THE EFFECT OF LEADER-MEMBER EXCHANGE ON ORGANIZATIONAL INNOVATIVENESS: FINDINGS FROM A LITHUANIAN PUBLIC SECTOR ORGANIZATION

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Abstract
The paper investigates the impact of the quality of the relationships between leader and followers or leader-member exchange (LMX) on five dimensions of organizational innovativeness such as product, market, process, behaviour and strategy. The empirical findings were obtained by a survey (n=757) in a public sector organization in Lithuania, where autocratic relationships between leader and followers may be still a tendency due to socio-historical reasons. The findings of a series of regression analysis indicate that, in general, LMX has a comapratively low although statistically significant explanatory power, but for behaviour innovativeness. Regression analysis of the split sample to test the relation between a perceived low, medium and high quality of relationships between leader and followers has yielded no consistent difference in the effect of differentiated LMX levels on organizational innovativeness.

Key words: *leadership, leader-member exchange, organizational innovativeness, Lithuania, public organizations*

Introduction

Organizational innovativeness as an organizational capacity to engage in creative processes, experiment, apply new approaches and techniques, generate new ideas and knowledge (Lumpkin & Dess 1996; Odoardi, Battistelli & Montani 2010) has become critical in the context of global economy, in times of radical changes and hyper competition (Broekel & Brenner 2011; Cho & Pucik 2005). Therefore, it is important to identify and stimulate factors determining its development and growth in organizations. The need to innovate is actual not only to private businesses but also to public organizations, which are in our focus in this study. Public sector organizations, often due to public sector reforms, are pressed to be more accountable and responsible, optimise their processes and performance and increase efficiency as well as provide better quality of services (Hansen 2011; Politt & Bouckaert 2011; Webb 2010).

Studies on innovation and innovativeness have recognized the primary importance of organizational determinants to the phenomena (Damanpour 1991). Organizational culture and its values (Büschgens, Bausch & Balkin 2013; Hogan & Coote 2014; Martins & Terblanche 2003; Riivari & Lämsä 2013), capabilities (Kyrgidou & Spyropoulou 2013), availability of resources (Rosner 1968), communication, trust and cooperative behaviour (Ellonen, Blomquist & Puumalainen 2008; Martins & Terblanche 2003; Sankowska 2013) as well as leadership and management practices (Eisenbeiβ & Boerner 2013; Hansen 2011; Redmond, Mumford & Teach 1993) can be identified among extensively studied antecedents of organizational innovativeness and innovation. However, in many studies, organizational innovativeness is treated as one-dimensional concept or just a particular type of innovation is investigated in relation to other social phenomena. In our study we take a wider outlook to organizational innovativeness and regard it as a diverse phenomenon and multi-dimensional concept consisting of product, market, process, behaviour and strategy dimensions (Wang & Ahmed 2004).

Considering the antecedents of organizational innovativeness, leadership can be regarded as a key one determining the organizational capacity to be innovative. Leaders can foster organizational innovativeness by setting the goals and environment that favours creativity and innovation, providing resources and support to employees to realize creative ideas (Denti & Hemlin 2012). Moreover, respectful, fair and reciprocal leadership behaviour can enhance organizational capability to innovate

by enhancing intrinsic motivation, promoting pro-active and adaptive skills as well as self-realization and positive self-perception of followers (Hansen 2011; Stobbeleir, Ashford & Buyens 2011; Zhang & Bartol 2010; Yidong & Xinxin 2013). Besides, prior research shows that, for example, empowered employees promptly respond to clients' needs and use their professionalism to solve organizational problems, which can result in innovative processes and behavior that benefits the organization (Fernandez & Moldogaziev 2013; Zhang & Bartol 2010). Yet, as noted by Denti & Hemlin (2012), despite acknowledged effect of leadership on innovativeness, the knowledge of mechanisms through which leaders enhance innovativeness is still scarce.

The findings of the above quoted studies imply that experience of positive emotions from being respected and appreciated, sharing and contributing can have an effect on positive organizational outcomes (cf. Bindl & Parker 2012; Staw, Sutton & Pelled 1994). In this light, a relational perspective of leadership gains significance. This perspective is explicitly addressed by leader-member exchange theory, which centres on leader, followers and their exchange relationships (Graen & Uhl-Bien 1995). However, the relational aspects of leadership have received considerably little attention (Lee 2008; Uhl-Bien 2006), and followers, who are an essential component of the leadership concept, are rather often left aside (Collinson 2006).

Hence, in this paper, we are interested in the effect of leadership on organizational innovativeness and attempt to shed some light on the association empirically. We concentrate on the followers' perceptions of leadership relationships and try to make this side of the leadership phenomenon more visible. By this, we make two-fold contribution to the related literature. First, we add empirical knowledge about the effect of leadership as a relational phenomenon on organizational outcomes. Secondly, we analyse the findings reflecting the socio-cultural context in which the public organization of this study operates, namely, Lithuania.

1. Theoretical framework

1.1. Quality of leader and followers relations and organizational innovativeness

In this study we draw upon a relational leadership theory, namely, leader and member exchange (hereafter LMX, Graen & Uhl-Bien 1995; Uhl-Bien 2006) theory. The theory focuses on the two-way influence between leader and followers rather than just on leader's or followers' influence on the other party. The theory departs from theories of social interrelations (e.g. social exchange theory - Blau 1964) and holds that interrelations between leader and followers may differ depending on the quality of the relationship. LMX theory distinguishes relationships between leader and the so-called "in-group" and "out-group" members which are termed, respectively, high and low LMX (Anand et al. 2011). High LMX or in-group relationships can be described by loyalty, respect, high trust and liking between leader and followers while low LMX or out-group relationships can be characterized by following employment contract, managing by autocratic methods and low trust between the parties (Dansereau, Graen & Haga 1975).

Organizational innovativeness is regarded as a multidimensional construct based on the concept by Wang and Ahmed (2004). Their model includes five dimensions of organizational innovativeness (hereafter ON), i.e. the ones of product, market, process, behaviour and strategy. Product dimension relates to the newness of organization's products and services. Market innovativeness concerns new approaches to reaching the target audiences. Process innovativeness refers to novelties in production methods, management styles and technologies that are applied to enhance production and management systems. Behavioural innovativeness denotes employees and management's resourcefulness and interest in new ideas, organizational encouragement to think and act originally and creatively. Finally, strategy innovativeness is related to organization's capability to achieve goals, identify gaps in goals and resources, timely react to changes in the market and management's willingness to experiment and search for original approaches to problem solving and showing due appreciation to talented people.

We assume that public organizations will be much less innovative in product, market or strategy innovativeness than behaviour and process one for several reasons. Usually the services of public organizations are highly standardized and there is little space for innovating them. These services

rarely need to be marketed because they are often obligatory to (particular groups of) citizens or they turn to them when, for example, social support is needed. Eventhough some social services need marketing, budgets for that in public organizations are rather low. However, reaching the aims, for example, collecting the planned taxes or getting a particular of number of people served may require strategy innovativeness. Process innovativeness in public organizations is a rather frequent phenomenon in contemporary public organizations, usually as a result of reforms in public sector, e.g. changing the institutions' attitude to citizens as clients, introducing customer service lines and optimising the performance through modifications or re-engineering of operations. Moreover, behaviour innovativeness in public organizations may be accounted for by constant interaction between clerks and clients to deliver the service (Damanpour 1991). Although in developed economies, attempts are made to reduce the extent of direct interaction between public clerks and clients, by transferring a part of services online, still front-line employees in public organizations remain the main sources of process and behaviour innovativeness (Fernandez & Moldogaziev 2013).

From the perspective of the quality of relationship between leader and followers, prior studies have found that employees in high quality relationships engage in more innovative activities beyond their formal roles (Settoon, Bennett & Liden 1996; Liden, Wayne & Stilwell 1993). Also, a research by Hemlin & Olsson (2011) showed that leaders can encourage their followers to seek for external contacts which can contribute to innovation. However, the effect of leader-member exchange on the dimensions of organizational innovativeness may differ in private and public sector organizations. For example, some types of public organizations cannot search for financial capital for realizing ideas as products from private investors as it would undermine their creditability and institutional trustworthiness. This, again, supports the idea that leadership may have an effect on public organization's innovativeness, but on the other hand raises an assumption that, for example, product or market innovativeness may be less frequent outcomes of high quality relations between leader and followers.

A final consideration in this study relates to the relationships between leader and followers as being unique and context-bound, which means that they cannot be investigated disregarding the socio-cultural context. For example, power distance, participation, uncertainty avoidance, time perspective, task orientation, people orientation and success orientation vary culturally (Hofstede 2001; House et al. 2004; Kanungo & Jaeger 1990; Schwartz 1999; Pučėtaitė & Lämsä 2008) and determine expectations that leaders and followers hold to their interrelations and behaviour in general. For example, leaders in participative cultures tend to empower their employees much more frequently than in autocratic cultures. Respectively, employees in participative cultures expect that they will be consulted when decisions are made and will be much more willing to share the responsibility for it compared to employees in autocratic cultures; they will have stronger expectations that the leader will be decisive and take the responsibility for decisions and actions. Hence, the impact of leadership on organizational innovativeness may vary dependent on the socio-cultural context as well. Thus, in the following section we give some light on the socio-cultural context of Lithuanian society, which is taken as the field of this study.

1.2. Characteristics of Lithuanian society in respect to leadership

Lithuanian society was strongly affected by three centuries of serfdom, half a century of socialist reign and the Catholic world-outlook (Pučėtaitė & Lämsä 2008) which shaped leader-follower relationships and expectations to leadership. Up to the 20th century the main source of living of Lithuanians was agriculture (Aleksandravičius & Kulakauskas 1996). Cultivating the farm was not an occupation of a free citizen: the interrelations among the society members during the agrarian period from the end of the 16th to the middle of the 19th century were strongly influenced by serfdom. Serfdom accustomed common people (i.e. serfs) to thinking of themselves as dependents on their master and incapable of taking care of themselves and their existence. Creation of social order and establishment of justice were based merely on the relation of patronage and obedience (Pivoras 2000).

The idea of subordination was supported by religious (Catholic) convictions and later by socialist practices. Obedience to the authority (e.g. priest, master) was entrenched as an ideal of proper

behaviour in the public mentality. The famous sayings that were widespread in the soviet times "you are the boss, I am the fool; I am the boss you are the fool" or "they pretended to pay and we pretended to work" (Ryan 2006) are indicative of the characteristics of the interrelations between leader and followers. Such attitudes reasoned and sustained the hierarchy in social relations. They accounted for understanding the parties in the relationship as hostile adversaries and presupposed a need for the policy of and a leader with a "strong fist" who would assume the responsibility for problem solving and establishing order (Žiliukaitė et al. 2006). This explains why a large number of organizations in Lithuania are based on hierarchical, often paternalistic, authoritarian relations (Vasiljevienė & Freitakienė 2002) and why the electorate in Lithuania has been much more active in president elections compared to parliamentary elections. Hierarchical organizational structures presuppose that only those in managing positions know best what is good for the organization, and those in low(er) positions, i.e. employees are just ruled objects that need to be controlled to achieve expected performance results. Hierarchical structures are usually built on the assumption that human nature is selfish and needs to be regularly controlled (Pučėtaitė & Lämsä 2008). In such structures, trust, which is one of the key characteristics of LMX theory, cannot exist. Rather, contractual relations may be much more preferred and expected as the mechanism for keeping order.

Such organizations are a favourable field for abuse of power and disregard to specialists' knowledge. Such an organizational context demotivates employees, strengthens the feeling of incapability to change the surrounding environment and accounts for indifference to the organizational problems, which undermines the possibility to direct one's capacity to innovate for the organization's benefit. Besides, negative effects of LMX such as nepotism and favouritism may be more often found in such organizations (Nie & Lämsä 2013). Nepotism and favouritism breach the principle of equal treatment in the organizations and, again, weakens the employees' motivation to be innovative for the organization's benefit.

Public organizations are not market oriented and, in Lithuania, far less accountable to tax payers than, for example, company's management to shareholders and other stakeholders, pay lower salaries compared to the market average and thus have lower capacity to attract professional managers to initiate changes. Although they initiated changes to, for example, select the most qualified employees, it is common knowledge that knowing someone important in the institution may increase the chances of being selected. Moreover, due to slow reforms in public sector in Lithuania and minor changes of employees in administrative positions, in particular, in middle management, the described characteristics may still be maintained in relationships between leader and followers. Thus, we make an assumption that the quality of relationships in public organizations in Lithuania may still be low and still preserve an autocratic character. Naturally, high quality relationships may be present and possibly bear a nepotistic character. Therefore, the effect of the quality of the relationship on organizational innovativeness may answer the question whether this quality is high in a positive way. Consequently, in this study we ask several research questions. Namely, what quality of relationships between leader and followers can be found in public organizations in a post-soviet context? Is there any difference in the effect of low and high LMX on the types of organizational innovativeness and if so, what?

2. Method

The empirical data for this study were collected by means of an electronic standardised questionnaire from one public sector organisation in Lithuania (N=1221, n=757, a response rate of 62 %) in autumn 2013. The questionnaire in Lithuania has been distributed as an electronic survey, having contacted the top management and posting the link to the communication department for further dissemination to the employees.

LMX was measured using the 7-item scale developed by Scandura and Graen (1984) and recommended by Graen and Uhl-Bien (1995). It is a one-dimensional measurement scale, however, despite thbe criticism against it (cf. Lee 2008), it still encompasses the dimensions of mutual affection, loyalty, trust, professional recognition. The statements in the scale were measured in a 5-item Likert scale (1 denoting "totally disagree" and 5 "totally agree"). *Organisational innovativeness* was

measured with a 20-item questionnaire developed and validated by Wang and Ahmed (2004). It consists of 5 thematic blocks related to product, market, behavioral, process and strategy innovation. A 7-item Likert scale was used with 1 meaning "strongly disagree" and 7 "strongly agree". The third block in the measurement included socio-demographic questions.

Statistical data analysis was carried out using software SPSS 22.0. Descriptive and regression analysis were performed to identify the links between the two phenomena and between LMX and different dimensions of organizational innovativeness.

3. Findings

Based on the data from the public sector organization, 15% of the respondents were male, 85% female. 92% were with higher education. 86% were in an expert/ specialist position, 3% in an administrative and 10% in a managerial one. The average number of years in the company was 14 (SD = 8.5). A major age group among the respondents was above 51 years old (45%), followed by a group of 41-50 years (29%). Reliability tests of the scales of LMX and organizational innovativeness has yielded Cronbach's alphas of 0.9, which indicates that internal consistency of the scales is high and can be used for further data analysis.

Results of descriptive data analysis (Table 1) using *One-Sample Kolmogorov-Smirnov Test* show that distributions of all variables in the analysis are not normal. However, because the samples were quite large (n>100), parametric statistical tests were used as they are more powerful than non-parametric ones.

Leader-member exchange statements:	N	Mean	Std. Deviation
LMX1: I usually know how satisfied my leader is with me.	655	3,98	,993
LMX 2: My leader understands my job problems and needs.	713	3,97	1,110
LMX 3: My leader recognizes well my potential in work.	647	4,00	1,017
LMX 4: My leader would likely use her/his power to help me solve problems in my work.	705	3,96	1,166
LMX 5: I can trust that my leader would "bail me out" at his/her expense.	534	3,48	1,299
LMX 6: I have enough confidence in my leader to defend and justify his/her decision if he/she were not present to do so.	686	4,02	1,097
LMX 7: My relationship with my leader is extremely effective.	711	3,94	1,049

Table 1. Descriptive statistics of LMX

Source of the scale: Graen & Uhl Bien 1995

In general, average evaluations of all LMX statements are not very different: they are above the arithmetic average of the scale (1-5) and vary from 3,48 (LMX5) to 4,02 (LMX6). However, results of *Paired samples T-test* show that some of the evaluations are statistically significantly different (Table 2). In particular, an average evaluation of LMX5 is obviously lower than evaluations of all the other statements. Such a result suggests that, in general, members of the organization tend to believe that their leader will use the power to handle a definite issue rather than help them in any case they face hard times. Also, LMX7 is evaluated statistically significantly lower than LMX3 and LMX6. This result denotes that perceived effectiveness of the relationship with the leader is weaker than perceived recognition for capabilities from the leader.

Leader-member exchange items		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	LMX01 - LMX02	-,028	,901	,036	-,098	,042	-,791	637	,429
Pair 2	LMX01 - LMX03	-,021	,799	,032	-,085	,042	-,659	609	,510
Pair 3	LMX01 - LMX04	-,013	1,075	,043	-,097	,072	-,298	625	,766
Pair 4	LMX01 - LMX05	,398	1,107	,050	,300	,495	8,013	497	,000
Pair 5	LMX01 - LMX06	-,039	1,019	,041	-,119	,042	-,947	617	,344
Pair 6	LMX01 - LMX07	,035	,964	,038	-,040	,110	,904	636	,366
Pair 7	LMX02 - LMX03	-,017	,691	,027	-,071	,037	-,632	634	,528
Pair 8	LMX02 - LMX04	-,001	,850	,032	-,065	,062	-,045	683	,964
Pair 9	LMX02 - LMX05	,378	,846	,037	,305	,451	10,182	517	,000
Pair 10	LMX02 - LMX06	-,053	,825	,032	-,115	,010	-1,643	665	,101
Pair 11	LMX02 - LMX07	,033	,766	,029	-,024	,091	1,143	689	,253
Pair 12	LMX03 - LMX04	,016	,893	,036	-,054	,086	,449	622	,654
Pair 13	LMX03 - LMX05	,405	,923	,041	,324	,487	9,780	495	,000
Pair 14	LMX03 - LMX06	-,023	,871	,035	-,092	,046	-,652	606	,514
Pair 15	LMX03 - LMX07	,067	,746	,030	,008	,125	2,246	628	,025
Pair 16	LMX04 - LMX05	,378	,853	,037	,305	,451	10,176	525	,000
Pair 17	LMX04 - LMX06	-,043	,901	,035	-,112	,026	-1,212	656	,226
Pair 18	LMX04 - LMX07	,034	,860	,033	-,031	,099	1,028	676	,305
Pair 19	LMX05 - LMX06	-,453	,851	,037	-,526	-,379	-12,087	516	,000
Pair 20	LMX05 - LMX07	-,390	,800	,035	-,460	-,321	-11,078	514	,000
Pair 21	LMX06 - LMX07	,082	,672	,026	,031	,134	3,171	666	,002

Table 2. Results of paired samples T-test, LMX statements

Average evaluations of product, market, process, behaviour and strategy innovativeness vary more significantly, from the lowest mean of behaviour innovativeness (4,58) to the highest one of product innovativeness (5,45).

Types of organizational innovativeness	N	Mean	Std. deviation
Product	472	5,45	1,189
Market	497	4,98	0,948
Process	459	5,04	1,212
Behaviour	513	4,58	1,413
Strategy	389	4,63	1,149

Table 3. Descriptive data of organizational innovativeness

It is interesting to note that almost all evaluations of different dimensions of organizational innovativeness are statistically different, based on the results of *Paired samples T-test* (Table 4). Only a difference between average evaluations of behaviour and strategy innovativeness is statistically insignificant. Hence, listing the forms of innovativeness in a decreasing order, product innovativeness scores highest average score (i.e. 5,5 of 7 possible), followed by process, market, strategy and behaviour innovativeness.

Forms of innovations		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	PROD - MARK	,4344	,8934	,0432	,3494	,5194	10,048	426	,000
Pair 2	PROD - STRA	,6973	1,1723	,0639	,5717	,8229	10,920	336	,000
Pair 3	PROD - PROC	,2685	1,2118	,0623	,1460	,3911	4,308	377	,000
Pair 4	PROD - BEHA	,7952	1,3395	,0685	,6604	,9299	11,602	381	,000
Pair 5	MARK - STRA	,2921	1,1086	,0593	,1756	,4087	4,930	349	,000
Pair 6	MARK - PROC	-,1427	1,0076	,0502	-,2414	-,0440	-2,843	402	,005
Pair 7	MARK - BEHA	,3358	1,2423	,0617	,2145	,4572	5,440	404	,000
Pair 8	STRA - PROC	-,3882	1,0484	,0567	-,4997	-,2767	-6,847	341	,000
Pair 9	STRA - BEHA	-,0513	1,1682	,0619	-,1730	,0705	-,828	355	,408
Pair 10	PROC - BEHA	,3859	,9813	,0490	,2896	,4823	7,875	400	,000

Table 4. Results of paired samples T-test, organizational innovativeness dimensions

Note: PROD - product, MARK – market, PROC – process, STRA – strategy, BEHA – behaviour innovativeness

Further, striving to explore the effect of leader and followers' relationships on different types of organizational innovativeness, analysis of linear regression (stepwise method) was accomplished (Table 5). The results suggest that, in general, the effects of LMX on organizational innovativeness are rather weak: 32% of variance can be explained by the association of LMX (namely, LMX4, LMX1 and LMX5) to behaviour innovativeness; the explained portions in other cases are lower (16-21%).

Dependent variables: Types of organizational innovativeness		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
Product (R^2_{Adj} =0,169)						
	(Constant)	3,520	,228		15,413	,000
	LMX02	,282	,088	,259	3,199	,002
	LMX06	,196	,088	,180	2,230	,026
Market (R^2_{Adj} =0,183)						
	(Constant)	3,425	,173		19,770	,000
	LMX02	,254	,064	,284	3,962	,000
	LMX05	,143	,058	,176	2,451	,015
Strategy (R^2_{Adj} =0,214)						
	(Constant)	2,440	,244		10,004	,000
	LMX07	,317	,080	,287	3,972	,000
	LMX03	,245	,081	,218	3,014	,003
Process (R^2_{Adj} =0,158)						
	(Constant)	3,069	,248		12,361	,000
	LMX02	,263	,073	,242	3,599	,000
	LMX01	,231	,078	,198	2,941	,003
Behaviour (R^2_{Adj} =0,319)						
	(Constant)	1,433	,255		5,629	,000
	LMX04	,271	,083	,220	3,251	,001
	LMX01	,313	,072	,226	4,329	,000
	LMX05	,249	,078	,215	3,182	,002

Table 5. Results of regression analysis

Notwithstanding, it should be noted that leader's understanding of the peculiarities of a follower's work tasks and problems (LMX2) seems to be an important aspect explaining product, market and

process innovativeness. Leader's feedback on followers' performance (LMX1) is important to understanding of process and behaviour innovativeness. Followers' trust in their leader's efforts to "bail them out" even at their expense (LMX5) increases evaluations of market and behaviour innovativeness. This is an aspect which indicates an emotionally close interrelation. In general, the results of regression analysis demonstrate a logical interrelation between LMX and certain forms of organizational innovativeness. For example, behaviour innovativeness is explained by the LMX variables which rest on trust, safety and confidence which is reassured by the leader. Clear feedback on personal work and feeling safe under leader's supervision may prompt search for new forms of behaviour at work. Strategy innovativeness can be induced by the leader's recognition of the employees' potential and reflecting the relationship from the perspective of effectiveness.

Dependent variables: Types of organizational innovativeness		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
Product						
2 group (R^2_{Adj} =0,044)	(Constant)	4,303	,359		11,979	,000
	LMX02	,301	,088	,220	3,414	,001
3 group (R^2_{Adj} =0,144)	(Constant)	-6,676	3,496		-1,910	,060
	LMX02	2,513	,703	,395	3,576	,001
Market						
1 group (R^2_{Adj} =0,125)	(Constant)	2,910	,454		6,405	,000
	LMX02	,581	,207	,379	2,808	,007
2 group (R^2_{Adj} =0,047)	(Constant)	4,184	,226		18,482	,000
	LMX05	,222	,061	,226	3,610	,000
3 group (R^2_{Adj} =0,167)	(Constant)	-11,572	4,131		-2,801	,007
	LMX02	1,455	,492	,319	2,956	,004
	LMX04	1,080	,492	,237	2,194	,032
	LMX07	,871	,405	,232	2,152	,035
Strategy						
1 group (R^2_{Adj} =0,276)	(Constant)	1,441	,527		2,736	,009
	LMX05	,699	,253	,365	2,766	,008
	LMX01	,409	,149	,361	2,738	,009
2 group (R^2_{Adj} =0,072)	(Constant)	2,906	,430		6,751	,000
	LMX07	,277	,107	,187	2,580	,011
	LMX04	,184	,086	,154	2,135	,034
Process						
1 group (R^2_{Adj} =0,098)	(Constant)	2,918	,518		5,629	,000
	LMX01	,477	,193	,343	2,475	,017
2 group (R^2_{Adj} =0,031)	(Constant)	3,898	,399		9,757	,000
	LMX07	,284	,100	,188	2,854	,005
3 group (R^2_{Adj} =0,099)	(Constant)	-3,979	3,211		-1,239	,219
	LMX04	1,932	,647	,334	2,986	,004
Behaviour						
1 group (R^2_{Adj} =0,280)	(Constant)	1,133	,429		2,642	,011
	LMX01	,432	,138	,370	3,139	,003
	LMX04	,436	,175	,295	2,499	,015
2 group (R^2_{Adj} =0,086)	(Constant)	2,624	,421		6,234	,000
	LMX05	,288	,091	,211	3,166	,002
	LMX02	,243	,106	,152	2,285	,023
3 group (R^2_{Adj} =0,099)	(Constant)	-8,811	6,267		-1,406	,165
	LMX04	2,890	1,257	,274	2,300	,025

Table 6. Results of regression analysis of low, medium and high LMX on types of organizational innovativeness

Consequently, a closer look at the role of the quality of relationships between leader and followers in determining organizational innovativeness was taken by dividing the sample into 3 groups by the categories of low, medium and high quality relationships and regressing the results of these groups on the types of organizational innovativeness. Technically, the sample was divided into 3 groups by average evaluations of the LMX statements. The first (and the smallest) group consists of the respondents which evaluations varied from the lowest (theoretically, 0) to 2,97 (a sample mean + 1

stand. deviation); this group is regarded as having low quality relationships between leader and followers. The second (and the largest) group consists of respondents which average evaluation varied from 2,98 to 4,85 (sample mean +/- 1 stand. deviation); the perceived quality of the relationship in this group is considered medium. The last group consists of respondents who gave the highest evaluations for LMX and includes evaluations from 4,86 to the highest possible (i.e. 5); the relationship quality in this group is regarded as high. The first group involves 66 respondents (14% of all who evaluated all LMX statements); the second group – 297 (64%); the third group – 102 (22%). These subsamples are indicative of relationship quality. Contrariwise to what we have assumed, the perceived quality of relationships between leader and followers tends to be high rather than low. Table 6 depicts the results of linear regressions for each group in more detail.

Based on the results, in general, the quality of LMX seems not to determine organizational innovativeness. For example, there is no effect of LMX on product innovativeness in a low LMX group or strategy innovativeness in a high LMX group. Rather, these are particular dimensions of the relationships that determine particular types of organizational innovativeness. For example, feedback giving by the leader to followers is important to product and market innovativeness. Trust between the parties becomes important in determining market and strategy innovativeness but just in low and medium LMX. This is not totally in line with what could have been expected based on prior research, however, this result could be explained by the influence of cognitive powers: usually people are more aware of trust when it is lacking rather than when it is present. Leader's helpfulness and contribution to problem solving is stronger in the effect on process, strategy and market innovativeness and in the medium to the high LMX groups, except behaviour innovativeness where this aspect of relationship has explanative power in the low and high groups. Finally, effectiveness of the relationship matters in enhancing strategy and process innovativeness in the medium LMX group and in market innovativeness in the high LMX group. Interestingly, professional recognition does not play any role in determining organizational innovativeness in any of the groups.

4. Discussion and conclusions

In this study, we were interested in the relationship between LMX and organizational innovativeness and, more particularly, in the effect of different aspects of LMX on types of organizational innovativeness. On the contrary to what we expected from a public organization operating in a post-soviet society, the evaluations of product and market innovativeness were not that low. Product innovativeness was the variable that got the highest evaluations between the other types of innovativeness. This finding could be explained by the fact that, due to changes in legislation during the last 2-3 years initiated by the ruling party in reaction to the economic crisis, the studied organization had to reconsider, redesign or create new services which ensure due functioning of the state. On the other hand, process innovativeness scored comparatively high in evaluations, which is in line with our assumptions and prior research.

Considering the respondents' evaluations of LMX, the relationships between leader and followers were considered of high rather than low quality. This is reflected even by the results of dividing the sample to test the effect of LMX quality on the types of organizational innovativeness. This could, at least to some extent, be explained by duration of the respondents' employment i nthe given organization. Working more than 10 years in the same organization makes one familiar with the colleagues not only from a professional viewpoint. Considering that more than 40% of the sample are employees older than 50 years, it can also be maintained that at least in certain departments affectual side of the relationships may be very important as employees in their 50s are more sensitive to changes in the organization as their competitiveness in labour market is usually not that high. This is an effect of stereotypes held by employers, rather than lack of skills and knowledge. Hence, in a way, this tendency may explain why professional recognition was not that powerful in explaining types of organizational innovativeness in the groups of low, medium and high quality of the relationship between leader and followers.

We conclude our study by stating that LMX has an effect on all the types of organizational innovativeness. In particular behaviour innovativeness is affected by the emotional dimension of the

relationship between leader and followers. However, this interrelation raises some risks about negative effects of leader and followers relationships. In particular, considering the nepotistic aspect of LMX, it may prompt behaviour innovativeness that is negative in the effects to the others and favours leader or/and follower at the expense of organizational sustainability or "out-group" members. Yet, as effectiveness and feedback as evaluation and control practice also play a role in the interplay between LMX and organizational innovativeness, the possibility of negative effects of LMX as highlighted by Nie and Lämsä (2013) may be undermined in the studied organization. In this respect, the finding supports prior research which showed that enabling and empowering employees may foster their innovativeness at process and behaviour levels (Fernandez and Moldogaziev 2013).

Finally, while analysing our data from the perspective of low, medium and high LMX and their effect on the types of organizational innovativeness, we did not find a tendency that high quality relationships may have stronger effect on organizational innovativeness. Rather, particular dimensions of leader-member exchange such as feedback giving, affect (liking) and trust affect particular types of organizational innovativeness. Thus, to derive some regularities from the findings further and deeper research into the relationships and their effects on definite types of innovativeness is needed.

By this, we acknowledge that the study is not without limitations. It is based on self-reported data by employees from one public company. Capturing leaders' attitudes to their followers would give a more holistic view of dyadic relationships. Also, comparing the data to other public organizations, also operating in socio-historically different contexts would increase generalizability of the results. Considering the results obtained by Riivari & Lämsä (2013) who studied the interrelation between ethical culture of organizations and organizational innovativeness in Finnish (which is a participative and high-trust society) private and public organizations, it seems that the characteristics of a particular organization with its culture and practices matter when explaining organizational innovativeness rather than a sector in which they operate. The only comparative aspect in public sector organizations is high scores of process innovativeness, which may be a result of stakeholder pressure and reforms in the public sector that have been described in the introductory part of this paper. Comparison of the relationship between leadership and organizational innovativeness in this context would provide richer interpretative data and more reasoned arguments about the phenomena which can increase the so needed organizational innovativeness.

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