The Effect of Entrepreneurial Leadership, Value Creation and Automotive Parts Manufacturing Businesses Performance in Thailand

Wanlee Putsom [*] *Pornlapas Suwannarat* [**] *and Nitiphong Songsrirote* [***]

Received: March 04, 2019
Revised: July 02, 2019
Accepted: August 06, 2019

Abstract

The purpose of this research is to investigate the effect of four dimensions of entrepreneurial leadership (EL) on value creation and business performance through the leaders' perspectives. The structural equation modelling (SEM) approach was used to test the credibility of the four dimensions of EL, which are personal competency (PC), managerial competency (MC), proactive competency (PRC) and technological competency (TC). Value creation and business performance models from prior research were used as the source of this research questionnaire for 235 automotive-parts manufacturers in Thailand. The questionnaire contains thirty-eight items included twenty-eight items on EL, five items on value creation and five items on business performance. The outcomes revealed that the conceptual model generated had a good fit with construct relationships and empirical data results. These data were further investigated within the questions dealing with construct and model relationships by using the explanatory multiple analysis. The results showed that the

[*] **Affiliation:** Mahasarakham Business School, Mahasarakham University. Khamriang Sub-District, Kantarawichai District, Maha Sarakham 44150 Thailand. E-mail: wanlee662@gmail.com

[**] **Affiliation:** Mahasarakham Business School, Mahasarakham University. Khamriang Sub-District, Kantarawichai District, Maha Sarakham 44150 Thailand. E-mail: pornlapas.s@mbs.msu.ac.th

[***] **Affiliation:** Mahasarakham Business School, Mahasarakham University. Khamriang Sub-District, Kantarawichai District, Maha Sarakham 44150 Thailand. E-mail: nitiphong.s@mbs.msu.ac.th

strong effects of EL and business performance noted are mediated by value creation. It was established that leaders in automotive parts businesses have a chance to influence existing skills and competency that create more value to move toward superior business performance and outcomes. This study concludes and describes the implications of the data for future research in EL theory.

Keywords: Entrepreneurial leadership, Value creation, Business performance, Automotive parts manufacturing businesses

ผลกระทบของภาวะผู้นำแบบการประกอบการ การสร้างคุณค่าและผลการปฏิบัติงานของธุรกิจผู้ผลิตชิ้นส่วนยานยนต์ในประเทศไทย

วัลลี พุทโสม[*] พรลภัส สุวรรณรัตน์[**]และ นิติพงษ์ ส่งศรีโรจน์[***]

บทคัดย่อ

วัตถุประสงค์ของงานวิจัยนี้ คือ เพื่อตรวจสอบอิทธิพลขององค์ประกอบสี่ประการของภาวะผู้นำแบบการประกอบการที่มีต่อการสร้างคุณค่าและผลการดำเนินงานของธุรกิจโดยผ่านมุมมองของผู้นำ การวิจัยนี้ใช้เทคนิคโมเดลสมการโครงสร้าง (SEM) เพื่อตรวจสอบความน่าเชื่อถือของโมเดลองค์ประกอบสี่ประการของภาวะผู้นำแบบการประกอบการ ได้แก่ ความสามารถส่วนบุคคล ความสามารถด้านการจัดการ ความสามารถเชิงรุก และความสามารถด้านเทคโนโลยี รวมถึงการสร้างคุณค่าและผลการดำเนินงานของธุรกิจที่ถูกพัฒนาจากวรรณกรรมในอดีต ซึ่งเป็นส่วนประกอบหลักของแบบสอบถามที่ใช้เก็บข้อมูลจากผู้นำของธุรกิจผู้ผลิตชิ้นส่วนยานยนต์ 235 แห่งในประเทศไทย แบบสอบถามที่ประกอบด้วยข้อคำถาม 38 ข้อ ได้แก่ ภาวะผู้นำแบบการประกอบการ 28 ข้อ การสร้างคุณค่า 5 ข้อ และผลการดำเนินงานของธุรกิจ 5 ข้อ ผลการวิจัยพบว่า โมเดลกรอบแนวคิดมีความสอดคล้องกับข้อมูลเชิงประจักษ์ และผลลัพธ์ความสัมพันธ์ของโครงสร้างถูกตรวจสอบเพิ่มเติมโดยใช้การวิเคราะห์เชิงอธิบายเพื่อทดสอบคำถามภายในโมเดลและความสัมพันธ์ของโครงสร้าง ผลการวิเคราะห์ข้อมูลพบผลกระทบที่แข็งแกร่งของภาวะผู้นำแบบการประกอบการและผลประกอบการของธุรกิจที่เกิดจากการคั่นกลางด้วยตัวแปรการสร้างคุณค่า ซึ่งสรุปได้ว่าผู้นำในธุรกิจชิ้นส่วนยานยนต์มีโอกาสยกระดับขีดความสามารถและทักษะที่มีอยู่เพื่อสร้างคุณค่าเพิ่มได้มากกว่าประสิทธิภาพและผลลัพธ์ทางธุรกิจที่เป็นอยู่ การวิจัยนี้ได้อธิบายและสรุปผลกระทบจากข้อค้นพบที่มีคุณค่าทางทฤษฎีและการวิจัยด้านภาวะผู้นำแบบการประกอบการในอนาคต

คำสำคัญ: ภาวะผู้นำแบบการประกอบการ การสร้างคุณค่า ผลการดำเนินงานของธุรกิจ ธุรกิจผู้ผลิตชิ้นส่วนยานยนต์

[*] **หน่วยงานผู้แต่ง**: : คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม ตำบลขามเรียง อำเภอกันทรวิชัย จังหวัดมหาสารคาม 44150 อีเมล wanlee662@gmail.com

[**] **หน่วยงานผู้แต่ง:** คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม ตำบลขามเรียง อำเภอกันทรวิชัย จังหวัดมหาสารคาม 44150 อีเมล pornlapas.s@mbs.msu.ac.th

[***] **หน่วยงานผู้แต่ง:** คณะการบัญชีและการจัดการ มหาวิทยาลัยมหาสารคาม ตำบลขามเรียง อำเภอกันทรวิชัย จังหวัดมหาสารคาม 44150 อีเมล nitiphong.s@mbs.msu.ac.th

Introduction

Robust competitive situations, rapid environmental change, and changing government policy affect all business owners. These business owners experience a high risk to manage their businesses effectively. Leaders and managers who play crucial roles in organizations might possess particular forms of leadership characteristics necessary to achieve particular business outcomes (Arthur & Hisrich, 2011). One emerging form of leadership is entrepreneurial leadership (EL). This refers to a modern, new leadership role that expresses an entrepreneurial style of leadership (Mintzberg, Ahlstrand, & Lampel, 1998). EL arose from two fields, namely entrepreneurship and leadership (Ensley Pearce, & Hmieleski, 2006). Entrepreneurship emphasizes and represents the tenacity and achievement of a business in seizing opportunities that lead to innovation and capability building (Kuratko, 2007). Entrepreneurial activities are very important to all businesses and have many benefits such as seeking opportunities, needing to achieve set goals, being independence-minded, and taking risks and innovating (Fernald, Solomon, & Tarabishy, 2005).

This research purposes to investigate the effect of entrepreneurial leadership dimensions on value creation and business performance in the automotive parts businesses in Thailand. The research uses three theories to describe the phenomena mentioned. These include entrepreneurial leadership theory, contingency theory and dynamic capability theory. All theorizations are constructed to reveal the relationship between entrepreneurial leadership, its antecedent and the consequences. Additionally, value creation is hypothesized as the mediator of the effect between the four dimensions of EL (Personal Competency: PC, Managerial Competency: MC, Proactive Competency: PRC, and Technological Competency: TC) and business performance. Therefore, the scope of this research is presented briefly as follows.

Entrepreneurial leadership is defined as a leadership role performed according to the entrepreneurial style of leadership and that generates entrepreneurial activities that deliver more value to a business in terms of both built value creation and business performance (Simsek et al., 2015). In this study, EL included four dimensions: First, PC refers to a person's capacity for interaction rather than for control, ability to interact

within an organization and autonomy of subordinates (Markman & Baron, 2003). Second, MC refers to leadership skills in the context of concentrating on planning and coordination (Renko et al., 2015). Third, PRC refers to a leader's ability to recognize new opportunities, to adjust to situations rather than change them and seek new dimension to describe organizational success (Bateman & Crant, 1999). Finally, TC refers to a leader's skill to use technology in the workplace including computers, an automation office, robots, machine-learning, and the internet of things as is characteristic of smart entrepreneurs (Songkünnatham, 2018).

The anticipated outcome of the investigation of the four dimensions of EL was to be able to assess business performance that arises from the application of leaders' skills. Business performance can be measured in different contexts, such as the innovativeness of firms, market share, growth rate in number of employee, sales, etc. (e.g., Schwartz et al., 2013). Success is derived from a leader's competencies, which are reflected in subordinate action and business performance in term of increasing return on investment (ROI), return on equity (ROE), return on assets (ROA), net profit margin, sales growth, and growth in the number of employees. Moreover, this research aims to examine the mediating effect of value creation and business performance. Value creation is defined as the ability of the leaders and business to produce products and services, their exchange value, and the use value of commodities (Kraaijenbrink, 2011). Sources of value creation arise from several sources both inside and outside a business (Amit & Zott, 2001).

Understanding how EL in automotive part manufactures react to value creation generates business performance for EL to be the better lead by matching the expectation to new leadership style that is consistent to the current situation in Thailand. Previous research has linked EL characteristics in several competencies and other organizational outcomes; however, only a few studies involved technological competency and other EL dimensions, including personal competency and managerial competency influence value creation and business performance. Therefore, to fulfil this study gap, the main purpose of this research aims to investigate the effects of entrepreneurial leadership on value creation and performance of the automotive parts

businesses in Thailand. Also, the dimensions of EL, included PC, MC, PRC, TC, are assumed to be the independent variables in the research model adopted. This research will gather data from automotive parts businesses in Thailand by means of a survey questionnaire. In conclusion, the scope of this research includes three major parts. First, it examines the effect of four dimensions of EL (PC, MC, PRC, and TC) on value creation. Second, it investigates the influence of four dimensions of EL on-business performance. Lastly, it explores the mediating effect of value creation between the four dimensions of EL and business performance.

Literature Review

Four Dimensions of EL

From a review of the literature, EL is seen to overlap between leadership and entrepreneurship. Previous studies have indicated that leadership involves the observed behavior of leaders (Conger & Kanungo, 1987), the influences on expectations and concerns of subordinates (Kerr et al., 1974), and how they motivate their subordinates to perform above the leader's expectation (Podsakoff et al., 1996). Entrepreneurship focuses on capabilities, because businesses that operate with well-developed entrepreneurial skills can sustain growth and innovation, which gives critical competitive advantages (Wingwon, 2012). These skills lead to marketing capability, innovative capability, and sustained competitive advantages (Lee & Hsieh, 2010), technological capability (Fontes, 2007), and unique and distinctive competence (Ahuja & Lampert, 2001). Thus, how EL's dimensions might have arisen from the integration of the two concepts of leadership style and entrepreneurial capabilities will be discussed in the next section. The central element of EL characteristics that will be focused on in this study is a new leadership style to fit with current situations. The four dimensions of EL characteristics will be described below.

Personal competency (PC) refers to personal competence, which is important to potential entrepreneurs and means that a given individual can identify opportunities for business (Krueger & Brazeal, 1994). Bagheri and Pihie (2011) indicated that PC represent the ability to apply methods for utilizing the learning outcomes to recognize

the necessary personal skills and learning opportunities in order to acquire valuable knowledge and competencies to ensure success. Moreover, PC can be divided into three sub-elements (decision-making, self-reinforcement, and self-regulatory skills). First, decision-making is the ability individuals utilize when confronted with a specific problem. It involves developing cognitive strategies on information gathering and applying this to decision-making. Second, self-reinforcement is involved with self-statements one makes to reinforce one's behavior. Finally, self-regulation skills represent cognitive strategies that individuals may use in specific situations to manage anxiety or distress (Griffin et al., 2002). Moreover, PC is related to personal models, outcome models, or education and training models, as well as to the standard approach in which benchmarking criteria are used (Hynes, 1996). These contribute to general cognitive ability, specialized cognitive skills, competence performance, modified competence-performance, objective and subjective self-concepts, motivated action tendencies, action competence, key competencies, and meta-competencies (Le Deist & Winterton, 2005). All of these are connected to leadership responsibility.

Second, managerial competency (MC) involves underlying characteristics of an individual that are causally related to adequate or superior performance in a job (Klemp Jr, 1980). A manager's competency relates to motives, traits, self-concepts, attitudes or values, content knowledge, cognitive or behavioral skills, aspects of one's self-image or social role, or a body of knowledge, which are used to identify issues and are utilized in their management roles (Harley, 1995). Individual characteristic that can be performance enhancers include logical thought, accurate self-assessment, positive regard, developing others, spontaneity, use of unilateral power, self-control, stamina and adaptability, and specialized knowledge (Nwokah & Ahiauzu, 2008). MC also involves aspects of leadership style (versatility, task, stability, and people leadership), and is concerned with flexibility and growth while creating value in the organization (Rasli et al., 2015). The model of MC involves managing the future, promoting continuous improvement, maintaining competitiveness, energizing employees, and fostering innovation (Trivellas & Drimoussis, 2013).

Third, proactive competency (PRC) is an ability area that could be further developed and exercised to help people meet future life challenges (Stanojević et al., 2013), and could involve an educational program that supports a review of feasible and effective practices in improving business (Bode et al., 2006). PRC is thought of as consisting of two steps. First, the creation of agile employees refers to activities such as building value propositions based on current development. Second, recognition of agile employees might come in the form of cost reductions for a customer as a result of accepting the employee's valuable propositions (Chonko & Jones, 2005). However, PRC are competencies that have elastic or resilient features, and involve flexible and cyclic activities (Pirinen & Fränti, 2008). Moreover, addressed this competency as possessed by proactive leaders involves looking at the behavioral and potential aspects of leadership (Wu & Wang, 2011). The PRC emphasized are drivers to business growth through innovation and are key sources of generating competitive advantage that is a fundamental source of business value (García-Zambrano et al., 2014).

Finally, technological competency (TC) represents the abilities or behavior directly related to the nature of utilizing technology and advanced equipment proficiency required to exercises effective control of a business (e.g., Murphy et al., 2012). The idea that core or strategic capabilities lead to business competitiveness and survival through decision-making and action is supported by Leonard-Barton (1995). TC is different from other competencies because it changes over time. Not surprisingly, some research has found that large businesses have more expertise in their TC than small and medium-sized businesses (Patel & Pavitt, 1997). This may be dispersed over a broader range of sectors than their production activities and so there is a need for more concentrated development efforts in a long-term to keep up with advances in technology (e.g., Chiesa et al., 1999). TC aid in increasing profitability and enhance innovation and successful business performance (McEvily et al., 2004). These contribute to the achievement of superior performance (González-Alvarez & Nieto-Antolín, 2005), exert a direct effect on a business's innovative performance (Lokshin et al., 2009), and maintain and improve competitive organizational advantages (Bolívar-Ramos et al., 2012).

Value Creation

Value creation is the amount of value that is subjectively realized by a target user who is the focus of value creation in individuals, organizations, and society (Lepak et al., 2007). According to prior empirical evidence, EL is a source of value creation (Ahmad, & Seymour, 2008). This emphasizes that value creation is central to the definition of entrepreneurial activity (Zott et al., 2000). It is also integral to a part of the marketing function and orientation of a firm (Han et al., 1998). While value creation is an essential condition for exchange to occur, successful firms emphasize the value creation activities that are best suited to their strategic intent within their competitive niche (Miller & Floricel, 2004). Traditional enterprises have placed more focus on the transaction and customer relationships (Wang et al., 2004), but the focal point of an entrepreneurial leader is innovative and is oriented toward value creation (Morris et al., 2002). Entrepreneurs achieve better results by finding new ways to create or discover value (Becherer et al., 2008). They recognize the ability of the creation process to play several roles in the relationship such as between leaders and followers (Kelm et al., 1995), customers and marketers (Smith & Colgate, 2007), and buyers and suppliers (Chatain, 2011). Therefore, this research tested the effect of four dimensions of EL on-value creation of the leaders from automotive parts businesses and hypothesizes that:

Hypothesis 1: Four dimensions of EL (PC, MC, PRC and TC) will have a positive effect on value creation.

Business Performance

Business performance refers to the operational ability to satisfy the desires of the company's major shareholders (Smith & Reece, 1999). Prior studies have indicated that there are direct effects between EL and business performance. Also, some empirical studies have shown a strong relationship between EL and performance. For example, the relationship between EL and performance in leaders of educational institutions has been confirmed by Wahab and friends (2015). Strategic leadership and a leader operating in an entrepreneurial context are related to business performance (Simsek et al., 2015), such as in South Africa's tourism business performance (Zyl &

Mathur-Helm, 2007), and leadership styles in Taiwan compared to business performance (Yang, 2008). EL behavior is also related to new venture performance (Hmieleski & Ensley, 2007). However, these studies gather data from other industries, but not the leaders in automotive parts industry and not in Thailand context. Therefore, this research tested the effect of four dimensions of EL on the business performance of leaders from automotive parts businesses and hypothesizes that:

Hypothesis 2: Four dimensions of EL (PC, MC, PRC, and TC) will have a positive effect on business performance.

A literature review found little empirical evidence that EL relates directly to value creation or EL relates to business performance because of mediation by value creation. Therefore, this study emphasizes the two roles of value creation and suggests these are a consequence of EL and a mediator between EL and business performance. Figure 1 shows the conceptual framework of this research. Therefore, this research tested the effect of four dimensions of EL on the value creation and business performance of leaders from automotive parts businesses and hypothesizes that:

Hypothesis 3: Value creation will mediate the relationship between four dimensions of EL (PC, MC, PRC, and TC) and business performance.

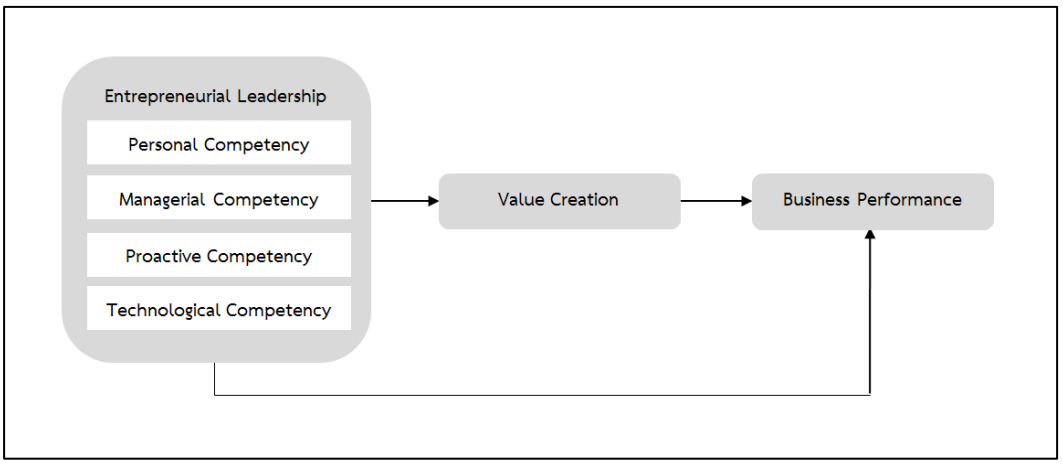

Figure 1. Conceptual model of entrepreneurial leadership, value creation and business performance

Method

Research Instrument

Respondents were leaders of automotive parts manufacturing businesses located in Thailand. Automotive parts businesses are very important in the Thai Economy because they have the highest export value (Suwannarat, 2016). They now are faced with challenging situations included pressures from Government following the announcement of a new policy—Thailand 4.0 policy. This policy has challenged all automotive parts businesses to create a value-based economy driven by innovation, technology, and creativity. Thus, the automotive parts manufacturing businesses were an appropriate setting for studying the individual levels of EL, value creation and business performance. The population of leaders selected for this study came from 616 automotive parts manufacturing businesses listed by the Thai Auto parts Manufacturers Association (TAPMA, 2018). The optimal sample size of respondents was calculated by using Yamane's (1973) formula when the known population size is 95 percent confidence level and based on the concept of statistical analysis of SEM. The calculation indicated that 243 responses were required from the 616 leaders consisted of mangers, owners, or who work in top of management level in automotive parts businesses. Of the 241 surveys returned, 235 were useable. Additionally, due to the change of address or the closedown of the businesses, 18 mailed surveys were undelivered. Therefore, the rate of useful responses was around 96.71 percent. Taking all these facts into consideration, the criterion for the lowest sample size was met (Hair et al., 2010). Thus, 235 automotive parts manufactures were deemed suitable for utilization in the confirmatory factor analysis and structural equation model because Anderson and Gerbing (1988) suggested that the minimum sample size for conducting SEM should be N = 100–150.

In order to satisfy instrument reliability and validity, this research used a questionnaire to collect data after three steps were completed. First, the item objective congruence index (IOC) was tested by three experts in the Management area. The item-objective congruence index from all items is acceptable if its value is equal .64 > .50 (Turner & Carlson, 2003). Second, a pilot study was employed before the actual study to solicit feedback from 30 respondents in terms of their understanding of the questionnaire's

wording and to measure and evaluate any ambiguity in the questions and to assess the questionnaire's reliability. This study used Cronbach's alpha coefficient to measure the reliability of the subjects' answers concerning all items on the questionnaire. Usually, the researchers called the analysis of internal consistency for the instrument. The results indicated that all of the variables had values of Cronbach's alpha greater than .70 (Cho & Kim, 2015). Thus, the result of all Cronbach's alpha coefficients from pilot study is from .785 to .929, which exceeds the acceptable cut-off score. Third, using a non-response error test form, all 235 surveys were separated into two approximately equal parts: the first group consisted of 117 responses that were regarded as the early respondents, and the second group consisted of 118 responses that were regarded as the late respondents. The findings from data analysis indicated that there are no differences for each factor from both the first and second respondents' groups. If not including PRC, then the findings revealed that there are differences between the first and second groups of respondents. This result may be originated from the respondent's inability, reluctance, or refusal to respond to the surveys may have caused the rise of the PRC difference (Jang et al., 2008). Regardless that PRC differences are showing, there will be no impacts on the outcomes because their significant value and instinctual opinions are close to .05.

Moreover, to measure the fit of each variable, this study used two methods consist of exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). First, the EFA was used to test each item of EL, value creation, and business performance, because it is the most effective manner to set the structure of variables (Chong, 2006). Due to the fact that the questionnaire developed in this study was adapted from prior studies, part of it was integrated with new items which were developed to describe every factor based on a comprehensive theoretical rationale. Second, CFA was used to test the relationship between the observed variables and the fundamental constructs with factors that allowed to inter-correlate freely and utilized to assess unidimensional, convergent validity, and construct reliability. In addition, CFA was used to test the goodness-of-fit indices that assess goodness of fit of the model which includes the normed chi-square test, a p-value that is no significant, GFI is higher than .90 and the RMSEA is lower than .05 (Fornell & Larcker, 1981). Lastly, this research used the structural equation modeling (SEM) method and results show that there are no difference and can be accepted at the level of significance

.05 and its ratio of Chi-square value to the degree of freedom is lower than 2.00. This indicates an adequate fit of the observed data with the model. The fit indices included NFI, CFI, IFI, and RFI, are above the cut-off criterion (.900) and RMSEA is lower than recommended value is .05 (Hair et al., 2010). The details about each variable and reliability are explained below.

Dependence Variable

Business performance (BP)

Business performance is a multidimensional construct (Wiklund & Shepherd, 2005). Previous studies often have used self-reports to gather business performance data, and these results have proven reliable (Calantone & Knight, 2000). This study used subjective, self-reported measures on five rating scales of automotive parts manufacturers' performance. This included six items consist of return on investment, return on equity, return on assets, net profit margin, sale growth, and growth in some employees (Zahra et al., 2002). The reliability value (α) in this section was .925. From EFA results, one item was deleted; therefore, the reaming variables are five from six items. All of the variables fit the index and fell within an acceptable range (χ^2 = .818, df = 3, p = .845, χ^2/df = .273, GFI = .999, RMSEA = .000).

Independent Variable

Entrepreneurial leadership (EL)

The perception of EL was assessed in four dimensions. First, PC was used to measure the ability of leaders to apply the own capability in decision-making and to reinforce one's behavior, and the use of self-regulation in specific situations to manage anxiety or distress (Griffin et al., 2002). PC was measured by adopting questions from Griffin and colleagues (2002) and Le Deist and Winterton (2005). The six items used were developed from the literature reviews and gave a satisfactory Cronbach's Alpha (α = .753). Afterward, CFA was used to test the reaming four PC items to measure the PC variable and PC items were fitted reasonably well (χ^2 = 1.618, df = 2, p = .445, χ^2/df = .809, GFI = .997, RMSEA = .000). Secondly, MC refers to specific skills of entrepreneurial leaders such as analytical ability, persuasiveness, speaking ability, memory for details, empathy, tact,

and charm are useful in most all leadership positions (Yukl, 1989). The instrument used to measure this variable was from Chong (2013). This independent variable was measured by seventeen items adapted from literature reviews and previous studies and its reliability value (α) was .922. Subsequently, performed CFA was used to measure the MC items remaining twelve from seventeen items, the findings showed that fit indexes fell within an acceptable range (χ^2 = 57.907, df = 45, p = .094, χ^2/df = 1.287, GFI = .964, RMSEA = .035). Thirdly, for PRC measurement, a scale designed by Seibert and colleagues (1999) and Gudermann (2011) was adopted. PRC was measured by nine items and Cronbach's Alpha (α) was .825. These items used CFA to assess the validity of each variable and the findings showed remain five out of nine items and these items fell within an acceptable range (χ^2 = .834, df = 2, p = .659, χ^2/df = .417, GFI = .999, RMSEA = .000). Finally, the TC variable measurement questions were adopted from Collin and colleagues (2015) and Cortoni and colleagues (2015). This section consists of ten items that related to digital competency and information technology. The analysis gave a very satisfactory Cronbach's Alpha (α = .921). The results from CFA remaining seven from ten items showed the baseline of all TC items fitted the data well (χ^2 = 12.550, df = 9, p = .184, χ^2/df = 1.394, GFI = .985, RMSEA = .041).

In summary, the thirty-eight items consist of twenty-eight items involving the four EL dimensions and five items each came from the value creation variable and the business performance evaluation questions. Therefore, all of constructs showed consistency in this research and it is concluded that all items might be used to measure the conceptual model and the proposed hypotheses.

Mediating Variable

Value creation (VC)

To provide an estimate for value creation, key respondents were asked a series of questions. The variable being assessed arises from two concept focused on customer and business value and was measured by ten items developed and adapted from Becherer and colleagues (2008). Prior studies suggested that value creation can be self-assessed by managers, who are leaders in automotive parts businesses, to enable comparison with others (e.g., Hellsten & Klefsjö, 2000). This questionnaire gave a satisfactory Cronbach's

alpha (α = .889). While, the CFA methods deleted some of the items and there are only five from ten items remained. Fit indexes fell within an acceptable range (χ^2 = 4.170, df = 4, p = .384, χ^2/df = 1.042, GFI = .993, RMSEA = .013). Therefore, based on the analyses made in this study, it is concluded that all of items in conceptual framework consistent fits the empirical data.

Results

The results of the demographic characteristics of the 235 automotive parts manufacturers surveyed indicated that most respondents had registered as limited companies (88.30%). Most of the business types that responded possessed a registered operational capital of more than 20,000,000 Baht (65.80%). Based on the gathered data, businesses employed more than 200 employees in 108 businesses (55.1%). Besides, approximately 182 automotive parts businesses had been operating business more than 15 years (92.9%). In the section dealing with business revenues, most respondents (149) identified had revenues more than 45,000,000 Baht (76.0%). In terms of location of a business, the data showed 81 businesses were in the central region (41.3%). These profiles designated that all information from each business can be used as a representative of the population and could be used as a useful indicator in this study.

Table 1 Mean, S.D., Cronbach's Alpha, and Correlation Validity of EL Constructs

Construct	Mean	S.D.	α	PC	MC	PRC	TC	VC	BP
PC	4.403	.494	.753	1.000					
MC	4.009	.496	.922	.609	1.000				
PRC	4.037	.521	.825	.541	.763**	1.000			
TC	3.806	.670	.921	.451	.636**	.596**	1.000		
VC	4.243	.582	.889	.548	.686**	.630**	.614**	1.000	
BP	3.767	.788	.925	.406	.551**	.470**	.406**	.488**	1.000

** Correlation is significant at the .001 level (2-tailed)

Correlation Analysis

The correlation matrix shows the correlation between the two variables and indicates multicollinearity problems by the inter-correlations among the independent variables. The results indicated no multicollinearity problems in this study and the result was lower at .80 (Hair et al., 2010). Accordingly, the evidence suggests that there are significant relationships among the four dimensions of EL (PC, MC, PRC, and TC), value creation and business performance in relation to automotive parts manufacturers ($r = .406$ to $.763$, $p < .01$), as detailed in Table 1. Moreover, Testing the data set for normality, kurtosis and skewness returned satisfactory results. This permitted data analysis for model fit and hypothesis testing by used structural equation modelling.

Table 2 The Results of Each Hypothesis, Path Analysis, Path Coefficient, t-value, and Result

Hypothesis	Path Analysis	Path Coefficient	t-value	Result
H1	PC → VC	.163	2.864**	Supported
	MC → VC	.267	3.433***	Supported
	PRC → VC	.194	2.724**	Supported
	TC → VC	.245	4.141***	Supported
H2	PC → BP	.093	1.349	Not Supported
	MC → BP	.385	4.071***	Supported
	PRC → BP	.085	.982	Not Supported
	TC → BP	.070	.977	Not Supported
H3	PC → VC → BP	.153	2.971**	Supported
	MC → VC → BP	.326	4.609***	Supported
	PRC → VC → BP	.173	2.696**	Supported
	TC → VC → BP	.208	3.864***	Supported
	VC → BP	.761	9.326***	Supported

Note: ** significate level at .05

*** significate level at .01

Hypotheses Testing

The aim of this study was to test the effect of EL dimensions, value creation and businesses performance. Table 2 presents the results of the structural equation modelling using the Path Analysis method for three hypotheses. For Hypothesis 1 the results of the four dimensions of EL included PC (γ = .163, $p < .05$), MC (γ = .267, $p < .001$), PRC (γ = .194, $p < .05$), and TC (γ = .245, $p < .001$) and represent a positive effect on value creation. Moreover, the finding also showed that MC was more important than another dimension. Thus, hypothesis 1 is strongly supported. Hypothesis 2 is partially supported because not all dimensions have significant effect on performance which are PC (γ = .093, $p > .05$), MC (γ = .385, $p < .001$), PRC (γ = .085, $p > .05$), and TC (γ = .070, $p > .05$). Therefore, only one dimension of EL which was MC that supported the conceptual model. Meanwhile, In Figure 2 shows the result of Hypothesis 3 is supported by the empirical data. The findings showed that value creation performs as a full mediator for all relations between four dimensions of EL and business performance this includes PC (γ = .153, $p < .05$), MC (γ = .326, $p < .001$), PRC (γ = .173, $p < .05$), and TC (γ = .208, $p < .001$) and VC (β = .761, $p < .001$).

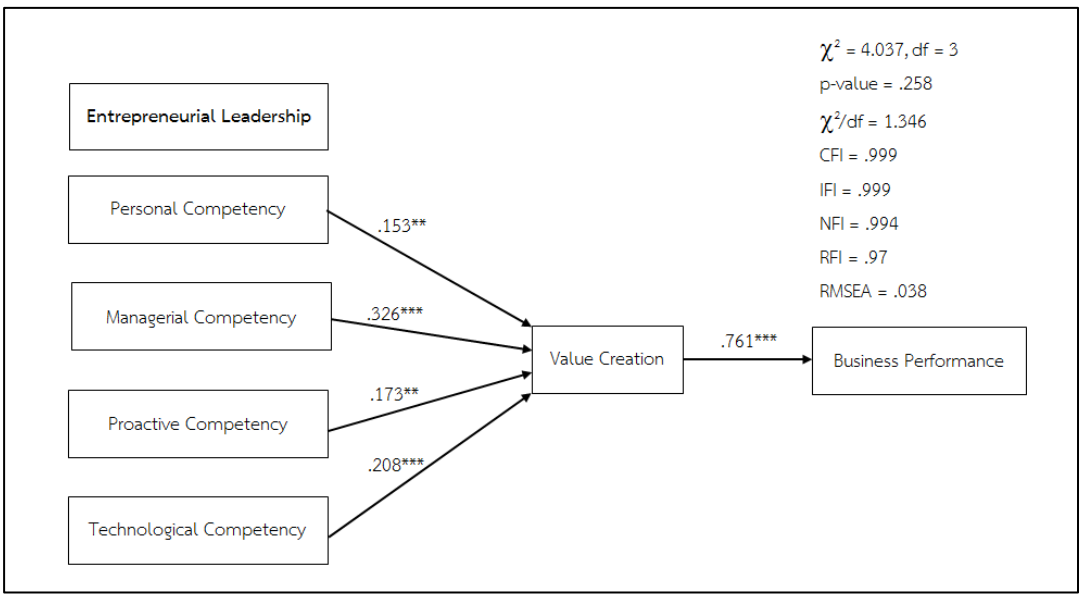

Figure 2. Structural model of four dimensions of EL, value creation, and business performance with standardized parameter estimates and statistical significance

Discussion

The purpose of this study was to investigate the effects of four EL dimensions on business performance in automotive parts manufacturing businesses, specifically the mediating effect of value creation in the relationships between EL and business performance. The results show that four dimensions of EL have a positive relationship to value creation in automotive parts businesses. On the other hand, the results show that three dimensions, namely, PC, PRC and TC do not have any effects on the business performance in automotive parts businesses. The findings regarding the direct effects of four EL dimensions and value creation in automotive parts businesses are consistent with the extant literature (e.g., Prieto, 2010; Quan, 2015). Consistent with these authors, it means that the four EL dimensions are a source of value creation in automotive parts businesses.

The lack of support for three dimensions of EL included PC, PRC and TC, on business performance was expected. Consequently, this research makes three important results to four dimensions of EL in automotive parts manufacturing businesses. First, it does not support the value of PC, PRC and TC to businesses performance. This means that views are not strengthened that assert that leaders who lack of PC, PRC and TC cannot achieve acceptable business performance in automotive parts manufacturing businesses. This finding also is consistent of the findings of Varga and colleagues (2015) who stated that the role of personal competences should be to update and put a proper stress on them as of importance in training, but acquiring these competencies should be based on the opinion of the leader who are respondents. Second, only MC directly effects automotive business performance and implies that management skills are crucial to leader in the automotive parts business. This is consistence with Baum and friends (2001) who stated that management ability is a core competency of entrepreneurs. Finally, the findings indicated that three competencies of leaders (i.e., PC, PRC, and TC) in automotive parts businesses did not directly influence business performance. This implies that these competencies should be integrated with other competencies to produce superior business performance. Moreover, the result suggests that leaders who have only one managerial competency can create both value creation and business performance.

Meanwhile, the finding showed that if leaders have all of the four competencies in EL this has a strong influence on value creation and is greater than that experienced from a leader who has only managerial competency. Therefore, the data show some consistency with the findings of Varga and colleagues (2015). They stated that modern entrepreneurial competencies should include both informational communication technology and foreign language competency hence providing a perfect harmony with the requirements across all business sectors. Baum and colleagues (2001) claimed that if the competencies of leaders consisted of general competency in management skills and their specific competencies are operational skill and technological ability, they can create new products, services that are specific to a particular task.

Therefore, these findings indicate that possession of PC, PRC, and TC alone cannot create superior business performance but leaders must possess other competencies such as personal traits, skills and knowledge (Fastré & Van Gils, 2007), behavioral competencies (Woodruffe, 1993), entrepreneurial competencies (Fastré & Van Gils, 2007), and strategic, organizing and relationship (Mingmalairaks, 2011). These findings, when viewed in the context of four dimensions of EL, shed new insights on the entrepreneurship literature and automotive parts manufacturing businesses performance literature.

Theoretical Implication

This research attempted to expand understandings of the interactions between dimensions of EL and value creation and business performance, its new dimensions and the moderators involved. It can be stated that this research provides four unique theoretical contributions. First, from the perspective of broader entrepreneurial leadership theory, this study has shown that there is a new application of the recently developed EL model in the new century setting. The identification of four dimensions to EL provides new insights into theories of EL. Entrepreneurial leadership, which up until this time has not been a major part of the literature on leadership, was found to be an important aspect in this study. It could be viewed as a possible extension to the TC dimension of EL. A synergy between scholarly work and experience-based work, such as are discussed in the studies of Gartner (1990), Gupta

and colleagues (2004), Fernald and friends (2005), Kuratko (2007) and Renko and associates (2015), may foster understanding of this leadership style and could be of benefit to the further development of EL theory. Therefore, this research has extended the TC dimension of EL and confirmed the outcome from empirical evidence collected from automotive parts businesses in Thailand. Consequently, it provides an essential theoretical insight which arises from the effects noted among each dimension of EL and their outcomes. It also provides a fundamental theoretical insight which grows from the effect of the TC dimension. This dimension of EL showed that it affects value creation and business performance. Moreover, the results showed that the right dimension of EL can be used to measure the likely gains in value creation and business performance. The findings confirm that four dimensions of EL can lead to high-value production and business performance.

Second, another dimension that emerged in this study, such as value creation, is clearer in the existing dynamic capability theory context. Traditional value creation incorporates two distinct concepts, customer value and business value. This is like value creation in entrepreneurial marketing. The present study showed strong evidence regarding how the leaders should approach value creation, such as using EL competencies to gain more benefits for all people in businesses. Hence, this research showed the effect of four dimensions of EL as mediated by value creation in the pursuit of business performance. The research outcomes arose through quantitative testing following collection of data from automotive parts manufacturing businesses in Thailand. Besides, this research also expanded previous knowledge and literature relating to the EL dimensions found in automotive parts manufacturers in Thailand.

Finally, regarding the contingency and dynamic capability theory, the results from this research confirmed the contingency and dynamic capability theory and supported the overall effects of the variables in this model. From the dynamic capability theory aspect, value creation is a factor that creates value in businesses and allows them to achieve superior performance. In the automotive parts manufacturing business in Thailand this comes about by modifying capability for the future. Improvement is on account of Government pressures to change the business context

to a technological advancement perspective. This should deliver performance benefits to the business in that the transition is from a labor-intensive process to one demanding high technological skill. Thus, dynamic capability can support and explain the effects of each dimension of EL in this research model, which has been newly developed (technological and value creation) to produce value and business performance. The dynamic capability theory potentially supports these effects. Also, the effects of the four dimensions (PC, MC, PRC, and TC) are EL characteristics confirmed to the EL theory and contingency theory of leadership. Therefore, these results are also supported by the contingency theory.

Empirical Implication

The research provides useful contributions and has implications for executives, top managers, department managers, department directors, supervisors and all the managers. They should encourage the adoption of EL characteristics into the business. EL competency is a core competency for creating higher added value, business profitability, and performance through their ability, including PC, MC, PRC, and TC.

Leaders in automotive parts businesses should possess EL characteristics. Such leaders, who work in challenging business, can create an innovative atmosphere and higher performance by creating new values or modifying internal process through employee behaviors. Consequently, possession of EL characteristics, in the context of TC, is one of the most critical dimensions for creating superior performance. This is especially true with the high technology firms that must cope with technology changes. Businesses need to have many tools for creating more value or modifying business processes.

In the context of the automotive parts manufacturing sector, it has been subjected to continual development, has more complexity in the market compared to many other businesses, must cope with the new policies arising from Government, together with environmental uncertainty and fierce competition. Thus, leaders in automotive parts businesses should have different skills compared with other business

leaders included core competencies to conducts business activities. Moreover, leaders in an automotive parts business need to move up to the next level of operation. They need to contend with changing existing industrial structures, to focus on new areas that emphasize research and development and advanced technology in the production process to facilitate business, and to exploit new opportunities for enhancing a new process to produce more value to partners and stakeholders.

Moreover, all leaders in automotive parts businesses must enable employees to develop higher levels of skill and capability by intensively use of information technology along with advanced technology in both management and production process to create high value as automotive parts go to both customers and OEM (original equipment manufacturer) and REM (repetitive manufacturing) markets. EL characteristics suitably describe leaders who conduct businesses under the context of Thailand 4.0. Entrepreneurial leaders have the potential to support business to survive because they have several fundamentally competencies permitting them to struggle with competitors. They can optimize risk, innovate to take advantage of opportunities, take personal responsibility and manage change within the dynamic environment to create value and business performance. In addition, the implementations of EL competency include developing the ability in employees to self-generate, self-reflect and self-correct in their organization.

Within the context of managerial contribution, the outcomes of this study provide forward insights into the areas of focus to improve automotive parts manufacturer's performance and which leads to sustainability. Hence, it appears crucial to promote entrepreneurial leadership and to enhance employees through changes in business conditions. A step forward in increasing business competitiveness has been through changing the country policy in Thailand.

In general, the outcomes retrieved from this study can be applied to other types of business include the high technology industry, where leaders represent the core competency of business and where entrepreneurial leadership might have a significant impact on the performance of the businesses. Further, the result of this

research indicates that leaders are the most critical people for enhancing value creation, innovativeness, and business performance. Thus, executives or leaders should pay more attention to entrepreneurial activities such as assembling a committed team, communicating without limitations, making the business mission statement clear, revealing true, genuine leadership, identifying all the barriers in the workplace, and building a flexible work environment. To provide the right direction, leaders might commence by acknowledging peoples' talents and giving appropriate credit and motivating all of the employees who do an excellent job.

On another hand, the physical traits of an EL consist of the ability to communicate, ability to articulate a vision and persuade others, have and communication purpose (clear direction and meaning), have clear goals and a determination to achieve them and communicates passion to all employees. Additionally, the result of this research indicates that a climate and learning process in the workplace can subsidize successfully the EL style to create more value and performance. Importantly, leaders should be careful in the introduction of a new organizational climate and advanced learning demands in their business because these factors can reduce value creation and performance. Finally, leaders in automotive parts companies should pursue and respond to new opportunities within the globalization context that is disrupted by technological change. However, another result arising from an investigation of the four dimensions of EL in this research has indicated their influence on businesses performance. The four dimensions of EL (PC, MC, PRC, and) can be utilized to improve business performance. Leaders who want to apply organizational learning along with EL to facilitate greater value creation might be encouraged. This variable, when strongly supported, will lead to gains in value creation. On the other hand, leaders should be careful when thinking of applying and integrating organizational climate changes into their businesses.

Limitation and Future Research

In this research, some limitations are recognized as follows: First, the results of this research came from a single population of the automotive parts manufacturing businesses in Thailand, not all automotive industries. A study of all automotive industries or other populations, such as the high-technology sector, might measure the TC to have high validity and reliability. Hence, it might be unwise to generalizing the findings of this research

in this area. Moreover, this research is a first study into automotive parts manufacturing and in the Thailand context. Thus, these items need to retested and restudied in other populations and samples for the generalizability of results. Second, this study encountered a low response rate (approximately 38.15%) due to a limited period allocated for data collection. The data collection procedure and the follow-up process took approximately a month. As a result, the response rate emerges as a primary concern for this research. Consequently, the generalization of the results beyond the scope of this study is of limited value. Third, the explanation and understanding of the moderating variables and their effects are still limited. The researchers may have to examine other moderators, which impact the operation in automotive parts manufacturing businesses for the creation of a better conceptual framework and to fit into the context of the ASEAN country of Thailand. Finally, this research used some items developed from prior definitions in order to measure the dimension of EL and used the quantitative method to assess the results. The study might be extended to include qualitative research methods such as in-depth interview, focus group, or case study along with quantitative method to confirm the results of this study and attain a clearer picture of EL in this sector.

Acknowledgments

This research was supported by Mahasarakham Business School, Mahasarakham University and Asia-Pacific International University. We thank Professor Dr. Warren Shipton from James Cook University, Australia for assistance with proofread and comments that greatly improved the manuscript.

References

Ahmad, N., & Seymour, R. G. (2008). Defining entrepreneurial activity: Definitions supporting frameworks for data collection. *OECD Statistics Working Papers*, 1-18.

Ahuja, G., & Lampert, C. M. (2001). Entrepreneurship in the large corporation: A longitudinal study of how established firms create breakthrough inventions. *Strategic Management Journal, 22*(6–7), 521–543.

Amit, R., & Zott, C. (2001). Value creation in e-business. *Strategic Management Journal, 22*(6–7), 493–520.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological bulletin*, *103*(3), 411-423.

Arthur, S. J., & Hisrich, R. D. (2011). Entrepreneurship through the ages: Lessons learned. *Journal of Enterprising Culture, 19*(1), 1–40.

Bagheri, A., Lope Pihie, Z. A., & Krauss, S. E. (2013). Entrepreneurial leadership competencies among Malaysian university student entrepreneurial leaders. *Asia Pacific Journal of Education, 33*(4), 493–508.

Bagheri, A., & Pihie, Z. A. L. (2011). Entrepreneurial leadership: Towards a model for learning and development. *Human Resource Development International, 14*(4), 447–463.

Bateman, T. S., & Crant, J. M. (1999). Proactive behavior: Meaning, impact, recommendations. *Business Horizons, 42*(3), 63–70.

Baum, J. R., Locke, E. A., & Smith, K. G. (2001). A multidimensional model of venture growth. *Academy of Management Journal, 44*(2), 292–303.

Baylor, A. L., & Ritchie, D. (2002). What factors facilitate teacher skill, teacher morale, and perceived student learning in technology-using classrooms? *Computers and Education, 39*(4), 395–414.

Becherer, R. C., Haynes, P. J., & Helms, M. M. (2008). An exploratory investigation of entrepreneurial marketing in SMEs: The influence of the owner/operator. *Journal of Business and Entrepreneurship, 20*(2), 44–63.

Bode, C., de Ridder, D. T. D., & Bensing, J. M. (2006). Preparing for aging: Development, feasibility and preliminary results of an educational program for midlife and older based on proactive coping theory. *Patient Education and Counseling, 61*(2), 272–278.

Bolívar-Ramos, M. T., García-Morales, V. J., & García-Sánchez, E. (2012). Technological distinctive competencies and organizational learning: Effects on organizational innovation to improve firm performance. *Journal of Engineering and Technology Management, 29*(3), 331–357.

Calantone, R., & Knight, G. (2000). The critical role of product quality in the international performance of industrial firms. *Industrial Marketing Management, 29*(6), 493–506.

Chatain, O. (2011). Value creation, competition, and performance in buyer-supplier relationships. *Strategic Management Journal, 32*(1), 76–102.

Chiesa, V., Giglioli, E., & Manzini, R. (1999). R and D corporate planning: Selecting the core technological competencies. *Technology Analysis and Strategic Management, 11*(2), 255–279.

Cho, E., & Kim, S. (2015). Cronbach's coefficient alpha: Well known but poorly understood. *Organizational Research Methods, 18*(2), 207–230.

Chong, E. (2013). Managerial competencies and career advancement: A comparative study of managers in two countries. *Journal of Business Research, 66*(3), 345–353.

Chonko, L. B., & Jones, E. (2005). The need for speed: Agility selling? *Journal of Personal Selling and Sales Management, 25*(4), 371–382.

Collin, J., Hiekanen, K., Korhonen, J. J., Halén, M., Itälä, T., & Helenius, M. (2015). *IT Leadership in Transition The Impact of Digitalization on Finish Organizations*. Science and Technology. Retrieve on December 1, 2018 from https://aaltodoc.aalto.fi/bitstream/handle/123456789/16540/isbn9789526062433.pdf?sequence=1&isAllowed=y

Conger, J. A., & Kanungo, R. N. (1987). Toward a Behavioral Theory of Charismatic Leadership in Organizational Settings. *Academy of Management Review, 12*(4), 637–647.

Cortoni, I., LoPresti, V., & Cervelli, P. (2015). Digital Competence Assessment: A Proposal for Operationalizing the Critical Dimension. *Journal of Media Literacy Education, 7*(1), 46-57.

Diamantopoulos, A., Siguaw, J., & Siguaw, J. A. (2000). *Introducing LISREL: A guide for the uninitiated. Introducing LISREL: A guide for the uninitiated*. London.

Ensley, M. D., Pearce, C. L., & Hmieleski, K. M. (2006). The moderating effect of environmental dynamism on the relationship between entrepreneur leadership behavior and new venture performance. *Journal of Business Venturing, 21*(2), 243–263.

Fastré, G., & Van Gils, A. (2007). Competence development in entrepreneurship. In The challenges of educating people to lead in a challenging world. In *The challenges of educating people to lead in a challenging world* (pp. 385–398). Springer, Dordrecht.

Fernald, L. W., Solomon, G. T., & Tarabishy, A. (2005). A new paradigm: Entrepreneurial leadership. *Southern Business Review, 30*(2), 1–10.

Fontes, M. (2007). Technological entrepreneurship and capability building in biotechnology. *Technology Analysis and Strategic Management, 19*(3), 351–367.

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*, 382–388.

García-Zambrano, L., Rodríguez-Castellanos, A., & García-Merino, J. D. (2014). Proactive management of core competencies, innovation and business performance in a period of crisis: The case of Spain. In *Entrepreneurship, Innovation and Economic Crisis* (pp. 59–68). Cham: Springer.

Gartner, W. B. (1990). What are we talking about when we talk about entrepreneurship? *Journal of Business Venturing, 5*(1), 15–28.

González-Alvarez, N., & Nieto-Antolín, M. (2005). Protection and internal transfer of technological competencies: The role of causal ambiguity. *Industrial Management & Data Systems, 105*(7), 841–856.

Griffin, K. W., Botvin, G. J., Scheier, L. M., Epstein, J. A., & Doyle, M. M. (2002). Personal competence skills, distress, and well-being as determinants of substance use in a predominantly minority urban adolescent sample. *Prevention Science, 3*(1), 23–33.

Gudermann, M. (2011). *The relationship between proactive personality, affective commitment and the role of job stressors*. Retrieved on December 1, 2018 from https://essay.utwente.nl/59941/1/BSc_M_Gudermann.pdf.

Gupta, V., MacMillan, I. C., & Surie, G. (2004). Entrepreneurial leadership: Developing and measuring a cross-cultural construct. *Journal of Business Venturing, 19*(2), 241–260.

Hair, J. F., Anderson, R. E., Babin, B. J., & Black, W. C. (2010). *Multivariate data analysis: A global perspective.* London: Pearson Education, Upper Saddle River.

Han, J. K., Kim, N., & Srivastava, R. K. (1998). Market Orientation and Organizational Performance: Is Innovation a Missing Link? *Journal of Marketing, 62*(4), 30–45.

Harley, W. B. (1995). Eight critical principles of empowerment. *Empowerment in Organizations, 3*(1), 5–12.

Hellsten, U., & Klefsjö, B. (2000). TQM as a management system consisting of values, techniques and tools. *TQM Magazine, 12*(4), 238–244.

Hernández Sampieri, R., Fernández Collado, C., & Baptista Lucio, P. (2010). *Metodología de la investigación* (Vol.3). México: McGraw-Hill.

Hmieleski, K. M., & Ensley, M. D. (2007). A contextual examination of new venture performance: Entrepreneur leadership behavior, top management team heterogeneity, and environmental dynamism. *Journal of Organizational Behavior, 28*(7), 865–889.

Hynes, B. (1996). Entrepreneurship education and training-introducing entrepreneurship into non-business disciplines. *Journal of European Industrial Training, 20*(8), 10-17.

Kelm, K. M., Narayanan, V. K., & Pinches, G. E. (1995). The response of capital markets to the R&D process. *Technological Forecasting and Social Change, 49*(1), 75-88.

Kerr, S., Schriesheim, C. A., Murphy, C. J., & Stogdill, R. M. (1974). Toward a contingency theory of leadership based upon the consideration and initiating structure literature. *Organizational Behavior and Human Performance, 12*(1), 62-82.

Klemp Jr, G. O. (1980). *The assessment of occupational competence.* Washington, DC: National Institute of Education.

Kraaijenbrink, J. (2011). *A value-oriented view of strategy* [Working paper]. University of Twente.

Krueger, N. F., & Brazeal, J. D. V. (1994). Entrepreneurial potential and potential and potential entrepreneurs. *Entrepreneurship Theory and Practice. 18*(3), 91-104.

Kuratko, D. F. (2007). Entrepreneurial leadership in the 21st century: Guest editor's perspective. *Journal of Leadership & Organizational Studies, 13*(4), 1–11.

Le Deist, F. D., & Winterton, J. (2005). What is competence? *Human Resource Development International, 8*(1), 27–46.

Lee, J., & Hsieh, C. (2010). A research in relating entrepreneurship, marketing capability, innovative capability and sustained competitive advantage. *Journal of Business Research, 8*(9), 109-119.

Leonard-Barton, D. (1995). *Wellsprings of knowledge: Building and sustaining the sources of knowledge*. Boston, MA: Harvard Business School Press.

Lepak, D. P., Smith, K. G., & Taylor, M. S. (2007). Value creation and value capture: A multilevel perspective. *Academy of Management Review, 32*(1), 180–194.

Lokshin, B., Van Gils, A., & Bauer, E. (2009). Crafting firm competencies to improve innovative performance. *European Management Journal, 27*(3), 187-196.

Markman, G. D., & Baron, R. A. (2003). Person-entrepreneurship fit: Why some people are more successful as entrepreneurs than others. *Human Resource Management Review, 13*(2), 281–301.

McEvily, S. K., Eisenhardt, K. M., & Prescott, J. E. (2004). The global acquisition, leverage, and protection of technological competencies. *Strategic Management Journal, 25*(8-9), 713-722.

Miller, R., & Floricel, S. (2004). Value creation and games of innovation. *Research-Technology Management, 47*(6), 25-37.

Mingmalairaks, P. (2011). *Innovation Adoption in Thai SMEs*. RMIT University. Retrieved on December 2, 2018 from https://researchbank.rmit.edu.au/eserv/rmit:14606/Mingmalaraiks.pdf

Mintzberg, H., Ahlstrand, B. W., & Lampel, J. (1998). *Strategy Safari: The Complete Guide Through the Wilds of Strategic Management*. Harlow (UK): Financial Times.

Morris, M. H., Schindehutte, M., & LaForge, R. W. (2002). Entrepreneurial marketing: a construct for integrating emerging entrepreneurship and marketing perspectives. *Journal of Marketing Theory and Practice, 10*(4), 1-19.

Murphy, D. M., Hanchett, M., Olmsted, R. N., Farber, M. R., Lee, T. B., Haas, J. P., & Streed, S. A. (2012). Competency in infection prevention: A conceptual approach to guide current and future practice. *American Journal of Infection Control, 40*(4), 296–303.

Nwokah, N. G., & Ahiauzu, A. I. (2008). Managerial competencies and marketing effectiveness in corporate organizations in Nigeria. *Journal of Management Development, 27*(8), 858–878.

Patel, P., & Pavitt, K. (1997). The technological competencies of the world's largest firms: Complex and path-dependent, but not much variety. *Research Policy, 26*(2), 141–156.

Pirinen, R. & Fränti, M. (2008). Framework and culture of proactive competencies learning: Learning by developing. In *Proceedings of the International Conference on Education and Educational Technology* (pp. 83–88). 21–23 November, Venice.

Podsakoff, P. M., MacKenzie, S. B., & Bommer, W. H. (1996). Transformational leader behaviors and substitutes for leadership as determinants of employee satisfaction, commitment, trust, and organizational citizenship behaviors. *Journal of Management, 22*(2), 259-298.

Prieto, L. C. (2010). Proactive Personality and Entrepreneurial Leadership : Exploring the Moderating Role of Organizational. *Academy of Entrepreneurship Journal, 16*(2), 107–121.

Quan, L. (2015). Perceptions of leadership competencies and the acquisition of them by CEOs in Vietnamese small enterprises. *Asian Social Science, 11*(4), 17–25.

Rasli, A. M., Norhalim, N., Kowang, T. O., & Qureshi, M. I. (2015). Applying managerial competencies to overcome business constraints and create values: Evidence from small technology-based firms in Malaysia. *Journal of Management Info, 2*(2), 22–28.

Renko, M., El Tarabishy, A., Carsrud, A. L., & Brännback, M. (2015). Understanding and measuring entrepreneurial leadership style. *Journal of Small Business Management, 53*(1), 54–74.

Schwartz, A. E., Stiefel, L., & Wiswall, M. (2013). Do small schools improve performance in large, urban districts? Causal evidence from New York City. *Journal of Urban Economics, 77*, 27–40.

Seibert, S. E., Grant, J. M., & Kraimer, M. L. (1999). Proactive personality and career success. *Journal of Applied Psychology, 84*(3), 416–427.

Simsek, Z., Jansen, J. J. P., Minichilli, A., & Escriba-Esteve, A. (2015). Strategic leadership and leaders in entrepreneurial contexts: A nexus for innovation and impact missed? *Academy of Management Review, 25*(1), 217-226., 52(4), 463–478.

Smith, J. B., & Colgate, M. (2007). Customer value creation: a practical framework. *Journal of marketing Theory and Practice, 15*(1), 7-23.

Smith, T. M., & Reece, J. S. (1999). The relationship of strategy, fit, productivity, and business performance in a services setting. *Journal of Operations Management, 17*(2), 145-161.

Songkünnatham, P. (2018). *The parable of the poisoned arrow: Thailand 4.0 edition*. Retrieved on December 10, 2018 from https://isaanrecord.com/2018/06/09/ the-parable-of-thepoisoned-arrow-thailand-4-0-edition/

Stanojević, D., Krstić, M., Jaredić, B., & Dimitrijević, B. (2013). Proactive coping as a mediator between resources and outcomes: A structural equations modeling analysis. *Applied Research in Quality of Life. 9*(4), 871-885.

Suwannarat, P. (2016). The study of export intermediary performance determinants. *Multinational Business Review, 24*(2), 123–143.

TAPMA. (2018). *Thai autoparts manufacturers association's member*. Retrieved on January 5, 2018 from http://www.thaiautoparts.or.th/index.php?op=member-index

Trivellas, P., & Drimoussis, C. (2013). Investigating leadership styles, behavioural and managerial competency profiles of successful project managers in Greece. *Procedia - Social and Behavioral Sciences, 73*, 692–700.

Turner, R. C., & Carlson, L. (2003). Indexes of item-objective congruence for multidimensional items. *International Journal of Testing, 3*(2), 163–171.

Varga, E., Budavári-Takács, I., Boda-Kinga, H., & Bárdos, I. (2015). Personal competencies from the perspective of human resource management and the business programmes of higher education. *Trendy v Podnikání, 5*(4), 22–31.

Wahab, A., & Mahmood, R. (2015). Effect of learning orientation and self-efficacy on performance of university leaders: entrepreneurial leadership as a mediator. In *The Annual Convention of Japanese Association of Administrative Science (JAAS)*. Aichi University, Nagoya Campus, Japan.

Wahab, A., Mahmood, R., & Bakar, S. B. (2015). How do self-efficacy and learning orientation affect performance of university leaders? *Journal for Studies in Management and Planning, 1*(5), 501–514.

Wang, Y., Po Lo, H., Chi, R., & Yang, Y. (2004). An integrated framework for customer value and customer-relationship-management performance: a customer-based perspective from China. *Managing Service Quality: An International Journal, 14*(2/3), 169-182.

Wiklund, J., & Shepherd, D. (2005). Entrepreneurial orientation and small business performance: A configurational approach. *Journal of Business Venturing, 20*(1), 71–91.

Wingwon, B. (2012). Effects of entrepreneurship, organization capability, strategic decision making and innovation toward the competitive advantage of SMEs enterprises. *J. Mgmt. & Sustainability, 2*, 137-150.

Woodruffe, C. (1993). What is meant by a competency? *Leadership & Organization Development Journal, 14*(1), 29–36.

Wu, C., & Wang, Y. (2011). *Understanding proactive leadership*. Retrieved on January 5, 2018 from file:///C:/Users/MBS/Downloads/11_proofread.pdf

Yamane, T. (1973). *Statistics: An introduction analysis*. Harper & Row.

Yang, C. (2008). The relationships among leadership styles, entrepreneurial orientation, and business performance. *Global Transitions International Research, 6*(3), 257–275.

Yukl, G. (1989). Managerial Leadership: A Review of Theory and Research. *Journal of Management, 15*(2), 251–289.

Zahra, S. A., Neubaum, D. O., & El–Hagrassey, G. M. (2002). Competitive Analysis and New Venture Performance: Understanding the Impact of Strategic Uncertainty and Venture Origin. *Entrepreneurship Theory and Practice, 27*(1), 1–28.

Zott, C., Amit, R., & Donlevy, J. (2000). Strategies for value creation in e-commerce: best practice in Europe. *European Management Journal, 18*(5), 463-475.