



RESEARCH ARTICLE

THE EFFECTS OF EMPLOYEES' INTERNATIONAL CAPABILITY AND CONTINUOUS IMPROVEMENT ON THEIR PERFORMANCE IN THAILAND'S STEEL INDUSTRY

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ABSTRACT

Currently, Thailand's business firms in all of the country's industries are operating in an international business environment. The steel industry is an important one that supports every other economic sector in the country. Moreover, this industry has continually grown in size and scope both domestically and internationally. This study investigates the conceptual framework concerning human resource management. The key factors in this the framework include a blended perspective of employees' international capability, continuous improvement, and employees' workplace performance. The subjects of this study work for companies in the Thai steel industry. The results found that employees' international capability impacted on their continuous improvement, which in turn influenced these employees' performance. The findings suggest that: firstly, employees' international capability is critical for firms in the steel industry; and secondly, firms have to be aware of all the processes involved in human resource management.

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INTRODUCTION

One of the most important aspects when managing human resource (HR) in any area of industry is the development of employees' capability to fulfill specific tasks and requirements. Many firms invest substantial amounts of money into Human Resource Development (HRD) to support employees gaining the necessary competencies in the workplace. Specific HRD-related problems derive from the lack of formalized HRD planning that is congruent with employees' daily work. It is often the case that the planning of goals is unclear or what needs to be achieved. A specific strategy for Human Resource Management (HRM) to solve the aforementioned problem and lead to a better HRD strategy is for firms to create and direct individual employee development schemes. Currently, efficient use of technology is deemed a key success factor for business management around the world. In this scenario, knowledge has to be transformed into a viable reality utilizing a process of capability creation (Haworth, 2013). Consequently, the crucially important area of human resource management – and has been for a long period of time - is the link between employees' capability and performance. Thailand's economic growth has depended on the development of all its industries during the past three decades.

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Thailand has since the 1980s undergone massive economic development due to Foreign Direct Investment (FDI) by industrialized nations investing in its resources, people and industries. The country has now changed from a predominantly agricultural society to an industrialized nation, and the focus is now developing people's skills at both the national and business levels. Many industries require employees who have the ability to work in an increasingly international and competitive environment. Some people may have to work with expatriates from foreign countries, while others have to work abroad. Many firms have recognized the necessity for human capital in order to support their growth, with specific reference to foreign direct investment and internationally oriented business operations. This is a new era of business management that focuses on strategic management, requiring firms to operate so that they prosper in the long-term. With the emergence of strategic management as a concept that firms must consider, HRM includes HRD as one of the foundations of their business strategy (Zehir, Gurol, Karaboga, and Kole, 2016). Many scholars have set out to explain the relationship between HR practices and firm performance and found that it is an important one (Samagaio and Rodrigues, 2016; Sánchez, Marín and Morales, 2015; Zehir et al., 2016). However, rarely have studies looked at employees' international capability and how this impacts on their performance. Therefore, this study examines the extent of employees' international capability in Thailand's steel industry. The significance of this study can be explained by events that have already happened in China. For

the past three decades China has transformed its economy from a centralized, planned economy to a capitalist, market-oriented one, and HRM has been a key to this transition. The results have convinced scholars about the importance of people in a business organization and how their training and continuous professional improvement are fundamental to organizational success (Zhao and Du, 2012). With reference to Thailand's steel industry, it is increasingly producing basic materials for many kinds of products, and being exported to neighboring countries such as Cambodia, Laos, Vietnam, and Myanmar. The Thai steel industry is in practice extending its operations into the neighboring countries. This study's results will help policy-makers and firms' management consider HRD and their employees' international capabilities to work as expatriates in other countries.

## LITERATURE REVIEW

### Employees' International Capability

Some studies have focused their research on HRM practices in the subsidiaries of MNCs, and looked at the relationship between headquarters and these subsidiaries, especially the extent of formal control to interpersonal relationships (Ahlvik, Smale, and Sumelius, 2016). This can be considered a necessity of HRD practice where the interconnections between employees and their parent company and subsidiaries in foreign countries have to be established. Currently, the international business environment encourages many firms to conduct their operations globally. To do this, international businesses' operations need expatriates who are willing to act as a connector between headquarters and foreign subsidiaries. Consequently, firms with employees who have the capability to work internationally will be an advantage over those that do not. The development of employees' capability to fit the needs of the increasingly globalized business environment can vary from the workplace laborer to high powered executives. China was such a case as this because its economic reforms were accompanied by a development of employees' capabilities (Zhao and Du, 2012). Moreover, the influence of human resource management practices will have an influence on learning at the firm level (Santiago and Alcorta, 2012). The value of employees' capability was recognized as an intangible asset of an organization, but only rarely have studies examined its role in fostering employees' knowledge so that firms become innovative in their operations (Özbağ, Esen, and Esen, 2013). It is necessary for Thai firms that do business internationally and not just domestically to have employees who are capable and flexible. Given that very few studies have addressed the link between employees' international capability and their performance, this study fills the gap in our knowledge by explaining the relationship of these factors in the Thai steel industry.

### Continuous Improvement

The globalized economy has exerted a profound impact on the concept of continuous improvement in all functions within an organization. Moreover, innovative approaches to employees' development are widely applied in many scenarios. This type of approach analyzes the role of stakeholders in managing human resource training projects (Erina, Ozolina-Ozola, and Gaile-Sarkane, 2015). The type of training undertaken can be considered in terms of on-the-job training and some suggestions from employees' supervisors or managers. In

considering what HRD entails, it is composed of individual development, career development, performance management, and organizational development (Gilley, Egglund, and Gilley, 2002). Firms in every industry have to develop their employees' skills or attributes continuously to cope with the above dynamic and ever-changing factors in order to retain a competitive advantage and sustainable operations. This development has to be constructed to suit each employee's skills and personality, for the purpose of ensuring the right people are doing the right specific tasks. Individual improvement aims to ensure the source of organizational innovation will help a business competitive advantage (Tang and Naumann, 2016). The other factor that is important to HRD is performance management and it is essential for a firm's business or marketplace effectiveness (Cardy, 2004). It is the crucial process that guides achievement in specific tasks by managing human capital, and it is a part of business operations that comes under managers' responsibilities (Pulakos, 2009). The link between firms' performance and individual employees can be discussed in terms of employees' performance. Sharing of employees' experiences will support improvements in their workplace performance. Also, currently business firms are applying the concept of Knowledge Management (KM) to their operations for the purpose of increasing innovation. Some research has found KM significantly influences HR performance (Torabi, Kyani, and Falakinia, 2016) with 'knock on' effects regarding how well particular tasks are done.

## MATERIALS AND METHODS

The employees' international capability and continuous improvement has been researched to reveal the relationships with employees' performance. The subjects of this study are people who work in the steel industry in Thailand.

### Instrument

The research questions articulated for this study attempt to answer whether international capabilities of employees have an impact on continuous improvement and employee performance. The quantitative method was applied to establish the relationship between international capability and employees' continuous improvement and their workplace performance. The multi-scale items questionnaire was adopted from a previous study so that it fits the Thai business context. A number of items were applied to collect the data, and then they were discussed with experts prior to finalizing the questionnaire. Then the Cronbach Alpha reliability test was conducted.

### Sample and data collection

This study focuses on the steel industry in Thailand, and the number of employees working particularly in manufacturing includes 1,488 people. The sample size of this survey had 11 observed variables in the framework. The responses of 200 employees who work in steel industry firms were collected and these workers ranged from engineers and other departments' personnel within selected firms.

## RESULTS

This study analyzed the model consisting of International Capability of employees, Continuous Improvement, and

Employee Performance. The measurements for reliability, multicollinearity, construct validity, and model fit were proved.

**Measurement**

This section presents the results based on the conceptual framework. Results were summarized from testing the structural equation model's fit. The overall model is presented as measurement. The hypotheses were then tested, indicating the relevance and goodness-of-fit of the findings for the overall model.

**Reliability Testing**

According to the reliability results this study applied Cronbach's Alpha to the overall items, specifically to investigate the variables. The results indicate Cronbach's Alpha to be between 0.703 and 0.968, and this confirms the high reliability (Table 1).

**Table 1. Reliability Statistics**

Variable	Cronbach's Alpha
Continuous Improvement	.926
Inter-Organization	.968
Employee Performance	.703

**Multi-Collinearity Testing**

The framework will be tested using a structural equation model based on regression analysis, and the multicollinearity between the independent variables needs to be tested. The tolerance and variance inflation factor (VIF) are measurements for approval. The tolerance should be more than 0.1, or the VIF should be less than 10VIF = 1 / tolerance. The test results indicated that the tolerance and VIF fall within the range that indicates no multicollinearity was found (Table 2).

**Construct Validity**

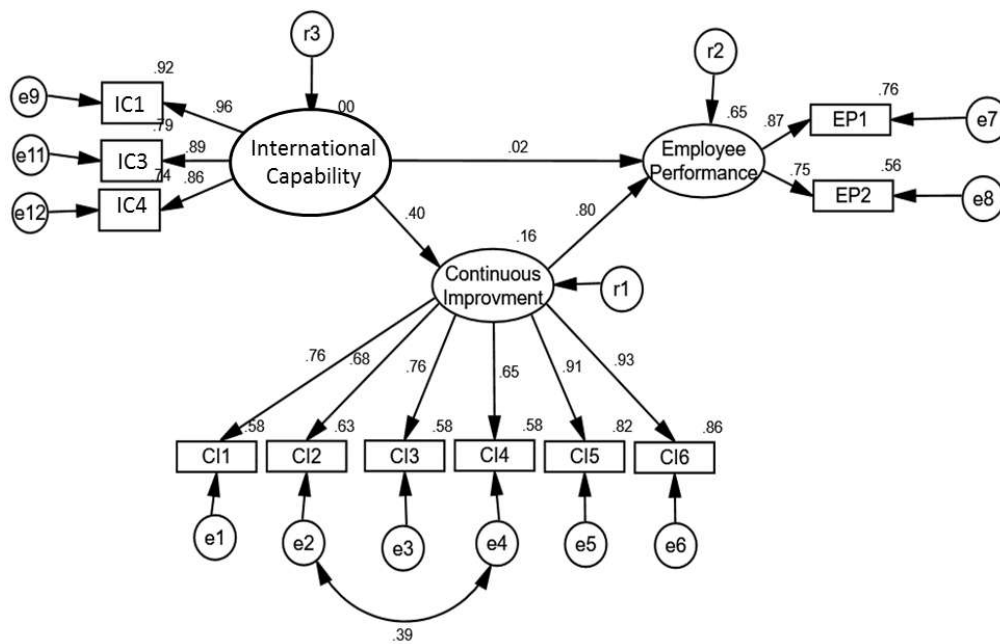
To ensure that the instrument will directly meet the requirements of the model, the construct validity and discriminant validity were tested. Convergent validity was measured by the value of confirmatory factor analysis (CFA) to ensure the loading factor is greater than 0.6. It was found that the average variance extracted (AVE) of all variables was above .5. Moreover, the discriminant validity was tested by examining the correlation between the construct and the correlation observed between the variables which should be less than 0.85. The results of the AVE are presented in Table 3 while the Correlation Matrix is documented in Table 4.

**Squire root AVE in diagonal**

In summary, for the model fit, the results of the measurement model indicated that the Normed Chi-Squared fit index derived from the Chi-Square/degrees of freedom is 1.772, indicating a good fit model. The value of Goodness of Fit, and the Adjusted Goodness of Fit is .967, and .930, respectively. The Root Means Square Error of Approximation is .051. The Normed fit index and Comparative Fit Index value equal .980, and .991, respectively. All data sets (see Table 5) indicate an appropriate fit for this specific model.

**Statistical Modeling**

The results of the research indicated that International Capability has a significant impact on Continuous Improvement  $\beta=.40$  (with p-value <.001), and Continuous Improvement has a significant impact on Employee Performance ( $\beta=.80$  with p-value <.001). Table 6 demonstrates that International Capability yields an indirect impact on Continuous Improvement ( $\beta=.529$ ) and maintains an accuracy of 16%. However, International Capability has no direct effect on Employee Performance.



CMIN=54.946 df=31 p-value=.005 cmin/df=1.772  
 GFI=.967 AGFI=.930 NFI=.980 CFI=.991 RMSEA=.051

**Figure 1. Statistical model**

**Table 2. Collinearity Statistics Testing compared with CII**

Variable	Collinearity Statistics	
	Tolerance	VIF
CI2: Concentrate on audit and record of task development	.279	3.589
CI3: Having good cooperation with every department for continuous improvement	.414	2.416
CI4: Looking for opportunities to increase knowledge and capability for task development	.334	2.998
CI5: Experience sharing with colleagues to benefit the workplace	.234	4.278
CI6: Have learnt both advantages and disadvantages regarding work	.222	4.513
IC1: Ready to work with foreign colleagues	.104	9.594
IC2: Can adjust to every situation	.092	10.824
IC3: Ready to work abroad and even leave the family if necessary	.225	4.447
EP1: Reduce the number of mistakes	.409	2.444
EP2: Get the job done on time	.482	2.074

**Table 3. Factor Loading, Critical Ratio,  $R^2$ , Composite Reliability, Average Variance Extracted**

Variable	Factor Loading	$R^2$	Composite Reliability	Average Variance Extracted
CII	.74	.55	.929	.688
CI2	.83	.70		
CI3	.77	.59		
CI4	.80	.63		
CI5	.90	.81		
CI6	.92	.85		
IC1	.96	.89	.931	.818
IC3	.89	.82		
IC4	.86	.75		
EP1	.87	.76	.794	.660
EP2	.75	.56		

**Table 4. Correlation Matrix for Variables in the Models**

Variable Name	1	2	3
1. Continuous Improvement	0.82		
2. Inter-Organization	0.47	0.92	
3. Employee Performance	0.80	0.33	0.81

**Table 5. Assessing the model fit indicators**

Chi-square/Degree of freedom (CMIN/df)	1.772
Goodness-of-Fit Index (GFI)	.967
Adjusted Goodness-of-Fit Index (AGFI)	.930
The Root Means Square Error of Approximation (RMSEA)	.051
Normed fit index (NFI)	.980
Comparative Fit Index (CFI)	.991

**Table 6. Standardized direct and indirect effect**

	Direct Effect		Indirect Effect		Total Effect	
	IC	CI	IC	CI	IC	CI
CI	.40				.40	
EP	.02	.80	.32		.34	.80

	Direct Effect		Indirect Effect		Total Effect	
	$R^2$	IC	CI	IC	CI	IC
CI	.16	.40			.40	
EP	.65	.02	.80	.32	.34	.80

$R^2$  = Coefficient of Determinant

Meanwhile, Continuous Improvement does influence Employee Performance and maintains an accuracy of 65%. However, the indirect effect on variables indicated that International Capability has an impact on Employee Performance through Continuous Improvement ( $\beta=.32$ ).

## CONCLUSIONS AND DISCUSSION

This study has illustrated a conceptual framework on the configuration of international capabilities of employees in steel firms, one that is linked to continuous improvement and employees' performance.

The finding is that international capabilities of employees affects their self-improvement and in turn their workplace performance. According to the rational view of employees' international capability, it was determined that employees who are ready and happy to work with people from various countries, can adjust themselves to every situation. They are in fact ready to work abroad, and have the self-confidence to work efficiently in an international business environment context. In considering the link with continuous improvement, the observed variables consisted of: having advice from a supervisor for continuous improvement; a focus on auditing and recording workplace development; paying attention to

cooperation with colleagues for continuous work improvement; looking for opportunities to increase knowledge and capability for work improvement; share experiences with colleagues; and understand the advantages and disadvantages in one's daily work. It can be concluded that employees' international capability does affect the continuous improvement of these employees in Thailand's steel industry. Consequently, those relationships support employees' performance in terms of reducing workplace mistakes, and encouraging efficiency. The steel industry mostly depends on process work and completing tasks on time to enhance firm performance. Moreover, reducing the number of mistakes will consequently reduce down time and keep production costs down for all processes. Firms in the steel industry should concentrate on human resource managementspecifically in employees' international capability. This type of employees' capability is paramount and they have versatile skills so that they can work internationally and domestically. It is professional capability that connects to self-improvement. To contribute to this objective, the process of selecting and training employees should concentrate on international capability, since this type of capability encourage the employees to their continuously improvement and support firm performance. As well, the support of supervisors and knowledge sharing between employees who work in various departments should be promoted. However, it has to be implemented appropriately to fit specific firms under particular circumstances. The limitation of this study is the small number of factors involved. Moreover, only a few firms allowed the collection of data and it had to be confidential since the results may have an impact on their internal workings, and inter-firm human resource recruitment. To determine employees' performance in the steel industry, one should consider the leadership style implemented in firms. This will allow other researchers to expand the number of factors in this conceptual framework and determine new relationships that may result.

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