IWB										
Predictors:										
CR	0.028	0.876	11.723	0.279[a]	0.078	0.032	0.729	0.078	0.145	1.995
MP	0.132	0.465	10.648							
EXLOC	-0.068	0.826	23.030							
CRxEXLOC	0.027	0.560	25.181							
MPxEXLOC	-0.009	0.840	24.606							

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

The overall model is significant (Sig.=0.049) at the 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 shows any stronger prediction power. The 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.

4. Discussion

In this study we proposed that locus of control construct may moderate the relationship between transformational and transactional leadership and IWB. Moreover, we aimed to identify whether individuals with different types of LOC would require specific leadership styles in order to increase the level of their IWB.

Although the literature presents strong pre-requisites to suggest moderation effect of LOC, this study did not present any empirical evidence of existence of moderation effect in the link between leadership and IWB. However, the results of the research show that transformational leadership has positive relationship with internal LOC, but no relationship with external LOC. These findings are in line with arguments of Howell

and Avolio (1993), whose study illustrates that transformational leadership measures are associated with higher internal LOC and show a positive relationship with business unit performance. One more supporting study was performed by Chen, Li, and Leung (2016), who determined that higher internal LOC weakens the relationship between the supervisor support and IWB. The authors explain that individuals with internal LOC are likely to prefer a leader who is less controlling and provides autonomy for subordinate's decision-making. Therefore, this study supports the idea that transformational leadership would have stronger effect on individuals with internal LOC than their peers with external LOC.

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), 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 that different leadership practices show specific linkage to certain LOC type subordinates, meaning that their effectiveness can rise, if applied to this specific type of individuals.

According to the results of this study, neither internal LOC nor external LOC has shown statistically significant relationship with IWB. It is important to point out that componentwise, 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 the research of Kaur and 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). With regard to external LOC construct, it does not show any significant relationship with any of IWB dimensions. This is in line with the findings of Kaur and Gupta (2016), who did not confirm in their study any significant relationship between external LOC and IWB. Thus, 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 the relationship between internal LOC and external LOC, which illustrates absolute absence of correlation between the two constructs. This means that instead of belonging solely to one type, each individual possesses a 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. The findings con-

tradict 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 and 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 and Peters (2012), is still not predominant in the literature.

Congruent with most research on the effect of transformational leadership on innovative work behavior (Crawford, 2001; Khan, Aslam & Riaz, 2012; Sharifirad, 2013; Kroes, 2015), the results indicate that transformational leadership has a positive but weak relationship with IWB. However, it is important to highlight that at the same time, these findings deviate from literature due to low strength of indicated relationship as other scholars (Crawford, 2001; Khan, Aslam, & Riaz, 2012) suggest a strong linkage between the two constructs. The difference in results can be attributed to specifics of the analyzed industry or cultural context. More specifically, in this context transformational leadership and in particular its dimensions – *intellectual stimulation* and *idealized influence* are more important for stimulating innovative work behavior of employees.

The strongest positive relationship was found between the main element of transactional leadership – *contingent reward practice* – and IWB. This finding contradicts the classic arguments of Bass (1985) that instrumental rewards negatively affect innovative behavior of individuals since these rewards do not motivate employees to perform beyond expectations. On the other hand, 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, and Sardessai (2005), who have determined that payment (being a classic example of contingent reward) has direct positive effect on innovative work behavior. The 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 extends 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, the second analyzed dimension of transactional leadership – *passive management by exception* – did not show any connection to the construct. This is in line with the findings of Crawford (2001) and Turunc, Celik, Tabak and 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 and Wei (2012), who implied a negative relationship between the constructs, as well as to Khan, Aslam, and Riaz (2012), who determined a positive direct relationship. Our

study confirms positive relationship only with respect to one dimension – contingent reward. The difference in results between the two elements of transactional leadership can be explained by Bass and Avolio's Full Range Leadership theory (1991), which implies that contingent reward is more active and effective practice on the continuum than passive management by exception, and therefore, is more likely to have an effect on IWB. The study extends the knowledge of the 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 different impact on the IWB.

Practical implications. Important practical implications are derived from this study. For instance, leaders should effectively apply both transformational and transactional styles by taking into account the personal differences of employees with respect to LOC. Both leadership styles possess practices which 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.

Moreover, the study illustrates importance of contingent reward practice for IWB, 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 should 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 the 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 the management side.

Despite the fact that LOC did not show any relationship with IWB, the study confirmed that it has a specific linkage with leadership styles. Transformational leadership and contingent reward practice has a 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 LOC 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 their effectiveness can depend on the personality type of subordinates.

Another interesting finding was identified during the 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. Women seem to be more likely to explore new opportunities at work than their male colleagues, which means that it is wise to create gender-diversified teams for brainstorming purposes. Men, in turn, have shown higher levels of internal LOC than 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 jobs.

Limitations and future research. The study has several limitations. Firstly, the sample size was relatively small and the 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 that future researchers 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 not have been truthful or unbiased, since the questionnaire was highly based on self-reporting. Thirdly, future studies may benefit from applying experimental design instead of survey, which would involve forming two groups of individuals with the dominant type of LOC, 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. Moreover, this research method would allow differentiating between more and less creative work functions to observe the impact of LOC on the relationship between function of position and selected leadership style. Finally, it would be worthwhile in future research taking into consideration other internal context factors that may have impact on the innovative work behavior, such as knowledge management system inside organization, personal skills, and the alignment of personal compatibility with work position.

5. Conclusion

In conclusion, this study represents an explicit effort to understand the relationship between transactional and transformational leadership styles and innovative work behavior as well as investigate the possible locus of control interplay in this relationship. The results have shown that 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 was related to external LOC. Neither of the LOC types has shown direct relationship with IWB. The findings of the study also support the theory of dual control, which implies that individuals can possess both types of locus of control simultaneously. Both transformational and transactional leadership styles possess certain elements that positively affect IWB, therefore, it is concluded that some practices, despite belonging to the same leadership style, may have very much different impact on the IWB construct. The research contributes to the field of innovation management by integrating individual personal attributes with organizational factors by providing empirical findings, theoretical and practical interpretations.

Based on the research results managers are recommended to:

- combine the transactional and transformational leadership practices in their behavior in order to foster IWB among subordinates by taking into account the personal differences of employees with respect to locus of control;
- implement the motivation system to enhance the external employee motivation (additional payment, special gifts for best ideas, or any other means of instrumental rewards) in order to boost employee IWB;
- give employees enough autonomy to reckon upon and present new ideas;
- apply transformational leadership style to subordinates with internal LOC;
- apply transactional leadership style to subordinates with external LOC;
- create gender-diversified teams for brainstorming sessions;
- take into consideration the fact that male employees might be more suitable for goal-oriented positions, whereas female employees might be more engaged in positions requiring higher level of creativity.

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