

Transformational Leadership and Managers' Ambidexterity: Mediating Role of Environmental Dynamism

Anar Purvee and Dalantai Enkhtuvshin

Abstract—Previous studies focus more on organizational ambidexterity topic and less on managers' ambidexterity topic. In the past 15 years, many potential antecedents of organizational ambidexterity have been found; however, very few of them found for managers' ambidexterity. This paper contributes to this gap, and studied the relationship between transformational leadership and managers' ambidexterity, and the mediating role of environmental dynamism. A survey was conducted among Mongolian companies and the final sample was 608 managers. The research findings suggest that transformational leadership is positively influences on managers' ambidexterity and this influence is stronger in a dynamic environment.

Index Terms—Environmental dynamism, managers' ambidexterity, transformational leadership.

I. INTRODUCTION

In the past, there have been several studies on organizational ambidexterity topic [1]-[6], but fewer on managers' ambidexterity topic [7]-[9]. Previous studies focus more on business and firm level of ambidexterity, but less on individual level of ambidexterity. This study contributes to this gap by focusing on managers' ambidexterity as an individual level, and defining its antecedents.

According to the previous research findings, many potential antecedents of organizational ambidexterity have been found, and some findings defined the relationship between leadership and organizational innovations [10]-[13], specifically transformational leadership and organizational ambidexterity [14]-[17]. In terms of leadership and ambidexterity, external environmental factors were taken into account in some studies [4], [5], [15], because changing environment has an impact on organizational innovations.

Based on the previous studies in this field, the current research studied whether the antecedents of organizational ambidexterity can apply to those of managers' ambidexterity; whether transformational leadership has any significant effect on managers' ambidexterity; and whether environmental dynamism mediates the relationship between transformational leadership and managers' ambidexterity.

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Anar Purvee is with the Department of Business Administration, Business School, University of The Humanities, Mongolia (e-mail: anar.purvee@gmail.com).

Dalantai Enkhtuvshin is with the Department of Tourism Management, Business School, University of The Humanities, Mongolia (e-mail: e.dalantai@gmail.com).

II. LITERATURE REVIEW AND HYPOTHESES

In the previous study, the organizational ambidexterity was defined as "the ability to simultaneously pursue both incremental and discontinuous innovation" [18]. Organizational ability to use explicit as well as implicit knowledge, in other words exploitation and exploration, was furthermore defined as organizational ambidexterity [2], [19]. The study on organizational ambidexterity helped researchers and managers to understand how organizations can explore, learning from a top-down process, and exploit, learning from a bottom-up process [2].

Firm's performance is dependent on organizational ambidexterity and innovative performance requires ambidexterity. Raisch *et al.* [20] addressed the possibility that individuals can perform both exploration and exploitation tasks creates a number of challenges. On the other hand, some research findings emphasized that organizational mechanisms enable ambidexterity at the individual level [7]-[9]. Mom *et al.* [7] proposed that a manager's decision-making authority is positively related to ambidexterity, and a combination of different flows of knowledge would be valuable for managers. Some managers are ambidextrous by engaging in high levels of both exploration and exploitation related activities [8]. To support such innovative activities, the roles of leaders are essential.

There have been several studies on the relationship between leadership styles and organizational innovation [4], [10], [12], [13], [16], [17]. Tushman & O'Reilly [18] stated that leaders, who are willing to change, guide organizations. Exploitation and exploration, as incremental and radical innovations, have different relationships depending on different leadership styles. Some previous studies found a positive link between transformational leadership and organizational innovations [10], [16]. Gumusluoglu & Ilsev [16] emphasized a positive effect of transformational leaders on the market success of innovations. Accordingly, Jung *et al.* [10] found a direct and positive link between transformational leadership and organizational innovation, and stated that those leaders improve team performance in a large R&D organization. Because transformational leaders have vision, support for innovation, encouragement and challenge, those leaders' behaviors closely related to the determinants of innovation and creativity at the work place [11]; however, some specific circumstances need to be met for connecting transformational leadership with innovation [21]. Therefore, Jansen *et al.* [15] emphasized the contribution of transformational leadership on exploratory and exploitative innovations and stated "transformational leadership that challenges assumptions, takes risks, and

inspires others, is ideally suited to exploratory innovations. While transformational leadership is particularly suited for exploratory innovation, it also plays a key role in the development of exploitative innovation". Therefore, transformational leaders promote exploratory innovation through feedback flows, and a certain level of transformational leadership is needed to promote exploitative innovations.

Hypothesis 1: Transformational leadership is positively related to managers' ambidexterity.

There are several studies on how organizational innovation research should concern about external environmental factors [4], [5], [15]; and external conditions have impact on the leadership-based antecedents of organizational ambidexterity [4]. For instance, Cao *et al.* [5] found that external and internal resources available to the firms have critical influence on how a firm benefit from ambidexterity. Besides this, Jansen *et al.* [15] addressed that transformational leadership is more influential in a dynamic environmental situation; and they found that environmental dynamism, a type of external environmental factors, strengthens the positive relationship between transformational leadership and exploratory innovation.

Hypothesis 2: External environment mediates the relationship between transformational leadership and managers' ambidexterity.

III. METHODOLOGY

A quantitative research methodology was used in this study. A survey was administered to a selected sample from a specific population of top and mid level managers of Mongolian companies. The questionnaire was prepared in English, and translated into Mongolian language. The timing of the survey lasted for around 4 months, starting from August 18th, 2013 to November 2nd, 2013. The final sample was 608 Mongolian managers.

Dependent variable: Managers' ambidexterity was measured by using a 14-item scale constructed in the previous study of Mom *et al.* [8]. Scales of firm or business unit ambidexterity were constructed by combining measures of exploration and exploitation. Following this practice, they started by developing measures for exploration and exploitation at the manager level of analysis. In their study on individual level ambidexterity, they followed the approach by assessing managers' ambidexterity by computing the multiplicative interaction of managers' exploration activities and managers' exploitation activities. All items were rated on a 7-point scale with 1 = strongly disagree and 7 = strongly agree.

Independent variable: Transformational leadership was measured by using a 20-item scale from the Multifactor Leadership Questionnaire (MLQ) developed by Bass and Avolio [22]. The MLQ has been extensively used and is considered a well-validated measure of transformational leadership. All items were rated on a 7-point scale with 1 = strongly disagree and 7 = strongly agree.

Mediating variable: Environmental dynamism was measured by using a 5-item scale based on the previous literatures [15]. All items were rated on a 7-point scale ranging from 1 (very strongly disagree) to 7 (very strongly agree).

IV. ANALYSIS AND RESULTS

A. Correlation Analysis

To test the hypotheses, the correlation and hierarchical regression analysis were conducted. The results of correlation analysis, including means, standard deviations and correlations among variables, are shown in Table I.

TABLE I: DESCRIPTIVE STATISTICS AND CORRELATIONS

Variables	Mean	S.D.	1	2	3
1. Transformational leadership (TFL)	4.774	1.286			
2. Environmental dynamism (ED)	4.958	1.060	.109**		
3. Managers' ambidexterity (MA)	24.757	9.432	.393**	.287**	

a. N=608.

* $p < .10$; ** $p < .05$; *** $p < .01$; **** $p < .001$; two-tailed tests

The Table I shows all the correlations are positive and significant at the 0.01 level (2-tailed). Consistent with the Hypothesis 1, the result shows that there is a positive and significant relationship between transformational leadership and managers' ambidexterity (0.393, $p < 0.01$). In support of Hypothesis 2, there was a positive and significant correlation between transformational leadership and environmental dynamism (0.109, $p < 0.01$); and environmental dynamism and managers' ambidexterity (0.287, $p < 0.01$).

Essentially, these results provide evidence that transformational leadership is positively related to managers' ambidexterity; however, subsequent analyses (below) investigate the complexity of this relationship as mediated by environmental dynamism.

B. Hypotheses Testing

To test hypotheses, the hierarchical regression analysis was conducted. The results are shown in the Table II. Hypothesis 1 predicts that transformational leadership is positively related to managers' ambidexterity (that is, the multiplicative interaction of managers' exploration and exploitation). The model 1 shows the results for this hypothesis. The model 1 explained 15.3% of the variations of the dependent variable. In other words, in this model, transformational leadership explained 15.3% of the variations of the managers' ambidexterity. As depicted in the table, the coefficient for transformational leadership in the model was positive and significant ($\beta = 0.393$, $p < 0.01$). Therefore, Hypothesis 1 is supported.

Hypothesis 2 predicts that environmental dynamism mediates the relationship between transformational leadership and managers' ambidexterity. The Table II shows the four-step analysis of the mediation effect.

In the model 1, transformational leadership predicts managers' ambidexterity. The coefficient of transformational leadership in this model was positive and significant ($\beta = 0.393$, $p < 0.01$). In the model 2, transformational leadership predicts environmental dynamism. The coefficient of transformational leadership in this model was also positive and significant ($\beta = 0.136$, $p < 0.01$). In the model 3, environmental dynamism predicts managers' ambidexterity. The coefficient for environmental dynamism in this model was also positive and significant ($\beta = 0.256$, $p < 0.01$).

TABLE II: RESULTS OF HIERARCHICAL REGRESSION ANALYSIS

Variables	Model 1 DV, Managers' ambidexterity	Model 2 DV, Environmental dynamism	Model 3 DV, Managers' ambidexterity	Model 4 DV, Managers' ambidexterity
Transformational leadership	.393**	.136**		.365**
Environmental dynamism			.256**	.207**
R^2	.155	.019	.066	.197
Adjusted R^2	.153	.017	.064	.194

a. For all model, N=608. Standardized coefficients are shown.

b. Managers' ambidexterity is a multiplicative interaction of managers' exploration and exploitation activities.

* $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$; **** $p \leq .01$

Furthermore, the final integrated model tested whether transformational leadership and environmental dynamism predict managers' ambidexterity. The results show that the coefficients of both transformational leadership and environmental dynamism were positive and significant ($\beta = 0.365$, $p < 0.01$), ($\beta = 0.207$, $p < 0.01$). Therefore, these results show an evidence that there was a statistically significant partial mediation effect, supporting Hypothesis 2 [23].

V. DISCUSSION AND CONCLUSION

The current research studied the antecedents of managers' ambidexterity, and it tested the hypotheses of a relationship between transformational leadership and managers' ambidexterity, and a mediating role of environmental dynamism. The hypothesis 1 predicts that transformational leadership is positively related to managers' ambidexterity, and the hypothesis 2 predicts that environmental dynamism mediates the relationship between transformational leadership and managers' ambidexterity. The correlation and hierarchical regression analyses were conducted to test these hypotheses. The research results showed that both hypotheses were supported, by addressing that transformational leadership influences on managers' ambidexterity positively, and this relationship will be stronger in a more dynamic environment.

This study has limitations and suggesting several issues for future research. The sample of the study covered 608 managers from multiple industries; therefore, industry specific analysis should be performed. The level of innovation and the preferred type of leadership style may differ among different industries. In addition to this, different types of leadership styles and environmental factors can be studied as the antecedents of managers' ambidexterity in addition to transformational leadership and environmental dynamism.

Despite these limitations, this research contributed to the literature by investigating the antecedents of managers' ambidexterity and has two different types of potential contributions, both theoretical and practical. For the theoretical contribution, the research contributes to the understanding of the antecedents of managers' ambidexterity. There has been an explosion of studies on defining the

antecedents of organizational ambidexterity, but few on managers' ambidexterity. Therefore, by testing the proposed framework, the results increase our understanding about managers' ambidexterity; and how transformational leadership impacts on managers' ambidexterity, and how environmental dynamism mediates the relationship between them. For the practical contribution, by doing this research, the research findings can imply recommendations for Mongolian companies for understanding the levels of their managers' ambidexterity, and the ways of improving it by considering transformational leadership style and environmental dynamism.

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Anar Purvee is a lecturer at the Department of Business Administration, Business School, University of the Humanities, Ulaanbaatar, Mongolia. She received her MBA from the International MBA Program, School of Management, National Taiwan University of Science and Technology, Taipei, Taiwan. Her research interests include green marketing, marketing communication, leadership, innovation and management innovation.



Dalantai Enkhuvshin is a lecturer at the Department of Tourism Management, Business School, University of the Humanities, Ulaanbaatar Mongolia. He received his MBA from the International MBA Program, School of Management, National Taiwan University of Science and Technology, Taipei, Taiwan. His research interests include tourism management, recreation management, tourism education, service management and leadership.