

Organizational Innovation in Medium and Large Sized Businesses in Thailand's Food Manufacturing Industry

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Abstract

This research investigates the effect of transformational leadership and organizational learning on organizational innovation occurring in medium and large-sized businesses in Thailand's food manufacturing industry. In total 200 businesses constituted the sample. PROCESS Macro Model 4 technique as devised by Hayes was utilized to verify the hypotheses. It was found that organizational learning plays a crucial role in fully mediating the effects of transformational leadership on organizational innovation. On this basis, a transformational leadership style of management is important for the firms in the food manufacturing industry to be innovative. These firms' owners/managers must concentrate on organizational learning for innovation to lead to viable outcomes in the food industry.

Keywords: Transformational Leadership, Organizational Learning, Organizational Innovation, Food Manufacturing

Introduction

Thailand has accepted foreign direct investment (FDI) as a strategy enabling economic growth for more than three decades. The government supports manufacturing firms from various countries to invest in many industries such as automotive manufacture, electronics, agriculture and others. The foreign investment firms have played a crucial role in terms of both economic policy and technological advances now being utilized in the country. Currently, the food industry is important for the economic stability of Thailand as its participation in worldwide consumption in terms of creating goods and services for people. Local firms in the food industry are now basically mechanized and their production processes are streamlined so that the sector can produce the products in large quantity for export. The food produced by those firms can support both domestic and foreign consumers, and their sale keeps people employed. However, the innovation is a significant issue for the country in

terms of creating economic progress. Since an innovation is assumed to make a positive contribution to how well the firms perform (Zott & Amit, 2007), it was considered to compare the differences between firms that apply product or process innovations effectively (Bucherer, Eisert, & Gassmann, 2012). The Thai government emphasizes in its economic policies the need to apply innovation for value creation in specific industries or aspects of them. In considering organizational innovation, leadership is the significant factor affecting employees' creative behaviors and functions, which consequently has an impact on innovation (Zott & Amit, 2007). The transformational leadership style compared to others is highly respected by many scholars because it heralds a difference approach to motivate employees' creativity and workplace style (Gupta, Singh, Kumar, & Bhattacharya, 2012; Khalili, 2016; Mittal & Dhar, 2015). Transformational leadership can encourage the confidence of personnel which results in better outcomes beyond their expectations (Bushra, Ahmad, & Naveed, 2011). As well, it has a positive effect on learning in the workplace (García-Morales, Matías-Reche, & Hurtado-Torres, 2008). However, not many studies have shown an interest in investigating the effects of transformational leadership on innovation with organizational learning as a mediator, so this study seeks to fill the gap in our knowledge about the food industry.

Literature review

Transformational leadership and organizational innovation

The concept of transformational leadership style was pioneered by Burn (1978) and it was further refined by Bass and Riggio (2006) and Shafi, Lei, Song, & Sarker (2020). The components of transformational leadership are considered to incorporate four dimensions, according to Avolio, Bass, & Jung (1995). Idealized influence refers to the leaders who are role models can influence their staff to envision the perfect outcome. Inspirational motivation means leaders who stimulate employees' motivation achieve organizational and personal goals. Intellectual stimulation refers to the leader behavior that encourages employees' ability to come up with new ideas. Individual consideration is about leaders who support their staff members individually in such issues as problem-solving. Several studies presented the results of their assessment of transformational leadership on employees' creativity and performance (Buil, Martínez, & Matute, 2019; Eliyana & Ma'arif, 2019; Judge & Piccolo, 2004). According to organizational innovation, this refers to new methods that affect business practice with close links to creation of innovation (Armbruster, Bikfalvi, Kinkel, & Lay, 2008; Laforet, 2011). Innovation in the firms can differentiate them from their competitors and give them a market share advantage. However, to do this it requires major investment of capital and other resources, for which there are risks attached and has ramifications for time, money, and reputation.

Those risks are concerned with employees' behaviors. Personnel in the firms who focus on innovation may put their routines or procedures at risk. The transformational leaders have a personality and potential to encourage employees to take risks which is subsequently related to creativity (Khalili, 2016). Moreover, transformational leaders motivate their work teams to develop alternative procedures and strategies to stimulate creativity (Shafi et al., 2020). In addition, some dimensions of transformational leadership style such as inspirational motivation and intellectual stimulation are very important factors for making innovation possible (Elkins & Keller, 2003; Nardelli, 2017). Although many empirical studies noted the positive relationship between transformational leadership and innovation (Engelen, Schmidt, Strenger, & Brettel, 2014; Hu, Gu, & Chen, 2013; Noruzy, Dalfard, Azhdari, Nazari-Shirkouhi, & Rezazadeh, 2013; Sheehan, Garavan, & Morley, 2020). Those analyses were conducted on research and development (R&D) activities at the individual level. More recent work has presented the positive effects of transformational leadership on organizational

innovation derived from investment in R&D such as the number of patents created. Based on the above the sentence the following hypothesis is proposed:

H1: Transformational leadership has a direct positive effect on organizational innovation.

Transformational leadership and organizational learning

Organizational learning has been defined according to the process impacting on individual change which creates a competitive advantage for an organization (Berson, Nemanich, Waldman, Galvin, & Keller, 2006). It is the process of particular firms contributing to the use of experiences and learning activities to improve how employees do their work and learn new concepts (Carroll & Edmondson, 2002). Furthermore, it can be determined by the holistic viewpoint as difference organizational components, where leadership style in particular leads to decentralization of authority, and empowers employees to make the most of a learning culture (Hsu & Lamb, 2020). Firms must develop internal processes and mechanisms to utilize the information so that it is shared among employees (Mirkamali, Thani, & Alami, 2011). Organizational culture is a crucial factor that encourages information sharing and acceptance of different ideas at several levels (Mirkamali et al., 2011). Therefore, leadership style that is consistent with organizational learning is a transformational one because it encourages new ideas for employees to consider, empowers good behaviors, and the culture leads to productive organizational learning. Organizational learning is related important to individual learning (Argyris & Schön, 1997). Organizational learning is a dynamic process emphasizing knowledge that will be delivered throughout the entire organization at the individual, group, and organizational levels through the usual operational processes and routines (Jerez-Gomez et al., 2005). To sum up, the theoretical perspective of organizational learning comprises managerial commitment, system perspective, openness and experimentation, and knowledge transfer and integration (Jerez-Gomez, Céspedes-Lorente, & Valle-Cabrera, 2005). This paper focuses on the investigation of the effect of transformational leadership on organizational learning, and the following hypothesis is suggested:

H2: Transformational leadership has a positive direct effect on organizational learning.

Organizational learning and organizational innovation

Sutanto (2017) stated the more an organization can create innovation, the greater the organizational system is required to make this possible. Organizational learning is necessary to support innovation in the workplace (Ho, 2011). Some studies support the belief that organizational learning has a positive effect on firms' innovation capabilities (Tohidi & Maryam, 2012). Since an innovation can be derived from the dynamic capabilities of employees within firms, knowledge and creativity are crucial elements to making it happen. During periods of economic volatility and uncertainty, the firms need to devise a competitive advantage over business rivals and consequently they need to be creative. Organizational learning is regarded as the key tool to achieve this, based on what is learnt and experienced (Salim & Sulaiman, 2011). Organizational learning within firms is composed of basic elements such as knowledge interpretation and sharing. The theoretical perspective of organizational innovation as discussed in this paper comprises product innovation and process innovation (Camison & Villar-Lopez, 2014). Moreover, the transformational leadership style does influence both organizational learning and organizational innovation. The following hypotheses are posited here:

H3: Organizational learning has a positive direct effect on organizational innovation.

H4: Organizational learning is a mediator between transformational leadership and organizational innovation.

Research Framework

Based on the theoretical foundation derived from reviewing the literature above, the conceptual framework was constructed beginning with a transformational leadership style

that incorporated the concepts of idealized influence, intellectual stimulation, inspiration motivation, and individual consideration. Organizational learning as a mediator consists of managerial commitment, system perspective, openness and experimentation, and knowledge transfer and integration. The measure dependent variable was organizational innovation, which includes product and process innovation. The research framework is depicted in Figure 1 below.

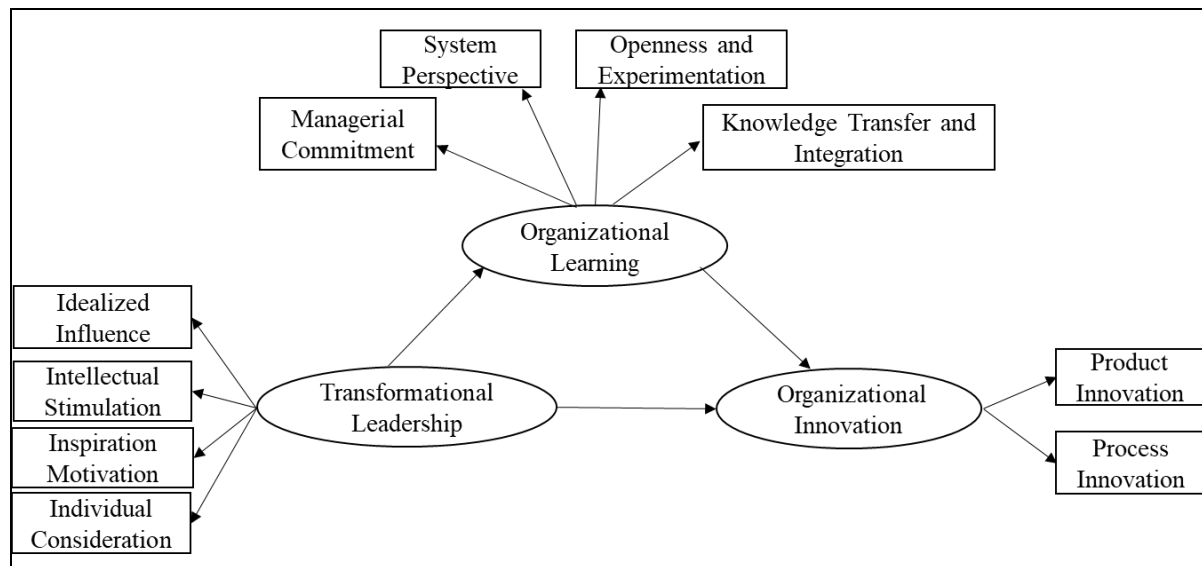


Figure 1 Research Framework

Research Methodology

Population and Sample

The population comprises 1,777 medium and large sized firms business in Thailand's food manufacturing industry. The sample size of any study should be at the minimum comprise of at least 10-20 subjects per 1 parameter (Hair, Anderson, Babin, & Black, 2010). This study had 10 parameters, so the number of subjects should be in the 100-200 units range. According to the appropriate number of subjects in the structural equation model there should be a minimum of 200 units (Kline, 2015). For this study, there are 200 firms and they were sampled utilizing the stratified sampling method. It had eight type of food manufacturing namely; 1) manufactured grain milled products, starches, 2) processing and preserving of fish, crustaceans and mollusks, 3) processing and preserving of fruit and vegetables, 4) manufacture of prepared animal feeds, 5) manufacture of vegetable and animal oils and fats, 6) processing and preserving of meat, 7) manufacture of dairy products and 8) other types of foods.

Research Instrumentation

The instrument employed for collecting the data took the form of a questionnaire. It consisted of four sections and overall, it was based on what has been published in the literature on the background of the firms. Specifically, the transformational leadership had 23 items, the organizational learning encapsulated 17 items, and the organizational innovation comprised 13 items. All items were allocated to a 5-point Likert scale.

To ensure content validity of the questionnaire, it was checked by 3 experts to verify that all questions and assumptions were relevant, using the Index of Item Congruence (IOC). It was found that the IOC of this questionnaires was 0.67 to 1.00, which meant that it was acceptable. For instrument reliability, the pilot study was applied to 30 firms using the Cronbach's alpha coefficient to evaluate the internal consistency. It was found that the

Cronbach's alpha coefficient was 0.936 to 0.970, and anything greater than 0.7 means that it is acceptable.

Data Collection and Data Analysis

The researcher collected the data by distributing 1,000 questionnaires by mail to companies in the food manufacturing industry and 200 replies were received. The data collection period lasted from December 2020 to March 2021.

Construct validity was applied to ensure the fitness between the empirical data and the model, and analysis was done based on Confirmatory Factor Analysis (CFA) via AMOS. Convergent validity was analyzed according to the value of Average Variance Extracted (AVE) and Composite Reliability (CR), which indicates the structural certainty and suitability of the model. Descriptive statistics of all firms' background, transformational leadership, organizational learning, and organizational innovation were analyzed by statistics program. Organizational learning was a mediator between transformational leadership and organizational innovation, and the extent of this model was analyzed by SPSS PROCESS macro (model 4).

Results

Descriptive Statistics

Most of the firms in the sample were large (67.0%), geared towards export (64.5%), and had Thai owners (80.0%). Generally, the firms manufactured grain milled products, starches (35.0%), other types of foods (25.0%), processing and preserving of fish, crustaceans and mollusks (10.0%), processing and preserving of fruit and vegetables (8.5%), manufacture of prepared animal feeds (7.0%), manufacture of vegetable and animal oils and fats (6.5%), processing and preserving of meat (5.5%), and manufacture of dairy products (2.5%). On average the firms have operated for 27.87 years.

Meanwhile the values of descriptive statistics of variable were followed: transformational leadership (Mean = 3.846, SD. = 0.661), organizational learning (Mean = 3.828, SD. = 0.683), and organizational innovation (Mean = 3.873, SD. = 0.522).

Assessing the structural model

The construct validity found by using CFA was a fit between the empirical data and the model, with the CMIN = 31.791, DF = 27, CMIN/DF = 1.177, P-value = 0.240, RMR = 0.009, GFI = 0.969, AGFI = 0.937, NFI = 0.984, CFI = 0.998, RMSE = 0.030. Measuring the internal consistency of the observe variable was checked by factor loading, and it emerged that a factor loading higher than 0.7 was acceptable (Chin, 1998). The values of the AVE and CR were greater than 0.5, which meant that the model has certainty and suitability in terms of convergence precision (Hair et al., 2010). The results are summarized in Table 1 below.

Table 1 Factor Loading, AVE, and CR

Variable	Factor Loading	CR	AVE
Transformational Leadership		0.943	0.806
Idealized Influence	0.851		
Inspiration Motivation	0.945		
Intellectual Stimulation	0.922		
Individual Consideration	0.871		
Organizational Learning		0.926	0.758
Managerial Commitment	0.901		
System Perspective	0.815		
Openness and Experimentation	0.918		
Knowledge Transfer and Integration	0.845		

Variable	Factor Loading	CR	AVE
Organizational Innovation		0.847	0.737
Product Innovation	0.929		
Process Innovation	0.781		

Hypothesis Testing

Table 2 Total, Direct, and Indirect Effects

Model Summary					
Total effect of X on Y					
TL→OI	Effect	se	p	LLCI	ULCI
	0.558	0.042	0.000	0.474	0.641
Direct effect					
TL→OL	0.880	0.038	0.000	0.805	0.954
OL→OI	0.567	0.068	0.000	0.435	0.705
TL→OI	0.056	0.070	0.422	-0.520	0.195
Indirect Effect					
TL→OL→OI	Effect	BootSE	p	BootLLCI	BootULCL
	0.501	0.074	0.000	0.361	0.653

From Table 2, it can be explained that the total effect of transformational leadership on organizational innovation, had a coefficient value of 0.558 which was significant statistically ($p < 0.000$ or LLCI to ULCI not pass zero). It was more than 0.2 which showed that there are hidden factors that affect organizational innovation. Next, taking the indirect effect of transformational leadership on organizational innovation through organizational learning into account, it was found that the coefficient value was 0.501 and this was also significant statistically ($p < 0.000$). The coefficient of the direct effect of transformational leadership on organizational learning was 0.880, which heralded statistical significance. Meanwhile the coefficient of direct effect of organizational learning on organizational innovation was 0.567, indicating statistical significance ($p < 0.000$). Simultaneously, the direct effect of transformational leadership on organizational innovation had decrease from 0.558 to 0.056 but this was not statistically significant ($p > 0.05$ or LLCI to ULCI pass zero). Nonetheless it was evident that organizational learning was a full mediator (Baron & Kenny, 1986). The results offer support for H2, H3, and H4 but not H1.

Discussion and Conclusion

According to the model of the path analysis of structural equation modelling (SEM), the results strongly suggested that organizational learning functioned as a full mediator in the model. However, the transformational leadership did not exert a direct effect on organizational innovation. This finding was consistent with the work done by Liao, Chen, Hu, and Liu (2017) who researched similar factors in Taiwan's financial and information technology industries. However, the relationship between transformational leadership and organizational learning was significant, which essentially agrees with Kim and Park (2019), who indicated leadership has a direct effect on developing staff members' skills and expertise. Furthermore, the organizational learning has a positive direct effect on organizational innovation, which is supported by other research (Liao et al., 2017; Migdadi, 2021). Organizational learning fully mediated the relationship between transformational

leadership and organizational innovation, and this is supported by Liao et al. (2017). In their work, they concluded that transformational leadership does not have an impact on organizational innovation, because organizational innovation is dependent on organizational learning.

The results of this study contribute to the literature on innovation creativities in the food industry of a developing country such as Thailand, and it determines the important factors relating to the effects of leadership style on organizational learning. Managerial commitment is the starting point for understanding the dynamic capabilities throughout businesses that need to learn, synthesize new knowledge from various sources, and transfer knowledge from external and internal sources so that the knowledge which is shared (through openness and experimentation) leads to important outcomes, such as market share and profits environment. As well, the supportive organizational culture related to creativity and willingness to learn from outside can be applied to innovation, which is the crucial success factor for ensuring that firms succeed in their industry or sector. Moreover, the knowledge transfer which is integrated into the processes and routines of a firm should be done so at the individual level to create a viable learning culture. In these circumstances, the transformational leadership style of management concerning idealized influence, inspirational motivation, intellectual stimulation, and individual consideration have a positive impact on employees' attitudes and behaviors. This type of leadership in the food industry firms lead to effective organizational learning, organizational innovation, and business success.

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