THE MEDIATING ROLE OF TRANSFORMATIONAL LEADERSHIP ON ORGANIZATIONAL LEARNING AND ORGANIZATIONAL INNOVATIVENESS

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Abstract - This paper aimed to investigate the mediating influences of transformational leadership on organizational learning and organizational innovativeness. IBM SPSS AMOS 22.0 maximum likelihood program was used to test the model. A quantitative research design was employed where a questionnaire was used to collect the data from a sample of 220 PHEIs in Malaysia. The findings of this study provide evidence that organizational learning and transformational leadership have a significant positive relationship influence on organizational innovativeness. The research also demonstrates that there was a mediating influence of transformational leadership on organizational learning and organizational innovativeness.

Keywords - Organizational Learning, Organizational Innovativeness, Transformational Leadership.

I. INTRODUCTION

The growth of Private Higher Education Institutions (PHEIs) gains attention to the developing countries to remain competitive over rivals for globalization[1]. Many researchers suggested that innovations was an important and effective strategy to deal with global changes and the environment threat [2]. Innovation through technology adoption was a significant approach for an organization to learn and to help improve organizational adaption, performance and competitiveness [3]. Therefore organizations were forced to reform into different strategy characterized by adapting its resources and capabilities [4].

The concepts of organizational innovativeness are gaining a lot of interest from many researchers to be studied. Initially, [5] as cited in [6] identified four types of innovativeness; product, process, behavior and strategic. Previous researchers defined innovativeness concepts as the ability of an organization to introduce new and unavailable products and services [7]. [8] developed a 'dual core' model: administrative innovations which included rules, roles, procedures, and structures) and technical innovations which contained of products, services, and process or service operations [9]. Organization with the ability to innovate and renew their position in fostering knowledge-based activities through the creation of organizational learning capabilities [10] and developing domestic innovation capabilities[11]. A truly innovative firm with strong learning culture stimulates engagement in innovative behavior.

Organizational learning is an essential tool to facilitate innovation by helping employees to learn and acquire new knowledge and develop new products as well as refine processes resulting in improved performance at the individual and organizational level[12]. Innovation had been proven as one of the effective management tools to create value through effective organizational learning in variable environments [13]. [14] defined organizational learning as the process of shared construction of mutual beliefs and meanings through the process of knowledge seeking and experience gaining. However, [15] defined organizational learning as the ability of an organization to implement appropriate management practices, structures and procedures that facilitate and encourage learning.

Previous study indicated that learning is an important and fundamental element in effective leadership. [16] argued that learning by manager was essential to their job performance and career success. As managers improve their ability to learn from experiences in the workplace, the better or more effective, they could be as leaders. According to [17], managers with learning abilities will seek broad business knowledge, brings out the best in people, adapts to culture differences, insightfulness, high commitment to making a difference and had the courage to take risks. With those characteristics, managers tend to be more affective to leadership during economic turbulent and unpredictable organizational environment. Most studies indicated that leaders with learning abilities injects new ideas into the organization. Manager with learning ability became more adaptive and have an ability to learn faster than competitors and thus, these capabilities promotes a sustainable competitive advantage for organizations [18].

The influence of transformational leadership had been established as a major factor in determining creativity and innovation [19], [20]. [1] have defined transformational leaders as those who employ extraordinary influence over people to transform the notions and attitudes of organization members. Transformational leadership had been one of the most researched topics and recognized as the style of the leadership that enhance consciousness among organization's members to achieve collective goals [21]. Previous study indicated that the development of leader was influenced by organization[22]. The role of leadership, for change, had a capacity to provide an

effective environment and organization at continuous adaptation and innovation [8]. Leaders plays an active role in the process and inspire their employees to develop creativity through team learning that leads to increased organizational innovation [23]. These are some of the traditional factors that contribute to organizational innovation.

This study aimed to investigate the mediating influence of transformational leadership between organizational learning and organizational innovation. In conclusion, the research presented in this paper integrates a theoretical framework containing organizational learning (resource-based view), transformational leadership (behavior level), and organizational innovativeness (organizational change strategy). Analysis using the framework suggests that the relationship between organizational learning and organizational innovativeness is mediated by transformational leadership. (see Figure 1).

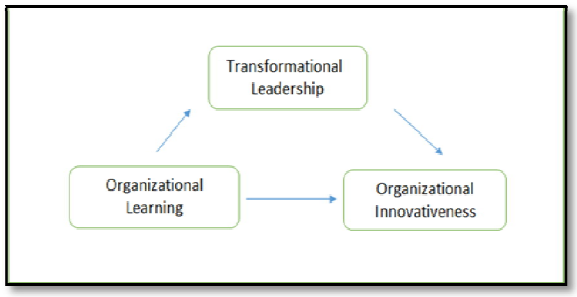


Figure 1. Theoretical model of organizational learning, organizational innovativeness, and transformational leadership.

II. THEORETICAL BACKGROUND AND RESEARCH HYPOTHESES

A. The relationship between Organizational Learning and Organizational Innovativeness

Organizational learning is one of the significant sources of a sustainable competitive advantages. Previous studies indicated that organizational learning became an important factor for organizational innovativeness [24], [25]. These studies showed that there was a positive relationship between organizational learning and organizational innovativeness[26]–[29]. [14], [30] and [31] observed that commitment to learn, shared vision, open mindedness, experimentation and integrated knowledge sharing from organizational learning were the critical factors to ensure innovation success. [23]suggested that both organizational learning and innovativeness are stimulated towards a better performance and competitive advantage.

Numerous studies showed that organization with organizational learning culture, enhances the learning ability of employees through assimilation of internal information and as a result, improve organizational innovativeness [32] and improve organizational performance [28]. In order to create a harmonious organizational learning culture, the entire staff of the organization must have the same vision and want to achieve the same goals set by the organization. Shared vision provides a direction, and a sense of purpose, for organization learning[33]. According to [34], open mindedness is linked to the notion of unlearning, in that as an organization becomes open to new ideas and they begin to question existing assumptions and beliefs [35].Organizational learning creates mutual trust and a knowledge sharing culture among organizational members to become an important catalyst for organizational learning on improving innovation [24]. Experimentation involves trying out new ideas, being curious about how things work, or carrying sympathetically. Experimentation involves trying out new ideas, being curious about how things work, or carrying out changes in work processes[36]. The commitment of top management and employee involvement is also critical to the success of organizational innovation [27]. Therefore, this study proposes,

Hypothesis 1: Organizational learning has a positive effect on organizational innovativeness.

B. The relationship between organizational learning and transformational leadership

Organizational learning is a fundamental strategic process that drives towards sustainable competitive advantage [37]. In recent literatures, organizational learning capabilities (OLC) is defined as managerial characteristics that facilitate organizational learning process that allow organizational members to learn. Knowledge has become a very important resource for organizations but it is difficult to reach and obtain the knowledge. The level of organizational learning capability (OLC) perception within the organization is key for organizational knowledge. If organizations can increase their OLC levels, they might achieve an increase the outcome in organizational knowledge, organizational performance and organizational innovativeness [38]. However, these outcomes deepen the skills and perspectives of their leaders and future leaders. According to [39], there is a link between the learning orientation and leadership practices in large manufacturing company. The finding indicated that there was significant correlation between learning tactics and leadership practices. Several studies indicated that there is a significant relationship between transformational leadership and organizational learning [11], [40].

Learning orientations are the values and practices that reflect where learning takes place and the nature of what is learned. Previous studies indicated that transformational leaders can be developed through learning. These orientations form a pattern that defines a given organization's "learning style." The manager who practices organizational learning tend to be a better learner and engaged more in leadership behaviors, provided better learning environment and culture, change its leadership style to match their followers' ability and foster environment of innovation [41]. Employees and leaders with transformational leadership skills enhanced organizational environment by increasing intellectual

arousal and improving inspirational motivation as well as self-confidence in and among the members of the organization[42]. The transformational leadership factors included: idealized influence–behavior, inspirational motivation, intellectual stimulation, and individualized consideration [43].

Therefore, this study proposes,

Hypotheses 2: Organizational learning will have a positive effect on transformational leadership skills.

C. The relationship between transformational leadership and organizational innovativeness

In the literature, leadership style [44], [45] and transformational leadership [45], [46] have been highlighted has a particularly important impact on organizational innovativeness. Several studies indicated that transformational leaderships had a positive influence on innovation [11], [46]. Transformational leadership has been highlighted as an important and encouraging factors towards innovation [41]. The transformational leaders' perception of their roles in the organizations where they manage an effective communication, sharing value among employees, creating a proper atmosphere for innovative activities, supportive views in risk and creativity. In this regard, this paper suggests the following hypothesis;

Hypothesis 3: Transformational leadership will have a positive effect on organizational innovativeness.

Leaders play an important role in structuring firm's potential to generate innovations by producing constructive environment. Leadership style has generated wide attention from innovation researchers and reported as an important influence on innovation[47]. Managers' perception about their own roles in their organization strongly influence their capability to promote communicative culture, strategic vision and acceptance of mistake. Transformational leadership are relevant for innovative firm when leaders have an interactive vision, paying maximum attention to effective communication and sharing values[1]. Transformational leaders perceive their role more as a coordinator than as command and control. Also, transformational leadership is more often linked to successful innovation compared to transactional leadership.

Therefore, this study proposes

Hypothesis 4: Transformational leadership will have a positive relationship with organizational innovativeness.

The main purpose of this study is to investigate the impact of different individual variables to organizational innovativeness, this study also estimates the direct and indirect influence of organizational learning on innovativeness. Therefore, this study proposes

Hypothesis 5: Transformational leadership will be a mediator between organizational learning and organizational innovativeness.

III. METHODOLOGY

Sample

Empirical research was used in this study to explore how transformational leadership mediates the relationship between organizational learning and organizational innovativeness. Four hundred Private of Higher Education Institutions (PHEIs) were selected with a convenience sampling. A number of academic managers from PHEIs were identified, a total of 220 samples participated in the current study. The number of respondents of this study is sufficient to carry out the analysis of SEM using AMOS version 21.0. The sample group was highly educated: Bachelors 5.9%; Masters 60.9%; PhDs 32.2%.

Procedures

Based on a previous research and review of literature, four hypotheses were formulated and examined. The questionnaires were distributed to all participants during working hours and all participants received the same questionnaires comprising two sections. The first section consisted of demographic information but the second was more specific. This section, consisting of 44 items, had 12 about transformational leadership, 19 about organizational learning and 13 about organizational innovativeness. 5-point scaled Likert-type items were used to measure all the variables. The average time for completion of each questionnaire was 15-20 min.

Measures

For the purpose of this study, we first constructed a measurement model using all the survey items to test the psychometric properties of the scales. The average variance extracted (AVE) as suggested by [48] is used to assess convergent validity, and for AVE, a threshold value of 0.5 is also suggested. [49] suggests that an item is significant if its factor loading is greater than 0.7 to ensure construct validity. [49] suggested that an item is significant if its factor loading is greater than 0.7 to ensure construct validity. All the measures had adequate reliability and validity. The development of each scale in this study was as follows.

Transformational leadership

Transformational leadership was measured using a 12-item composite scale comprised of items from MLQ 5X [50]. All items were rated using a 5-point scale ranging from 1 (''Not at all'') to 5 (''Frequently, if not always''). Internal consistency was measured with Cronbach's alpha (a = .798). A four-factor model was confirmed and 5 items were deleted after carrying out a confirmatory factor analysis (CFA), reflecting acceptable goodness-of-fit indexes and composite reliability (qc) (v2/ df = 2.225\14, GFI = .968, AGFI = .918, RMSEA = .075, and CFI=0.979.

Organizational learning

Organizational learning was measured by 17 items adapted from the scale of [30] and [51]. All were rated using a 5-point scale ranging from 1 (''Very strongly disagree'') to 5 (''Very strongly agree''). Internal

consistency was measured with Cronbach's alpha (a = .839). A five-factor model was confirmed and 5 items were deleted after a confirmatory factor analysis was carried out (CFA), reflecting acceptable goodness-of-fit indexes (v2/df = 1.498, GFI = .952, AGFI = .915, RMSEA = .048, composite reliability (qc) = .963, AVE = .612).

Organizational Innovativeness

Organizational innovation was measured by thirteen items adapted from [52]. All items were rated using a 5-point scale ranging from 1 (''Very strongly disagree'') to 5 (''Very strongly agree''). In this study, a 5-point scale (ranging from 1, ''Very strongly disagree'' to 5, ''Very strongly agree'') was used. A one-factor model was confirmed and 6 items were deleted after a confirmatory factor analysis was carried out (CFA). Cronbach's alpha reflected a good level of internal consistency (a = .963). A CFA one-factor model test gave good goodness-of-fit indexes (v2/df = 2.187, GFI = .970, AGFI = .923, RMSEA = .074, qc = .943, AVE = .709).

Data analysis

Questionnaires were inspected and processed in order to exclude copies with incomplete answers. Valid copies were then assigned numbers and filed. The computer software used for data analysis and processing was SPSS 24.0 and AMOS 22.0. The tests included reliability analysis, descriptive statistics analysis, and structural equation modeling (SEM). AMOS 22.0 was primarily used for SEM in this study to assess relationships across various dimensions. According to [53], structural equation modeling allows not only the determination of relationship extent between variables but also the examination of the chain of cause and effect. This means that the results do not merely show empirical relationships between variables when defining the practical situation. This study utilized structural equation modeling to test the hypotheses as well as the ratio of Chi-square, goodness-of-fit index (GFI), adjusted good- ness-of-fit index (AGFI), normal fit index (NFI), and root mean square residual (RMSR) to evaluate overall model fitness.

IV. RESULTS AND DISCUSSIONS

The Pearson's correlation coefficients among the variables are presented in Table 1. There were links between transformational leadership, organizational learning, and organizational innovativeness for all participants. It shows the means, standard deviations, correlations, and alpha coefficients of the measures. It can be seen that organizational learning is significantly and positively correlated with transformational leadership (r = .494, p<0.01) and with organizational innovativeness (r = .265, p<.0.01). Organizational learning has significant positive correlation with organizational innovativeness (r = .345, p<0.01). There was significant correlation between many of the variables, but this was less than .70. Positive and significant relationships were also found between organizational learning, transformational leadership, and organizational innovativeness for all participants (see Table 2). Organizational learning subscales correlated as expected except for integrated knowledge sharing. Transformational leadership and organizational innovativeness were positively correlated with the other organizational learning subscales. The organizational learning subscales included five observed variables: commitment to learn (CTL1), shared vision (SV1), open-mindedness (OM1), Integrated knowledge sharing (KS1) and experimentation (EX1) are distinct factors (Calantone, 2001). A composite score of the transformational leadership and organizational innovativeness was created for the subsequent test of the causal model due to the high correlation of the organizational learning subscales.

Table 1 Means, standard deviations, correlations, and alpha coefficients (N = 220)

Variable	Mean	SD	OL	TF	OI
OL	4.0676	0.48916	1	.494**	.345**
TF	3.5699	0.52106	.494**	1	.265**
OI	3.7353	0.55956	.345**	.265**	1

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

Table 2: Inter-correlation among the organizational learning scale and subscales, transformational leadership, and organizational innovativeness (N= 220)

	OL	TF	OI	CTL	SV	OM	IK	EX
IOL	1	.494**	.345**	.601**	.752**	.730**	.474**	.653**
TF	.494**	1	.265**	.274**	.391**	.370**	.364**	.188**
OI	.345**	.265**	1	.147*	.195**	.172*	.394**	.172*
CTL	.601**	.274**	.147*	1	.331**	.295**	0.119	.275**
SV	.752**	.391**	.195**	.331**	1	.590**	.205**	.334**
OM	.730**	.370**	.172*	.295**	.590**	1	0.09	.383**
IK	.474**	.364**	.394**	0.119	.205**	0.09	1	0.038
EX	.653**	.188**	.172*	.275**	.334**	.383**	0.038	1

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

Table 3: Results of the structural parameter estimates and goodness-of-fitness indexes

Hypotheses	Path	Standardized Coefficients	t-value	Result
H1	OL >OI	0.345	5.425***	Support
H2	OL >TF	0.494	8.393***	Support
H3	TF> OI	0.265	4.060***	Support

*** p<.001, x^2(262 df) = 1.595, GFI = .872, CFI = .956, Standardized RMR = .060, TLI (NNFI) = .949, RMSEA = .052.

Model and Analysis

The AMOS 22.0 maximum likelihood program was used to test the theoretical model. The hypothesized causal relationships between organizational learning, transformational leadership and organizational innovativeness have been confirmed. The goodness-of-fit statistics shown in Table 3, including x^2 goodness-of-fit statistics, comparative fit index (CFI) (Bentler 1990), adjusted goodness-of-fit index (AGFI), and root mean square error of approximation (RMSEA). The fit indicators of the CFI and AGFI should be larger than .90 and the RMSEA less than .05 for a well-fitting model, and the fit is reasonable if the RMSEA is between .05 and .08. According to [54], the model is a good fit if the RMSEA is between .01 and .05. This study is based on [55] and [56] goodness-of-fit statistics. The composite score for organizational learning included five observed variables: commitment to learn (CTL1), shared vision (SV1), open-mindedness (OM1), knowledge sharing (IK1) and experimentation (EX1).

Table 3 shows the structural model with standardized coefficients for the research sample. The results provide sufficient support for H1. Results of the analysis revealed that organizational learning is significantly and positively related to organizational innovation (B= .345, p<0.001). Table 3 (H2 and H3) that organizational learning is significantly and positively related to transformational leadership, B = .494, p<.001 and transformational leadership is significantly and positively related to organizational innovativeness, B = .265, p<.001. Figure 2 illustrates the basis of the model proposed, together with the hypotheses to be contrasted. We used recursive non-structured models, taking organizational learning (OL) as the exogenous latent variable and transformational leadership (TF1) and organizational innovativeness (OI) as the endogenous latent variables. Through a flexible interplay between theory and data, this structural equation model approach bridges theoretical and empirical knowledge for a better understanding of the real world [57]. Such analysis allows for modeling based on both latent and manifest variables, a property well suited for the hypothesized model where most of the represented constructs are abstractions of unobservable phenomena. Furthermore, a structural equation model takes into account errors in measurement and variables with multiple indicators.

However, path analysis was used in this study to show the direct and indirect effects of each construct. The results are shown in Table 3. Analysis reveals the significant direct effect of organizational learning and organizational innovativeness (B = .315, p< .001) and the indirect effect (B = .517, p<.001) can be seen in Fig. 2. Table 3 shows that it is a reasonably good fit model. (v2/df= 1.595, GFI = .872, CFI = .956, RMSEA =.052, RMR = .061, TLI (NNFI) = .949). Therefore, organizational learning mediated the relationship between transformational leadership and organizational innovation and this supports H4.

Figure 2 reveals that organizational learning directly and indirectly leads to organizational innovation. Variables such as transformational leadership act as intervening variables those lead to organizational innovativeness by academic managers. The indirect effect is bigger than the direct one. Organizational learning enhances organizational innovation and has indirect influence through transformational leadership. The result reveals that more transformational leadership leads to more organizational innovativeness. Organizational innovativeness results from significant changes in transformational leadership. It appears that organizational innovation will result if the organization members support transformational leadership.

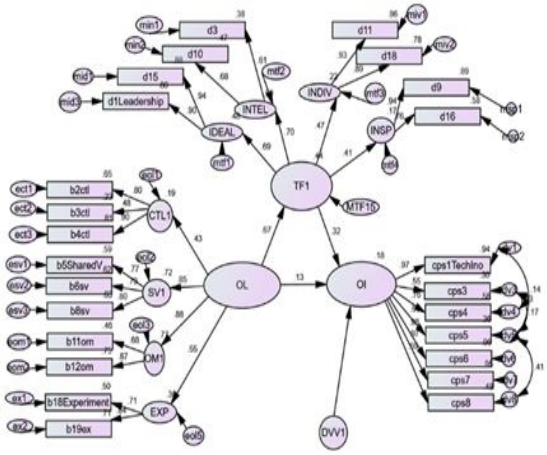


Fig. 2 Results of structural equation model

CONCLUSION

The implications of theory

The purpose of this study was to investigate the mediating effect of transformational leadership on organizational learning and organizational innovativeness. The hypotheses are supported by the empirical evidence.[58] proposed a causal model of organizational learning as an important influence on organizational innovativeness. As the studies of [2] and [59] show, organizational learning is significantly

and positively related to organizational innovativeness. [60] also found that the higher the organizational learning, the higher the organizational innovativeness. This study is in full support of the findings of these previous studies.

In this study, it appears that if the academic manager complies with the learning organization and does not use the leadership transformation strategy; this will bring a slight impact on organizational innovativeness. As a result of rapid innovation, private higher education institutions need to change in order to be able to withstand the challenges effectively [61]. The impact of learning organization, without transformation leadership strategy, is inadequate. In addition, the indirect effect of transformational leadership is bigger than the direct effect of organizational learning on organizational innovativeness. The findings of this analysis have been supported by SEM's analysis of this model, and the decision is that the organizational learning has a positive influence on organizational innovation. This finding is consistent with the study by [2]. [19] also found that leaders engaged in learning organizations promoted organizational innovation.

Practical implications

The role of organizational learning is an important factor to the development of leadership capability and organizational innovativeness. One implication for future practice and research would be to focus training program. Training may help managers or employees recognize the importance of organizational learning and directly motivate them to innovate[62]. Our findings suggest that organizations may also innovate by recruiting academic managers who have potential for constructive transformational leadership as a means to facilitate perceived organizational and individual instrumentalities and organizational innovation [63].

Limitations and further suggestions

Some limitation should be recognized in this paper. First, the design of this study is cross-sectional in nature. This study aims to investigate the predictive effect of the variables of the organizational leaning on transformational leadership and organizational innovativeness. The authors limited the study based on existing literature that provided suggestion links and directions of various relationships. An investigation of other variables, not included in this study, such as organizational culture, organization structure, risk taking, innovative culture. The second limitation of this study is related to the measurement of the five dimensions of organizational learning capabilities by [51] and [30]. Future research may also investigate additional resources behavior such as managerial commitment, participative in decision making, team work, and strategic leadership[15], [64]. The final limitation concerns the self-report surveys. Measurement scales have both advantage and disadvantage.

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