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## Effects of Human Resource Development Capability on Firm Competitiveness of Auto Parts Businesses in Thailand

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### Abstract

This research suggest the characteristic of human resource development system in the term of human resource development capability. The purpose of this research is to examine the effects of human resource development capability on firm competitiveness. Data was collected from 128 auto parts businesses in Thailand by questionnaire mail survey. The likert scale is used to measurement and the statistic used to analyze is the multiple regression. The results reveal that two dimensions of human resource development capability (including strategy-development connectivity and innovation creativity focus) have a significant positive influence on employee commitment, operational development, business productivity, and firm competitiveness; while employee competency analysis only significant positive influence on employee commitment. Furthermore, employee commitment, operational development, and business productivity have positive influence on firm competitiveness. The discussion and the suggestion with the conclusions are highlighted as well.

**Keywords :** Human Resource Development Capability, Employee Commitment, Operational Development, Business Productivity, Firm Competitiveness

### Introduction

Currently, a business organization is confronted with the radical environmental change in competition (Schmitt & Klarmer, 2015). It is necessary to achieve a sustained competitive advantage by fulfilling a value-enhancing strategy that differentiates it from its competitors, and is difficult for competitors to imitate (App, Merk & Büttgen, 2012). The competitive advantage of the firm can be achieved by its supply and effective use of resources (Barney, 2000). The sources of competitive

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advantage are mainly derived from a firm's human resources (Datta, Guthrie & Wright, 2005). Human resource management (HRM) as the design and management of a human resource system, is based on employment policy, comprising a set of policies designed to maximize organizational integration, employee commitment, flexibility, and work quality (Alagaraja, 2012).

Human resource development (HRD) as a sub-set of HRM (Jain & Gulati, 2016) emphasizes fuller integration of macro-level analysis linking human resources with organizational-level performance (Alagaraja, 2012). HRD is a process of developing and unleashing expertise for purposes of enhancing an individual, team, work process and organizational performance (Swanson, 2001). Previous research shows that HRD system, processes, and practice are positively associated with increments in productivity (Singh, 2000), greater organizational commitment (Zacharatos, Sandy Hershcovis, Turner & Barling, 2007), higher safety performance (Zacharatos, Barling & Iverson, 2005).

There is much research that studies about HRD in various dimensions, but those research perspective views of HRD are by using only elements of HRD perspective. It has less research that views HRD in the perspective of characteristics of effective HRD. In the definitions of HRD, there is some research that demonstrates the best characteristics of HRD system. However, these characteristics have been rarely studied and measured the empirical research. In this research, the terms of "human resource development capability (HRDC)" has a broad focus in the best characteristics of HRD system that can effectively influence the operational performance of an organization by a combination from HRD literature and a collection of characteristics of best HRD system.

Therefore, this research, five new dimensions of HRDC are purposed which are: 1) employee competency analysis, 2) individual ability support, 3) continuous learning enhancement, 4) strategic-development connectivity, and 5) innovation creativity focus. Moreover, the consequences of HRDC as employee commitment, operational development, business productivity, and firm competitiveness have also been studied. Further, auto parts businesses in Thailand have been chosen to study as population frame of this research.

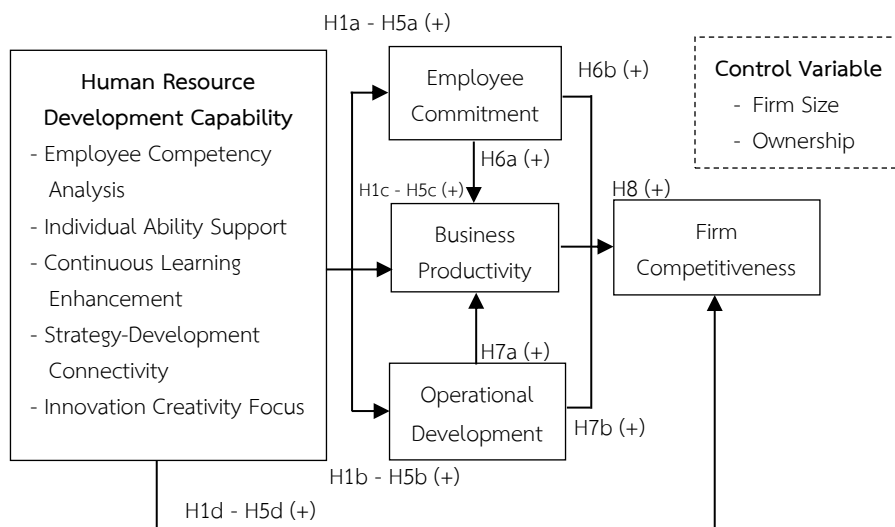
### **Research Objective**

The main purpose of this research is to investigate the effects of human resource development capability on employee commitment, operational development, business productivity, and firm competitiveness.

**Literature review**

The human capital theory is applied to explain the effects of human resource development capability on its consequence. The human capital objectively leads to develop human capital, which is the most important thing used in competitive advantage of the firm (Jain & Gulati, 2016). This research examines the effects of human resource development capability on employee commitment, operational development, business productivity, and firm competitiveness. Therefore, the human capital is appropriate for explaining the conceptual framework in Figure 1. Moreover, the definition of each construct is explained as below.

**Figure 1:** The Relationships among Human Resource Development Capability and its Consequences



**Human Resource Development Capability (HRDC)**

Human resource development capability (HRDC) was developed out of characteristic of HRD literatures. In this research, HRDC refers to the ability of a firm to be successful in developing human resources working in an organization by modernizing their knowledge and upgrading their skill, attitudes and perceptions in order to meet the changing trends of the globalized economy and also to utilize those developments for the attainment of the organizational goals. Therefore, the research reviews the key dimension and other dimensions of HRD in a diverse range of this term’s definitions by divergent researchers who relate to a number of different perspectives. The definition of each dimension is showed as follows :

**Employee Competency Analysis (ECA)** Basic of HRD is the evaluation system to classify and specify a key and ability of employee to suitable assign job and plan a training program (Huda et al., 2014). A concept of competency-based need analysis is used to explain the current states of performance and identifies the needed state of job, and identifies the gap between the state ability of employee need (Rossett, 1987) and to clearly understand the truly need for employee training (Price, Lee & Kozman, 2010). In this research, the concept of competency-based need is employed. Therefore, in this research, employee competency analysis is defined as firm's activities to classify and identification of employee and job need skill and ability include employee's desire to receive training to higher effectively HRD planning (Huda et al., 2014; Price et al., 2010).

From literature review, there are several researches mention that competency based model is an important source for organizational performance both employee development (Price et al, 2010), competency of employee related job (Ng, Chan & Wong, 2006), enhancing employee ability, promoting profit, reducing problem and classifying the factor related to the success of organization both firm productivity, organizational development and financial performance (Imtiaz & Shahid, 2013). Therefore, the associations are hypothesized as follows:

Hypotheses 1(a-d): Employee competency analysis is positively related to (a) employee commitment, (b) operational development, (c) business productivity, and (d) firm competitiveness.

**Individual Ability Support (IAS)** HRD is the process developing the ability of individual employee, team of employee and organization (jain & Gulati, 2016). Any employees in organization assume their investment in developing to raise the ability of the firm's collective skills and in that way to improve its productivity (Kennett, 2013). The concept of connatural management approach (CNM) is to place importance on processes of these fine skills and natural talents of each individual employee. This concept is individual skill development for a higher effective operation (Ambrozová, Kolenak & Pokorny, 2016). Therefore, any organizations should support in development of employees to response and assume their investment in development in rationality, systematic thinking (Senge, Lichtenstein, Kaeufer, Bradbury & Carroll, 2007) and creative thinking (Ambrozova et al., 2016) including firm-specific ability and also should support employees to perform their skill and ability to be developed (Jain & Gulati, 2016). Therefore, individual ability support in this research is defined as firm encouragement in providing entire resource to develop skill of employee and give an opportunity to use and perform employee skill that is developed in work place (Ambrozova et al, 2016; Jain & Gulati, 2016).

From literature review illustrated that individual ability development has enhances the employee commitment, and employee productivity (Ichniowski, Shaw & Prensushi, 1997) including employee outcome (Jameson, 2000), operational performance such as firm productivity, firm development, firm competitiveness (Beaver & Hutchings, 2005), and also including firm performance (Nolan & Garavan, 2016). Therefore, the associations are hypothesized as follows:

Hypotheses 2(a-d): Individual ability support is positively related to (a) employee commitment, (b) operational development, (c) business productivity, and (d) firm competitiveness.

**Continuous Learning Enhancement (CLE)** HRD is a process that is necessary to build the employee continuous growth and leads to the growth and development of organization (Rao & Pereira, 1986). Self-development is crucial to rapidly change organization (London & Smither, 1999). Organizations must provide the resource and support that promote continuous learning (Holt, Noe & Cavanaugh, 1996). Self-development needs to be guided by leaders or managers who moderate the learning process by providing feedback, coaching and resource for development (Hackman, 1986). Including, organization should give reward the use of new skill and knowledge on the work place (London & Smither, 1999). The learning organization is self-development and improvement being presented as visionary ideals, where learning behavior improvement becomes proactive and empowers intervention by senior management (Sicilia & Lytras, 2005). Employees should have opportunities to participate in organizational decision-making and reward system should be designed to recognize the achievement of learning goals (Armstrong & Foley, 2003). In this research, concept of continuous learning enhancement is defined as supporting of organization by providing resource in self-study, knowledge, skill, and experience interchange to facilitate the employee self-development on knowledge, skill and ability (Armstrong & Foley, 2003).

From literature review shows that continuous learning organization is a significant source of firm performance. For example, HR system in learning organization can be better response customer needs and requirement (Shipton, Zhou & Mooi, 2013). It helps organization to affect the employee commitment and turnover intention (Hurley, 2002). It also increases the level of commitment and satisfaction of employee to facilitate firm performance (Ababneh, 2013). Therefore, the associations are hypothesized as follows:

Hypotheses 3(a-d): Continuous learning enhancement is positively related to (a) employee commitment, (b) operational development, (c) business productivity, and (d) firm competitiveness.

**Strategy-Development Connectivity (SDC)** HRD is a strategic development system and collection the efficient work of people in the organization to manage with competition changes in

business to gain competitive advantage (Huda et al., 2007). The organization has developed appropriate HRD strategies to manage their workforce in an organized manner and align their potential with that of their corporate mission and objective (Deb, 2010). HR manager must recognize their important role in developing talent for successful strategy implementation outcome. HR practitioners need to understand the organizational strategic goals. Moreover, their take overtly aligned actions toward achieving organizational mission and objective (Alagaraja & Egan, 2013). In this research, the concept of strategic human resource development is employed. Therefore, strategy development connectivity is defined as firm commitment for linking, integrating, transferring and sharing the goal, mission, vision, planning and implementation of an organization to HRD system, practices and policies (Alagaraja & Egan, 2013; Short, Bing & Kehrhan, 2003).

From literature review, it has many researches illustrate that strategic HRD is an important source of organizational performance. For example, strategic HRD can contribute to firm performance, making organizational capabilities, enhancing employee commitment (Yeung & Berman, 1997) and gaining firm success (Pattanayak, 2003). It is also effect to performance and work-process improvement, professional management and career progression (Sahoo & Sahoo, 2012). Therefore, the associations are hypothesized as follows:

Hypotheses 4(a-d): Strategic-development connectivity is positively related to (a) employee commitment, (b) operational development, (c) business productivity, and (d) firm competitiveness.

**Innovation Creativity Focus (ICF)** HRD has a critical role in conveying that innovation should be treated as an organic process. It can support innovation for organizational operation (Ehlen et al., 2013). It is widely acknowledge being important for sustainable competitive advantage of organization (Sheehan et al., 2013). The ability of employees to create new knowledge, process or product emphasis on permanent innovation transfers the workplace into a setting for learning and innovation (Billett, 2008). The concept of knowledge productivity is linking between ability and person by knowledge (Ehlen et al, 2013). It can be seen as taking new skills and attitudes as a part of an individual ability. It is defined as abilities of individual and group to gradually improve and radically innovate in operating processes, products and services (Ehlen et al., 2013). This concept involves using relevant information to develop new abilities and applying this ability for improvement and innovation (Kessels, 2004). Therefore, in this research, innovation creativity focus is defined as firm supporting in generating new information, knowledge and experience of employee, included support in circulating, sharing, transferring, opportunities using their information, knowledge and

experience of employee to improve of operational process in organization (Armstrong & Foley, 2003; Ehlen et al., 2013).

From literature review, it has many researches showing that knowledge productivity is an important source of organizational innovation and performance. It assumes a stimulating environment in the workplace with good relationship between people in organization and makes a powerful learning climate (Kessels, 2004). Sharing and transferring among people in organization have positive relationship to employee commitment (Yen, Campbell, Irianto & Fadilah, 2014). Innovation in work process leads to new abilities of an organization (Verdonschot, 2009), and positive stimulation on productivity (Daveri & Parisi, 2015). Therefore, the associations are hypothesized as follows:

Hypotheses 5(a-d): Innovation creativity focus is positively related to (a) employee commitment, (b) operational development, (c) business productivity, and (d) firm competitiveness.

**Employee Commitment (ECM)** is defined as psychological connecting between employee and organization that perform partially as good membership is very self-respective of pushing organization to achieve the objective (Meyer, Paunonen, Gellatly & Jackson, 1989). From literature review, the employee commitment leads to greater productivity (Jiang, Lepak & Baer, 2012). It is a critical mediating role between human resource management and business productivity (Deepa, Palaniswamy & Kuppusamy, 2014) and firm competitiveness (Vandenberghe, Bentein & Stinglhamber, 2004). Therefore, the associations are hypothesized as follows:

Hypotheses 6(a-b): Employee commitment is positively related to (a) business productivity and (b) firm competitiveness.

**Operational Development (OPD)** is defined as process of organization that is continuous improvement, appropriate interrelated process, and good solving process problems (Anand, Ward, Tatikonda & Schilling, 2009). From literature review, process improvement is related to problem-solving skill and improves knowledge, skill and capability of organization (Schreyögg & Kliesch-Eberl, 2007). It also upgrading capabilities of organization in environmental changes too (Anand, et al., 2009). Therefore, the associations are hypothesized as follows:

Hypotheses 7(a-b): Operational development is positively related to (a) business productivity and (b) firm competitiveness.

**Business Productivity (BSP)** is defined as efficiency and effectiveness of business in using any resources and outcome includes time, quality, and value creation or proportion of output and input, which input such as labor, capital and resource and output such as product volumes or financial outcome (Oeij, De Looze, Ten Have, Van Rhijn & Kuijt-Evers, 2011). The greater productivity

produces higher output by providing the same number of input. On the other hand, the output is the same level by providing a less level of input (Halkos & Tzeremes, 2007). It is a key factor and it has significant relationship on firm success (Oeij et al., 2011). The productivity of labor can improve firm competitiveness of the organization at the international and domestic level (Balakrishnan & Pushpangadan, 1998). Therefore, the associations is hypothesized as follows:

Hypothesis 8: Business productivity is positively related to firm competitiveness.

**Firm Competitiveness (FCP)** is defined as the readiness of organizational management over the competitor in terms of management, customer responsiveness and highly skilled employee who has advantage and is possessed by capability above other firms in the industry (Abushaiba & Zainuddin, 2012).

## Methodology

### Sample Selection and Data Collection Procedure

The population of this research is auto parts business in Thailand. The sample is selected from the online database of the Thai Auto Parts Manufacturers Association (2016). The key informant is the HR manager or director of each firm because they are directly responsible for human resource in the firm. The certified auto parts firms are totaling 618 firms (information drawn on April 26, 2017). Accordingly, an appropriate sample size is 237 firms. However, previous research suggests that the average response rate of the mailed questionnaire survey is 20 percent (Aaker, Kumar & Day, 2001). Therefore, oversampling is needed to ensure a minimum sample size (Bartlett II, Kptrlik & Higgins, 2001). To maximize the possibility of a response rate, this research determines that 1,185 firms adequate for a sampling frame ( $237 \times 5$ ); however, this number exceeds the total population. As a result, this research finally use 618 firms as a sample population. According to the questionnaire mailing, 25 surveys were undeliverable because some of these firms had moved to unknown locations. Deducting the undeliverable from the original 618 mailed, the valid mailing was 593 surveys. Finally, a collection of 130 responses was received. However, only 128 complete questionnaires were usable for further analysis. The effective response rate was approximately 21.59 percent which is greater than 20 percent (Aaker et al., 2001). Hence, 128 firms are a sufficient sample size for employing multiple regression analysis.

The non-response bias is tested to detect and consider possible problem with non-response errors was investigated by Chi-Square that followed to Armstrong and Overton (1977). In this research, firm size, firm age, firm capital, revenue per year and ownership are compared between



early and late respondents. The results were not significant between early and late responses. Therefore, it was implied that these received questionnaires show insignificant non-response bias for the analysis in this research.

**Variable Measurement** All constructs are measured by five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree) excluding control variables. Moreover, the measurement of all constructs is developed from definition of each construct and examined the relationship from previous literature review.

Firm competitiveness is measured by the perception of the readiness of corporate management over its competitors in terms of quality, price, cost, image and reliability includes maintaining a highly-skilled employee who has advantages and is possessed by a capability above other firms in the industry. This construct is developed as a new scale from the definition including a four- item scale.

Employee competency analysis is measured by the perception of the firm's activities to identify and classify individuals and jobs needing skill or ability. This construct is developed as a new scale from the definition including a four- item scale.

Individual ability support is measured by the perception of the encouragement of an organization in providing absolute resource to improve the skills of employees, give an opportunity to use prominent employee skill, and development of the desire to gain other ability development of employee. This construct is developed as a new scale from the definition including a four- item scale.

Continuous learning enhancement is measured by the perception of firm motivation in self-study, knowledge, and experience interchange. This construct is developed as a new scale from the definition including a four- item scale.

Strategy-development connectivity is measured by the perception of firm commitment to integrating, sharing and transferring the goal, mission, vision, planning and implementation of the business to human resource development system, practices and policies. This construct is developed as a new scale from the definition including a four- item scale.

Innovation creativity focus is measured by the perception of the enhancement of organization in generating new information, knowledge and experience of employees and organizations. This construct is developed as a new scale from the definition including a four- item scale.

Employee commitment is measured by the perception of a psychological connection between the employee and his or her organization that makes it less likely that the employee will voluntarily leave the organization. This construct is developed as a new scale from the definition including a four- item scale.

Operational development is measured by the perception of a process improvement of an organization in continuous activity, process management and structured methods for problem identification, diagnosis, generational solutions, and implementation. This construct is developed as a new scale from the definition including a four- item scale.

Business productivity is measured by the perception of efficiency and effectiveness, which is equal to performance or profitability, and features productivity such as time, quality, and value creation. This construct is developed as a new scale from the definition including a four- item scale.

Control variables in this research comprise firm (Bello-Pintado, 2015) size and ownership (Brand & Croonen, 2010). For the analysis, firm size is represented by a dummy variable including 0 (firm has number of workers less than or equal to 300), and 1 (firm has number of worker more than 300). Ownership is represented by a dummy variable including 0 (firm is a single unit), and 1 (firm is a franchised unit).

**Validity and Reliability** In this research, the validity testing of measurement in this research accurately confirms the concept or construct of the study. According to Neuman (2006), accuracy occurs if there is a poor fit between the theories the researchers use to describe or analyze the social world and what happens in the real world. This research tested the validity of the measure or series of measures to verify and illustrate the correct concept of the research.

**Table 1:** Result of Measure Reliability and Validity

Variables	Factor Loadings	Cronbach's Alpha
Firm Competitiveness (FCP)	.848 - .946	.886
Employee Competency Analysis (ECA)	.777 - .917	.833
Individual Ability Support (IAS)	.781 - .892	.836
Continuous Learning Enhancement (CLE)	.782 - .927	.805
Strategy-Development Connectivity (SDC)	.705 - .904	.873
Innovation Creativity Focus (ICF)	.804 - .926	.894
Employee Commitment (ECM)	.806 - .942	.889
Operational Development (OPD)	.877 - .941	.905
Business Productivity (BNP)	.791 - .893	.897

Firstly, content validity with regard to the relevant theory and literature review, each of the items in the questionnaire was subjectively assessed by two specialist and related academic experts to ensure the content validity (Thoumrungroje, 2013). Secondly, construct validity is illustrated by convergent validity which was tested by the high values of factor loading that were considered in a specific construct (Nunnally & Bernstein, 1994). Moreover, the reliability of this research was tested by Cronbach's alpha degree of internal consistency among items that should be greater than 0.70 (Hair, Black, Babin & Anderson, 2010).

The results of measure reliability and validity are shown in Table1. Table 1 presents all variables with factor loadings between 0.705 – 0.946 indicating that there is the construct validity. Moreover, the reliability of all constructs is accepted between 0.805 – 0.938 of Cronbach's alpha. In this research, all dependent and independent variables are the metric scale. Therefore, multiple regression is appropriate technique to test all hypotheses.

In this research, all dependent and independent variables are the metric scale. Therefore, multiple regression is appropriate technique to test all hypotheses. From the conceptual model and hypotheses, the statistical equations are showed as follows:

$$\text{Equation 1: ECM} = \alpha_1 + \beta_1\text{ECA} + \beta_2\text{IAS} + \beta_3\text{CLE} + \beta_4\text{SDC} + \beta_5\text{ICF} + \beta_6\text{FS} + \beta_7\text{OS} + \varepsilon_1$$

$$\text{Equation 2: OPD} = \alpha_2 + \beta_8\text{ECA} + \beta_9\text{IAS} + \beta_{10}\text{CLE} + \beta_{11}\text{SDC} + \beta_{12}\text{ICF} + \beta_{13}\text{FS} + \beta_{14}\text{OS} + \varepsilon_2$$

$$\text{Equation 3: BNP} = \alpha_3 + \beta_{15}\text{ECA} + \beta_{16}\text{IAS} + \beta_{17}\text{CLE} + \beta_{18}\text{SDC} + \beta_{19}\text{ICF} + \beta_{20}\text{FS} + \beta_{21}\text{OS} + \varepsilon_3$$

$$\text{Equation 4: BNP} = \alpha_4 + \beta_{22}\text{ECM} + \beta_{23}\text{OPD} + \beta_{24}\text{FS} + \beta_{25}\text{OS} + \varepsilon_4$$

$$\text{Equation 5: FCP} = \alpha_5 + \beta_{26}\text{ECA} + \beta_{27}\text{IAS} + \beta_{28}\text{CLE} + \beta_{29}\text{SDC} + \beta_{30}\text{ICF} + \beta_{31}\text{FS} + \beta_{32}\text{OS} + \varepsilon_5$$

$$\text{Equation 6: FCP} = \alpha_6 + \beta_{33}\text{ECM} + \beta_{34}\text{ODP} + \beta_{35}\text{BNP} + \beta_{36}\text{FS} + \beta_{37}\text{OS} + \varepsilon_6$$

## Results and Discussion

Table 2 shows descriptive statistics and correlation matrix for all constructs. Correlation coefficients of independent constructs are between 0.606 and 0.841 which respect to potential problems relating to multicollinearity, variance inflation factor (VIF) were used to test the intercorrelations among independent variables. In this research, the VIFs are between 1.099 and 4.426 (less than 10) (Hair et al., 2010), the results indicated that the independent variables are not correlated with each other. Therefore, there are no multicollinearity problems encountered in this research.

**Table 2:** Descriptive Statistics and Correlation Matrix

	ECA	IAS	CLE	SDC	ICF	ECM	OPD	BNP	FCP	FMS
Mean	4.205	4.164	4.138	4.128	4.101	4.037	4.052	3.939	3.906	N/A
S.D.	0.602	0.617	0.591	0.625	0.705	0.687	0.700	0.674	0.733	N/A
IAS	.841**									
CLE	.786**	.796**								
SDC	.782**	.775**	.772**							
ICF	.733**	.737**	.772**	.798**						
ECM	.694**	.621**	.668**	.781**	.694**					
OPD	.652**	.661**	.623**	.687**	.661**	.801**				
BNP	.591**	.620**	.606**	.753**	.693**	.749**	.752**			
FCP	.606**	.659**	.651**	.720**	.761**	.762**	.758**	.850**		
FMS	.299**	.328**	.241**	.346**	.262**	.248**	.259**	.282**	.246**	
ONS	0.097	.173	.176*	.090	.182*	.155	.141	.230**	.239**	.301**

N = 128, \*\* p < 0.01, \* p < 0.05

Table 3 shows the results of multiple regression analysis for effects among each dimension of HRDC and its consequences. The results show that the first dimension, employee competency analysis (Hypotheses 1a), is significantly and positively related to employee commitment ( $\beta_{01} = 0.327$ ,  $p < 0.01$ ). The analysis of competency has a significant, positive relationship with employee commitment (Khan, Masrek & Nadzar, 2015). **Therefore, hypothesis 1a is supported.** However, it have no significant relationship of employee competency analysis with operational development ( $\beta_{08} = 0.139$ ,  $p > 0.10$ ), business productivity ( $\beta_{15} = -0.083$ ,  $p > 0.10$ ), and firm competitiveness ( $\beta_{26} = -0.100$ ,  $p > 0.10$ ). Previous research suggested that even the analysis of competency has no direct effects on firm performance (Khan, Masrek & Nadzar, 2015), but it does have a direct effect on employee commitment, which is a direct effect on firm productivity and firm competitiveness (Mathieu & Zajac, 1990). **Therefore, hypotheses 1b – 1d are not supported.**

Secondly, it is found that individual ability support, the second dimension, is no significantly related to employee commitment ( $\beta_{02} = -0.148$ ,  $p > 0.10$ ), operational development ( $\beta_{09} = 0.198$ ,  $p > 0.10$ ), business productivity ( $\beta_{16} = 0.070$ ,  $p > 0.10$ ), and firm competitiveness ( $\beta_{27} = 0.186$ ,  $p > 0.10$ ). Previous research has suggested that if firm emphasizes on individual ability without a perceived job security, growth opportunities, and the wage of an employee, it is high opportunity

that emerges reduces operational performance and firm performance (Ambrozova et al., 2016; Kennett, 2013). Therefore, hypotheses 2a – 2d are not supported.

**Table 3:** Results of Multiple Regression Analysis for Effects among each Dimension of Human Resource Development Capability and its Consequences Beta coefficients with standard in parenthesis \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.10$

Independent Variables	Dependent Variables					
	ECM	OPD	BNP	FCP	BNP	FCP
	H1-5a Equation 1	H1-5b Equation 2	H1-5c Equation 3	H1-5d Equation 5	H6-7a Equation 4	H6-7b, 8 Equation 6
ECA	<b>0.327***</b> (0.118)	0.139 (0.123)	-0.083 (0.119)	-0.100 (-.119)		
IAS	-0.148 (0.119)	0.198 (0.124)	0.070 (0.120)	0.186 (0.121)		
CLE	0.137 (0.112)	0.032 (0.117)	-0.078 (0.114)	0.068 (0.114)		
SDC	<b>0.315***</b> (0.115)	<b>0.266**</b> (0.119)	<b>0.618***</b> (0.116)	<b>0.387***</b> (0.116)		
ICF	<b>0.241**</b> (0.107)	<b>0.230**</b> (0.111)	<b>0.258**</b> (0.108)	<b>0.297***</b> (0.109)		
ECM					<b>0.370***</b> (0.089)	<b>0.196**</b> (0.078)
OPD					<b>0.440***</b> (0.089)	<b>0.175**</b> (0.080)
BSP						<b>0.567***</b> (0.072)
FMS	-0.034 (0.128)	-0.012 (0.133)	-0.036 (0.129)	-0.105 (0.129)	0.083 (0.114)	-0.063 (0.093)
ONS	0.141 (0.125)	0.082 (0.130)	<b>0.306**</b> (0.126)	<b>0.266**</b> (0.127)	0.183 (0.113)	0.105 (0.094)
Adjusted R <sup>2</sup>	0.600	0.564	0.582	0.578	0.643	0.761
F-Statistic	27.733	24.105	25.902	25.427	57.252	80.401
Durbin-Watson	2.096	1.902	1.979	1.894	1.864	2.117
Max VIF	4.426	4.426	4.426	4.426	2.823	3.290

Thirdly, continuous learning enhancement is not significantly related to employee commitment ( $\beta_{03} = 0.137, p > 0.10$ ), operational development ( $\beta_{10} = 0.032, p > 0.1$ ), business productivity ( $\beta_{17} = -0.078, p > 0.10$ ), and firm competitiveness ( $\beta_{28} = 0.068, p > 0.10$ ). Previous research has suggested that continuous learning has no direct effects on firm performance (Baker & Sinkula, 1999). It necessary has the mediating role of firm capability, innovativeness, and competencies creation to enhance firm performance (Murray, 2003). Moreover, learning organization is necessary studied coupled with organizational structure (Goh & Ryan, 2002). **Therefore, hypotheses 3a – 3d are not supported.**

Fourthly, strategic-development connectivity is significantly and positively related to all of its consequences which are employee commitment ( $\beta_{04} = 0.315, p < 0.01$ ), operational development ( $\beta_{11} = 0.266, p < 0.05$ ), business productivity ( $\beta_{18} = 0.618, p < 0.01$ ), and firm competitiveness ( $\beta_{29} = 0.387, p < 0.01$ ). The finding is consistent with previous research shows a connection between firm objective, mission and agenda through transferring, sharing and integrating with human resource development which can contribute to organizational capabilities, improving business performance (Yeung & Berman, 1997) and gaining competitive advantage and business success (Pattanayak, 2003). The strategic development and utilization of people working efficiently in the organization to cope with the environmental changes in business, and competently managing business challenges, is a source for gaining competitive advantage (Huda et al., 2007). Moreover, human resource development can help to create a source of sustained competitive advantage, especially when it is aligned with a firm's competitive strategy (Singh, 2011). **Therefore, hypotheses 4a – 4d are supported.**

Next, the research reveals that innovation creativity focus is significantly and positively associated with employee commitment ( $\beta_{05} = 0.241, p < 0.05$ ), operational development ( $\beta_{12} = 0.230, p < 0.05$ ), business productivity ( $\beta_{19} = 0.258, p < 0.01$ ), and firm competitiveness ( $\beta_{30} = 0.297, p < 0.01$ ). The finding is consistent with previous research in that the ability of employees to create new knowledge, in terms of both products and process, in order to maintain their market value, is crucial. This emphasis on permanent innovation transfers the workplace into a setting for learning and innovation (Billett, 2008; Van Woerkom & Poell, 2010). In dynamic and sometimes chaotic organizations, employees need to have more than average competences to innovate (Cozijnsen & Vrakking, 2013). Knowledge needs to be understood as the potential for action that not only depends upon the stored information but also on the person interacting with it (Malhotra, 2000). Becoming knowledge-productive can be seen as acquiring new skills and attitudes as part of a

personal competence (Ehlen et al., 2013). It also is fundamental to business performance and growth (Dervitsiotis, 2011). Process innovation is a positive stimulation to productivity (Daveri & Parisi, 2015), it is a way of competitiveness in the organization (Sedláková, 2015). **Therefore, hypotheses 5a – 5d are supported.**

The results show that employee commitment has significant effects on business productivity ( $\beta_{22} = 0.370$ ,  $p < 0.01$ ) and firm competitiveness ( $\beta_{33} = 0.296$ ,  $p < 0.05$ ). The employee commitment leads to a greater operational outcome in terms of productivity (Jiang et al., 2012). It is also a mediating role between human resource management and business productivity (Deepa et al., 2014) and leads to improved firm competitiveness (Kwantes, 2007). **Therefore, hypotheses 6a and 6b are supported.**

Next, the interesting finding indicates that operational development has strong and positive effects on business productivity ( $\beta_{23} = 0.440$ ,  $p < 0.01$ ) and firm competitiveness ( $\beta_{34} = 0.175$ ,  $p < 0.05$ ). The finding is consistent with previous research in that operational development is related to problem-solving skills, action for enhancing operational performance, organizational competition, and financial performance (Schreyogg & Kliesch-Eberl, 2007). The operational development has positive relationships with various indices of firm performance including productivity, sales per employee, return on assets, and return on equity (Lawler, Mohrman & Ledford, 1998). **Therefore, hypotheses 7a and 7b are supported.**

Finally, the findings indicate that business productivity has strong, positive effects on firm competitiveness ( $\beta_{35} = 0.567$ ,  $p < 0.01$ ). The finding is consistent with previous research in that the higher productivity produces more outputs by providing the same level of inputs; on the other hand, it produces the same outputs by providing a lesser level of inputs (Halkos & Tzeremes, 2007). Productivity is a key factor that is related to economic growth. Similarly, at the company level, high productivity is the important factor for better performance, successful competition, and firm survival (Oeijet al., 2011). Productivity performance is an important determinant for competitiveness of an industry and the firm (Sultan & Jain, 2016). **Therefore, hypothesis 8 is strongly supported.**

Moreover, the result of the power of indication illustrates that the adjusted R-square is between 0.564 and 0.761, tested F-statistic values are between 24.105 and 80.401, Durbin-Watson scores are between 1.864 and 2.117 of which there is a range of 1.50 to 2.50 (Durbin & Watson, 1971), and the maximum VIF is 4.426. All values are accepted. Therefore, the regression analysis is reliable and acceptable.

Additionally, the results of control variables indicate that business ownership has positive influences on business productivity ( $\beta_{21} = 0.306, p < 0.05$ ), and firm competitiveness ( $\beta_{32} = 0.266, p < 0.05$ ). Therefore, it can be interpreted that franchised units have a higher HR performance (include business productivity, firm competitiveness, and firm success) than company-owned-units (Brand & Croonen, 2010).

## Contributions

### Theoretical Contribution

This research is an attempt to provide a clearly understanding of human resource development capability and firm competitiveness relationships. Interestingly, the core theoretical contribution relates to conceptualizing the comprehensive view of human resource development capability as a multidimensional construct, which are newly-developed constructs and dimensions, differentiating from prior human resource development literature. The processes of clarifying the linkage of the conceptual framework were based on human capital theory. This empirical research sensitizes and explains theories associated with how a business firm achieves and fulfills its goals and, at the same time, maintains its sustained competitive advantage and superior performance in a radical business environment.

Human resource development capability is the perfect combination of human resource development literature which consists of competency-based analysis, connatural management model, learning organization, strategic human resource development, and knowledge productivity. Especially, it has highlighted the importance of strategic-development connectivity and innovation creativity focus in empowering employee commitment, operational development, business productivity and, more importantly, firm competitiveness. Moreover, business productivity may play a major role in determining and promoting long-term firm competitiveness.

### Managerial Contribution

This research has potential implications for auto parts businesses in Thailand. From the results of this research, the firm can gain competitive advantage by two factors as follow: Firstly, human resource directors and managers should focus on the management philosophy that promotes connecting between strategy level planning and human resource development system. Moreover, the firms should enhance employees to have creative thinking in new things of operations and allocate an extreme budget to create research and develop new things which will help firm operations to attain excellence. It is also likely to increase employee commitment, operational



development, and business productivity. Concentrating on human resource development capability can result in firm competitiveness and performance in the long-run.

## **Conclusion**

The purpose of this research is to examine the effects of human resource development capability on firm competitiveness. The results indicated that two dimensions of human resource development capability (including strategy-development connectivity and innovation creativity focus) have a significant positive influence on employee commitment, operational development, business productivity, and firm competitiveness. Moreover, the first dimension (employee competency analysis) has only positive influence on employee commitment. Furthermore, employee commitment, operational development, business productivity have significant positive influence on firm competitiveness. From the results, it can be summarized that auto parts businesses in Thailand with great human resource development capability (especially, employee competency analysis, strategy-development connectivity, and innovation creativity focus) will increase firm performance and lead to gain sustainable competitive advantage.

The limitation of this research should be mentioned. Firstly, the most of the respondents is over long periods of time in businesses (over 15 years). It may limit the agent of population and generalizability of this research. Secondly, it is possible to claim that it has more appropriate research methodology that can examine and study this research (such as SEM) to test this conceptual framework including it may have construct that is pretermitted that should be effects from human resource development capability (such as learning capability, innovativeness, competencies creation, job security, growth opportunities and job satisfaction). Finally, the newly-proposed dimensions of human resource development capability can be also re-proposed to fit the variety of each industry environment and condition. Therefore, the future research, the researcher should be more specific the population of manufacturer businesses, take the other methodology (such SEM) to examine the relationships, add some constructs to appropriate conceptual framework, and review more of the literature to improve the concept and deeper understanding of human resource development capability.

## Reference

- Aaker, D. A., Kumar, V. & Day, T. X. (2001). *Marketing research*. New York: John Wiley and Sons.
- Ababneh, R. (2013). Antecedents and Outcomes of Career Development in Jordanian Public Sector. *Journal of Emerging Trends in Economics and Management Sciences*, 4(4), 417-426.
- Abushaiba, I. A. & Zainuddin, Y. (2012). Performance Measurement System Design, Competitive Capability, and Performance Consequences-A Conceptual Like. *International Journal of Business and Social Science*, 3(11), 184-193.
- Alagaraja, M. (2012). HRD and HRM Perspectives on Organizational Performance: A Review of Literature. *Human Resource Development Review*, 12(2), 117-143.
- Alagaraja, M. & Egan, T. (2013). The Strategic Value of HRD in Lean Strategy Implementation. *Human Resource Development Quarterly*, 24(1), 1-27.
- Ambrozová, E., Kolenak, J. & Pokorný, V. (2016). Connatural Management Approach to Preparation and Development of Individuals in the Business Environment. *Verslas: Teorija ir Praktika*, 17(2), 81-88.
- Anand, G., Ward, P. T., Tatikonda, M. V. & Schilling, D. A. (2009). Dynamic Capabilities through Continuous Improvement Infrastructure. *Journal of Operations Management*, 27(6), 444-461.
- App, S., Merk, J. & Büttgen, M. (2012). Employer Branding: Sustainable HRM as a Competitive Advantage in the Market for High-Quality Employees. *Management revue*, 23(3), 262-278.
- Armstrong, A. & Foley, P. (2003). Foundations for a Learning Organization: Organization Learning Mechanisms. *The Learning Organization*, 10(2), 74-82.
- Armstrong, J. S. & Overton, T. S. (1977). Estimating Nonresponse Bias in Mail Surveys. *Journal of Marketing Research*, 14(3), 396-402.
- Baker, W. E. & Sinkula, J. M. (1999). Learning Orientation, Market Orientation, and Innovation: Integrating and Extending Models of Organizational Performance. *Journal of Market-Focused Management*, 4(4), 295-308.
- Balakrishnan, P. & Pushpangadan, K. (1998). What do We Know about Productivity Growth in Indian Industry?. *Economic and Political Weekly*, 33(33/34), 2241-2246.
- Barney, J. B. (2000). Firm Resources and Sustained Competitive Advantage. *Advances in Strategic Management*, 17(1), 203-227.

- Bartlett II, J. E., Kotrlik, J. W. & Higgins, C.C. (2001). Organizational Research: Determining Appropriate Sample Size in Survey Research. *Information Technology, Learning, and Performance Journal*, 19(1), 43-50.
- Batt, R. (2002). Managing Customer Services: Human Resource Practices, Quit Rates, and Sales growth. *Academy of Management Journal*, 45(3), 587-597.
- Beaver, G. & Hutchings, K. (2005). Training and Developing an Age Diverse Workforce in SMEs: The Need for a Strategic Approach. *Education+ Training*, 47(8/9), 592-604.
- Bello-Pintado, A. (2015). Bundles of HRM Practices and Performance: Empirical Evidence from a Latin American Context. *Human Resource Management Journal*, 25(3), 311-330.
- Billett, S. (2008). Learning Throughout Working Life: a Relational Interdependence Between Personal and Social Agency. *British Journal of educational studies*, 56(1), 39-58.
- Brand, M. J. & Croonen, E. P. (2010). Franchised and Small, The Most Beautiful of all; HRM and Performance in Plural Systems. *Journal of Small Business Management*, 48(4), 605-626.
- Cozijnsen, A.J. & Vrakking, W.J. (2013). "Veranderkunde". "Change Management". Deventer: Kluwer Academic Publishers.
- Datta, D. K., Guthrie, J. P. & Wright, P. M. (2005). Human Resource Management and Labor Productivity: does Industry Matter? *Academy of Management Journal*, 48(1), 135-145.
- Daveri, F. & Parisi, M. L. (2015). Experience, Innovation, and Productivity: Empirical Evidence from Italy's Slowdown. *Industrial and Labor Relations Review*, 68(4), 889-915.
- Deb, T. (2010), *Human Resource Development: Theory and Practices*, New Delhi: Ane Books Pvt. Ltd.
- Deepa, E., Palaniswamy, R. & Kuppusamy, S. (2014). Effect of Performance Appraisal System in Organizational Commitment, Job Satisfaction and Productivity. *Journal of Contemporary Management Research*, 8(1), 72-82.
- Dervitsiotis, K. N. (2011). The Challenge of Adaptation through Innovation Based on the Quality of the Innovation Process. *Total Quality Management & Business Excellence*, 22(5), 553-566.
- Durbin, J. & Watson, G. S. (1971). Testing for Serial Correlation in Least Squares Regression. III. *Biometrika*, 58(1), 1-19.
- Ehlen, C., van der Klink, M., Roentgen, U., Curfs, E. & Boshuizen, H. (2013). Knowledge Productivity for Sustainable Innovation: Social Capital as HRD target. *European Journal of Training and Development*, 38(1/2), 54-74.

- Goh, S. C. & Ryan, P. J. (2002). Learning Capability, Organization Factors and Firm Performance. In H. Tsoukas (Ed.), *Third European conference on Organizational Knowledge, Learning and Capabilities, 5-6 April 2002* (pp. 1-12). Athens, Greece.
- Hackman, J. R. (1986). *The Psychology of Self-management in Organizations*. Washington, D. C.: American Psychological Association.
- Hair, Jr. J. F., Black, W. C., Babin, B. J. & Anderson, R. E. (2010). *Multivariate Data Analysis: A Global Perspective*. New Jersey: Prentice Hall.
- Halkos, G. E. & Tzeremes, N. G. (2007). Productivity Efficiency and Firm Size: An Empirical Analysis of Foreign Owned Companies. *International Business Review*, 16(6), 713-731.
- Holt, K., Noe, R. A. & Cavanaugh, M. (1996). Managers' Developmental Responses to 360-degree Feedback. *Proceeding of the Annual Meeting of the Society for Industrial and Organizational Psychology, 26-28 April 1996*. San Diego, CA: Society for Industrial and Organizational Psychology.
- Huda, K. N., Anika, T. R. & Khaled, M. C. (2014). Strategic Human Resource Development Practices: An Empirical Study of Steel Manufacturing Industries of Bangladesh. *International Management Review*, 10(2), 24-31.
- Huda, K. N., Karim, R., Ahmed, F. & Olu-Olu, O. (2007). Practices of Strategic Human Resource Development in the RMG Sector of Bangladesh: An Empirical Study. *International Business Management*, 1(1), 7-11.
- Hurley, R. F. (2002). Putting People Back into Organizational Learning. *Journal of Business & Industrial Marketing*, 17(4), 270-281.
- Ichniowski, C., Shaw, K. & Prennushi, G. (1997). The Effects of Human Resource Management Practices on Productivity: A Study of Steel Finishing Lines. *The American Economic Review*, 291-313.
- Imtiaz, Q. & Shahid, M. (2013). An Analysis of Bankers Competency in the Context of Marketing Strategies Employed in Islamic Banks of Pakistan. *Journal of Islamic Banking and Finance*, 30(7), 44-51.
- Jain, R. & Gulati, S. (2016). HRD Systems and Organizational Performance: Qualitative Review of Research. *Journal of Institute of Public Enterprise*, 39(1), 86-109.
- Jiang, K., Lepak, D. P., Hu, J. & Baer, J. C. (2012). How does Human Resource Management Influence Organizational Outcomes? A Meta-analytic Investigation of Mediating Mechanisms. *Academy of Management Journal*, 55(6), 1264-1294.

- Jameson, S. M. (2000). Recruitment and Training in Small Firms. *Journal of European Industrial Training*, 24(1), 43-49.
- Kennett, G. (2013). The Impact of Training Practices on Individual, Organisation, and Industry Skill Development. *Australian Bulletin of Labour*, 39(1), 112-135.
- Kessels, J. (2004). The Knowledge Revolution and the Knowledge Economy. *New Frontiers in Human Resource Development*, 11, 165-179.
- Khan, A., Masrek, M. N. & Nadzar, F. M. (2015). Analysis of Competencies, Job Satisfaction and Organizational Commitment as Indicators of Job Performance: A Conceptual Framework. *Education for Information*, 31(3), 125-141.
- Kwantes, C. T. (2007). Organizational Commitment, Intellectual Capital and Organizational Competitiveness. *South Asian Journal of Management*, 14(3), 28-43.
- Lawler, E. E., Mohrman, S. A. & Ledford, G. E. (1998). *Strategies for High Performance Organizations: the CEO Report: Employee Involvement, TQM, and Reengineering Programs in Fortune 1000 Corporations*. Jossey-Bass.
- London, M. & Smither, J. W. (1999). Empowered Self-Development and Continuous Learning. *Human Resource Management*, 38(1), 3-15.
- Meyer, J. P. & Smith, C. A. (2000). HRM Practices and Organizational Commitment: Test of a Mediation Model. *Canadian Journal of Administrative Sciences*, 17(4), 319-331.
- Meyer, J. P., Paunonen, S. V., Gellatly, I. R., Goffin, R. D. & Jakson, D. N. (1989). Organizational Commitment and Job Performance: It's the Nature of Commitment that Counts. *Journal of Applied Psychology*, 74(1), 152-156.
- Malhotra, Y. (Ed.). (2000). Role of Organizational Controls in Knowledge Management: Is Knowledge Management Really an 'Oxymoron'. *Knowledge Management and Virtual Organizations* (pp. 245-257). Hershey, PA: Idea Group Publishing.
- Mathieu, J. E. & Zajac, D. M. (1990). A Review and Meta-Analysis of the Antecedents, Correlates, and Consequences of Organizational Commitment. *Psychological Bulletin*, 108(2), 171-194.
- Murray, P. (2003). Organisational Learning, Competencies, and Firm Performance: Empirical Observations. *The Learning Organization*, 10(5), 305-316.
- Neuman, W. L. (2006). *Social Research Methods: Qualitative and Quantitative Approaches*. Toronto: Pearson.

- Ng, R. C. H., Chan, S. C. & Wong, V. K. K. (2006). Novel Sustainable and Structured Model, System and Methodology for Engineering Competency Development. In O. D. Patterson (Ed.), *Proceeding of the Advanced Semiconductor Manufacturing Conference, 2006. ASMC 2006. The 17th Annual SEMI/IEEE, 22-24 May 2006* (pp. 367-371). Boston, Massachusetts, United State of America.
- Nolan, C. T. & Garavan, T. N. (2016). Human Resource Development in SMEs: A Systematic Review of the Literature. *International Journal of Management Reviews, 18*(1), 85-107.
- Nunnally, J. C. & Bernstein, I. H. (1994). *Psychometric Theor., 3<sup>rd</sup> ed.* New York : McGraw-Hill.
- Oeij, P. R. A., De Looze, M. P., Ten Have, K., Van Rhijn, J. W. & Kuijt-Evers, L. F. M. (2011). Developing the Organization's Productivity Strategy in Various Sectors of Industry. *International Journal of Productivity and Performance Management, 61*(1), 93-109.
- Pattanayak, B. (2003). Gaining Competitive Advantage and Business Success through Strategic HRD: an Indian Experience. *Human Resource Development International, 6*(3), 405-411.
- Price, R., Lee, J. & Kozman, T. (2010). Use of Competency-based Needs Analysis in Developing Employee Training Program. *International Journal of Business and Public Administration 7*(1), 117-131.
- Rao, T. V. & Pereira, D. F. (1986), *Recent experiences in HRD*, New Delhi: Oxford and India Book House Publishing Co. Pvt. Ltd.
- Rossett, A. (1987). *Training needs assessment*. New Jersey: Educational Technology Publications.
- Sahoo, A. K. & Sahoo, C. K. (2012). Impact of Strategic HRD Initiatives on Individual Performance. *Productivity, 53*(2), 194-202.
- Schmitt, A. & Klarmer, P. (2015), From Snapshot to Continuity: A Dynamic Model of Organizational Adaptation to Environmental Changes. *Scandinavian Journal of Management, 31*(1), 3-13.
- Schreyogg, G. & Kliesch-Eberl, M. (2007). How Dynamic can Organizational Capabilities be? Towards a Dual-Process Model of Capability Dynamization. *Strategic Management Journal, 28*(9), 913-933.
- Sedlakova, I. (2015). Innovation as One of the Ways of Competitiveness of the EU and Slovakia. In A. Giurgiu (Ed.), *The Annals of the University of Oradea* (120-127). Oradea, Romanis: Economic Sciences.
- Senge, P. M., Lichtenstein, B. B., Kaeufer, K., Bradbury, H. & Carroll, J. S. (2007). Collaborating for systemic change. *MIT Sloan Management Review, 48*(2), 44-53.

- Sheehan, M., N. Garavan, T. & Carbery, R. (2013). Innovation and Human Resource Development (HRD). *European Journal of Training and Development*, 38(1/2), 2-14.
- Shipton, H., Zhou, Q. & Mooi, E. (2013). Is there a Global Model of Learning Organizations? An Empirical, Cross-nation Study. *The International Journal of Human Resource Management*, 24(12), 2278-2298.
- Short, D. C., Bing, J. W. & Kehrhahn, M. T. (2003). Will Human Resource Development Survive?. *Human Resource Development Quarterly*, 14(3), 239-243.
- Sicilia, M. Á. & Lytras, M. D. (2005). Scenario-oriented Reusable Learning Object Characterisations. *International Journal of Knowledge and Learning*, 1(4), 332-341.
- Singh, K. (2000). Effect of Human Resources Management (HRM) Practices on Firm Performance in India. *Indian journal of Industrial relations*, 36(1), 1-23.
- \_\_\_\_\_. (2011). HRD practices & managerial effectiveness: role of organisation culture. *Indian Journal of Industrial Relations*, 47(1), 138-148.
- Sultan, A. & Jain, D. (2016). Competitiveness of Agro-food Processing Firms: Productivity Approach. *Skyline Business Journal*, 12(1), 56-64.
- Swanson, R. A. (2001). Human Resource Development and its Underlying Theory. *Human Resource Development International*, 4(3), 299-312.
- Thai Auto Parts Manufacturers Association. (2016). *TAPMA'S Member: December 2016*. Retrieved from <http://www.thaiautoparts.or.th/index.php?op=member-index>
- Thoumrungroje, A. (2013). *Handbook of Research Methodology in International Business*. Bangkok: Triple Education.
- Van Woerkom, M. & Poell, R. (Eds.). (2010). *Workplace Learning: Concepts, Measurement and Application*. Abingdon: Routledge.
- Vandenberghe, C., Bentein, K. & Stinglhamber, F. (2004). Affective Commitment to the Organization, Supervisor, and Work Group: Antecedents and Outcomes. *Journal of Vocational Behavior*, 64(1), 47-71.
- Verdonschot, S. G. M. (2009). *Learning to Innovate: a Series of Studies to Explore and Enable Learning in Innovation Practices*. Enschede: University of Twente Publications.
- Yen, S. H., Campbell, J. K., Irianto, A. & Fadilah, M. (2014). Social Capital and Organisational Commitment at Higher Education Institutions. *Asian Academy of Management Journal*, 19(2), 1-21.

- Yeung, A. K. & Berman, B. (1997). Adding Value Through Human Resources: Reorienting Human Resource Measurement to Drive Business Performance. *Human Resource Management*, 36(3), 321-335.
- Zacharatos, A., Barling, J. & Iverson, R. D. (2005). High-performance Work Systems and Occupational Safety. *Journal of Applied Psychology*, 90(1), 77-93.
- Zacharatos, A., Sandy Hershcovis, M., Turner, N. & Barling, J. (2007). Human Resource Management in the North American Automotive Industry: A Meta-analytic Review. *Personnel Review*, 36(2), 231-254.