

THE EFFECTS OF ANTECEDENTS ON MODERN HUMAN RESOURCE ACCOUNTING IMPLEMENTATION: EMPIRICAL STUDY OF INFORMATION AND COMMUNICATION TECHNOLOGY FIRMS IN THAILAND

ปัจจัยที่มีอิทธิพลต่อการประยุกต์ใช้การบัญชีเพื่อทรัพยากรมนุษย์สมัยใหม่: การศึกษาเชิงประจักษ์ของบริษัทเทคโนโลยีสารสนเทศและการสื่อสารในประเทศไทย

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Abstract

Under intense competition of world's economy, the issue of human resource development is urgently needed for organizations to enable response in any potential situations. Therefore, having additional information is needed for supporting decision making relate how to improve workforce capability more efficiently. Implementing human resource accounting is considered as an optional practice for provide additional information supporting human resource management. However an extensive body of literature has examined the benefits received from of human resource accounting, relatively little is known about its antecedents. The purpose of this research is to examine the effect of antecedents on modern human resource accounting implementation. Data was collected from 222 Information and Communication Technology firms in Thailand by questionnaire mail survey. The results reveal that sustainability vision and environmental uncertainty have significant positive influence on modern human resource accounting implementation. This study suggest the organization which focus on modern human resource accounting implementation should highlight specially on sustainability vision and environmental uncertainty as well.

Keywords: modern human resource accounting implementation, sustainability vision, environmental uncertainty

บทคัดย่อ

ภายใต้การแข่งขันที่รุนแรงของเศรษฐกิจโลก การพัฒนาทรัพยากรมนุษย์เป็นประเด็นเร่งด่วนที่องค์กรต้องให้ความสำคัญ เพื่อให้สามารถตอบสนองต่อสถานการณ์ต่างๆที่อาจเกิดขึ้นได้ ดังนั้น การมีข้อมูลส่วนเพิ่มจึงเป็นสิ่งจำเป็นเพื่อสนับสนุนการตัดสินใจที่เกี่ยวกับว่าจะพัฒนาศักยภาพของพนักงานให้มีประสิทธิภาพมากยิ่งขึ้นได้อย่างไร การประยุกต์ใช้การบัญชีเพื่อทรัพยากรมนุษย์ถูกมองว่าเป็นวิธีปฏิบัติอีกทางเลือกหนึ่งที่จะช่วยในการจัดเตรียมข้อมูลส่วนเพิ่มเพื่อช่วยการบริหารจัดการด้านทรัพยากรมนุษย์ให้ดียิ่งขึ้น อย่างไรก็ตาม ถึงแม้ว่าจะมีงานวิจัยต่างๆ ที่ขยายการศึกษาเกี่ยวกับประโยชน์ที่ได้จากการบัญชีเพื่อทรัพยากรมนุษย์ แต่งานวิจัยที่เกี่ยวข้องกับปัจจัยที่ทำให้เกิดการประยุกต์ใช้บัญชีเพื่อทรัพยากรมนุษย์ยังคงมีอยู่ไม่มากนัก ดังนั้น งานวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาปัจจัยที่มีอิทธิพลต่อการประยุกต์ใช้การบัญชีเพื่อทรัพยากรมนุษย์สมัยใหม่ โดยเก็บข้อมูลจากกลุ่มบริษัท

เทคโนโลยีสารสนเทศและการสื่อสารในประเทศไทยโดยใช้แบบสอบถาม ผลการศึกษาพบว่า วิทยาลัยฯเพื่อความยั่งยืน และความไม่แน่นอนทางสิ่งแวดล้อมส่งผลกระทบต่ออย่างมีนัยสำคัญต่อการประยุกต์ใช้การบัญชีเพื่อทรัพยากรมนุษย์สมัยใหม่ งานวิจัยนี้เสนอแนะว่าองค์กรที่ให้ความสำคัญกับการประยุกต์ใช้การบัญชีเพื่อทรัพยากรมนุษย์สมัยใหม่ก็ควรให้ความสำคัญกับวิทยาลัยฯเพื่อความยั่งยืนและความไม่แน่นอนทางสิ่งแวดล้อม

คำสำคัญ: การประยุกต์ใช้การบัญชีเพื่อทรัพยากรมนุษย์สมัยใหม่, วิทยาลัยฯเพื่อความยั่งยืน, ความไม่แน่นอนทางสิ่งแวดล้อม

Introduction

In an era of knowledge based economy, human resource has been noticed as a good competitive advantage that will enhance higher performance (Loshali & Krishnan, 2013). This is because human resource is the key mechanism to organizational success in the long run (Rani, 2016). Therefore, firms has to leverage the capabilities and skills of its employees by encouraging individual learning and creating a helpful environment in which knowledge can be created shared and applied firms goals (Appah et al., 2012). However, human resource management without accurate information cannot be implemented for effective operational management, thus human resources accounting is an alternative solution helpful to management decision-making especially regarding the adequacy of human resources when viewed within a financial health framework (Saremi & Naghshbadi, 2011; Arkan, 2016). As aforementioned, there has been an increasing number of firms for using human resource accounting (HRA) as an analytical frameworks in respect of costs-benefits of investments, human resource management and the relationship between various stakeholders' interests in enterprises (Mamoon, 2013).

Nowadays, the issue of HRA has been getting the attention in many countries because HRA is relatively new as a field of management accounting research and practice. From the literature reviews, HRA focuses on human resource measurement and disclosure (Arkan, 2016). Numerous studies investigated the obstacles hindering the implementation of HRA (Mahmoodi, 2013). Moreover, several articles examined the outcome of HRA such as firm performance, but very little is known about its antecedents that could stimulate implementing of modern HRA into firm. Hence, this research aim to investigate the effects of antecedent on modern human resource accounting. The results would help the organization which focus on modern human resource accounting implementation should support these antecedent factors as well.

Research Objectives

To examine the effect of five antecedents, including sustainability vision, executive learning, transformational leadership, technology change, and environmental uncertainty toward implementation of modern human resource accounting.

Literature Review

Human resource accounting (HRA) is the activity of knowing the cost invested for employees towards their recruitment, training them, payment of salaries and other benefits paid and in return knowing their contribution to organization towards its profitability (Mohiuddin & Banu, 2017). American Accounting Association's Committee (AAA) defined HRA as a process of identifying and measuring data about human resources and communicating this

information to interested parties. In addition, HRA is a tool of cost control to provide vital information about the human capital to the organization enabling executives to take right decisions in respects of recruitment, promotions, transfers, retention and retrenchment in the best interest of the organization in the light of budgetary provisions (Eze & Chiamaka, 2016). It helps in identifying how much an organization can earn from an individual, as the intellectual assets of a company are often worth three or four times the tangible book value (Singh, 2010). Thus, firm should focus on implementing of human resource accounting which could be an effective tool for organization to increase workforce capability under this rapid change lead to firm sustainability. In this research, modern human resource accounting implementation defined as an ability of firms to adapt accounting process for employee-related database management and practices for identifying, measuring, reporting useful information of employees in monetary term, investing, and monitoring staff members-related issues.

Modern human resource accounting implementation play an important role for internal decision-making improvement related human resource management which is a key mechanism in the organization (Mamoon, 2013; Avazzadehfath & Raiashekar, 2011). Unfortunately, there is very little studies about the antecedents to modern human resource accounting implementation. Thus, this research attempted to present antecedent factors that would help to enhance modern human resource accounting implementation to firms. From the literature review, the antecedents of modern human resource accounting implementation include sustainability vision, executive learning, transformational leadership, technology change, and environmental uncertainty. The conceptual model presents the relations between antecedents of modern human resource accounting implementation as shown in Figure 1.

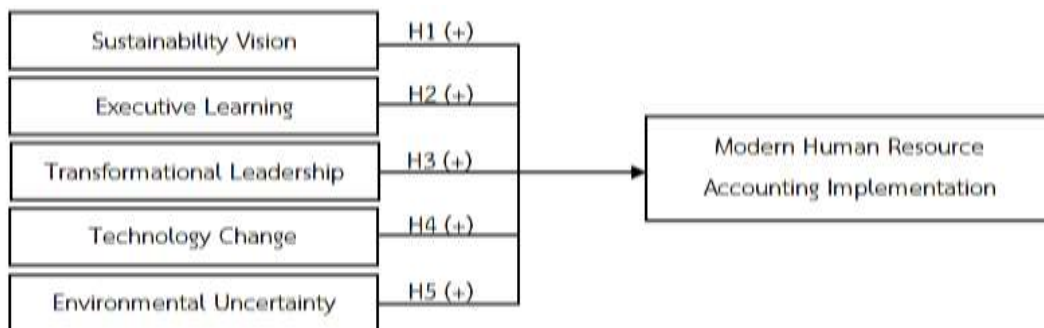


Figure 1: Conceptual Model of Antecedents Effects on Modern Human Resource Accounting Implementation

Sustainability Vision

Sustainability vision refers to an organizational perspective of operational direction for the future and the clarity of long-term strategic include encouraging staff to learn new way of operations. Sustainability vision is not only focuses on financial profits but also consider the needs of stakeholder groups include human resource development (Garg, 2014). In addition, sustainability perspective enhance corporate practice more efficiency by develop workforce ability (Mercer, 2014). Because corporate practice with sustainability vision will create strategy that fits with clear direction and defined goals to explain what action is possible for the organization. According to literature review, Foster (2007) suggested that a potential implication of human resource development is considered as an effective organizational vision. Likewise, Tarhini et al. (2015) stated that long-term vision is a critical success

factors for enterprise resource planning implementation include human resources and accounting units. Thus, based on aforementioned, sustainability vision would be an endogenous factor which can be positively relates to modern human resource accounting implementation.

Hypothesis 1: Sustainability vision will positively relate to modern human resource accounting implementation.

Executive Learning

Executive learning is defined as the potential of executive to learn and use the process of improving new knowledge, including knowledge sharing, and experience adaptation in current management to be more effective. Executive ability through learning speeds will leads to larger movement in firm value (Pan et al., 2015). Because learning enhances efficiency on thinking abilities of executive enable solving novel and complex tasks lead to greater value (García-Madruga et al., 2016). In addition, through the process of integrating and sharing of knowledge, organization can make best use of the human capital consistent with firm direction and reap rich rewards for future benefits (Sridevi & Jeyakumar, 2015). According to previous research, Castaneda & Toulson (2013) found a positive relationship between knowledge sharing and human resource practices. Thus, based on the literature reviewed above, executive learning would be an endogenous factor which can be positively relates to modern human resource accounting implementation.

Hypothesis 2: Executive learning will positively relate to modern human resource accounting implementation.

Transformational Leadership

Transformational leadership is defined as managerial ability in motivating organizational employees to make a change in operation and develop new strategy accord with situation efficiently. Leadership is a bond which makes people work together (Gathungu et al., 2015). Leadership is much importance when it comes to activating the followers, benefiting the resources, organizational innovation, adaptation and performance in accordance with the mission of the organization (Antonakis & House, 2014; Fok-Yew, 2015). There has been research conducting about how transformational leadership improve workforce sector. For example, Zacher & Jimmieson (2011) revealed that when transformational leadership is enhanced by training, the human resource development and performance will have positive relationship in a variety of organization contexts. Gulluce et al. (2016) stated that an employee who works with a good leader will feel more satisfied, leading to an increase in his/her affective commitment to the corporation as stronger affective commitment will lead to better performance and bring success to corporation. Based on the literature reviewed above, transformational leadership would be an endogenous factor which can be positively relates to modern human resource accounting implementation.

Hypothesis 3: Transformational leadership will positively relate to modern human resource accounting implementation.

Technology Change

Technology change is defined as growth in both diversity and higher competency of technology which impact on firm operation procedures effectively. Technology is considered as a powerful tool for encouraging firm capability in various fields, especially human resource role (Kalmarova, 2012). For example, time saving, boosted

quality, standardization, and enhanced performance (Hendrickson, 2003; Ruel et al., 2004; Sushi, 2008; Parry & Tyson, 2007). In the context of human resource accounting, it also have to rely on technology base in order to reach firm success. A prior study shows the use of human resource with new technology based ventures tends to have a great impact on the firm success (Shrader & Siegel, 2007). Therefore, it implies that technology change would be an exogenous factor stimulate for modern human resource accounting implementation.

Hypothesis 4: Technology change will positively relate to modern human resource accounting implementation.

Environmental Uncertainty

Environmental uncertainty is defined as the change in the firm's surroundings which are unstable in increasing competitors, a variety of products and service, and law enforcement related organization. Because uncertainty is difficult to predict, thus human resource management is needed to ready for any circumstances which impact to organization (Schilling & Steensma, 2001). In addition, environment uncertainty also affects the organization's decision making in strategy formulation include employee development to increase competitiveness and firm competencies (Jabnoun et al., 2003; Duncan, 1972). Previous research found that development in employee skills and knowledge is positive related to competitive advantage leads to superior firm performance (Bhattacharya et al., 2005). Furthermore, preparing useful information is needed for effective decision making under uncertainty of business (Atkinson et al., 2012). Therefore, environmental uncertainty would be an exogenous factor stimulate for implementing of modern human resource accounting to utilize workforce more efficiently.

Hypothesis 5: Environmental uncertainty will positively relate to modern human resource accounting implementation.

Methodology

The Population is Information and Communication Technology (ICT) firms in Thailand. The database is selected from Thailand ICT's Industry Directory 2015 under the Ministry of Information and Communication Technology (www.mict.go.th). The ICT firms are active in the database totally 1,054 firms (accessed on March 11, 2017). However, the average response rate of the mailed questionnaire survey should be in a range between 15 to 20 percent (Aaker et al., 2001). Therefore, all 1,054 ICT firms were utilized as a sample population to ensure that a minimum sample size is met, thus oversampling should be required (Bartlett, Kotrlik & Higgins, 2001). After questionnaires distributed, 222 mails were the final amount of complete questionnaires. The effective response rate was approximately 22.60 percent which is greater than 20 percent, thus it is considered acceptable (Aaker et al., 2001). Consequently, 222 firms are a sufficient sample size for employing multiple regression analysis. Non-response bias was used as a t-test comparison between early and late respondents. The results were not significant differences between early and late responses. As a result, it implies that non-response bias is insignificant response bias for analysis in this research.

Five-point Likert scales are utilized to develop in this study the measurement procedures, ranging from 1 (strongly disagree) to 5 (strongly agree). In addition, two academic experts who have experience in this area review were requested for the instrument checking to ensure that the questionnaires used appropriate wordings and all

constructs are sufficient to cover the content validity of the variables. Also, validity was tested by the factor loading, each of construct should be greater than the 0.40 cut-off and all factors are statistically significant (Hair et al., 2010). Cronbach's alpha is utilized to test the validity and reliability and should be greater than 0.70 (Hair et al., 2010). Finally, the measurement of each variables are discussed as below.

Sustainability vision is evaluated by the degree of organizational perspective of operational direction and long-term strategic clarity include modern technology adaptation, encouraging staff learning new manner of management. This construct consist of four-item scale.

Executive learning is developed by the degree of the executive's potentiality to learn and utilize the process of improving new knowledge, knowledge sharing, and experience adaptation to response effectively in business operation. This construct consist of four-item scale.

Transformational leadership is evaluated by the level of managerial ability to motivate employees making a change in operation and develop new strategy in line with situation efficiently. This construct consist of four-item scale.

Technology change is measured by the level of technology growth to increase both diversity and higher competency of technology which impact on management process effectively. This construct consist of four-item scale.

Environmental uncertainty is determined by the degree of change in the firm's surroundings which are unstable in increasing competitors, variety of products and service, and law enforcement related organization to increase superior competition. This construct consist of four-item scale.

Modern human resource accounting implementation is measured by the degree of firm ability to adapt accounting process for managing workforce database in part of identifying, measuring, reporting, investing, and monitoring staff members-related issues. This construct consist of four-item scale.

Because of all dependent and independent variables are the metric scale, thus OLS regression is appropriate technique to test all hypotheses. From the conceptual model and hypotheses, the following four equation models are formulated:

$$MHRA = \alpha_1 + \beta_1 STV + \beta_2 EXL + \beta_3 TFL + \beta_4 TNG + \beta_5 EVU + \epsilon_1$$

Results and Discussion

Table 1: Results of Measure Validity

Variables	Factor Loadings	Cronbach's Alpha
Sustainability Vision (STV)	0.786 – 0.885	0.876
Executive Learning (EXL)	0.696 – 0.874	0.794
Transformation Leadership (TFL)	0.769 – 0.933	0.863
Technology Change (TNC)	0.779 – 0.907	0.858
Environmental Uncertainty (EVU)	0.704 – 0.922	0.883
Modern Human Resource Accounting Implementation (MHRA)	0.789 – 0.859	0.887

Table 1 presented results of measure validity. Cronbach's alpha was used to test the reliability of the measurement. The result indicated that all variables are shown between 0.794 – 0.887, greater than 0.70 (Hair et al., 2010). Also, convergent validity was tested by the factor loading. The result showed that all variables have factor score between 0.696 - 0.933, greater than the 0.40 (Hair et al., 2010).

Table 2: Descriptive Statistics and Correlation Matrix

Variables	STV	EXL	TFL	TNC	EVU	MHRA
Mean	4.07	4.10	4.10	4.15	4.10	4.03
Std.	0.50	0.49	0.52	0.48	0.51	0.43
STV	1					
EXL	0.740**	1				
TFL	0.624**	0.698**	1			
TNC	0.551**	0.515**	0.558**	1		
EVU	0.498**	0.482**	0.503**	0.756**	1	
MHRA	0.567**	0.486**	0.482**	0.537**	0.558**	1

Table 2 presented Descriptive Statistics and Correlation Matrix. The result showed that the average of each variables are ranging from 4.03 – 4.15, meaning that the respondents mostly replied between agree to strongly agree of questions. In addition, correlation coefficients of variables are ranging from 0.482 - 0.756. With respect to potential problems relating to multicollinearity, variance inflation factors (VIF) were used to test the intercorrelations among independent variable. The VIFs is 2.898, well below the cut-off value of 10 (Hair et al., 2010), meaning that the independent variables are not correlated with each other. Therefore, there are no substantial multicollinearity problems encountered in this study.

Table 3: Results of Regression Analysis for Antecedents Effects of Modern Human Resource Accounting Implementation

Independent Variables	(MHRA) Dependent Variables	
	Coef.	Std. Err.
Sustainability Vision	0.307***	(0.081)
Executive Learning	0.017	0.087
Transformational Leadership	0.088	0.077
Technology Change	0.098	0.085
Environmental Uncertainty	0.286***	(0.080)
Adjusted R ²	0.418	

*** p<0.01, ** p<0.05, * p<0.10, ^a Beta coefficients with standard errors in parenthesis

Firstly, the results show a positive significant impact between sustainability vision and modern human resource accounting implementation ($\beta_1 = 0.307, p < 0.01$). Consistent with Hussi & Ahonen (2002) found that

disclosure of HRA information enhances proper interpretation of return on capital employed, this information give a long term perspective of the business performance which would be more reliable than the return on capital employed under the conventional system of accounting. Thus, organizations that have sustainability vision tends to have modern human resource accounting implementation. *Therefore, Hypothesis 1 is supported.*

Secondly, executive learning has no significant influence on modern human resource accounting implementation ($\beta_2 = 0.017, p > 0.10$). It maybe implied that although implementing of modern human resource accounting is a good idea, but perhaps current accounting systems of organization may be not support to adopt modern human resource accounting or there is some limitations in accounting structure of organization which is not flexible for adapting human resource accounting. United Nation (2008) stated that an accounting systems that was inappropriately imposed would probably not be used for decision-making. Likewise, Chamisa (2000) claims that in situations where differences exist in the social, cultural and economic practices among countries, the significance of accounting systems would adapt alignment with business strategy. Therefore, Hypothesis 2 is not supported.

Thirdly, transformational leadership has no significant influence on modern human resource accounting implementation ($\beta_3 = 0.088, p > 0.10$). It maybe implied that implementing modern human resource accounting maybe not a first priority for the company, as there is more urgent issues to carry out like revenue maximization (Gates, 2002; Afeche & Sarhangian, 2015). In addition, an absence of clear guidance and universal practice could be a reason of taking time for consideration more thoroughly in implementing modern human resource accounting, as ambiguous accounting may leads to unexpected results. Therefore, Hypothesis 3 is not supported.

Fourthly, technology change has no significant influence on modern human resource accounting implementation ($\beta_4 = 0.098, p > 0.10$). It maybe implied that new technology adoption usually come with initial start-up cost (Kalmarova, 2012), thus organization that concern with cost saving or economical budgeting may not stimulate firm to implement modern human resource accounting because budgeting is the most commonly employed for traditional accounting practices (smith et al, 2008). Therefore, Hypothesis 4 is not supported.

Lastly, the results shows environmental uncertainty has positively significant influence on modern human resource accounting implementation ($\beta_5 = 0.286, p < 0.01$). Consistent with prior research notion that uncertainty in the environment affects information needs, because related-business information facilitate decision making is more accuracy especially allocating resources, monitoring, evaluating, and rewarding performance (Atkinson, et al., 2012). Therefore, Hypothesis 5 is supported.

Conclusion

The purpose of this study is to examine the effect of internal and external factors on modern human resource accounting implementation. Questionnaires mailing were used to collect data from ICT firms in Thailand totally 222 firms. The results indicated that sustainability vision, and environmental uncertainty have positive impact on modern human resource accounting implementation whereas executive learning, transformational leadership, and technology change did not. This study shows empirically results of five antecedent factors, however other undiscovered factors also should be examined for further study. In addition, moderating effect testing, such as organizational flexibility, or government support maybe employed for the next research to

expand broader outlook. Although modern human resource accounting implementation has remained in early stage of development in Thailand, businesses is more likely to increase adapting human resource accounting consecutively. Hence, implementing of modern human resource accounting based on sustainability vision, and environmental uncertainty will positively signals of human resource development to related sectors especially human resource department to figure out how to increase employee ability in the long run and benefits for thorough organizations ultimately.

This study is an attempt to provide a clearer understanding of antecedent effects on modern human resource accounting implementation which can be explained by prior literature review. In addition, the findings illustrated that sustainability vision and environmental uncertainty are significant factors influence on modern human resource accounting implementation. Thus, emphasizing on clarity of long-term strategic and awareness of surrounding change in organization could enhance implementing of modern human resource accounting to increase superior competition advantage without difficulty. Finally, modern human resource accounting implementation can be a good choice for organizations which plan to improve workforce capability steadily in the long run.

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