Leadership, Management Skill and Organization Innovation Affecting Auto Parts Organization Performance

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ABSTRACT
This study is concerned with the modeling and analysis of variables for the organizational performance in the Thai auto parts industry. Auto parts manufacturing and supply has a direct relationship with many other sectors; including leather, plastic, rubber, steel and petrochemicals. It also influences electrical output and consumption as well as electronics production. Body related finishing materials such as glass and paint/surface treatment processes and materials are also considerations. With so many components involved in domestic vehicle production, one can easily see why auto production and its related industries are so crucial to Thai economic might. Research methodologies used within this study include both quantitative and qualitative research. Quantitative is further qualified in this research essay from the survey given to 320 executives in the Thai automotive industry. The Partial Least Square (PLS) technique, a form of structural equation modeling, is additionally used due to it being component-based rather than covariance based. Additionally, qualitative research is supported by input from questionnaires from 10 key Thai auto industry executives utilizing the purposive sampling approach. Thai auto parts organizational performance has been influenced by leadership factors, management skills and management innovation. These three variables and their quantitative and qualitative research resulted in the hypothesis of a significance level of p<0.01, respectively. The qualitative research results agreed with the corresponding quantitative research results. Research findings from this study suggest that the Thai auto parts industry must develop innovative leadership management to sustain competitive capability.

Key words: Leadership, management skill, organization innovation, organization performance

INTRODUCTION
Thailand is leading the growth in the increasing importance of vehicle manufacturing and its associated parts and component industries in the quickly growing Asia-Oceania regions. In the region as a whole, between 2007 and 2009, there was a 9% gain from 42 to 51%, reaching nearly 3 million total vehicles. Also, from 2006 to 2010, there was a 9% overall average increase in auto production in the region’s 15 countries.

Of those countries analyzed in the region, including Malaysia, Indonesia, Philippines, Vietnam and Thailand, Thailand led with 53% (2010) of the total production while Indonesia had 23% with Malaysia at the bottom with only 18% (Thai Automotive Institute, 2010).
The Thai auto manufacturing and parts industry is a crucial and large scale component of the overall Thai economy with numerous linkages to other industries. This direct relationship with many other sectors includes leather, plastic, rubber, steel and petrochemicals industries. It also influences electrical output and consumption as well as electronics production. Auto body related finishing materials such as glass and paint/surface treatment processes and materials are also considerations. It therefore has become a key target sector for governmental policies and foreign investment potential which has thus far led to significant Thai GDP growth.

Sustainable growth within the sector requires emphasis on production efficiency gained from scientific development combined with lower costs and better resource allocation. This efficiency increase and cost reduction is a critical component as organizations are competing for fewer and fewer resources at ever increasing cost (Thai Automotive Institute, 2010).

A side effect or if you prefer 'a knock-on effect' to this huge growth in vehicle production and auto parts supplies has been that car owners tend to enhance their vehicles increasing even further output within the aforementioned sectors.

According to auto parts manufacturers, component life within the vehicle leads to higher sales since they complement the purchased product. They also contend that longer lasting and more durable components is more important to the sector than manufacturing replacement parts of lower quality. With higher technological and quality standards within the auto parts industry, longer vehicle life is attained and is viewed as essential by this sector.

This higher standard which is due to technological innovation however has led to less demand for replacement auto parts. A typical vehicle consists of 20,000 to 30,000 separate components and even the largest manufacturing companies cannot produce all their own parts. Additionally, outsourcing is often required to furnish the required pieces.

The Thai government has therefore identified this outsourcing requirement as a strategic industry within Thailand and critical to export goals. Furthermore, it has divided the sector into three sub-sectors including steel, electronics and raw materials. Steel includes such things as engines and car bodies while 'raw materials' include rubber, plastic and glass (Ministry of Industry, 2010).

For over 40 years Thai vehicle production and auto parts supply industries have worked closely together. Vehicle production and part supply can be categorized in the following two ways:

- Original Equipment Manufacturer (OEM). OEM suppliers usually provide components to auto assembly operations which include such things as cushions, doors, tires, safety belts and other assembly components for new cars. This is referred to as ‘Tier 1’ suppliers
- The second category of suppliers, referred to as ‘Tier 2’ suppliers, sell parts and materials to the Tier 1 suppliers. This includes the manufacturing and distribution of replacement parts and auto assembly parts for broken and replacement parts (Ministry of Industry, 2010)

As regional manufacturing has increased, so has the competitiveness within the sectors and between the lower cost national players such as China, India, Vietnam and Indonesia. Thailand therefore has chosen to fight off this competition with business networking, product design and innovation and increased quality control and standardization.

It is becoming paramount for the Thai auto industry to develop organizational expertise and behavior modification in the upstream supply chain and also within the downstream processes (Ministry of Industry, 2010). This will enhance capability of managers and assure long term continued growth, especially if conducted within auto parts manufacturing enterprises.
According to a Chinese auto parts leadership survey (Spencer-Stuart, 2009), executives needed to understand Chinese culture, the company’s vision, responsibilities and values. They also needed to be sensitive to local culture and non-recurrent customer needs in their local communities. The company’s suppliers, employees and executives needed to have “equilibrium between entrepreneurial and organizational processes”.

This was stated as one of the most difficult things to achieve in the automotive industry management process. If these components were missing, the company was unlikely to experience any future growth.

In a later study (2012), conducted by this researcher with the Director of the Automotive Institute of Thailand, it was stated that factors affecting successful management were leadership expertise and this was a key component of policy implementation. Leadership expertise was also the essential ingredient regardless of organizational size although in Thailand small to medium sized enterprises hired local managers while larger operations recruited foreign executives.

The Thai study also suggested that most small to medium sized operations were entrepreneurial and international in nature and those companies would determine production and marketing policies based on foreign investments.

In another interview (Hatrawang 2012), the Thai Summit Auto Parts Industry Co., Ltd’s plant director indicated that leadership skills were now crucial in auto business management. Characteristics of a good manager were leadership, motivational creativity and inspiration by sharing the management and company’s vision. Vision, corporate strategy and organizational culture were end-results of this encouragement process and success creativity.

Due to capital constraints and family owned management styles, small to medium sized businesses contributed an overwhelming majority of the leadership problems affecting the Thai auto parts industry. This nearsightedness resulted in a shortage of knowledge as well as the limiting the understanding and introduction of new innovation. It also limited the selection options for new staff and executives.

Similar problems however are seldom found in larger auto businesses due to larger recruitment pools and opportunities, as well as larger budgets for salary and benefits for their executives. It is these larger corporate managers that create platforms to help encourage employees to learn from more experienced team members with greater work experience.

This process however requires executive develop standardization processes which enhance both safety and environmental standards.

In the future, it is essential for the executives of automotive industries to have technological skills in more high-end and complicated production technology which is constantly changing. This expertise must lead to new innovation and technologies in the organization. It must also help with increasing capacity development and competition with foreign countries.

In the initial developmental phases of the Thai automotive and auto parts industry, there was a heavy reliance on the import of complex and sophisticated machine and software technologies. ‘Mechatronics’ as it is known is the discipline of integrating multiple engineering technologies such as mechanical, electrical, control and computers. In the Thai auto industry, mechatronics accelerated the initial developmental phases of the Thai auto industry (Hatrawang, 2012). This allowed for higher output with fewer skilled laborers.

In the future, it is essential for auto industry executives to have greater technological skills on more high-end, complex platforms as well as be able to change quickly when technological innovations come online. This will help increase competitive advantages in both domestic and foreign markets.
The objectives of the study are:

- To study the direct and indirect influences of variables that affects the Thai auto parts organizational performance
- To develop structural equation modeling of variables that affects the Thai auto parts organizational performance

Leadership is obviously a key component of the workplace environment which is a multi-faceted and complex skill set. Everyone knows and accepts the uniqueness of tactics and strategies for budget, personnel, supervisors, material and equipment management departments but one essential component throughout each is 'leadership'.

According to Somyos (1995), it was determined that conceptual skills were the ability to integrate organizational benefits and activities with the brain. This conceptual skill within an executive's mind would allow one to visualize overall organizational functions while understanding how parts were interdependent on other areas and when one changed and how it affected the organization as a whole. Additionally, the ability to weigh the benefits and disadvantages of these changes were part of the researcher's criteria.

Leadership skills were determined to be the greatest influence in exerting control over activities and relationships within teams and organizations. This however, was motivated by the benefits to be gained from the performance and the resulting effects of the leader's performance (Boedker et al., 2011).

Leadership also plays a key role in strategic planning and determines vision. Leadership strategy affects the organization's management potential (Pasmore, 1988) and characteristics of those transformational leaders could cause important changes (Dvir et al., 2002; Judge and Piccolo, 2004; Turner et al., 2002). Such a leader is able to take charge in areas of corporate vision, strategy, and culture while also being able to promote creativity (Avolio, 1999; Bass and Riggio, 2005) of new products and technologies.

As Thailand moves closer towards an ASEAN Community (AEC), auto manufacturers and auto part supplier managers and executives need to prepare and develop overall strategies for their continued success.

From the literature reviews of the above research, correlations between leadership structure and development, management skills and operational innovation affecting the outcomes of the Thai auto parts enterprises have proven to be of keen interest to this researcher. Additionally, given the fact that the Thai auto industry is one linked to many other industries, as well as being supported by both the governmental and the private sector, it further heightens the research interest of this report. This leads to the first hypothesis:

**H1: Leadership influences management skills**

Leadership skills can be divided into several categories including ethics, transformational and transactional. There are four factors to transformational leadership: idealized influence, inspirational motivation, intellectual stimulation and individual consideration. Transformational leadership is significantly different than transactional leadership but in reality, most 'leaders' adopt both styles at different times and in different situations (Northouse, 2001).

According to a study conducted by Tibus (2010) both types of leadership are hierarchical in nature although transactional leaders demonstrate non-interventionist policies:
• Transactional behavior demonstrates characteristics of sympathy towards individuals, intelligence and capability stimulation and motivation development using inspiration and persuasion. Transactional leaders also focus on smoothness, efficiency and excelling at corporate operations. This kind of leader would be a management function specialist (Bass, 1985; Yukl, 1989a, b). Transactional managers also emerged when they determined explicit targets and a good understanding of the needs of the operators and proper motivation and rewards criteria (Sadler, 1997; Bass et al., 1990; Burns, 1978; Sadler, 1997; Schein, 1992; Kavanagh and Ashkanasy, 2006; Sarros et al., 2011; Conger, 1999)

• Transformational leaders affect crucial change (Dvir et al., 2002; Judge and Piccolo, 2004; Turner et al., 2002). This kind of leader was capable of leading changes in organizational vision, strategy and culture. They were also able to promote creativity of new ideas (Avolio, 1999; Bass and Riggio, 2005), products and technologies

Transformational leaders seldom use material motivation but instead emphasize abstract characteristics (Bass, 1985; Yukl, 1989a, b; Chen and Fahr, 2001) using techniques such as behavioral change, challenging individual's behavior and building team inspiration a shared vision (Bennis and Nanus, 1985; Sashkin, 1987, 1996, 2004; Kouzes et al., 1987; Kouzes and Posner, 2003; Tibus, 2010). Also team development, trust and shared vision were a common requirement for this type of leadership technique (Sadler, 1997).

Successful leader’s skills, both transformational and transactional can be measured by their efficiency and effectiveness while concurrently exhibiting both management and leadership skills.

According to a study of ethical leadership, leadership affected team’s morale and spirit, including the building of good social relationships (Aronson, 2001), as well as the success of organizational performance (Brown and Trevino, 2006; Brown et al., 2005; Lucas, 2000; Petrick and Quinn, 2001; Trevino et al., 2003; Zhu, 2008).

From a study of the role on innovation in business performance improvement by Panuwatwanich (Panuwatwanich et al., 2009), the study concluded that leadership and team building within the organization affected its culture, distribution and business performance.

However (Withoon, 2010) studied entrepreneurial factors affecting turnovers of small and medium sized state enterprises and determined that several factors contributed to their success. These were technology leadership, new production creation, product innovation, yearly changes in customer service offerings and organizational changes, for example achievements by objectives.

Additional factors included the requirement for high profits, risk taking, using proactive approaches to optimize the opportunities from existing opportunities (Withoon, 2010) leading to the next hypothesis:

**H2:** Leadership influences organizational innovation

In theory, there are four types of executive skills. They are planning, organization, leadership influence and control. Additionally, successful managers can be further stated to have the following skill sets:

• **Individuals skills:** Self-awareness development, management path and problem solving
• **Interpersonal skills:** This includes communications skills, external influences, conflict management and motivational abilities
• **Group Skills:** These skills include empowerment, team building and power from authority (Katz, 2002)

Katz also mentioned that good management skills include the capability to enable their development without having been born with these skills. In addition, there were three aspects of management skills. They were:

• **Technical skills:** These skills are less important in upper level management since they are less likely to be ‘hands-on’ production and technical supervisors. Instead, they would be more concerned with specialized knowledge, analytical ability within that specialty and facility in the use of the tools and techniques of the specific discipline

• **Human skills:** An important component across all levels of management as managers must interact with their management and labor force and build cooperative effort within the team he leads

• **Conceptual skills:** Conceptual skills are more important and used more frequently by upper level management and involve the ability to see the group as a whole (Katz, 1974)

Multiple researchers have found that there are three aspects of management skills, having both a positive and direct effect. Javadin et al. (2010) studied these three aspects and found positive and direct effects on the efficiency of banking management. This was also consistent with Sitterly, who stated that there were three basic skills of executives including; technical, human interaction and conceptual skills (Sitterly, 1993).

According to Panuwatwanich, Stewart and Hamed, their findings showed that leadership and team building in the organization through organizational culture created innovation which would affect business performance. Leadership skills combined with management analysis skills would result in innovative creativity within the organization (Panuwatwanich et al., 2009).

Smircich also pointed out that organizational culture contributes to an increase in efficiency if stronger and better working relations between members exist. Also if the staff has stronger corporate identities with others in the group and a better outward image to society is maintained. Innovation within organizations contributes directly to more research and development (R and D) which creates new ideas, more products, services, productivity increases and better operational processes. It also encourages staff to create new ideas for work.

It was also observed that managers needed to accept criticism from their staff as well (Smircich, 1983). According to Somjintana (2013) study of Thailand state financial sector enterprises, it was found that organizational culture was greater than that of smaller and medium sized groups. This leads to the following hypothesis:

**H3:** Management skills directly and positively influence organization performance

Strategic vision, defined goals, organizational structures and focused staff and managers help organizations overcome volatile business environments.

In research conducted on the use of management power in health care, it was observed that their organizational structures consisted of five main elements such as strategy, middle line, key operation, staff support and technology structure (Mintzberg, 1993; Isosaari, 2012).
In corporate management, executives who wish to succeed needed to start studying strategic management since the business world is complicated and rapidly changing. Being able to adapt to this change was critical to corporate success and inability to do so meant that they were unable to compete with their competitors.

Therefore, executives needed to be concerned with strategic planning and formulation. Strategic planning was for long term objectives while formulation was to be used as the roadmap to strategic implementation.

According to the study ‘Corporate Culture and Performance’ by Kotter and Heskett, they determined big sized organization’s culture in the U.S.A (such as Hewlett-Packard, ICI, Nissan, etc.) significantly affected long term economic performance, especially when coupled with external environments.

Organizational culture was one of the crucial factors for organizational success and failure. Corporate cultures that had shared values and able to adapt profoundly affected economic success of the organization while organizational cultures unable to do so, would negatively affect economic performance.

But organizations having high quality employees were more likely to easily emerge from financial problems than those were lesser skilled staff. However, institutional practices which undermined change through arrogance, bureaucracy and inward focus were less likely to have employee participation. Corporate management gained support for change by formulating clear and focused performance guidance (Kotter and Heskett, 1992).

This leads to the next hypothesis:

**H4:** Organizational innovation directly and positively influences organization performance

Marcoulides and Heck’s study on ‘Organizational Culture and Performance: Proposing and Testing a Model’ using the LISREL (Linear Structural Relations) statistical software package to study the variables and performances of organizational cultures for independent and dependent variables.

Independent variables included five components within organizations. They were structure, work, value and climate as well as employee attitude.

Dependent variables included organization performance such as revenues, shared values, profits and returns.

The finding was that such variables within the group could predict direct and indirect operational performances within the organization. Culture was related to organizational work and climate. It was also a focus of knowledge and knowledge building for their employees as it increased productivity within the organization. Value was part of organizational work, organizational climate and employee attitudes. Work was related to employee attitude, organizational climate and operation outcome. Climate was a component of employee attitudes and organizational performance. Attitude of the employees was related to operational outcome (Marcoulides and Heck, 1993).

However, Kazi found that information exchange among employees would be the driver of new manufacturing methods and directly affect delivery time reduction (Kazi and Wolf, 2006). Competitive potential of the organization could be influenced by education based on technological strategy in environmental and organizational contexts and the use of production technology and creativity processes (Ahmad and Schroeder, 2003).
Fig. 1: A conceptual framework for leadership, management skills and organizational innovation as it affects Thai auto part's organizational performance

Information management requires the organization to use technology to communicate with both internal and external group members (Grant, 1996; Spender, 1996). In addition, the above variables would increase organization performance.

Conceptual framework: The main purpose of this study is to explain the effects of leadership, management skills and organizational innovation as it affects organizational performance outcome in the Thai auto parts sector. Conceptual framework of this study is presented in Fig. 1.

MATERIALS AND METHODS

Surveys from chief executives within the Thai auto parts industry was used for this analysis.

Data collection: The sample group for this research includes 350 chief executives of Thai auto parts enterprises.

Questionnaires design: The questionnaires were designed to be used as a measurement tool. The survey used the 5-Point Likert Scale as the measurement scale and the conceptual framework. Field definitions were constructed with its use.

Quality has been assured by using Cronbach's $\alpha$-coefficient for calculation of average of correlation coefficient gained. The $\alpha$-coefficient found was between 0.763 to 0.908, which is considered a high reliability factor if each item of $\alpha$ value is less than 0.50. Resultant data below 0.50 has been eliminated from the measurements.

Scale:

Dependent variables: Organization performances can be measured from operational revenues, profits, business growth and employee costs from (Kaplan and Norton, 1992; Pratchaya, 2010; Boondhavan, 2007; Post and Griffin, 1997) and also used as a measurement tool in a conceptual framework. The 5-Point Likert Scale (Likert, 1970) was used in both the construction of the analysis and the questionnaires used.
Independent variables: The scales of organizational leadership have been developed into 3 types of leadership measures such as transformational leadership, transactional leadership (Bass, 1985; Yukl, 1989a, b; Chen and Fahr, 2001; Sarros et al., 2011; Pratchaya, 2010; Kouzes et al., 1987; Kouzes and Posner, 2003; Tibus, 2010) and ethical leadership (Aronson, 2001; Zhu, 2008). The construction of measurement tools or questionnaires used the 5-Point Likert Scale for measurement (Likert, 1970).

Management skill scales have been developed and according to Olorisade (2011), four management skill characteristics have been classified. They are communication, motivation, decision making and problem solving skills from Yukl (1981) and Pratchaya and Somsak (2001). The 5-Point Likert Scale (Likert, 1970) was used to construct the measuring instrument and questionnaires.

Organizational innovation consists of strategy and has developed scales from (Withoon, 2010; Chong et al., 2011). The measure of organizational culture has been developed from Marcoulides and Heck (1993) and Petty et al. (1995) and the scales of knowledge management have been developed from Ahmad and Schroeder (2003), Kazi and Wolf (2006), Krittakorn (2010) and Somjintana (2013). The construction of measuring instrument or questionnaires used the 5-Point Likert Scale as the scale of measurement (Likert, 1970).

ANALYSIS

Partial Least Squares has been applied for analysis of quantitative data by the researcher. It is data analysis for Confirmatory Factor Analysis (CFA) relating to the determination of Manifest Variable and Latent Variable and testing of research hypothesis exhibiting in structural model analyzed by using the applications of PLS-Graph (Chin, 2001).

According to the analysis result of scale validity and reliability, scale investigation has been conducted using internal consistency measurement method by a-coefficient of Cronbach for calculation of the average of correlation coefficient and found that a-coefficient has been between 0.763-0.908 considered as high reliability.

In case of measure variables with reflective analysis, convergent validity has been conducted. Loading is used as consideration criteria and must be positive quantity and indicator loading has been more than 0.707 and all values have been statistically significant (t>|1.96) representing convergent validity of scales (Lauro and Vinzi, 2004; Henseler et al., 2009; Piriyakul, 2010) and analysis result as shown in Table 1.

Leadership factor (LDS) is external latent variable including variables of ethical leadership (ETH), transactional leadership (TRS) and transformational leadership (TRF), having loading value from 0.707 and significance level at 95% confidence (t-stat>1.96) considered that such factors have affected organizational performance.

Management skill factor (MGS) is external latent variable including communication variable (COM), motivation variable (MOV), decision making variable (DES) and problem solving variable (PRB), having loading value from 0.707 and significance level at 95% confidence (t-stat>1.96) and considered that such factors have affected organizational performance.

Organizational Innovation Factor (INO) is external latent variable including organizational culture variable (CUL), organizational strategy variable (STR), knowledge management variable (KM), having loading value from 0.707 and significance level at 95% confidence (t-stat>1.96) considered that such factors have affected organizational performance. Then ethical leadership variable (ETH), transactional leadership variable (TRS), transformational leadership variable
Table 1: Convergent validity statistics in latent variable measurements in the reflective model

<table>
<thead>
<tr>
<th>Construct/Item</th>
<th>Loading</th>
<th>t-stat</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LDS: Leadership</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ETH: Ethical leadership</td>
<td>0.929</td>
<td>83.431</td>
</tr>
<tr>
<td>TRS: Transactional leadership</td>
<td>0.885</td>
<td>51.344</td>
</tr>
<tr>
<td>TRP: Transformational leadership</td>
<td>0.896</td>
<td>124.187</td>
</tr>
<tr>
<td><strong>MGS: Management skill</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM: Communication</td>
<td>0.913</td>
<td>74.197</td>
</tr>
<tr>
<td>MOV: Motivation</td>
<td>0.849</td>
<td>25.007</td>
</tr>
<tr>
<td>DES: Decision making</td>
<td>0.926</td>
<td>79.092</td>
</tr>
<tr>
<td>PRB: Problem solving</td>
<td>0.887</td>
<td>53.428</td>
</tr>
<tr>
<td><strong>INO: Organizational innovation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CUL: Organizational culture</td>
<td>0.914</td>
<td>73.069</td>
</tr>
<tr>
<td>STR: Organizational strategy</td>
<td>0.927</td>
<td>78.524</td>
</tr>
<tr>
<td>KM: Knowledge management</td>
<td>0.923</td>
<td>85.034</td>
</tr>
<tr>
<td><strong>PER: Organizational performance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REV: Income</td>
<td>0.892</td>
<td>37.094</td>
</tr>
<tr>
<td>PRO: Profit</td>
<td>0.893</td>
<td>34.010</td>
</tr>
<tr>
<td>PR: Personnel</td>
<td>0.881</td>
<td>45.473</td>
</tr>
<tr>
<td>QRO: Growth</td>
<td>0.688</td>
<td>8.332</td>
</tr>
</tbody>
</table>

Table 2: Confirmatory factor analysis (CFA) of the independent variables of leadership, management skill, organizational innovation and their affects on the dependent variable, organizational performance. CR: Composite reliability; R²: Square of the correlation, AVE: Average variance extracted

<table>
<thead>
<tr>
<th>Construct</th>
<th>CR</th>
<th>R²</th>
<th>AVE</th>
<th>LDS</th>
<th>MGS</th>
<th>INO</th>
<th>PER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership factor (LDS)</td>
<td>0.935</td>
<td>-</td>
<td>0.896</td>
<td>0.914</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management skill factor (MGS)</td>
<td>0.941</td>
<td>0.774</td>
<td>0.800</td>
<td>0.880</td>
<td>0.894</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizational Innovation factor (INO)</td>
<td>0.946</td>
<td>0.571</td>
<td>0.853</td>
<td>0.755</td>
<td>0.850</td>
<td>0.924</td>
<td></td>
</tr>
<tr>
<td>Organizational performance (PER)</td>
<td>0.883</td>
<td>0.424</td>
<td>0.715</td>
<td>0.655</td>
<td>0.609</td>
<td>0.639</td>
<td>0.845</td>
</tr>
</tbody>
</table>

Cross-construct correlation

Statistical significance level is at 0.01 and diagonal figures mean √AVE

(TRP), communication variable (COM), motivation variable (MOV), decision making variable (DES) and problem solving variable (PRB), organizational culture variable (CUL), organizational strategy variable (STR) and knowledge management variable (KM) have been used for structural equation analysis.

The above reflective model shows the discriminant validity of the internal latent variables and the correlation of variables. It also depicts the scale reliability which has been analyzed from Composite Reliability (CR) as well as the Average Variance Extracted (AVE) and R². The CR value should not go below 0.60 and the AVE values should also drop below 0.50 and R² values should not be under 0.20 (Lauro and Vinzi, 2004; Henseler et al., 2009; Boonhavan and Montree, 2010).

Table 2 shows the results of factor analysis affecting Thai auto parts organizational performance. The data also shows the CR values are higher than 0.60, with all AVE values being higher than 0.50 and all R² values higher than 0.20, representing the reliability of the measurement. This means that the measurements are reliable. It found that data sets in the √AVE
Fig. 2: Results for the structural model of the independent variables of leadership, management skill, organizational innovation and their affects on the dependent variable, organizational performance. CR: Composite reliability, R²: Square of the correlation, AVE: Average variance extracted. Figure 2 Notes: Lead: Leadership (LDS), inno: Management innovation (INO), per: Organizational performance (PER), mgs: Management skill (MGS).

have higher values than all of the corresponding values in the 'Cross Construct Correlation' in the same column, representing discriminant validity of the measure in each construct and with a greater value than 0.50 of AVE as shown in Table 2.

The model generated below was done using Partial Least Square-Graph software.

It mirrors the variables found in Fig. 1 but instead generates 'hypothesis testing results' from all of the research variables. This data is shown on Fig. 2 and Table 3.

It shows that empirical output supports the four hypotheses (H1, H2, H3 and H4).

Fig. 2 shows the output plotted to the final model of the PLS-Graph. Additionally, a hypothesis test result matrix (Table 3) clearly shows in a more comprehensible format that H1 leadership influences managerial skill with a coefficient of 0.860 and a t-stat of 51.610 and supports the hypothesis. H2 also shows leadership influences organizational innovation with a 0.755 coefficient and a t-stat of 16.536 supporting the hypothesis.

H3 results state that managerial skill directly and positively influences organization performance with a coefficient of 0.240 and a t-stat of 2.185. This supports the hypothesis also. Last, H4 results depict that organizational innovation positively influences the performance with a coefficient of 0.435 and a t-stat of 4.090. This confirms the hypotheses.

Figure 2 shows the research framework and the structural model of variables that influence the performance of Thai auto parts enterprises. Variables included leadership, management skills
and organizational innovation of 320 surveyed executives. The samples were analyzed to answer the research hypothesis criteria of the following four assumptions (Table 3).

Furthermore, the structural analysis model framework was used to research the t-test coefficients and their relationship of each path of the t-test hypothesis with significance greater than 1.96 **. This explains the results obtained from analysis as shown in Table 1 and 2 as well as the test results presented in Table 3.

**Hypothesis 1 (H1):** Leadership affects management skills. The test result found that leadership affects the managerial skill with a coefficient of 0.860, a fact validated by the hypothesis significance p = 0.01.

**Hypothesis 2 (H2):** Leadership affects organizational innovation. The test result found that leadership affects the organizational innovation with a coefficient of 0.755, a fact validated by the hypothesis significance p = 0.01.

**Hypothesis 3 (H3):** Management skills have a direct and positive influence on organization performance. The hypothesis tested results found that management skills are positively and directly influenced on organizational performance which showed a coefficient of 0.240, a fact validated by the hypothesis significance p = 0.05.

**Hypothesis 4 (H4):** Organizational innovation has a direct and positive influence on organization performance. The hypothesis tested results shows that organizational innovation is positively and directly influenced on organizational performance which showed a coefficient of 0.435, a fact validated by the hypothesis significance p = 0.01.

**RESULTS AND DISCUSSION**

According to research results from Thai auto parts establishments using structural relationship modeling on leadership, managerial skill and management innovation affecting operational outcomes, the following issues have been observed:

**Leadership factors:** These factors consist of ethical, transactional and transformational leadership components with the success of the Thai auto parts industry being dependent on the leadership skills of managerial staff.

Leadership characteristics according to expression behavior can be divided into four elements; including ethical leadership, transformational leadership and transactional leadership. Transformational leadership consists of four elements and transactional leadership has three elements.
Transformational leadership is significantly different from transactional leadership but in actuality, they can't be separated as both processes are used by executives in different times and situations (Northouse, 2001). This observation was consistent with Somyos (1995) who explained that conceptual skills were the capability of brainstorming and the organizational benefit of activity integrity.

He also stated that leadership included the executive's ability to envision the overall organization and understand how all parts of the group were dependent on other parts and how changes affected the overall organization.

Leadership qualities affected conceptual skill in strategic planning and vision. It also determined how leadership strategy affected the potential of organizational management (Pasmore, 1988). The characteristics of transformational leaders could cause crucial changes (Dvir et al., 2002; Judge and Piccolo, 2004; Turner et al., 2002). This kind of leader was capable of visionary planning, strategy and organizational culture including the promotion of work creativity (Avolio, 1999; Bass and Riggio, 2005).

According to a study on ethical leadership, leadership influenced teamwork spirit and morale, social skills (Aronson, 2001) and success from organizational performance Brown and Trevino (2009), Brown et al. (2005), Lucas (2000), Petrick and Quinn (2001), Trevino et al. (2003) and Zhu (2008).

These observations were also consistent with the study result from Panuwatwanich et al. (2009) that leadership and team building affected an organization's innovation and business performance.

Perelman (2001) found that management styles of female entrepreneurs in high-end, volatile technology industries, led those entrepreneurs to make their decisions under uncertainty and ambiguity using mostly executive judgments and intuition. It also found that a key to making successful business decisions was the skill to quickly and often change requirements, reflecting the changing needs of high-tech industries.

In addition, there should be risk management flexibility and a focus on personal participation at work. There also needs to be the power for creativity (innovation), business understanding and motivation. All of these were essential for having good management skills. This is consistent with the study of Uhlaner and Thurik and their findings that management skills affect innovation development in the organization which led to the success of information technology businesses (Uhlaner and Thurik, 2004) quoted in (Aspray and Cohoon, 2007).

Management skill includes an individual's ability and competency. Managers must also rely on their expertise or specialization in resource utilization to achieve the stated objectives effectively and efficiently. Executive skills, no matter what level or organization, has four management functions; planning, organizing, leading/influencing and controlling.

In order to be a successful manager, you must demonstrate two skill areas. The first being individual skills where you must develop self-awareness and management paths for problem solving. The second is interpersonal skills in which communication skills, environmental influences, conflict management and motivational skills of others are important. Additionally, you need to be able to empower groups, build teamwork and management authority (Katz, 2002).

According to research results from Kaymaz, job rotation also positively affects a workers motivation. This technique could reduce work monotony and also enhance knowledge and transfer skills and ability to other workers. It also enables better interaction skills between machine operators within the organization (Kaymaz, 2010).
Organizational innovation: Changing business environments determine the strategy, target, organizational structure and human behavior in the organization from employees and the organization.

According to the study ‘Corporate Culture and Performance’ by Kotter and Heskett, they determined big sized organization’s culture in the USA (such as Hewlett-Packard, ICI, Nissan, etc.) significantly affected long term economic performance, especially when coupled with external environments.

Organizational culture was one of the crucial factors for organizational success and failure. Corporate cultures that had shared values and able to adapt profoundly affected economic success of the organization while organizational cultures unable to do so, would negatively affect economic performance.

Changes to organizational culture should be supported by organizational leaders by formulating working vision as the way for change and use methods that build strong relationships between organizational culture and performance. This corresponded with Rogers (1975). findings that organizational innovation was statistically significant as it contributed to organizational operating outcomes.

From the study Marcoulides and Heck on ‘Organizational Culture and Performance: Proposing and Testing a Model’ by using LISREL (Linear Structure Relations) program, organizational culture consisted of five organizational variables including: (1) organizational structure, (2) organizational works, (3) organizational values, (4) the environment and (5) the attitudes of the employees.

The dependent variables in organizational performance were such things as revenue, share values, profit and return. It was found that the above variables could predict direct and indirect operational outcomes. Organizational structure was related to organizational work and environment in the organization. Organizational value was related to organizational work and climate and employee attitudes. Organizational work was related to employee attitude, organizational climate and operational outcome. Organizational climate was related to employee attitude and operational outcome. Employee attitude was related to operational outcome.

Organizational cultures aiming to gain and build knowledge for their employees increase productivity in the organizations (Marcoulides and Heck, 1993).

Klomthong (2006) studied the ‘Organizational Learning Development of Automotive Industry in Thailand’ and concluded that there are four mechanisms of learning development of the auto industry in Thailand. They were searching and creating knowledge. Storage of information and its analysis as well as knowledge transfer.

According to the result finding on the status and potential of the Thai automotive industry, the auto assembly industry still had high potential. However, Kazi found that knowledge exchange among employees would be the driver for creating new production methods directly resulting in delivery time reduction as well (Kazi and Wolf, 2006).

Corporate competitive potential was influenced by technology strategy within the group, the use of production technology and the creativity process (Ahmad and Schroeder, 2003).

The key to the application of knowledge management was organization and technology that supported the effective transition of this information to both internal and external organizations (Grant, 1996; Spender, 1996) and thereby creating better performances within the group.

According to a study by Bruce M. Belzowski, Michael S. Flynn, Barbara C. Richardson and Maitreya K. Sims, the findings (Belzowski et al., 2003) suggested that organizations should be
aware of knowledge value within the organization. Gap acceptance might occur between benefit and information activity levels. Modifying and improving knowledge transfer within an organization helps with information flow. Learning activity differences within the organization affects the group. Effective management requires effective learning techniques as well as their resultant evaluation.

The West and Burnes study on organizational learning processes in the automotive industry determined that it had become more important within the past decade. The study concluded that companies try to foster learning so that there is effective operational development which assures success (West and Burnes, 2000).

CONCLUSION

Within the Thai auto parts industry, research and modeling was conducted on the development of structural relationships, on leadership and management skills and innovation affecting an organization's performance. The findings concluded that the crucial factors affecting operational outcomes of the enterprise include leadership ethics as well as transformational and transactional leadership.

These factors have resulted in a direct effect on organizational performance and had an indirect effect on management skill variables including motivation, communication and decision making skills.

Management innovation variables include organizational culture, strategy formulation and knowledge management in the organization. Entrepreneurs can develop organizational leadership skills which can enhance their international competitive capabilities.

REFERENCES


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