

# The Impact of Human Resource Information System (HRIS) on Organizational Effectiveness: A Case Study of the Textile Industry in Thailand

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## ABSTRACT

Human resource information system (HRIS) has potential benefits to improve organizational performance. The purpose of this exploratory study is thus to investigate the impact of HRIS on organizational effectiveness. The textile industry in Thailand is taken as a context of the study as it faces many challenges in this globalization era. One of the industry's dilemmas is about worker conditions and the scarcity of workforce. A questionnaire survey was conducted during December 2012-March 2013. About 354 questionnaires were mailed to the random sample drawn from the Textile Directory (2006). A total of 63 usable returned questionnaires were obtained. Descriptive statistics were used to analyze the obtained data. The findings reveal that the sample respondents perceived that HRIS has a positive impact on organizational effectiveness with respect to human resource processes, time savings, cost savings, information effects, decision making and strategic impact of HR role.

## KEYWORDS

HRM Practices, Human Resource Information System (HRIS), Organizational Effectiveness, Questionnaire Survey, Survey Instrument, Textile Industry, Thailand

## 1. INTRODUCTION

The economic environment is changing rapidly due to globalization and deregulation of markets, changing customer tastes and preferences and investor demands, and ever-increasing product-market competition. Organizations must overcome these threats and seize new opportunities by enhancing their performance through reducing costs, innovating products and processes, and improving quality, productivity, and speed to market. Human resource department is one of the important departments in organization that affect organizational performance (Becker and Gerhart, 1996). It develops the skills, knowledge and abilities needed by firms through its human resource management (HRM) practices and available information technology.

In the last decade, information system is used to effectively improve organizational performance in various functions and departments including human resource (HR) department. HR Department employs human resource information system (HRIS) to support many activities in terms of identifying potential employees, maintaining complete records on existing employees and creating programs to boost talents and skills of employees. Senior management has used HRIS to identify the manpower supplies in order to achieve the strategic goals and sustainable business plans. HRIS assists middle

management to monitor and analyze the recruitment, allocation and compensation of employees. HRIS is employed by operational management to track the recruitment and placement of the employees. HRIS supports numerous HR practices functioning as workforce planning, staffing compensation programs, salary forecasts, pay budgets and employee relations as well (Bal, Bozkurt and Ertermsir, 2012). Consequently, HRIS has an effect on organizational effectiveness.

This exploratory study investigates perception on the impact of HRIS of the employees who are involved in human resource management. It asks whether HRIS affects organizational effectiveness in Thai textile industry. To measure this, survey questionnaire was conducted to collect data from employees in the textiles companies. This paper has five main sections. Following the first section which is the introduction, relevant literature of HRIS and organizational effectiveness is reviewed and discussed. The third section presents the methodology of this study which includes the measurement development, the research sampling frame, how data were collected, and reliability of the questionnaire items. The empirical findings related to information system (HRIS) and organizational effectiveness are then presented and discussed in the fourth section. Finally, conclusion and some recommendations are given.

## **2. HRIS AND ORGANIZATIONAL EFFECTIVENESS**

Various authors including management researchers, economists, consultants, professional managers, entrepreneurs, business professionals and researchers, politicians and constituencies are concerned about organizational effectiveness issue (Thibodeaux, 1996). They have defined the meaning of organizational effectiveness in different ways. According to Lee and Choi (2003), organizational effectiveness is one of the approaches to appraise organizational performance. Cummings and Worley (2009) defined organizational effectiveness as an indicator to measure organizational development which is a process in behavioral knowledge and practices that assist organizations to reach the superior performance. In sum, organizational effectiveness is considered a measurement of the desirable organizational performance. Batra (2006) measures impact of IT on organizational effectiveness with organizational flexibility, process, structural and performance variables. In the study, organizational effectiveness is measured by employee satisfaction, customer orientation, and financial and growth performance.

Before the information technology is available, employee information was arranged in a simple way. For instance, the report which employee provides to a prospective employer is presented in a paper application. This information becomes a general profile of employees which consists of, name, sex, age, social security number, employee's address, education, marital status (in some cases), employment history, and so on. This would be stored in a folder for HR department to enter as essential. While the employee was employed and organized on the payroll, some selective information is provided to customs by the finance department for payroll and taxes purposes. During the working time, the extra information of employee would be put in the file. Normally, employee concerned was required to keep updating their own records whereas the employer was the crucial maintainer of the entire related information of records of employee. Most employers observed the information in some crucial cases but they did not make use of it for a strategic purpose. Furthermore, each employee joins a company at different time, grows with different steps in his or her occupation and then leaves the firm due to different reasons (Kovach and et al., 2002).

In 1960s, personnel management automated the payroll, benefits administration and other transaction processing applications such as employee record holding. In 1980s, IT comes up to assist HR professionals to supply services. This has an effect upon all HR practices (Hendrickson, 2003).

Workplace automatically started on the new landscape and developed HRIS in terms of a special category of office automation systems (OAS) (Kovach et al., 2002, *ibid.*). In 1990s, the concept of strategic human resource management is progressed with the focus on proactive HRM, integrative and value-driven approach increasingly (Schuler et al., 1992).

As the most recent and current development in HRM, strategic HRM highlights the right position between human resource management practices and organizational strategic goals, the integration of human resource management in the organization strategic management, the involvement of human resource function in senior management teams, the development of human resource practices to line managers and taking strategic approach to employee selection, training & development, performance appraisal, compensation, and other issues that enhance effective organizational performance. This development in strategic HRM practices was in part enabled by the introduction of information technology into the HR function (Kovach & Cathcart, 1999; Rodriguez and Ventura, 2003).

A human resource information system (HRIS) is the software containing a database that allows the systematic procedures and functions for acquiring, storing, and manipulation of data, retrieving, analyzing, and disseminating pertinent information concerning organizational HR (Walker, 1982; Lippert and Swiercz, 2005). However, desirable and effective HRIS need not be complex or even computerized. In small businesses, HRIS can be as informal as the payroll records and time. In major manufacturers, banks and government organizations alike, HRIS is found to be broad and official in its applications (Kovach and Cathcart, 1999). Currently, HRIS software comes in an integrated package rather than standing alone applications. It incorporates enterprise resource planning (ERP) with those packages which add further advantages.

Troshani et al. (2011) find in their study on the public sector organizations in Australia that factors influencing the adoption of HRIS include organizational factors such as management commitment and human capability as well as the broader environmental factors such as regulatory compliance which can have a deep impact by creating urgency in adoption. Organizations adopt HRIS with varied purposes and different reasons. Some use it for cutting costs, others to improve communication, and some utilize owing to increase strategic integrations in HR operation (Parry et al., 2007; Usman, 2012). HRIS application assists HR to do administrative tasks faster, with less paper. Many firms use employee self-service system in which employees key in information like address update, planning for retirement, health-plan update, birth of a child, changing benefits of life insurance on their own (Kovach and Cathcart, 1999). Several organizations also use HRIS as an automated system through interactive employee information kiosks or internet-based web application. Therefore, information is always updated and the HR staff have time to do other tasks (Kovach et al., 2002, *ibid.*). Over the years, HRIS has become more widely used in administrative activities while aligning with corporate strategy perspective (Kovach et al., 2002).

Some theoretical papers have been conducted with respect to HRIS studies. Ngai and Wat, 2006 conducted a survey of the implementation of HRIS in Hong Kong organizations. The results suggest that better advantages in adopting HRIS include the quick response and access to information whereas the obstacle is the inadequate financial support. The literature on HRIS practices mostly is found to focus on other sectors such as public sector (Beadles II, 2005) banking sector (Sadiq, 2012). Nagendra and Deshpande (2014) in an exploratory study conducted a survey on the extent of HRIS usage in mid to large sized organizations and the advantages they benefited from the HRIS implementation in the Human Resource Planning (HRP) sub-functions. Based on the 50 returned questionnaires from 50 senior and junior HR executives/managers in the three sample organizations in Pune, India, they found that the greatest uses of HRIS were its contribution to the efficiency and effectiveness of HR planning through HRIS skills' inventory, HRIS training needs analysis, HRIS succession planning and HRIS labour demand and supply analysis. Their results suggested that organizations need to integrate HRIS functions with other business functions. In Thailand, studies on HRIS are very rare especially that on the textile industry.

### 3. RESEARCH METHODOLOGY

Textile industry in Thailand is facing many challenges in this globalization era. It is selected as the context of this study with several reasons. First, the textile industry is still a vital segment that provides employment opportunities for all various skill types in the country. Secondly, there are very few previous researches that study the HRIS impact on organizational effectiveness in the Thai Textile industry. Third, this study's findings may offer some insights to other industries in Thailand that are facing similar situation.

The textile industry plays a significant role in Thailand. In 2011 the workers of the manufacturing establishments in the Whole Kingdom were totally 4.55 million persons. In term of employees, there were totally 4.0 million persons. Most of them about 18.1 percent worked in manufacture of food followed by those worked in manufacture of wearing apparels about 8.5% (NSO, 2012). This suggests the significant role of the textile industry in the Thai economy.

There are currently many HRIS vendors in Thailand including Peoplesoft, Oracle, SAP and Evergreen Comware Co. Ltd. (Kanthawongs, 2004). Their software is used by major hospitals in Bangkok, Thai Securities Market Exchange, a large worldwide banking and financial services organization in Bangkok, and a major modern trade retailer in Thailand and so on. Hence, it is believed that HRIS has a potential benefit for a better HR planning and training system to improve organizational performance in the textile industry.

#### 3.1. Measures

Our research instrument was modified based on that developed by Beadles, Jones and Lowery (2005). The questionnaire was translated into Thai and then back-translated into English to ensure the equivalence of the meaning. There are two main parts: demographic data and organization performance and HRIS-related and organization performance questions. Both the 5-point Likert-type scale items (1 strongly disagree; 2 disagree; 3 neutral; 4 agree; 5 strongly agree) and open-ended questions were used in the survey to investigate the perceptions of respondents regarding to the impact of HRIS on organizational effectiveness. The questionnaire is presented in Appendix 1.

#### 3.2. Data Collection

The samples of 354 companies are randomly selected from the Thai Textile Industry Directory (TTIS, 2006). This sampling frame includes five main categories in the Thai Textile industry, namely, fibre industry, spinning industry, weaving and knitting industry, dyeing, printing and finishing industry and garment industry. Apart from the five major sectors, there are also other smaller industries such as silk industry, non-woven industry (pampers, carpets in automobile industries and home textiles). The questionnaire was mailed with cover letter and a self-addressed prepaid return envelope. The respondents were asked to complete and return the questionnaire within about two weeks of receipt. A total of 27 completed questionnaires returned by January 15. Additional 144 sample companies are searched randomly from the internet ([www.thaitextile.com](http://www.thaitextile.com)). Then, additional questionnaires were sent by email with the link to our online survey, by post with self-addressed envelopes and by faxes as per the companies' requests. The second round of data collection was conducted during Jan. 16 – March 31, 2013. A total of 36 returned and usable questionnaires were obtained. In total, 63 completed and usable questionnaires were obtained for this research. The low response rate may also suggest that there are still very low percentage of firms in the industry that have implemented HRIS.

Table 1 presents the profile of sample respondents in this study. Many (i.e., 38%) of the sample respondents are in the age group of 30 – 39 years old. The significant number of respondents (i.e., about 46%) falls in the age group of 40 – above 50 years of age. Very few are in the age group of 20-29 years old. This may suggest that the manpower in this industry is experiencing aging workforce. In term of educational attainment, most of the sample respondents, i.e., 66.7% have obtained their bachelor's degree. Many of the respondents are HR managers, i.e., 33%. Almost all are employees

Table 1. Profile of Sample Respondents (N = 63 persons)

Age	Percentage
20-29	15.9
30-39	38.1
40-49	25.4
50 and over	20.6
<b>Educational Attainment</b>	
Below Bachelor's degree	15.9
Bachelor's degree	66.7
Master's degree	14.3
Above Master's degree	3.2
<b>Job Position</b>	
Managing Director	6.3
Manager	7.9
HR Manager	33.3
Secretary	4.8
Other	47.6
<b>Occupation</b>	
Employee	96.8
Owner	3.2
<b>Department</b>	
Administration	7.9
HR Management	60.3
Other	31.7
<b>Length of Service</b>	
	<b>Percentage</b>
Less than 1 year	9.5
1-5 years	19
6-10 years	19
11-15 years	11.1
More than 15 years	41.3
<b>HRIS</b>	
User	69.8
Non-User	30.2

and very few, i.e., 3.2% are owners of business. Many have been with their current company more than 15 years. In fact, the majority of the sample respondents, i.e. 71.4% have been with their current company more than 5 years. Moreover, the majority of the sample respondents, i.e., 60.3%, are in the HR Department and about 69.8% have been users of the HRIS.

Table 2 shows the Cronbach's alpha coefficients of the questionnaire items for each construct which describe the impact or benefits of HRIS. The composite reliability for Human Resource

Table 2. Cronbach's Alpha of HRIS constructs

Reliability of HRIS Impact Construct	CA
Human resource process	0.933
Time saving	0.954
Cost saving	0.945
Information effects	0.901
Decision making	0.958
Strategic impact and HR's role	0.957
Reliability of all variables of HRIS construct	0.986

Process, Time Saving, Cost Saving, Information Effects, Decision-Making and Strategic Impact and HR's Role are .933, .954, .945, .901, .958, and .957 respectively. The overall Cronbach's alpha of all variables is .986 which is quite high reliability. All of these values are greater than the preferred level of .7 (Hair *et al.*, 2006).

#### 4. FINDINGS AND DISCUSSION

In this section, we present and discuss the findings from the data analyses. The means, standard deviation and correlations of all the constructs are given and then descriptive statistics are provided. We provide both the overall mean scores and specific mean scores for each group: HRIS users and HRIS non-users. Then, the Pearson two tailed correlation coefficient was used to determine the relationship among the variables. Table 3 shows that there is a significant and positive relationship among variables in this study.

When categorizing the sample respondents into HRIS users and non-users, Table 4 shows the overall average means of each dimension and then those of 44 HRIS users and 19 non-users along each dimension of HRIS perceived impact on organizational effectiveness. For HRIS users, the total mean of the scale items on *human resource process* is 3.37. While for each scale item under this construct, it is perceived that HRIS helps improve the data maintenance process. This scale item mean is 3.66 which is the highest mean score. Other items that are found to reflect the positive impact of HRIS includes: the forecast of staff requirement (3.64), the data input process (3.61) and the reduction of paper work (3.61). For the HRIS non-users, their perception on the impact of HRIS is highest (i.e.,

Table 3. Descriptive statistics of variables

Impact of HRIS	M	S.D.	1	2	3	4	5	6
HR Processes	3.37	0.98	<b>0.93</b>					
Time Saving	3.55	0.89	0.897**	<b>0.95</b>				
Cost Saving	3.53	0.93	0.743**	0.897**	<b>0.95</b>			
Information Effects	3.45	0.85	0.845**	0.851**	0.843**	<b>0.90</b>		
Decision Making	3.41	0.96	0.855**	0.833**	0.776**	0.877**	<b>0.96</b>	
Strategic Impact of HR Role	3.42	0.92	0.845**	0.842**	0.766**	0.829**	0.887**	<b>0.96</b>

Notes: M = Mean; SD = Standard deviation \*\* = p<0.01 level (2-tailed)  
 The bold values on the diagonal are the Cronbach's Alpha reliabilities

Table 4. Descriptive Statistics on Impact of HRIS on various aspects

<b>1) Human Resource Process</b>	<b>M</b>	<b>S.D.</b>	<b>User</b>	<b>Non-User</b>
The recruitment process is improved by HRIS.	3.35	1.05	3.55	2.89
The training process is improved by HRIS.	3.25	1.164	3.43	2.84
The data input process is improved by HRIS.	3.37	1.052	<b>3.61</b>	2.79
The data maintenance process is improved by HRIS	<b>3.43</b>	1.073	<b>3.66</b>	2.89
Forecast of staff requirements is better by using HRIS	3.4	1.199	3.64	2.84
Paperwork is reduced by using HRIS	<b>3.43</b>	1.214	3.61	<b>3.00</b>
<b>Total</b>	3.37	1.13	3.58	2.87
<b>2) Time Saving</b>				
The time spent on recruiting is reduced.	3.41	1.072	3.52	<b>3.16</b>
The time spent on training is reduced.	3.41	1.102	3.52	3.16
The time spent on making staff decisions.	3.51	1.03	3.7	3.05
The time spent on inputting data is reduced.	<b>3.7</b>	0.961	<b>3.81</b>	3.42
The time spent on communicating information within organization is reduced.	3.59	1.01	3.74	3.21
The time spent on processing paperwork is reduced.	<b>3.7</b>	0.927	3.8	3.47
The time spent on correcting errors is reduced.	3.52	0.948	3.63	3.26
<b>Total</b>	<b>3.55</b>	<b>1.01</b>	<b>3.67</b>	<b>3.24</b>
<b>3) Cost Saving</b>				
Cost per hire is reduced.	<b>3.65</b>	0.901	3.77	<b>3.37</b>
Training expenses is reduced.	3.44	1.133	3.55	3.21
Recruiting expenses is reduced.	3.46	1.029	3.55	3.26
Data input expense is reduced.	<b>3.65</b>	1.003	<b>3.8</b>	3.32
The overall HR staff's salary expense is reduced.	3.46	1.045	3.59	3.16
<b>Total</b>	<b>3.53</b>	<b>1.02</b>	<b>3.65</b>	<b>3.26</b>
<b>4) Information Effects</b>				
The disseminate information is increased.	3.35	0.986	3.5	3.00
The level of useful information is increased.	3.68	0.964	<b>3.84</b>	<b>3.32</b>
Top administrators share the information through HRIS	3.51	1.061	3.7	3.05
Top administrators use the information generated.	3.37	1.052	3.45	3.16
The coordination between HR dept. and top administrators is increased because of the generated information.	3.48	1.045	3.66	3.05
The value of organization is increased with generated information.	3.3	1.116	3.5	2.84
<b>Total</b>	3.45	<b>1.04</b>	<b>3.6</b>	<b>3.07</b>

continued on following page

Table 4. Continued

<b>5) Decision Making Effectiveness</b>				
HR decision-making is more effective.	3.44	1.133	3.66	2.95
The decision on employee pay raises in organization is increased by the information generated by HRIS.	<b>3.54</b>	1.105	<b>3.77</b>	3.00
The effective promotion decisions in organization are better by the information generated.	3.41	1.087	3.64	2.89
The decision when hiring the staff to organization is improved by the information generated.	3.38	1.038	3.52	3.05
Decision on selecting is better by the information generated.	3.41	0.978	3.52	3.16
The decision on when to provide training and skill development is better by the information generated	3.29	1.007	3.43	2.95
<b>Total</b>	<b>3.41</b>	<b>1.060</b>	<b>3.59</b>	<b>3.00</b>
<b>6) Strategic Impact of HR Role</b>				
HR dept. is more important in the organization.	3.44	0.912	3.59	3.11
Overall administrations reach the strategic goal.	3.43	0.962	3.57	3.11
The strategic decision making of top admin. is improved by the information generated.	3.4	1.009	3.5	<b>3.16</b>
HR becomes more strategic partner in the organization by the information generated.	3.37	1.021	3.48	3.11
The organization's competitive advantage is promoted.	<b>3.44</b>	1.074	<b>3.61</b>	3.05
<b>Total</b>	<b>3.42</b>	<b>1.000</b>	<b>3.55</b>	<b>3.1</b>

3.0) for the expectation that paper work will be reduced by using HRIS. For other dimensions, the means are less than 3.

With respect to *time saving*, when compared between the two groups, the HRIS users think that the time spent on inputting data is reduced by using HRIS (Table 4). The mean value for this dimension is highest which is 3.81. Other dimensions that reflect benefits of HRIS include the reduction in time spent on processing paperwork (3.80); the reduction in time spent on communicating information within organization (3.74); and time spent on making staff decisions (3.70). While for the HRIS non-users, the expected benefits of using HRIS is the highest for the reduction in time spent on processing paperwork (3.47) and time spent on inputting the data.

For *cost saving*, it is found that this is the highest benefit. According to the HRIS users, the data input expense is significantly reduced by using HRIS (i.e., mean value is 3.80). Another dimension that is considered to give high benefits is cost per hire (3.77). While for the HRIS non-users, the expected benefits from using HRIS are: cost per hire (3.37) and data input expense reduction (3.32) respectively.

With respect to *information effects* (Table 4), for the HRIS users, it is agreed that the highest benefit from using HRIS is that the level of useful information is increased (3.84). Other dimensions of benefits include the fact that top administrators use the information generated from HRIS (3.70) and the coordination between HR department and top administrators is increased because of the generated information (3.66). For HRIS non-users, it is agreed that the level of useful information will be increased (3.32). Other dimensions of HRIS benefits include the expectation that top administrators will use the information generated (3.16).

In term of *decision making effectiveness*, the HRIS users agreed that the benefits of implementing HRIS is highest in the area of employee pay raises in organization whose effectiveness is increased by

the information generated by HRIS. Other dimensions that are also beneficial include: HR decision making (3.66) and promotion decisions (3.64). Whereas for the HRIS non-users, the expectation for the benefits of HRIS implementation is: the decision on selection of staffs (3.16) and decision when hiring staffs to organization will be improved (3.05) as well as decision on employee pay raises (3.00).

On *strategic impact* and HR's role, the HRIS users agreed that the organization's competitive advantage is promoted (3.61) and HR dept. has a more important role in the organization (3.59). While for HRIS non-users, it is perceived that the strategic decision making of top administration is improved by the information generated by HRIS (3.16).

## 5. CONCLUSION AND RECOMMENDATIONS

Business environment is changing and affects the worker circumstances in textile industry in Thailand. HRIS is the instrument that can assist all departments to work effectively for superior organization performance. This project's objectives are to analyze the impact of HRIS on organizational effectiveness as well as give some recommendations to firms in the textile industry based on the empirical findings. To achieve this purpose, the questionnaire survey was conducted with a random sampling frame of 354 companies from December 2012 to March 2013. A total of 63 complete and usable questionnaires were obtained after some several follow-ups by phone calls, faxes and emails.

After analyzing the data, the results show that the sample respondents perceive that HRIS has progressive impact on organizational effectiveness. The average mean score of all the dimensions of HRIS impact that were rated by this study's sample respondents is above 3.0. In addition, mean values of HRIS users is greater than mean value of HRIS non-user for all item scale on perceived impact of HRIS. Thus, the realized effect of HRIS in firms which already have implemented HRIS is confirmed to a certain extent. There are relationships among six dimensions of HRIS impact, namely HR processes, time saving, cost saving, information effects, decision making, and strategic impact and HR's role. These six components affect employee satisfaction as indicator of organizational effectiveness. First, for the HR processes, the HRIS users felt that HRIS improves the data maintenance process whereas HRIS non-User believed that HRIS decreases paperwork. Second, HRIS Users perceive that in term of time saving, HRIS decreases the time spent on inputting data while the HRIS non-users perceive that HRIS decreases the time spent on processing paper work. Third, the HRIS users agreed that HRIS decreases data input expense and hence achieves cost saving whereas HRIS non-users perceived that HRIS decreases cost per hire. Fourth, the HRIS users and HRIS non-user concur in their perception that HRIS provides increased levels of useful information in information effects perception. Fifth, HRIS users felt that the information generated from HRIS helps organization make more effective decision-making on employee (pay) raises while HRIS non-users believes that the information generated from HRIS helps organization make better decisions in choosing better people. Finally, the HRIS users perceive with respect to HRIS's strategic impact that HRIS promotes organization's competitive advantage while the HRIS non-users perceive that the information generated from HRIS improves the strategic decision making of top administrators.

### 5.1. Recommendations

This paper is expected to be of value to HR professionals, business owners and employees in the entire industry in Thailand, especially in textile industry. Also, information technology (IT) employees may find these findings a meaningful evidence to design a support system to HR Department.

Based on empirical findings, it is recommended that companies that already implement HRIS should be aware of HRIS impact and benefits to other business functions to maximize its benefits. In addition, companies should offer HRIS training to all concerned employees to improve their job performance. On the other hand, companies which have not adopted HRIS should consider seriously the benefits of HRIS to improve organization performance. This study is not without limitations. As

it is exploratory in nature, further in depth investigations are recommended to identify other issues related to the adoption and applications of HRIS in the textiles and other industries in Thailand.

## **5.2. Limitations of the Study and Agenda for Future Research**

There are some limitations of this exploratory study. First of all, it was very difficult to get the responses from the sample respondents in this research. Hence the small size of sample firms participating in this study. In actuality, there are large numbers of textile-related firms in the textile industries. Thus, in the future, it would be preferable to seek collaboration from the textile-related associations when conducting the survey as this may increase the number of sample firms in the study. Secondly, it may be better to focus on a certain type or segment of textile products which may operate in a more competitive environment and hence more dynamic. Third, it also would be interesting to have a more integrated model to predict the financial performance outcomes of the sample firms which include some other influential factors that may affect firm performance other than HRIS itself. However, it is expected to be difficult to obtain such information if the firms are not publicly listed in the Securities Exchange of Thailand (SET). Fourth, it also would be interested to extend in the future the investigation of the HRIS impact on organizational effectiveness in some other manufacturing or service sectors.

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## **APPENDIX I**

### **Satisfaction with the HRIS**

1. Overall I am satisfied with our HRIS.
2. The employees of the Human Resources (HR) department appear to be satisfied with our HRIS.
3. Our HRIS has met our expectations.
4. Our HRIS could be better utilized.

### **HR Processes**

5. Our HRIS has improved the recruitment process.
6. Our HRIS has improved the training process.
7. Our HRIS has improved the data input process.
8. Our HRIS has improved the data maintenance process.
9. Our HRIS has helped with forecasting staffing needs.
10. Our HRIS has decreased paperwork.

### **Time Savings**

11. Our HRIS has decreased the time spent on recruiting.
12. Our HRIS has decreased the time spent on training.
13. Our HRIS has decreased the time spent on making staff decisions.
14. Our HRIS has decreased the time spent on inputting data.
15. Our HRIS has decreased the time spent on communicating information within our organization.
16. Our HRIS has decreased the time spent on processing paperwork.
17. Our HRIS has decreased the time spent on correcting errors.

### **Cost Savings**

18. Our HRIS has decreased cost per hire.
19. Our HRIS has decreased training expenses.
20. Our HRIS has decreased recruiting expenses.
21. Our HRIS has decreased data input expense.
22. Our HRIS has decreased the overall HR staff's salary expense.

### **Information Effects**

23. Our HRIS has improved our ability to disseminate information.
24. Our HRIS has provided increased levels of useful information.
25. The information generated from our HRIS is shared with top administrators.
26. The information generated from our HRIS is underutilized by top administrators.
27. The information generated from our HRIS has increased coordination between HR department and top administrators.
28. The information generated from our HRIS has added value to the organization.

### **Decision Making**

29. Our HRIS has made our HR decision-making more effective.
30. The information generated from our HRIS helps our organization decide on employee raises.
31. The information generated from our HRIS helps our organization to make more effective promotion decisions.
32. The information generated from our HRIS helps our organization decide when to hire.

33. The information generated from our HRIS helps our organization make better decisions in choosing better people.
34. The information generated from our HRIS helps our organization decide when training and skill development are necessary.

### **Strategic Impact and HR's Role**

35. Our HRIS has made the HR department more important to the organization.
36. Overall our administration thinks that HRIS is effective in meeting strategic goals.
37. The information generated from our HRIS has improved the strategic decision making of top administrators.
38. The information generated from our HRIS has made HR a more strategic partner in the organization.
39. Our HRIS has promoted our organization's competitive advantage.