THE EFFECT OF HUMAN RESOURCE MANAGEMENT AND SUPERVISOR LEADERSHIP STYLES ON INNOVATIVE WORK BEHAVIORS OF EMPLOYEE WORKING IN MANUFACTURING SECTORS IN CHON BURI PROVINCE, THAILAND

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ABSTRACT

The research explores the impact of human resource management and supervisor leadership style on innovative work actions of employees who work in manufacturing sectors in Chon Buri Province, Thailand**.** Recruitment and selection, development and training, analysis and design of job, appraisal of performance and involvement of employee are included in human resource management**.** Stimulation of intellectual, charisma, inspiration and individualized consideration comprised in supervisor transformation style of leadership and management by exception and contingent reward are included in transactional style of leadership**.** Workers' innovative work habits include seeking possibilities, creating proposals, championing ideas, and incorporating ideas**.** In this analysis, 406 workers from manufacturing sector of Thailand's Chon Buri Province are the study's specimens**.** The results show that administration of human resources has no significant effect on workers**'** innovative work behaviors**.** Moreover, charisma, inspiration, individualized appreciation and intellectual stimulation of transformation leadership and contingent recompense and management with the exception of transactional leadership have a significant effect on individuals**'** innovative work behaviors**.** The research would help manufacturing company executives to be attentive of workers in human resource management for testing new products and showing development procedures and leadership style in industrial industries extremely influential and culminating in employees**'** innovative work behaviors**.**

Keywords: Human Resource Management, Supervisor Leadership Styles, Innovative Work Behavior

INTRODUCTION

In new globalization, the world economy, culture, information and technology are evolving every day. Economic, cultural, and technological changes have resulted in high demand for technology. Organization, business, and manufacturing sectors are required to provide people on innovative products to compete with others. Processes of globalization and unpredictable changes in market conditions increase the complexity of the demands faced by companies (Gonzalez-Roma, Schaufeli, Bakker and Lloret, 2006). Many research and studies indicated that innovation was the best strategy for making manufacturing firms more competitive, addressing increased customer expectations and maintaining market position (Subramaniam and Youndt, 2005). Manufacturing sectors must be responsible for promoting productivity with innovative work practices like leadership styles of supervisors and human resource management. Management of human resource is concerned with the recruitment process and the identification of workers, the delivery of appropriate accommodation and initiation, the training and development of skills, the evaluation of employees, the encouragement, and the maintenance of relationships with employers.

Without their staff and members, companies or corporations cannot innovate (Kozlowski and Klein, 2000). Employees' behavior is also partnership between human resource management and innovative work actions (Gilbert, Winne and Sels, 2011). Leadership is also practice of motivating others to direct, organize, and promote team or corporate interactions and relationships toward some desired results (De Jong and Den Hartog, 2007). As the structures and organizational processes

become more dynamic, rapidly changing and demanding, creative working behavior becomes critical for organizational change because it helps to drive organizational effectiveness (De Jong and Den Hartog, 2010). Innovative work behavior is also important for the deliberate existence, implementation and assessment of innovative ideas, processes, products or services within organizations or undertakings because it benefits individuals, groups, organizations or undertakings and employee's innovative work activity is a tremendous asset to the survival of businesses and organizations in a rapidly changing economic environment (Janssen, 2000). Regarding Thailand's industrial industries, manufacturing sectors are very relevant because manufacturing sectors are important tasks in the development of Thailand's industrial industries. In the eastern part of Thailand, industries of Chon Buri Province include huge manufacturing industries. Plywood, environmental refining, electronics and components, appliances, polymers product lines, car tires, electric vehicles and industrial equipment are included among the major manufacturing sectors. Chon Buri Province's gross provincial product (GPP) is 912.498 million baht and manufacturing sector's gross provincial product (GPP) is 462.262 million baht and that is representing 50.66% of the Chon Buri Province of Thailand's gross provincial product at current economic market prices (ONESDB, 2019).

Essential and growing rapidly manufacturing industries manufacture equipment and electromagnetic materials, appliances and building materials, dried food, chemical products and manufacturing industries also manufacture elevated-tech products such as computer chips, components, hard drives, household appliances, automobiles and building supplies. Ironically, this research seeks to examine the impact of human resource management and supervisor leadership styles on employees who work in manufacturing industries in the Chon Buri Province of Thailand's innovative work behaviors. The study goals in this research are to analyze levels of human resource management, supervisor styles of leadership in manufacturing industries in Chon Buri Province of Thailand, and to explore the impact of human resource management and leadership styles of supervisors on employees' innovative work behaviors. The individual components of this study discuss the study's applicable literature articles, findings from research, discussions and recommendations. The study's findings would indeed be useful for creative interventions for supervisors and employees who work in manufacturing industries in Thailand's Chon Buri province.

LITERATURE REVIEW

Management of human resources and leadership mentors have become important development system strategy, which improves workers' innovative work behaviors (Schuler and Jackson, 1987; Newstrom and Davis, 1993). Development and training, job analysis and design, recruitment and selection, employee involvement and performance appraisal are included in the human resource management (Schuler and Jackson, 1987). Recruitment is figuring through and having potential hires with the paperwork; skills identified to allow a company to select employee and selection referred to once participants have established amongst the other applicant's many applicable enrolling procedures. Training and development is related to an organization process that enhances advancing individuals and defensive performance, and it is an analytical approach that sharpens knowledge, ideas, patterns of experience, and gathers a huge amount of data to increase work performance. Job analysis and design are processes of collecting and selling information on material and as well as human needs of workers and the framework whereby the category region of work done. Performance appraisal is a method which workplace job quality in workers and has been an aspect of organizational growth that integrates customer satisfaction at daily assessments of enterprises at increments. Employee involvement is employee participation to help an organization achieve its goals by applying the skills, strategies and ideas to identify issues that build choices. The style of transformation leadership involves charisma, intellectual stimulation, inspiration and individualized consideration and the style of transactional leadership comprises management by exception and contingent reward (Burns, 1978) Completely reliant factors include the discovery of possibilities, the production of ideas and the promotion of ideas and the implementation of the employees' innovative work actions. Transformation leadership is the leadership of workplace habits reflecting individual characteristics and abilities to meet workforce needs, promoting individual issues for organizational benefit and transformation leadership requires four aspects that become charisma, inspiration, intellectual stimulation, and

individual consideration. Transactional leadership style refers to the practices of supervisors that empower workers by preferential affirmation and sharing of incentives to workers, provide input, and discipline individuals who do not meet usual performance and consists exceptional management and contingent rewards. Innovative work behaviors are the most important considerations in transforming the market and technology in world in rising the comparative advantage of companies and handling rapid corporate economic reforms. Abstein and Spieth (2014) presented that workers' creative action was regarded a conscience-initiated practice that focused on improving and established new circumstances. Jannsen (2000) claimed that effects and advantages of innovative work activities significantly improved productivity in several of organization. Ramamoorthy, Flood, Slattery and Sardessai (2005) proposed that creativity could also actually be beneficial to company by involving workers in creative practices to create, hold, respond and adjust concepts that would never have been created. It makes workers important to advancement of the organization's goods, procedures and practices.

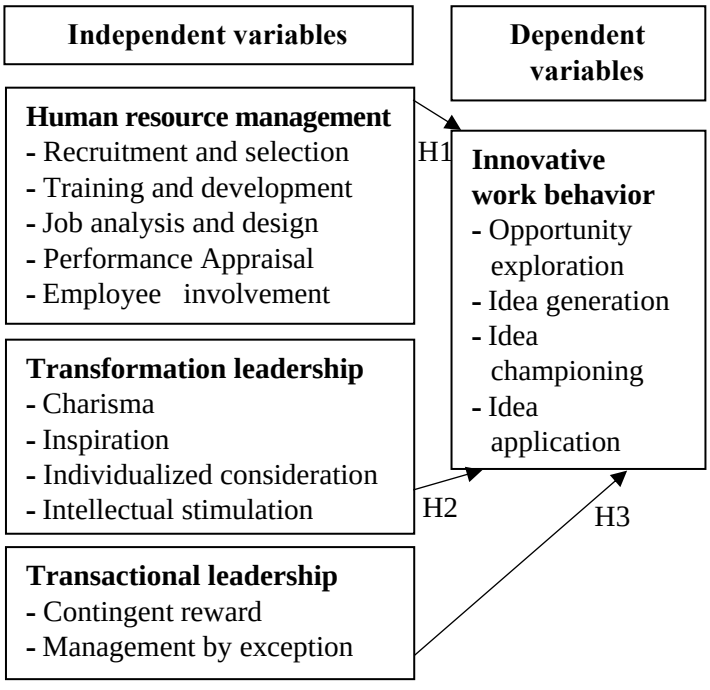

Figure 1: Conceptual framework

Employees' innovative work behavior is also the conduct of a person who attempts to implement or actively incorporate advance and useful concepts, methods, services or practices within group or organization. Hence, innovative work behavior is crucial for associations in constantly changing business climate to maintain competitive edge. Employees' innovative work behavior is analysis of different organizational ideas, product lines, functions, and interventions. Innovative activity can done by single team leader or particular individuals in an organization, and it is also greater term than imagination that involves a range of activities engaging in seeking possibilities, creating ideas, championing ideas, implementing ideas. Figure 1 states conceptual framework of study.

Related research on human resource management and innovative work behaviors

Decenzo and Robbins (2005) stated that human resource management corresponds by the dimension in management of each organization is created of individuals and developing skills, getting services, motivating the individuals to higher levels of performance and guaranteeing that they still maintain their commitment to the organization is important to realize objectives of organization.

Bos-Nehles and Veenendaal (2017) claimed that workers would be more creative if they consider the company to promote creativity and interpret the role of human resource management and relevant to training and development, information sharing and promoting regulation. Bos-Nehles and Veenendaal (2017) also noted that workers who view their company as promoting human resource management such as training and development would demonstrate greater levels of innovative work behaviors**.** Beugelsdijk (2008) stated that human resource management had potential within associations to establish consumer inventions and process innovations**.** Winne and Sels (2010) also showed that managing human resources was important driver of creativity**.** Abstein, Heidenreich and Spieth (2014) established that human resource management systems were effective in reducing thoughts of competing expectations of business and personal life and increasing the workers**'** innovative work behaviors**.** According to Scarbrough (2003), managing human resources was beneficial to entrepreneurial practices because managing human resources can enable manufacturing companies to explore and use institutional skills and knowledge**.** Scarbrough (2003) proposed that when businesses introduced advance goods and strengthened human resources processes, they required human capital's ambition and ability to generate creative ideas, develop groundbreaking interventions, and exercise new

opportunities. Scarbrough (2003) had claimed that human resource management played vital role in cultivating conditions necessary to catalyze and funnel individuals into creation of entrepreneurship operations.

When manufacturing industries used creative functionality and advanced features as guidelines for recruitment and selection, their workers were likely to experience thoughts and goals for more innovation behaviors (Brockbank, 1999; Atuahene-Gima, 1996). Brockbank (1999) stated that manufacturing companies could provide employees with variety of training programs to introduce new awareness, capabilities and groundbreaking skills to do the job work. Chen and Huang (2009) mentioned that companies could use human resource management techniques that influence employee attitudes and expectations, and incorporate greater significance to development of employees' innovative work behavior. According to Fernandez and Pitts (2011), the researchers found that human resource management growth encouraged workers to improve creative behavior. Other researchers also pointed that education and advancement related to innovative ideas and developments along with revolutionary initiatives (Fernandez and Pitts, 2011). The results of Bysted and Jespersen (2013) studies and Fernandez and Pitts (2011) studies have demonstrated that exhaustive human resource management training constrained employees' innovative work behavior.

Consequently, there are several analyses of interaction between controlling human resources and workers' innovative work behavior. The findings and outcomes of this evidence showed that hiring and choice, training and development, role evaluation and structure, productivity improvement, human resource management have a significant relationship with employees' innovative work behavior. Therefore, related hypothesis is as the following:

Hypothesis 1: Human resource management has an effect on innovative work behaviors of employee.

Related research on supervisor leadership styles and innovative work behaviors

Bass (1985) explained that transactional leaders forced followers to deliver to set standards and transformation leaders promoted followers' success above estimates, and causal factors of innovative work activity were employee's temperament, the mission criteria, and the nature of the company. Transformational leadership is leadership style that encourages adherents to climb beyond their actualization-interest by modifying their beliefs, principles, desires, and expectations, inspiring them to do better than anticipated (Bass, 1985). The transformation leadership's inspiring ambition can invigorate and contest disciples to attain interpersonal goals and empower shareholders to have been more imaginative and creative in solving issues (Bass, 1985). Transformation leaders are individuals who create, introduce and legitimize modern corporate gender identities by setting up new processes focused on creative goals and new skills for their work groups (Waldman and Bass, 1991). Basu and Green (1997) noted that transaction leaders introduced to promote innovative work conduct among followers by presenting an optimistic vision, enabling followers to challenge authority, and promoting individual workers' growth and prosperity.

Transactional management, as shown by Avolio, Bass and Jung (1999), consisted of wholly dependent-reward intertwined actions and the participant offered incentives for decent performance and exceptionally effective leadership leaders looked for violations from standards and regulations and took the appropriate action or exclusion from reactive and passive control to members when expectations not happened to meet. Deci and Ryan (1987) argued that transactional leadership was as manipulating, aggravating and contributing to less creative actions. Throughout the analysis of Avolio, Bass, and Jung (1999), transactional governance was also significantly lower-order system composed of conditional reward elements and explaining what participants should be doing to receive the compensation and strategic planning by exception trying to monitor progress and implementing appropriate action if problem raised. Scott and Bruce (1994) observed that supervisor's position requirements had beneficial impact on workers' inventive behavior. According to Rank, Nelson, Allen, and Xu (2009), transactional leadership correlated with innovation and transformation leadership significant with innovation. Deci and Ryan (1987) suggested that transactional leadership was as command and de-motivation, resulting in creative behavior and innovation. Transactional leadership was high structure system composed of conditional reward elements and exception of management (Bass, 1985). According to Francoise and Juan (2017), transactional leadership style was effective but when employees prioritized change processes,

transformation leadership was more suitable for individuals. Therefore, there were many published studies of the interaction among management styles and workers' innovative work behavior. In addition, outcomes of these researches indicated that transformation and transactional leadership significant influenced on workers ' innovative work actions. The relations hypotheses are as follows respectively:

Hypothesis 2: Transformation leadership style has an effect on innovative work behaviors of employee.

Hypothesis 3: Transactional leadership style has an effect on innovative work behaviors of employee.

In summary, by analyzing documents related, theories, and applicable research, it can inferred that human resource management is a partnership with employees' innovative work activity and an interaction occurs between supervisor leadership styles and employees' innovative work behavior. The study's findings may be useful in improving management of human resources, leadership, and innovative work behavior.

RESEARCH METHODOLOGY

This study was a survey research that asking the structured questionnaires as a tool for data collection.

Population and sample

The sample was from population of employees working in large companies in manufacturing sector in Province of Chon Buri and composition of population was 262,375 employees in large companies (National statistical office of Thailand, 2017). The sample size of survey was determined by using equation of Yamane. The researcher selected 400 samples from the group of participants to survey from the calculation of the research study sample.

Research Instrument

The survey questionnaires including four parts that were the personal characteristics questionnaire which including 9 items, human resource management questionnaire which including 24 items, leadership styles questionnaire which including 35 items and innovative work behaviors questionnaire which including 22 items. Human resource management, leadership and innovative work behaviors questionnaires that asked respondents to answer by Likert scale with responses ranging from strongly disagree (1) to strongly agree (5). For interpret levels of human resource management, leadership styles and innovative work behavior, 1.00 to 1.80 means very low, 1.81 to 2.60 means low, 2.61 to 3.40 means moderate, 3.41 to 4.20 means high, 4.21 to 5.00 means very high.

Content validity and reliability

Three experts in relevant areas checked the survey questionnaires for language comprehension, and content validity with the item-objective congruence index. The item-objective congruence index greater than 0.5 indicated appropriate contents of questionnaire (Crocker and Algina, 1986). Thirty participants working in manufacturing sector in Province of Rayong, Thailand, including the big companies was tested the reliability of the questionnaire. The alpha Coefficient of Cronbach higher than 0.7 showed that reliability considered to appropriate (Nunnally and Bernstein, 1994). The reliability statistics were 0.89 for management of human resources and 0.90 for leadership style of the supervisor and 0.87 for employees' innovative work behavior from trial data.

Data analysis

Quantitative methods have analyzed to measure employee survey data from questionnaires. Data analysis metrics are descriptive statistics including frequency, numerical average, and standard deviation measured to define individual characteristics and job-related factors of respondent. Standard deviation and mean measured level of employees' management of human resources, supervisor leadership styles and employees' innovative work behavior. Inferential statistics including multiple regression analysis calculated in the study for analyzing the effect of human resource management and supervisor leadership style on employees' innovative work behavior.

RESEARCH FINDINGS

The characteristics of the respondents

According to the data from respondents responded the survey questionnaires, 51.48% of the respondents were male and 48.52% of the respondents were female respondents. The largest proportion of the respondents were aged between 25 to 29 years old and 69.70% of respondents were graduated with bachelor degree and 13.05% of respondents were working at research and development department, 33.25% of respondents were working at engineering and production,

4.93% of respondents were working at system and computer department. Moreover, 10.59% of respondents were working at planning section, 4.19% of respondents were working at sales and marketing, 5.67% of respondents were working at management section, 6.90% of respondents were working at human resource management department and 21.43% of respondents were working at other departments.

The level of human resource management, transformation leadership style, transformational leadership style and innovative work behaviors

This study presents with mean and standard deviation to state the descriptive statistics of human resource management, style of transformation leadership and style of transformation leadership in manufacturing sectors in Chon Buri Province, Thailand. Table 1 presents the results of descriptive statistics on the management of human resources, style of transformation leadership and style of transformation leadership in manufacturing sectors. The average recruitment and selection of human resource management mean score from table 1 was 3.70 with standard deviation 0.618 and high interpretation. Training and development was 3.59 mean score with standard deviation 0.883 and high interpretation. Job analysis and design was 3.54 mean score with standard deviation 0.630 and high interpretation. Performance appraisal was 3.48 mean score with standard deviation 0.683 and high interpretation. Employee involvement was 3.54 mean score with standard deviation 0.680 and high interpretation. It can said that transformation leadership style's total mean score was 3.60 with 0.618 standard deviation and high interpretation. Transactional leadership style mentor was 3.11 with 0.656 standard deviation and moderate definition. In comparison, average mean score for workers' innovative work behavior was 3.57 with 0.501 standard deviation and high interpretation.

The analysis of effect of human resource management and supervisor leadership styles on innovative work behavior of employees

This research described the impact of human resource management and supervisor leadership styles on employees' innovative work behaviors in manufacturing sectors in Chon Buri Province Thailand by analyzing the multiple regression. Table 2 presents Pearson correlation coefficient between human resource management variables and supervisor leadership styles variables.

From table 2, when calculating a matrix of Pearson correlations among all independent variables, magnitude of correlation coefficients was less than 0.7. Table 2 displays coefficients of correlation between 0.292 and 0.684. Which stated that the variables have not been highly correlated. According to Dancey and Reidy (2004), tolerance was more than 0.2 and variance inflation factor (VIF) less than 10 and there was no problems with multicollinearity in this study. Furthermore, the data was not auto correlated. Because the Durbin Watson statistic was 1.920 (from table 3) which is between 1.5 and 2.5 (Tabachnick and Fidell, 2001).

Table 3 revealed that multiple regression analysis of impact of human resource management and supervisor leadership styles on innovative work behavior.

From table 3, according to definition significant, F-statistics was 29.620. If significant, the null hypothesis can deducted. The R was 0.585 and the R square (R^2) and modified R square (R^2_{adj}) in the data analysis

Table 1: The descriptive statistics on human resource management, supervisor leadership styles and innovative work behaviors of employee in manufacturing sectors

Variables	Mean	Standard Deviation	N	Interpretation
Recruitment and selection	3.70	.618	406	high
Training and development	3.59	.883	406	high
Job analysis and design	3.54	.630	406	high
Performance appraisal	3.48	.683	406	high
Employee involvement	3.54	.680	406	high
Transformation leadership style	3.60	.618	406	high
Transactional leadership style	3.11	.656	406	moderate
Innovative work behavior	3.57	.501	406	high

Table 2: Correlation matrix between human resource management and supervisor leadership styles

	RS	TD	JD	PA	EI	TFL	TSL
Recruitment and selection (RS)	1						
Training and development (TD)	.547	1					
Job analysis and design (JD)	.571	.584	1				
Performance appraisal (PA)	.644	.581	.651	1			
Employee involvement (EI)	.550	.507	.567	.625	1		
Transformation leadership (TFL)	.591	.558	.580	.632	.684	1	
Transactional leadership (TSL)	.355	.292	.380	.412	.335	.459	1

Table 3: Results of multiple regression analysis

	Beta	Std. Error	Std. Beta	t	Sig
(Constant)	1.691	.147		11.494	.000*
Recruitment and selection	-.005	.047	.214	-.097	.923
Training and development	.017	.031	.352	.527	.599
Job analysis and design	.045	.047	-.006	.947	.344
Performance appraisal	.013	.048	.029	.279	.780
Employee involvement	.049	.045	.056	1.102	.271
Transformational leadership	.173	.052	.018	3.309	.001*
Transactional leadership	.269	.036	.067	7.529	.000*
F-statistics = 29.620	Sig. = .000	R = .585	R^2 = .343	R^2_{adj} = .331	
SEE = .410	Durbin Watson = 1.920				

Note: * p< 0.05

were 0.343 and 0.331, which indicated that variation of independent variables described 34.30 percent of variability of innovative work behavior.It is can inferred that independent variables had statistical capacities in forecasting workers' innovative work behaviors.

For Hypothesis 1, the results showed that human resource management, the recruitment and selection, training and development, job analysis and design, performance appraisal and employee involvement were not statically significant effect on innovative work behavior at 0.05 level (p= 0.923, 0.599, 0.344, 0.780 and 0.271 respectively). ***Therefore, Hypothesis 1 is not supported.***

For Hypothesis 2, transformation leadership had a positive effect on workers' innovative work behavior, which was significant at 0.05 level (p= 0.001) and the value of beta was 0.173 which showed that 1 unit of change in transformation leadership leaded to 0.173 changes in innovative work behavior in same direction. ***Therefore, Hypothesis 2 is supported.***

For Hypothesis 3, supervisor transactional leadership style had a positive effect on workers' innovative work behavior which was significant at 0.05 level (p= 0.000) and the value of beta was 0.269 which showed that 1 unit of change in transactional leadership leaded to 0.269 changes in innovative work behavior in same direction. ***Therefore, Hypothesis 3 is supported.***

DISCUSSIONS

This study showed that the basic human resource management findings, supervisor leadership style and workers' innovative work actions in the manufacturing sector. Study results can acquire knowledge of human resource management, supervisor leadership style, and innovative work behavior experiments from a number of recent studies in which their goal were to stabilize global manufacturing industries. Analysis on human resource management, supervisor leadership style, and employees' innovative work behavior carried out using analogous inherent theory and this research characterized the attributes of human resource management, supervisor leadership style, and employees' innovative work behavior in manufacturing sectors.

The findings showed that workers in human resource administration of manufacturing sector engaged less in innovative work behavior. This meant that training and development, job analysis and design, recruitment and selection, involvement of employee and appraisal of employee might not put much focus on employees' innovative work behaviors. It also observed that supervisor leadership style has an effect on workers' innovative work behavior in manufacturing sector. The finding confirmed that employee's innovative work actions significant impact interaction with supervisor leadership style. Many studies have found different human resource management findings, such as the advantages of applied technologies from human resource management elements (Fernandez and Pitts, 2011).

The findings of Seibert, Wang and Courtright (2011) indicated that leadership was a significant model for creativity in workforce because it improved workers' ability to enact their comments and suggestions for improvement, leading to increased organizational development. The recent study indicated that transactional and transformation leadership significant impact on workers' innovative work behaviors. Leadership encouraged workers individually to take decisions and empowered them to display participatory actions in work processes. In fact, leaders with usability qualities acted as a social model and workers learned substantial skills to play a given role effectively and then employees were clearly explained the effect of their initiative on productivity. To assess the productive performance, innovative ideas vary from proper old techniques of job and supervisor leadership styles affect the innovation phase. Some research showed that the impact of managing human resources on innovative work behavior might vary depending on the types of tasks and jobs (Scott and Bruce, 1994). The study findings indicated that supervisor leadership style acted as workers to show greater ability to evaluate employees' innovative work behaviors.

RECOMMENDATIONS

Current research focused on studying human resource management and supervisor leadership style in Chon Buri Province, Thailand, on the innovative work conduct of employees working in manufacturing sectors. While the findings explained influence of independent variables on dependent variables, some other important issues can explore in further research.

First, since the purpose of this study was to analyze human resource management, supervisor leadership style and innovative work behaviors in companies in manufacturing sector. Throughout industries and businesses, there were many other kinds of industries and they had different types of administration, the disposition of workers, and the features of human resource management and supervisor leadership style. Further empirical studies should examine on other types of industries and enterprises on the form of human resource management and supervisor leadership.

Finally, further studies should measure the level of supervision of human resources and the leadership style of supervisors. The scope of this research required only some factors to explore and there were several factors in determining of the style of conducting human resources and supervising management and leadership. Therefore, further studies should explore other factors that contribute of the administration of human resources and the leadership styles of supervisors.

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REFERENCES

Abstein, A., & Spieth, P. (2014). Exploring HRM Meta-Features that Foster Employees' Innovative Work Behaviour in Times of Increasing Work-Life Conflict. *Creativity and Innovation Management*, *23*(2), 211–225.

Abstein, A., Heidenreich, S., & Spieth, P. (2014). Innovative Work Behaviour: The Impact of Comprehensive HR System Perceptions and the Role of Work–Life Conflict. *Industry and Innovation*, *21*(2), 91–116.

Atuahene-Gima, K. (1996). Differential potency of factors affecting innovation performance in manufacturing and services firms in Australia. *Journal of Product Innovation Management*, *13*(1), 35–52.

Avolio, B. J., Bass, B. M., & Jung, D. I. (1999). Re-examining the components of transformational and transactional leadership using the Multifactor Leadership. *Journal of Occupational and Organizational Psychology*, *72*(4), 441–462.

Bass, B. M. (1985). *Leadership and Performance beyond Expectations*. New York Free Press.

Basu, R., & Green, S. G. (1997). Leader-Member Exchange and Transformational Leadership: An Empirical Examination of Innovative Behaviors in Leader-Member Dyads. *Journal of Applied Social Psychology*, *27*(6), 477–499.

Beugelsdijk, S. (2008). Strategic Human Resource Practices and Product Innovation. *Organization Studies*, *29*(6), 821–847.

Bos-Nehles, A. C., & Veenendaal, A. A. R. (2017). Perceptions of HR practices and innovative KOWwork behavior: the moderating effect of an innovative climate. *The International Journal of Human Resource Management*, *30*(18), 2661–2683.

Brockbank, W. (1999). If HR were strategically proactive. Present and future directions in HR's contribution to competitive advantage. *Human Resource Management*, *38*(4), 337-352.

Burns, J. M. (1978). *Leadership*. New York Harper and Row. Scientific Research Publishing.

Bysted, R., & Jespersen, K. R. (2013). Exploring Managerial Mechanisms that Influence Innovative Work Behaviour: Comparing private and public employees. *Public Management Review*, *16*(2), 217–241.

Chen, C. J., & Huang, J. W. (2009). Strategic human resource practices and innovation performance The mediating role of knowledge management capacity. *Journal of Business Research*, *62*(1), 104–114.

Crocker, L., & Algina, J. (1986). *Introduction to Classical and Modern Test Theory*. New York: Harcourt.

Decenzo, D.A., & Robbins, S. P. (2005). *Fundamental of Human Resource Management*. New York: John Wiley and Sons Book of Management.

Deci, E. L., & Ryan, R. M. (1987). The support of autonomy and the control of behavior. *Journal of Personality and Social Psychology*, *53*(6), 1024–1037.

De Jong, J. P. J., & Den Hartog, D. N. (2007). How leaders influence employees' innovative behaviour. *European Journal of Innovation Management*, *10*(1), 41–64.

De Jong, J., & Den Hartog, D. (2010). Measuring Innovative Work Behaviour. *Creativity and Innovation Management*, *19*(1), 23–36.

Dancey, C., & Reidy, J. (2004). *Statistics without Maths for Psychology: using SPSS for Windows*. London: Prentice Hall.

Fernandez, S., & Pitts, D. W. (2011). Understanding Employee Motivation to Innovate: Evidence from Front Line Employees in United States Federal Agencies. *Australian Journal of Public Administration*, *70*(2), 202–222.

Francoise, C., & Juan, E. (2017). "Leadership and employees' innovative work behavior. Test of a mediation and moderation model." *Journal of Asian Social Science*. *13*(9), 9-25.

Gilbert, C., De Winne, S., & Sels, L. (2011). The influence of line managers and HR department on employees' affective commitment. *The International Journal of Human Resource Management*, *22*(8), 1618–1637.

Gonzalez-Roma, V., Schaufeli, W. B., Bakker, A. B., & Lloret, S. (2006). Burnout and work engagement: Independent factors or opposite poles? *Journal of Vocational Behavior*, *68*(1), 165–174.

Janssen, O. (2000). Job demands, perceptions of effort-reward fairness and innovative work behaviour. *Journal of Occupational and Organizational Psychology*, *73*(3), 287–302.

Kozlowski, S.W.J. and Klein, K.J. (2000) *A Multilevel Approach to Theory and Research in Organizations Contextual*, Temporal and Emergent Processes.

ONESDB. (2019). Office of the National Economic and Social Development Board. www.nso.go.th.

National statistical office of Thailand, (2017). *The 2017 Business and Industrial Census Basic Information Chon Buri Provincial*. www.nso.go.th.

Newstrom, J., & Davis, K. (1993). *Organization Behavior*. New York, McGraw-Hill.

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric Theory*. New York, NY: McGraw-Hill.

Ramamoorthy, N., Flood, P. C., Slattery, T., & Sardessai, R. (2005). Determinants of Innovative Work Behaviour: Development and Test of an Integrated Model. *Creativity and Innovation Management*, *14*(2), 142–150.

Rank, J., Nelson, N. E., Allen, T. D. & Xu, X. R. (2009). "Leadership predictors of innovation and task performance: Subordinates' self-esteem and self-presentation as moderators." *Journal of Occupational and Organizational Psychology*, *82*(3), 465-489.

Scarbrough, H. (2003). Knowledge management, HRM and the innovation process. *International Journal of Manpower*, *24*(5), 501–516.

Schuler, R. S., & Jackson, S. E. (1987). Linking Competitive Strategies with Human Resource Management Practices. *Academy of Management Executive*, *1*(3), 207–219.

Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior. A path model of individual innovation in the workplace. *Academy of Management Journal*, *37*(3), 580–607.

Seibert, S. E., Wang, G., & Courtright, S. H. (2011). Antecedents and consequences of psychological and team empowerment in organizations: A meta-analytic review. *Journal of Applied Psychology*, *96*(5), 981–1003.

Subramaniam, M., & Youndt, M. A. (2005). The Influence of Intellectual Capital on the Types of Innovative Capabilities *Academy of Management Journal*, *48*(3), 450–463.

Tabachnick, B. G. & Fidell, L. S. (2001) *Using Multivariate Statistics. 4th ed.* Boston: Allyn and Bacon.

Waldman, D. A., & Bass, B. M. (1991). Transformational leadership at different phases of the innovation process. *The Journal of High Technology Management Research*, *2*(2), 169–180.