



INTENTION TO USE ACCOUNTING RESPONSIBILITY IN VIETNAMESE ENTERPRISES

Nguyen, Thi Hong Nga
Nguyen, Thi Thanh Loan
Cao, Thi Huyen Trang

Hanoi University of Industry, Vietnam
hongnga2311@gmail.com

Abstract

Responsibility Accounting is one of the useful management accounting tools to help businesses control operations and measure performance. Responsibility accounting have been researched in both theoretical and practical application for decades. However, the application of Responsibility Accounting in Vietnamese businesses has been not really considered widely. This study focuses on measuring factors affecting the intention to apply the Responsibility Accounting in enterprises in Vietnam. This study is based on behavioral theories to investigate the effect of Perceived benefit, Perceived Ease of Use, Subjective Norm on the intention of the application of Responsibility Accounting. This study is conducted through surveys of 122 Vietnamese enterprises. Linear regression model was used. The results show that Perceived benefit, Perceived Ease of Use, Subjective Norm impact positively on the intention of the application of Responsibility Accounting. This study gives some recommendations to increase application of responsibility accounting in business management.

Keywords : responsibility accounting, behavior, technology acceptance model, theory of planned behavior, intention.

Introduction

Control and measurement of activities are always concerned strongly by managers. The demand for continuous management and control of accounting information is the basis for development of responsibility accounting. Responsibility accounting is the development of an accounting system designed to control the costs incurred directly related to the individuals in the organization and the person who has responsible for control, this control system is designed for all levels of management and responsibility accounting as a tool to control operations and costs (Higgins, 1952). Responsibility accounting not only helps to evaluate performance but also helps managers to make management decisions such as cost control and profit planning (Biswas, 2017). Responsibility accounting is closely linked to decentralization and the constituent parts are responsibility centers including: Investment centers, revenue centers, cost centers, and profit centers. When the responsibility centers are built reasonably will bring high efficiency, benefit to all members of the enterprises.

Responsibility accounting has been researched to application in English hospitals (Bloomfield, Coombs, Cooper, & Rea, 1992), in the Chinese steel manufacturing enterprises (Jun Lin & Yu, 2002), in the Bangladesh textile enterprise (Fakir, Islam, & Miah, 2015), in Vietnamese dairy manufacturing enterprises (Phuong, 2013). Although the application of responsibility accounting in enterprises brings many benefits such as improving management efficiency of enterprises, there are not many Vietnamese



enterprises applying this management accounting tool. What are the factors that affect the application of responsibility accounting in enterprises? So far, there have not been many studies on the factors affecting the application of responsibility accounting but they only have focused on application responsibility accounting in a specific sector (Bloomfield et al., 1992; Fakir et al., 2015; Jun Lin & Yu, 2002; Phuong, 2013). Therefore, this study examines factors that affect the intention to apply the responsibility accounting of Vietnamese enterprises in order to help them to apply responsibility accounting in their management activities. The objectives of this study are as follows:

- (1). Design a model of the factors affecting the intention to apply responsibility accounting in Vietnamese enterprises ;
- (2). Test the model's hypotheses;
- (3). Provide practical implications

Research model and hypotheses

Research model is based on theory of reasoned action (TRA), Theory of Planned Behavior (TPB) and Technology Acceptance Model (TAM).

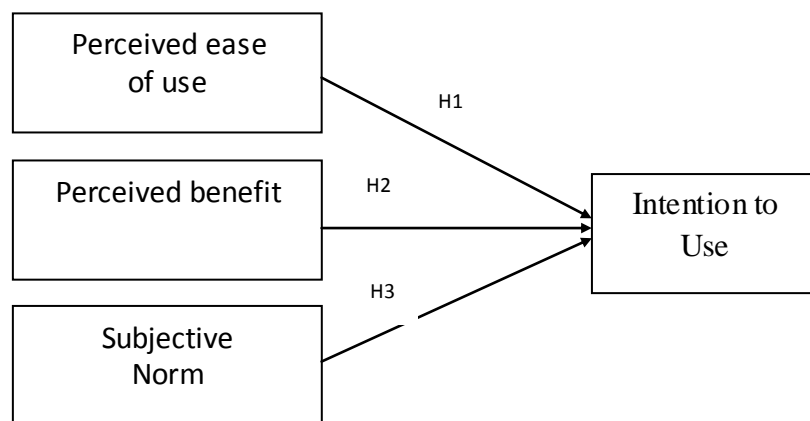
TRA was developed by Fishbein and Ajzen in 1967 and is derived from previous studies based on the theory of attitudes. This theory explains the relationship between attitudes and behaviors in human actions. TRA was used to predict how individuals will behave based on the their attitudes and behavioral intentions before have that intention. The decision of an individual to engage in a specific behavior based on the result that the individual expects to arrive as a result of the conduct of the behavior. According to TRA, the primary behavior can be predicted according to the individual's attitude towards the behavior being addressed through the intervention effect of behavioral intention. In this theoretical model, both personal attitudes and social or regulatory factors have a direct effect on behavioral intentions, which is the most powerful predictor of actual behavior.

Theory of Planned Behavior (TPB) is developed from TRA (Ajzen & Fishbein, 1975), assuming that a behavior can be predicted or explained by behavioral trends in order to perform such behaviors. The behavioral trends are assuming including motivating factors that affect behavior, and is defined as the level of effort that people try to make that behavior (Ajzen, 1991). Behavioral tendency are a function of three factors. First, attitudes are viewed as positive or negative evaluations of behavior. The second factor is the social impact, which refers to the social stress experienced to perform or not to perform such behavior. Finally, TPB was developed by Ajzen throughout adding a sensory behavior control component into the TRA model. The perceived behavioral control component reflects ease or difficulty in performing behavior; This depends on the availability of resources and the opportunity to perform the behavior. The TPB has been used extensively in a broad range of research areas to successfully predict behavior (Armitage & Conner, 2001). From an applied point of view, the TPB is a useful framework for pre-implementation assessments of readiness for change as it can provide organizations with an early indication of employee beliefs and determinants of their intentions prior to the change event (Jimmieson, Peach, & White, 2008).

Technology Acceptance Model (TAM) is developed by Davis et al in 1989 (Davis, Bagozzi, & Warshaw, 1989). It is one of the most common models of research to predict the use and acceptance of systems and information technology by individual users. TAM is an adaptation for TRA. TAM has been extensively researched and validated by various studies to test the adoption of individual technology in various information system structures. In the TAM model, there are two factors are Perceived benefit, Perceived Ease of Use related to computer behavior. According to TAM, Perceived Ease of Use and Perceived benefit factors are the most important determinants of using a actual system. Using attitude is related to the user's evaluation of the desired behavior using a particular information system application. Many studies on factors affecting behavioral intention have been based on TAM .

Based on the above three models and many previous studies of behavioral intentions based on these models, in our opinion, that factors such as Perceived benefit (developed based on perceptions of useful in TAM, Perceived Ease of Use from TAM, Subjective norm from TPB (developed from TRA) and from empirical studies (Eriksson, Kerem, & Daniel Nilsson, 2005; Long & Anh, 2014; Wang, Wang, Lin, & Tang, 2003),... affect the intention to apply responsibility accounting of the enterprises. Thus, the research model is formulated as follows:

Figure 1: Research model



Perceived benefit (PB) is identified as a positive or negative evaluation of an individual on the performance of a particular type of behavior (Chau & Hu, 2001); There is a significant positive relationship between Perceived benefit and intention to use online shopping for grocery stores (Hansen, Møller Jensen, & Stubbe Solgaard, 2004) has a significant positive relationship between Perceived benefit and intention to use e-banking (Long & Anh, 2014) and many other studies in e-commerce, online shopping, e-banking, and more. Previous studies have shown a significant relationship between Perceived benefit and intention to use. Therefore, in this study, we assume:

Hypothesis 1 (H1): Perceived benefit has a positive effect to the intention application responsibility accounting of enterprises

Perceived ease of use (PEU) was found to have a positive effect on behavioral intent. PEU is strongly argued about the positive effects of an individual's favorable expectation on the application of advanced technology (Bandura, 1986). PEU has a positive impact on the intention to use e-banking in Vietnam (Long & Anh, 2014). In his



study Long & Anh has shown that many previous studies have also shown that PEU positively impacts behavioral intention. Therefore, in this study, we assume:

Hypothesis 2 (H2) : Perceived ease of use has a positive influence on the intention to apply responsibility accounting of enterprises

Subjective norm (SN) refers to his or her perception that most people who are important to him or her think that he or she should or should not perform the act in question (Ajzen & Fishbein, 1980). Subjective norm is very important in formation the behavior of the users. Many researches has shown this (Long & Anh, 2014; Shih & Fang, 2004), Therefore, in this study, we assume:

Hypothesis 3 (H3): Subjective norm influence on the intention to apply responsibility accounting of enterprises.

Methods

The questionnaire was designed based on the study of Davis et al (Davis et al., 1989). These test scales have been reviewed by some experienced experts in responsibility accounting research and practice. The questionnaire was tested by 05 accountants and managers from 05 business which selected objectively. The questionnaire consisted of 11 questions, 7 questions were used for gathering general information, the remaining questions asked for responsibility accounting contents. Four questions contained a total of 13 items with 4 items designed to measure Perceived Benefit of using responsibility accounting; 3 items for Perceived Ease of Use; 3 items for Subjective Norm; and 3 items for Intention to Use. Each respondent was asked to provide a personal profile, such as age, job position, gender, work experience, and understanding of accountants; Two questions for the enterprises cover the field of activity and size. Assess a person's perception of the content of the factors affecting the application of responsibility accounting based on a five point Likert scale.

In this study, we used totally 200 questionnaires, including online and copy questionnaires, to managers and accountants of enterprises. There were 122 online questionnaire and collected 33 copy questionnaires collected, response rate is 77.5%. Throughout checking, 33 questionnaires were excluded due to unsatisfactory. The remaining 122 questionnaires were used in the analysis.

SPSS 20 software was used in this study.

Statistical Analysis and Results

According to Hair et al. , with the exploratory, regression model and cross sectional data the minimum sample size is defined as $n = 5k$ (with k is the number of observable variable) (Hair, Black, Babin, & Anderson, 2009). This research model has 13 observable variables. The minimum sample size is 65 . Thus, the sample size of 122 is representative of the overall population.

The study examined the standard distribution of all scales. Result shows Skewness and Kurtosis of all variables seemed to meet the conditions for testing a structural equation model . That are adequate for social science research, following to Coakes & Steed (Coakes & Steed, 2003). Consequently, the data collected is considered suitable for analysis.



The personal information of the respondents and some general information of the enterprise are detailed in Table 1, including age, job position, gender, work experience (seniority); field of activity and size of enterprises.

Table 1: General information on the sample

	Number of Respondents	Category	Count	Proportion (%)
Age	122	30 or less	42	34.4%
		30 - 49	77	63.1%
		50 - 59	3	2.5%
		60 or more	0	0.0%
Gender	122	Male	13	10.7%
		Female	109	89.3%
Job position	122	Director	8	6.6%
		The Board of directors	2	1.6%
		Chief Accountant	51	41.8%
		Accountant	61	50.0%
		Other	0	0.0%
Seniority	122	3 or less	18	14.8%
		3-5	21	17.2%
		5-10	52	42.6%
		10-20	27	22.1%
		20 or more	4	3.3%
Field	122	Manufacturing	27	22.2%
		Trade and Services	62	50.8%
		Construction	17	13.9%
		Other	16	13.1%
Size of the enterprise	122	Micro	2	1.6%
		Small	26	21.3%
		Medium	79	64.8%
		Large	15	12.3%

Table 2. Analysis of the scale

	Cronbach's Alpha	Indicator	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Intention to Use (IU)	0.911	IU1	.787	.903
		IU2	.877	.824
		IU3	.804	.886
Perceived ease of use (PEU)	0.884	PEU1	.762	.846
		PEU2	.807	.804
		PEU3	.754	.852
Subjective Norm (SN)	0.882	SN1	.761	.847
		SN2	.794	.813
		SN3	.767	.840
Perceived Benefit (PB)	0.94	PB1	.858	.921
		PB2	.854	.922
		PB3	.880	.914
		PB4	.835	.928



To test the reliability of the scales, the study relies on the Cronbach's Alpha test coefficient of the scale components and the Cronbach's Alpha coefficient of each measurement variable. Variables with a Corrected item total correlation less than 0.3 will be rejected. A good reliability scale when it is greater than 0.7. If Cronbach alpha > or = 0.60 is a scale that is acceptable in terms of reliability (Nunnally & Bernstein, 1994).

After performing Cronbach's Alpha analysis of the observed variables, the results show that the scales meet Cronbach alpha reliability coefficients at 0.8 and the variables with item- total correlation) are greater than 0.7. Thus, the scales are suitable for the study.

Table 3. Correlation analysis

Correlations

		IU	PB	TR	PEU	SN
IU	Pearson Correlation	1				
	Sig. (1-tailed)					
PB	Pearson Correlation	.728**	.553**	1		
	Sig. (1-tailed)	.000	.000			
PEU	Pearson Correlation	.640**	.533**	.510**	1	
	Sig. (1-tailed)	.000	.000	.000		
SN	Pearson Correlation	.629**	.507**	.635**	.516**	1
	Sig. (1-tailed)	.000	.000	.000	.000	

** . Correlation is significant at the 0.01 level (1-tailed).

Table 3 results correlation coefficient between the variables, the purpose of checking the correlation tight between the independent variables and the dependent variable to eliminate the factors that may lead to multicollinearity before run regression model. The correlation coefficient between independent variables in the model does not have any pair with absolute value greater than 0.8. In the correlation matrix between the variables and the dependent variable IU, the lowest coefficient of 0.629 between SN and IU variable, the highest coefficient of 0.728 between variable PB and IU. Therefore , when using regression model, it is less likely to encounter hyperbolic phenomena.

Table 4. Regression analysis

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.803 ^a	.645	.636	.45244	2.223

a. Predictors: (Constant), PB, PEU, SN

b. Dependent Variable: IU



ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	43.820	3	14.607	71.355	.000b
Residual	24.155	118	.205		
Total	67.975	121			

a. Dependent Variable: IU

b. Predictors: (Constant), PB, PEU, SN

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	.595	.207		2.871	.005		
PEU	.284	.060	.317	4.763	.000	.679	1.474
SN	.149	.063	.176	2.376	.019	.547	1.828
PB	.413	.067	.454	6.150	.000	.552	1.813

a. Dependent Variable: IU

According to Table 4, all three variables PB , PEU, SN are statistically significant at the 5% level. In addition, the VIF of all variables is less than 10, indicating that the model does not have multi-collinearity. At the same time, the statistic d (Durbin-Watson) equals 2. 223 ($d > d_u = 1.841$), concluding with no autocorrelation.

Thus, the results show that PB , PEU and SN satisfy all assumptions of the regression model, thus explaining the effect of these factors on the intention to apply corporate accountability. R^2 adjusted index of 0.636 indicates that the PB , PEU, SN factors influence and explain 63.6 % intention to apply corporate accountability.

The regression model corresponding to the 5% significance level is as follows:

$$IU = 0.697 + 0.413 PB + 0.284 PEU + 0.149 SN$$

Findings and Implications

In this study, the intention to apply responsibility accounting under significant influence of factors perceived benefit coefficient is 0.413, followed by the perceived ease of use with a coefficient of 0.284, subjective standard coefficient of 0.149. With this result, the hypotheses in the model are accepted and consistent with the above behavioral intention studies.

So, to increase the application of responsibility accounting in management, it is necessary to increase awareness of the usefulness of this management tool for accountants, managers. Responsibility accounting must be built in accordance with the organizational structure of decentralized authority in the management of the enterprise (Callen & Livnat, 1989; Demski & David, 1989; Higgins, 1952; Phuong, 2013). In order to support for the application of the responsibility accounting, not only administrators but the accountants should also be aware of the usefulness of it in management. Especially, administrators need to create the basis for applying



responsibility accounting. First and foremost, it is the decentralization in management. This is an important foundation for the application of responsibility accounting for enterprises.

Perceived ease of use affects the intention to apply responsibility accounting of enterprises. The results of the study also show a significant effect of the perceived ease of use on the intention to apply responsibility accounting. This result is consistent with the technology acceptance Model (TAM). TAM thinks that perceived ease of use as one of the key factors in explaining the intention of the users. Based on the original research by (Davis et al., 1989), some researchers have found empirical evidences on the relationship between perceived ease of use and intention to use a particular system. As a result, managers need to increase the knowledge and capacity of accountants about their accountancy systems through professional training, so that they are ready for the application of this management tool.

According to research results, subjective norm factors are a positive influence on the intention to apply responsibility accounting of the enterprises, the result is consistent with theory of reasoned action (TRA) and the Theory of Planned Behavior (TPB). The level of impact of the subjective standard is lower than the perception of usefulness and perceived ease of use. The pervasive tendency innovation management tools in the direction of controlling and measuring the effect on the employee in the enterprise, spread success in applying responsibility accounting of enterprises in order to increase intention to apply responsibility accounting of each enterprise.

Conclusion

Although there are many studies of behavioral intentions based on theory of reasoned action (TRA), Theory of Planned Behavior (TPB) and technology acceptance model (TAM) to assess the effect of factors of intention to use a system, new technology, etc. in different areas, few studies discussed the factors affecting the intention to apply this management tool in the economic field. This study is based on the development of a research model based on the results of many prior studies. Application to responsibility accounting is a new problem and specific research in Vietnam with the characteristics of a business the emerging economic tools, economic management tools in the process of gradually improving, accessing to the tools of modern economic management of the world.

There are a number of limitations to the study, though, which are appropriate for the study but are low, the study model may be improved if additional linear and nonlinear relationships are added to the model. meeting facility conditions for application, cost, flexibility, ...



References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. doi:[https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Ajzen, I., & Fishbein, M. (1975). *Belief, Attitude, Intention, and Behavior: : An Introduction to Theory and Research* Addison-Wesley Publishing Company.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*: Prentice-Hall.
- Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behavior: A meta-analytic review. *British Journal of Social Psychology*, 40, 471-499 doi:DOI: 10.1348/014466601164939
- Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory*: Prentice Hall
- Biswas, T. (2017). Responsibility Accounting: A review of related literature. *International Journal of Multidisciplinary Research and Development*, Vol 4(8), 202-206.
- Bloomfield, B. P., Coombs, R., Cooper, D. J., & Rea, D. (1992). Machines and manoeuvres: Responsibility accounting and the construction of hospital information systems. *Accounting, Management and Information Technologies*, 2(4), 197-219. doi:[https://doi.org/10.1016/0959-8022\(92\)90009-H](https://doi.org/10.1016/0959-8022(92)90009-H)
- Callen, J. L., & Livnat, J. (1989). Responsibility Accounting and Asymmetry of Information. *Managerial and Decision Economics*, 10(1), 81-84.
- Chau, P. Y. K., & Hu, P. J.-H. (2001). Information Technology Acceptance by Individual Professionals: A Model Comparison Approach. *Decision Sciences*, 32(4), 699-719. doi:10.1111/j.1540-5915.2001.tb00978.x
- Coakes, S. J., & Steed, L. G. (2003). *SPSS Analysis Without Anguish: Version 11.0 for Windows* (1 Ed.): John Wiley and Sons Australia Limited.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science*, 35(8), 982 - 1003. doi:10.1287/mnsc.35.8.982
- Demski, J. S., & David, E. M. S. (1989). Hierarchical Structure and Responsibility Accounting. *Journal of Accounting Research*, 27(1), 40-58. doi:10.2307/2491206
- Eriksson, K., Kerem, K., & Daniel Nilsson. (2005). Customer acceptance of internet banking in Estonia. *International Journal of Bank Marketing*, 23(2), 200-216. doi:10.1108/02652320510584412
- Fakir, A. N. M. A., Islam, M. Z., & Miah, M. S. (2015). The Use of Responsibility Accounting in Garments Industry in Bangladesh. doi:DOI: 10.13140/RG.2.1.3430.8568
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2009). *Multivariate Data Analysis* (7th ed.): Prentice Hall
- Hansen, T., Møller Jensen, J., & Stubbe Solgaard, H. (2004). Predicting online grocery buying intention: a comparison of the theory of reasoned action and the theory of planned behavior. *International Journal of Information Management*, 24(6), 539-550. doi:<https://doi.org/10.1016/j.ijinfomgt.2004.08.004>
- Higgins, J. A. (1952). *Responsibility Accounting*: Arthur Andersen.
- Jimmieson, N. L., Peach, M., & White, K. M. (2008). Utilizing the Theory of Planned Behavior to Inform Change Management: An Investigation of Employee



- Intentions to Support Organizational Change. *The Journal of Applied Behavioral Science*, 44(2), 237-262.
- Jun Lin, Z., & Yu, Z. (2002). Responsibility cost control system in China: a case of management accounting application. *Management Accounting Research*, 13(4), 447-467. doi:<https://doi.org/10.1006/mare.2002.0200>
- Long, P., & Anh, D. N. P. (2014). Intention to use E-banking in a newly Emerging Country: Vietnamese customer's perspective. *International Journal of Enterprise Information Systems*, 10(2), 103-120. doi:10.4018/ijeis.2014040106
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory*: McGraw-Hill.
- Phuong, N. T. M. (2013). *Establishment of responsibility accounting model of Dairy Companies in Vietnam*. (Doctorate), National Economic University.
- Shih, Y. Y., & Fang, K. (2004). The use of decomposed planned behavior to study Internet banking in Taiwan. *Internet Research*, 14(3), 213-223. doi:10.1108/10662240410542643
- Wang, Y. S., Wang, Y. M., Lin, H. H., & Tang, T. I. (2003). Determinants of user acceptance of Internet banking: an empirical study. *International Journal of Service Industry Management*, 14(5), 501-519. doi: 10.1108/09564230310500192