

The Effect Of Follower In Increasing Leader's Innovativeness And Firm Performance: Empirical Study PT."X"

*Follower,
Innovativeness
and Performance*

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ABSTRACT

This study aims to examine the development of leader innovativeness within a project-based organization, emphasizing the role of followers as sources of ideas and knowledge. Using a quantitative approach with a deductive research process, this research applies structural equation modeling (SEM) to analyze 118 dyads of general managers (leaders) and project managers (followers) in a state-owned construction enterprise in Indonesia. The theoretical framework integrates knowledge management theory (DiBella et al., 1996) and the middle-up-down innovation model (Nonaka & Takeuchi, 1995). The findings reveal a significant vertical knowledge flow from followers to leaders: followers' personal mastery positively influences the quality of leader-member exchange (LMX), which in turn enhances leader innovativeness. Furthermore, the relationship between personal mastery and LMX is moderated by organizational social climate. Surprisingly, the study finds that leader innovativeness has a **significant negative impact** on project performance. Several contextual factors may explain this, including communication barriers, execution constraints, organizational targets, and the long-term nature of innovation impact. This study contributes to the literature on leadership, knowledge exchange, and innovation by highlighting the crucial role of followers in enabling leader innovativeness within a dynamic project environment, and by offering a critical view on the complexities of translating innovation into short-term project performance.

Keywords: Followers Personal Mastery (FPM); Leader Member Exchange (LMX); leaders' innovativeness; project performance.

INTRODUCTION

The acquisition of new knowledge allows organizations to innovate and gain a competitive edge in dynamic business environments (Grant, 1996; Kogut & Zander, 1992). Contemporary knowledge management theory suggests that knowledge is generated internally through processes of sharing and integration among employees (Nahapiet & Ghoshal, 1998), without a fixed or linear direction of knowledge flow. This study aims to explore how leader innovativeness is developed within a project-based organizational setting, particularly by recognizing followers as key sources of ideas and knowledge. Additionally, it seeks to assess how such leader innovativeness contributes to project performance.

In highly competitive markets, organizations increasingly acknowledge innovation as a critical driver of market leadership. Prior research has established a positive relationship between innovation and organizational performance (Bierly & Chakrabarti, 1996; Brown & Eisenhardt, 1995; Caves & Ghemawat, 1992; Damanpour, 1991). Within the construction industry specifically, innovation is essential for improving work methods, boosting efficiency, enhancing competitiveness, and shortening project timelines (Ribeiro, 2008). Studies by Correa, Morales, and Pozo (2007), as well as Nahapiet and Ghoshal (1998), highlight the importance of leadership, knowledge, and organizational climate in fostering innovation. However, according to Xu et al. (2007) in the framework of Total

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Innovation Management, leaders alone cannot generate innovation; they require active support from their subordinates. Bridging these perspectives, the current research investigates the role of followers in initiating and facilitating innovation at the leadership level, with particular emphasis on the upward flow of ideas and knowledge from followers to leaders.

Emphasizing the vertical and bottom-up flow of knowledge highlights the strategic role of leaders as decision-makers with the authority to allocate resources and implement innovations within the organization. At the same time, it underscores the critical function of followers as contributors of valuable knowledge. In the context of a project-based organization, general managers (leaders) possess higher organizational status and broader capabilities, while project managers (followers) hold practical, operational knowledge and ideas—intangible resources that are essential to innovation (Hobday, 2000).

Accordingly, this study aims to investigate how the vertical flow of knowledge and innovation influences the performance of work units, particularly within the Indonesian construction industry. The units of analysis are individual projects, with project managers serving as followers and general managers overseeing multiple projects as leaders. In this setting, project-specific knowledge generated by followers informs innovation at the leadership level, which is then applied back to the project level. Given the unique geographic, situational, and contextual challenges faced by each project, the resulting innovations vary accordingly. Moreover, such innovations must be developed within tight timeframes—typically during project planning or execution stages.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

According to Dibella, et al. (2006), knowledge management system comprises of knowledge acquisition, knowledge sharing and knowledge use. The logical flow of this research starts with knowledge acquisition process by followers to enhance their personal mastery. This knowledge is then shared by followers to leaders through leader-member exchange (LMX) mechanism. The higher the quality of exchange between leaders and followers, the higher the intensity of flow of ideas and knowledge from followers to leaders. The innovation is then passed on by leaders back to followers to be implemented in projects the followers manage to improve project performance. The aforementioned explanations are put together in a research model on Figure 1.

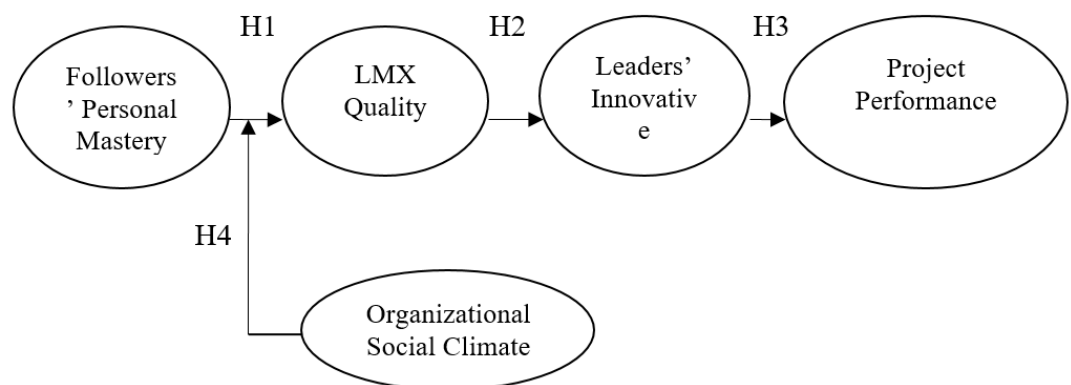


Figure 1. Research Model

Referring to Figure 1, followers with high personal mastery tend to have high quality ideas and knowledge because these followers have strong commitment to their personal and professional development and constantly better their capacity, aptitudes, knowledge and skills and strive for continuous improvement based on self initiative, contributing to the firm with favorable results (Llorens-Montes et al., 2005; Senge, 1990; Senge et al., 1994). As a result, followers who possess strong personal mastery

bring valuable intangible assets—such as skills, insights, and competencies—that can be meaningfully exchanged with their leaders. Engaging in such exchanges benefits followers by increasing their visibility and advancing personal goals, including career progression, access to training opportunities, and potential salary improvements. Conversely, leaders are inclined to foster relationships with these followers, as they can offer critical knowledge and capabilities that support leaders in fulfilling their responsibilities. This mutual benefit encourages both parties to establish and maintain high-quality exchange relationships. Based on this rationale, the following hypothesis is proposed:

H1. Follower's personal mastery has a positive effect on the quality of leader-member exchange (LMX).

Previous research shows that social climate of a firm – employees' shared beliefs regarding the norms and values that govern interactions among them as they carry out their job (Ashkanasy, Wilderom & Peterson, 2000) – can affect employees' abilities, motivations, and opportunities to exchange and combine their knowledge (Argote et al., 2003; Kogut & Zander, 1992). In particular, relational aspects of organizational social climate, such as trust, cooperation, and shared language, are key mechanisms that enable employees to exchange and recombine knowledge (Nahapiet & Ghoshal, 1998; Smith et al., 2005). In other words, followers with high personal mastery may not be encouraged or motivated to supply ideas and knowledge to leaders through LMX mechanism unless conducive organizational social climate. Therefore, we can hypothesize that: *H1A. Organisational Social Climate moderates the relationship between Follower's Personal Mastery and LMX quality.*

Leaders who engage in high quality LMX will likely get updated knowledge and information and thus have abundant resources and comprehensive capability to select knowledge and information and later sew, bundle and combine with their own ideas to create leaders' innovativeness (Hobday, 2000). In other words, high quality LMX can lead leaders to innovativeness. Accordingly, the following is the hypothesis: *H2. LMX quality positively affect leader's innovativeness.*

A substantial body of empirical research supports the positive link between innovation and organizational performance (Bierly & Chakrabarti, 1996; Brown & Eisenhardt, 1995; Caves & Ghemawat, 1992; Damanpour, 1991). This relationship exists because innovation enables firms to adapt effectively to external environmental changes and uncertainties, making it a critical factor for sustaining long-term business success—especially in highly dynamic markets (Baker & Sinkula, 2002; Utterback, 1994; Wolfe, 1994). Innovativeness itself refers to an individual's proactive behavior in identifying problems and subsequently generating, developing, and refining ideas to create new knowledge aimed at solving those problems (Kanter, 1988; Van de Ven, 1986; Scott & Bruce, 1994). So, it is innovativeness that generate innovation as it is the people who “develop, carry, react to, and modify ideas” (Van de Ven, 1986). In this research, the people are the leaders, and leaders have authority to enact their innovativeness to be the project's innovation, whilst followers as project managers are the ones who implement the innovation that leads to project performance. Leaders have interest in project performance because such performance in turn affects their performance. Therefore, leaders' innovativeness will likely be directed toward improving project performance. Consequently, the hypothesis is as follows: *H3. Leader's innovativeness positively affects project performance.*

METHODS

Methods of Data Collection

This research was conducted at a state-owned construction enterprise (SOE) in Indonesia, which operates as a typical project-based organization. In such a structure, the flow of ideas and knowledge follows a middle-up-down pattern—originating from followers (project managers), moving upward to leaders (general managers), and then flowing back to followers for execution. The selected company was deemed appropriate for this study due to its extensive project coverage across the Indonesian archipelago,

making it a representative case of the national construction industry. Moreover, the company has earned a strong reputation for innovation, particularly in the development of toll roads, ring roads, and elevated roads. Its ability to complete projects ahead of schedule through innovative practices has earned it multiple industry awards.

At the time of the study, the company employed 849 personnel, comprising 584 technical and 265 non-technical staff. Among them, there were 28 general managers, 138 senior managers serving as project managers, and 5 directors. The research focuses on project-level operations, which form the core of construction activities and are often shaped by geographic challenges that generate unique ideas and knowledge at the operational level. General managers value these insights because improvements at the project level directly contribute to both individual and organizational performance. Consequently, the exchange of knowledge between project managers and general managers is strongly encouraged. While project managers provide operational knowledge and ideas, general managers reciprocate by contributing strategic innovativeness, which is then applied within the projects. In this dynamic, general managers serve as the initiators of innovation, while project managers act as the primary implementers.

The study involved all 121 ongoing projects during the data collection period, with the dyadic relationship between general managers and project managers serving as the unit of analysis. Accordingly, the sample consisted of 121 dyads, where each general manager was linked to 10–15 project managers. Of these, 118 dyads were successfully completed and analyzed, yielding a participation rate of 97.52%—significantly higher than the typical 20–25% response rate in management studies involving senior-level executives (Morgan & Strong, 2003; O'Regan & Ghobadian, 2004).

Table 1 Measure of Variables

Variable	Dimension	Measure	References
Follower's Personal Mastery	Soft Skill, Hard Skill, In Process Behaviour, Output Behavior, Risk Consideration & Quality, Cost & Delivery (QCD), Consideration on Health, Safety, & Environment (HSE)	21 items using Likert scale	Gardiner & Whiting (1997); Edmonson (1999); Morales et al (2007); Senge (1990); Kouzes & Posner (2002).
LMX Quality	Affect, Loyalty, Contribution and Professional Respect.	LMX-MDM, consist of 12 items using six-Likert scale	Lyden & Maslyn (1998); Dienesch & Liden (1986)
Leader's Innovativeness	Idea Productivity, Work Completion with Barriers, Risk Consideration & Quality, Cost & Delivery (QCD), Consideration on Health, Safety & Environment (HSE)	18 items using six-Likert scale	Kanter (1988); Van de Ven (1986); Scott & Bruce (1994); Ward & Curtis (1991); Result of FGD and practice implication of ISO 9001, OHSAS 18001, and ISO 14001 added to form questionnaires HSE.
Project's Performance	Profit	Secondary data	Company's document
Organizational Social Climate	Trust, Cooperation, and Shared Codes & Language.	25 items using six-Likert scale	Collins & Smith (2006); Mayer & Davis (1999); Chatman & Flynn (2001); Nahapiet & Ghosal (1997).

Table 2 Data Collection Scheme

No.	Variable	Respondent	Asked about
1.	Follower's Personal Mastery	General Managers	Project Managers
2.	Leader-Member Exchange	Project Managers	General Managers
3.	Leader's Innovativeness	Project Managers	General Managers
4.	Organizational Social Climate	Project Managers	Employees in projects

To perform the analysis, we conduct two tests using two step SEM. The first test concern with the reliability and validity of the variables. According to Wijanto (2008), analysis of measurement model using Confirmatory Factor Analysis (CFA) to be applied to determine whether the various indicators or observed variables can be grouped into latent variable group that has been determined before in the research model. This process also includes simplification of measurement model. Further based on Wijanto (2008) and Hair, Black, Babin, Anderson and Tatham (2006), a latent variable has good validity if it has Standardized Loading factor (SLF) ≥ 0.50 . Latent variable has good reliability if it has Construct Validity (CR) ≥ 0.70 and Variance Extracted (VE) ≥ 0.50 . The second tests are hypothesis tests. Two tests are performed using structural equation model (SEM). The first test is to indicate the extent to which the model fits with the data. Several parameters are used such as RMSEA, NFI, NNFI, CFI, IFI, RFI, Std. RMR, GFI, and AGFI (Hair et al, 2006). The second test is to indicate whether a hypothesis is supported or not. .

RESULT AND DISCUSSION

Respondent Profile and Descriptive Statistics Analysis

The study involved a total of 130 respondents, comprising 9 general managers and 121 project managers. All general managers were male. Among the project managers, 119 were male (98.35%) and 2 were female (1.65%). Three male project managers did not return the questionnaire.

The majority of follower respondents (project managers) were male (98.3%) and predominantly aged between 40 and 45 years (38.1%). Approximately 49.2% reported having worked with their current leader for 13 to 24 months, and 44.1% had known their leader within the company for more than five years. In terms of regional origin, 61.9% of project managers were from East Java and Central Java, and 42.4% shared the same regional origin as their respective leaders.

Regarding educational background, 79.7% of the followers held a bachelor's degree and 18.6% held a master's degree. In contrast, among leaders, 33.3% held a bachelor's degree and 66.7% held a master's degree. Consequently, the educational background similarity between followers and leaders was relatively low, at 39.8%. With respect to professional qualifications, all leaders held construction certification, whereas only 71.2% of the followers did.

Table 3 Mean, Standard Deviation and Reliability

	Mean	SD	SS	HS	IPB	OB	QCD	HSE	AD	LD	CD	PD	LIP	JCO	LQCD	LHSE	IT	BV	AB	SCL	CO	OP
SS	4.689	0.81645	(0.942)																			
HS	4.172	0.60503	.682**	(0.829)																		
IPB	4.769	0.73537	.829**	.578**	(0.902)																	
OB	4.732	0.66988	.793**	.635**	.846**	(0.880)																
QCD	4.477	0.75531	.751**	.501**	.782**	.694**	(0.893)															
HSE	4.531	0.72171	.671**	.291**	.665**	.635**	.666**	(0.947)														
AD	4.72	0.87377	0.132	.259**	0.039	0.062	0.088	0.054	(0.884)													
LD	3.842	1.02829	0.082	0.076	0.046	0.022	0.103	0.054	.322**	(0.755)												
CD	4.345	0.98799	0.105	0.167	-0.013	0.055	-0.007	.183*	.326**	.423**	(0.758)											
PD	4.833	0.91079	0.068	.211*	-0.004	-0.013	0.01	-0.043	.770**	.260**	.283**	(0.953)										
LIP	4.958	0.79817	0.048	0.152	0.001	-0.009	0	-0.056	.793**	.253**	.263**	.823**	(0.902)									
JCO	4.795	0.74629	0.039	0.159	-0.031	-0.042	-0.031	-0.032	.800**	.293**	.298**	.817**	.864**	(0.945)								
LQCD	5.15	0.69809	0.066	.211*	0.001	0.005	-0.039	-0.045	.714**	0.18	.225*	.785**	.823**	.810**	(0.898)							
LHSE	5.028	0.67174	-0.046	0.095	-0.103	-0.027	-0.147	-0.135	.580**	0.161	0.163	.608**	.712**	.685**	.728**	(0.934)						
IT	4.754	0.8013	0.039	0.103	-0.064	-0.064	-0.019	-0.09	.566**	.328**	.229*	.556**	.647**	.683**	.589**	.626**	(0.864)					
BV	4.739	0.77376	0.024	0.077	-0.097	-0.082	-0.048	-0.091	.503**	.293**	.237**	.462**	.522**	.569**	.455**	.473**	.825**	(0.860)				
AB	4.585	0.69431	-0.028	0.029	-0.102	-0.067	-0.055	-0.054	.462**	.245**	0.169	.417**	.458**	.504**	.389**	.450**	.595**	.655**	(0.840)			
SCL	4.775	0.67283	0.099	.183*	-0.038	0.004	0.055	0.019	.399**	.190*	.264**	.390**	.423**	.488**	.345**	.359**	.601**	.635**	.647**	(0.850)		
CO	4.665	0.59016	0.035	0.091	-0.1	-0.015	-0.013	0.088	.461**	0.143	.356**	.402**	.494**	.478**	.444**	.458**	.660**	.683**	.606**	.580**	(0.610)	
OP	4.53	1.60955	-.275**	-0.06	-.283**	-.217*	-.340**	-.298**	-0.046	-0.15	-.183*	-0.03	0	0.022	0.033	0.098	0.032	-0.043	0.062	0.087	0.019	NA

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

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

Results on Validity and Reliability

Means, standard deviations, correlations and reliability of dimensions of each variable can be seen in Table 3. Reliability is measured using Cronbach alpha with the cut off of no less than 0.70 (Hair et al., 2006). All dimensions have reliability of higher than 0.70, except cooperation dimension (CO) has reliability of lower than 0.70. Organizational performance (OP) has no reliability because it is the actual data.

Further, for structural validity and reliability, all observed variables have good validity and reliability. Table 4 shows variance extracted (VE) value of 0.74 (≥ 0.5) and construct reliability (CR) value of 0.97 (≥ 0.7). For goodness of fit index (GOFI), almost all values show good fit, only RFI and Std. RMR show marginal fit (0.87 and 3.62).

Table 4 Validity and Reliability Measurement Model CFA Test's Result

Observed Variable	Latent Variable	SLF ≥ 0.50	Error	CR ≥ 0.70	VE ≥ 0.50
Soft Skill (SSL)	Follower's Personal Mastery	0.90	0.20	0.97	0.74
Hard Skill (HSL)		0.75	0.44		
In Process Behaviour (IPBL)		0.85	0.29		
Output Behaviour (OBL)		0.90	0.18		
Consideration Quality, Cost & Delivery (QCDL)		0.72	0.48		
Consideration Health, Safety & Environment (HSEL)		0.61	0.63		
Affect Dimension (ADL)		0.87	0.25		
Professional Respect Dimension (PDL)	LMX	0.87	0.24		
Leader's Innovative Productivity (LIPL)	Leader's Innovativeness	0.95	0.10		
Handicap/Barriers (KDLL)		0.91	0.18		
Consideration on Quality, Cost & Delivery (LQCDL)		0.86	0.27		
Consideration on Health, Safety & Environment (LHSEL)		0.76	0.43		
Organizational Social Climate (FPMOSC)	Organizational Social Climate	1	0.00		
Performance (KINL)	Performance	1	0.00		

SLF = Standardized Loading factor, CR = Construct Reliability; VE = Variance Extracted

To ensure validity of LMX depicting flow of knowledge from followers to leaders, convergent validity is conducted between LMX and knowledge exchange (KEC). KEC is followers' belief that knowledge exchange and combination with leaders will result personal or organizational value (motivation) and that leader capable to perform knowledge exchange and combination (ability) (Collins & Smith, 2006). The result of convergent validity test is presented in Table 5 below, which shows significant and positive correlations between all dimensions and KEC, and indicates that LMX can depict knowledge from followers to leaders.

Table 5 Correlation between KEC and LMX

		KEC
Affect	Pearson Correlation	.789**
	Sig. (2-tailed)	.000
	N	118
Loyalty	Pearson Correlation	.244**
	Sig. (2-tailed)	.008
	N	118
Contribution	Pearson Correlation	.320**
	Sig. (2-tailed)	.000
	N	118
ProfResp	Pearson Correlation	.700**
	Sig. (2-tailed)	.000
	N	118

** . Correlation is significant at the 0.01 level

Results on Structural Model and Hypotheses Testing

Test on structural model shows good fit for almost all GOFI values and only RFI and Std. RMR show marginal fit (0.88 and 0.94) . Table 6 shows the result for hypotheses testing that of four hypothese, only three are supported. H3 is not supported but significant and negative.

TABLE 6 Hypotheses Testing

Hypotheses	t-value	Conclusion
H1: FPM affects positively LMX Quality	5.30	There is significant positive effect, hypothesis 1 is accepted, data supports hypothesis and research model.
H1A: Organizational's Social Climate moderate positively relationship between FPM and LMX Quality	4.31	There is significant positive effect, hypothesis 1A is accepted, data support hypothesis and research model.
H2: LMX Quality affects positively Leader's Innovativeness	29.48	There is significant positive effect, hypothesis 2 is accepted, data supports hypothesis and research model.
H3: Leader's Innovativeness affects positively Project Performance	-3.57	t-value $\leq 1,96$, can be stated not significant. Hypothesis 3 rejected (not supported by data), but there is significant negative effect.

The objective of this research is to examine the presence of middle-up down model (Nonaka & Takeuchi, 1995) in flow of ideas and knowledge from project managers as followers to general managers as leaders to generate leader's innovativeness and leader back his innovativeness to project managers to generate project performance. The result shown in Table 6 indicates support for middle-up flow in which Follower's Personal Mastery significantly and positively affects LMX Quality and LMX Quality significantly and positively affects Leader's Innovativeness. This finding enriches knowledge and innovation management literature that there exists a middle-up flow of ideas and knowledge from followers to leaders and that followers' personal mastery plays a crucial role in generating leaders' innovativeness. In other words, this research indicates that leaders' innovativeness may not be generated solely from leaders' ideas and knowledge. Leaders somehow need followers' support via exchange mechanism between both parties.

Moreover, to ensure and sustain continuous middle-up support, leaders and followers need to develop and maintain high quality exchange through which high quality ideas and knowledge are flowed. Table 6 shows that such exchange can developed and maintained by growing mutual affect and professional respect between leaders and followers. This is consistent with Bass and Bass (2008), which stated the importance for leader and follower to develop relationship based on each other respect and mutual benefit. We can conclude, that if a leader being friendly to his follower will, in fact, be increasing his own innovativeness. Table 6 also shows that development and maintenance of high quality exchange may require conducive organizational social climate. Such climate can affect followers' abilities, motivations and opportunities to exchange and share their ideas and knowledge to leaders (Argote et al., 2003; Kogut & Zander, 1992).

However, the findings of this study do not support the hypothesized downward flow of innovativeness, as leader innovativeness was found to have a significant **negative** impact on project performance. This suggests the existence of a bottleneck when innovations initiated at the leadership level are transferred back to the operational level for implementation. Several possible explanations may account for this outcome: (1) **Communication barriers**, including differences in educational background, disparities

in professional certifications, interpersonal competition, or status concerns; (2) **External execution challenges**, such as supply chain disruptions, limited availability of materials and equipment, or unforeseeable events (force majeure); (3) **Overambitious performance targets** set by the Head Office, which are often misaligned with regional or divisional realities due to external influences and rigid cutoff deadlines, exacerbated by the company's use of a multi-year accounting system; (4) **Lack of an Accumulated Knowledge Base**, as the organization does not consistently document and codify innovations from completed projects; (5) **Delayed impact of innovation**, which may require a longer time horizon to materialize and thus cannot be fully captured in a cross-sectional study like this one.

These findings align with previous studies (e.g., Wright, Palmer, & Perkins, 2005; Simpson, Siguaw, & Enz, 2006), which also reported negative effects of innovation under certain conditions—particularly due to the associated high risks and implementation costs.

CONCLUSION

The above findings have drawn conclusions to the central question of research, that is the presence of vertical, middle up flow of knowledge acquisition and sharing, from follower to leaders in the development of leader's innovativeness. Likewise, further research questions have been answered by the findings of the above research. E.i.: Follower's Personal Mastery positively affects LMX follower's perception; high follower LMX perception influences Leader's Innovativeness positively, where this finding is in line with the previous hypothesis argument; but Leader's Innovativeness does not affect the Organizational Performance positively but affects significantly negative, thus not in line with previous studies (the reason for this has been mentioned before) ; Organizational Social Climate moderate Follower's Personal Mastery and LMX positive follower relationships positively.

Further research contributes to the theory of exchange and combination of knowledge (knowledge exchange & combination), that there is a vertical flow of ideas and knowledge between subordinates (heads of projects) and bosses (general managers) in the context of project-based organizations. While contributing in LMX theory, there exists an exchange and combination of ideas & knowledge in leader-member exchange mechanisms from subordinates (heads of projects) to the general manager in the context of project-based organization.

The research findings also show that the capability of innovation in a sustainable manner as a dynamic capability-building mode (Teece, Pisano & Shuen, 1997) must be maintained by the company, which will determine the long-term success of the company, in a dynamic environment.

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