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THE RELATIONSHIP OF SOFTWARE FIT AND ORGANIZATIONAL RESISTANCE ON THE SUCCESS OF ACCOUNTING SOFTWARE IMPLEMENTATION IN HOCHIMINH CITY, VIETNAM

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ABSTRACT

A central feature of accounting in today's business world is the integration of accounting professional with the computerized-base information system. One of opportunities to conduct this strategic activity is adopting accounting packaged software in the company. However, the high failure and unsatisfied rate of the implementation has made all people involved intensively and comprehensively consider all factors impact on implementation success. This is an "invisible" process that faces the gap between software vendor's views and adopting company's management requirements. This process also requires the characteristics of adaptation from human factor as well. The results from the survey of 68 companies adopting accounting packaged software in HCMC, Vietnam show that the level of software fit, organizational resistance and the interaction among of them play the significant roles in the implementation success. The study results will address some managerial suggestions in the contribution to accounting packaged software implementation success in Vietnam.

ERP implementation, software fit, organizational resistance, accounting software implementation

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INTRODUCTION

Today, professional accountants work in an exciting and complex environment that is constantly changing. Progress in information technology is occurring at an ever-increasing rate. Business organizations are changing their methods of operation and their management structures to meet the demands in an increasingly competitive environment. A central feature of accounting in today's business world is the integration of accounting professional with the computerized-base information system.

Under the pressure to proactively deal with the radically changing external environment, many firms have changed their information system strategies by adopting application software packages rather than in-house development. An accounting package from small size software to a larger one such as Enterprise Resources Planning (ERP) software is one solution to solve the chronic problems of designing, implementing an accounting information system in organization or business because of reduced cost, standardization, rapid implementation and high system quality.

Despite such perceived importance, implementing an accounting packaged software (APS) is not an easy job or like buying favorite software in IT market. It was reported that three quarters of the ERP projects were judged to be unsuccessful by the implementing firms (Griffith *et al.*, 1999). Some might think that today's accounting software was so smart that it could adapt to run any kinds of business. Each software product has its own unique set of solutions, in addition to basic bookkeeping—which remains a element to all accounting software—it's not hard to understand why the search for the right product and effective implementation that match solutions to organization's needs, are so complicated.

Many studies have tried to identify the factors or the courses of action that positively and negatively contribute to system performance or the probability of successful implementation. Factors that influence the implementation, performance of information systems (IS) are user involvement in development, top management support, user training and education, context of IS group and other organizational contexts such as size, task characteristics, and the like (Choe & Jong-Min, 1996). But one factor which we might think as the root of failure is the difference in interests between customer organizations who desire business solutions and packaged software vendors who prefer a generic solution applicable to a broad market. At better-run companies that use relatively well-matched software to begin with, most of the adjustments result in streamlined and automated operations. In a less-well-run business with ill-fitting software, more of the tinkering to accommodate software deficiencies results in slower and more manual accounting processes.

The relative invisibility of accounting software implementation process is also identified as a major cause of implementation failure. Markus and Robey (1983) attributed such invisibility to the unpredictably complex social interaction of IT and organization. This is the mutual adaptation between the IT and user environment. Since the philosophy of accounting software implementation or ERP implementation in general is process-based, rather than function-based, they necessitate organizational changes. The successful implementation must be managed in terms of change of management rather than a software installation effort. Cooke and Peterson (1998) identified change management in adopting ERP system as activities, processes and methodologies that support employees understanding, the organizational shifts during the implementation of ERP system and reengineering initiatives. Thus, organizational resistance to change is also identified as critical success factor in APS implementation.

Vietnam are in the process of developing open market in which a lot of companies from different types of economic entities were established and doing business. Like other developing countries, most of them are small and medium enterprises. In addition, a recognized characteristic in economic development process of Vietnam is the high speed of IT used and application, especially in business. Similarly, many companies have applied technology in doing their business which accounting activities are often considered as the priority in IT application. APS implementation is one of the sound IT application alternatives from companies. However, the problem they have faced in the pool of APS software market is how to select the best one for the company and make sure this implementation would bring benefits for them. In addition, up till now, there have been a few regulations from the government regarding computerized accounting systems, a little bit of instructions in choosing APS and lacks of researches to focus on the accounting information systems, especially in accounting software issues. Thus, the researches to study any issues regarding accounting information system, particularly in accounting software implementation are necessary in current situation of Vietnam.
Basing on previous researches, we will examine the impact of some factors on the accounting packaged software implementation success. These factors are consisting of the business fit of APS and organizational resistance. In addition, we will consider the interaction among the business fit of APS to organizational resistance in the implementation success.

1. LITERATURE REVIEW

1.1. Business fit of packaged software

There were some definitions regarding the fit of a system or software to business or organization. Markus and Robey (1983) defined the organizational fit of ERP as the congruence between the original artifact of ERP and its organizational context. Sol et al (2000) suggested that ERP misfit stems from the firm specific

requirements that do not match the capabilities of ERP. Iiivari's systems approach (Iiivari, 1992) defined "fit as profile deviation". When a system is configured to match the ideal profile for a task, then a fit exists between the system and the task, and performance should improve. Conversely, performance should be reduced when the system configuration does not match the ideal profile for the given task. However, there were a little bit researches in measuring the level of fit. Most of them focused on the fit of information system which broader than ERP or APS projects. In a review of the IS contingency research, Weil and Olson (1989) found that seventy percent of the studies followed the model assuming that the better the fit among the contingency variables, the better the performance. They categorized the contingency variables of interest to IS researchers into strategy, structure, size, environment, technology, task and individual characteristics. Henderson and Venkatraman (1993) developed the strategic alignment model, emphasizing the multivariate fit among business strategy, IT strategy, organizational infrastructure and process. Also, in a traditional software application perspective, Sol et al. (2000) examined organizational fit of ERP in terms of data, process.

Many researches showed the positive impacts of the level of fit, match of software to the successful implementation. In the survey of small business, Marius and Ashok (1996) hypothesized that packaged software implementation success is positively associated with the degree of vendor fit with user organization and the degree of software fit with user organization respectively. The process-technology gaps have been argued to have a negative influence on the implementation success of specific types of IT such as Materials Requirements Planning (Cooper *et al*., 1990) and Group Support Systems (Zigurs *et al.*, 1998). They have also been identified as negatively influencing implementation success in more general studies of IT (Goodhue *et al.*, 1995).

The number of researchers stated that the capacity of information processing must fit the processing requirements to obtain high managerial performance. Mauldin and Ruchala (1999) suggested a matching process between requirements of task and AIS design alternatives at multiple level of analysis. This important because over-capacity results in information overload and wastes precious resources. MacIntosh (1981) used task knowledge and task variety to classify the unit of task into four types: routine technology, technical professional technology, craft technology and research technology. He suggested that different types of task should match different types of IS. Goodhue and Thompson (1995) reported that IT must be fully utilized and match with task characteristic to enhance individual performance. Chang (2003) concluded that the fit between task uncertainty and characteristics of AIS can really enhance the performance of AIS.

The choice of the package involves important decisions regarding budgets, timeframes, goals, and deliverables that will shape the entire project. Choosing the right ERP packaged software that best matches the organizational information

needs and processes is critical to ensure minimal modification and successful implementation and usage (Janson and Subramanian, 1996). Selecting the wrong software may mean a commitment to architecture and applications that do not fit the organization's strategic goal or business processes.

Lamonica (1998) in the survey conducted by Forrester Research to clarify the extent to which different firms pursue different policies, gave the following results: 37% of the firms choose applications that fit their business and customize a bit, 5% customize application to fit their business, 41% reengineering business to fit application and only 17% of firms did not give any policies and care about the fit.
Nancy Talbert (2002) stated that the core of most enterprise application software packages is numerous assumptions about how organizational processes should work. The assumptions may match some of the company's needs, but such packaged software is rarely a perfect organizational fit, even with careful configuration. As needs change and the software evolves, the fit gets even looser, which means that managers must strive to improve the enterprise system continuously — the software and the organizational processes it supports — if they hope to achieve and maintain the best fit.

Thus, the business fit of packaged software can be seen clearly in above studies as the congruence between "ideal profile" of packaged software and existing business or organizational contexts. The researches also showed the important role of fit in ERP implementation success. Overall, the higher lever of fit of packaged software had, the higher implementation success level had.

1.2. Organizational Resistance

Romney (1999) identified that major resistance often takes one of three forms: aggression, projection and avoidance. Aggression is behavior that is usually intended to destroy, cripple, or weaken the effectiveness of a system. Projection involves blaming the new system for any and every unpleasant occurrence. Avoidance is one way for users to deal with new AIS is to avoid using it in the hope that the system can be ignored or that will eventually go away.

In implementation of a system package successfully, the way organization do business will need to change and the ways people do their job will need to change too. An ERP system package has a major impact on organizations, especially on their staff (Welti, 1999). Thus, change management is essential for preparing a company to the introduction of an ERP system and its successful implementation.
Ives and Olson (1984) have pointed out that user participation in system development can enhance system quality through a more accurate and complete identification of user information requirements; knowledge and expertise about the organization, the system is intended to support, avoidance of unacceptable or unimportant system features and a better understanding about the system. It also

decreased in user resistance to possible changes and greater commitment from users.

Clegg *et al.* (1997) suggested that the lack of attention to human and organizational aspects of IT is a major explanatory factor with regard to the high level of system failure and is manifest in management generally, poor project management, poor articulation if user requirements, inadequate to business needs and goals and a failure to involve users appropriately.

Many ERP implementation failures have been caused by the lack of focus on the "soft issues", ie the business process and change management (Kelly *et al.*, 1999; Summer, 1999). Pawlowski and Boudreau (1999) pointed out that almost half of ERP projects fail to achieve expected benefits because the managers underestimate the efforts involved in change management. Generally, one of the main obstacles facing the ERP implementation is the resistance to change. Bancroft at al (1998) and Gupta (2000) pointed out that the resistance to change is one of the main hurdles faced by the most companies. Martin and Ching (1999) suggested that to decrease resistance to change, people must be engaged in the change process and helped to see how the change profits them.

Thus, the clear significant role of organizational factor to ERP implementation success has been confirmed in many previous studies. Any lacks of focus on this issues would bring a negative impact on the IS implementation project in general or ERP implementation in particular.

1.3. The success of ERP implementation

Markus (2000) pointed out that people often mean different things when talking about the ERP success. For example, people whose job was to implement ERP systems often defined success in terms of completing the project plan on time and within budget. However whose job it was to adopt ERP system and use them in achieving business results tended to emphasize having a smooth transition to stable operations with the new system, thereby achieving intended business improvement such as inventory reduction and gaining improved decision support capabilities.
In the IS perspectives and the output of IS i.e. information, there are many measures studied in measuring success of IS implementation. The reason is that information as the output of information systems and communication can be measured at different levels including technical level, semantic level and effectiveness level. Shannon et al (1949) defined technical level as the accuracy and efficiency of system in producing information, semantic level as the success of information in conveying the intended meaning, and effectiveness level as the effect of information to the receiver.

Base on above study, Mason (1978) divided effectiveness level into more three sub levels of the influent process or event including receiving information, evaluating information (influence on recipient) and application of information (influence on system), leading to change recipient behavior and system performance. Based on this, he suggested that the need to separate success measures of information at each level. The Mason's six distinct categories of information system as follow in Table 1.

Table 1. **IS success categories**

Shannon &Weaver (1949)	Technical level	Semantic level	Effectiveness level			
Manson (1978)	Production	Product	Receipt	Influence on recipient	Influence on system	
Categories of IS success	**System quality**	**Information quality**	**User**	**User atisfaction**	**Individual impact**	**Organizational impact**

Once this view of IS success is recognized, it explain the reason why there are many different measures of this success in literatures. Some researchers have chosen to focus on the characteristics of information system (system quality), others have chosen to study the information product for desired characteristics (information quality). Many studies approached the user and user satisfaction; still other researchers are interested in the influence of information product on management decisions (individual impact) and organization performance (organization impact).

Delone and Lean (2001) insisted again that there is not one success measure but many. However, on more careful examination, these many measures fall into six categories: system quality, information quality, user, user satisfaction, individual impact and organization impact. They also concluded that these measures were interrelated and interdependent and forming an IS success model.

These success metrics include indicators of human and organization learning. It is important not just how well the ERP system itself performs (accuracy, reliability and response time), but how well people in the organization know how to use, maintain and upgrade the ERP system and how well the business improves in performance with ERP system.

1.4. Discussion

APS implementation in general or the high level such as ERP implementation is complicated process that is influenced by not only many internal factors but also external factors. In addition, each factor will not only impact directly to the implementation process but also combine and influence on other factors to make this process more difficult to control.

The strategy for this kind process is not easy to be formed and performed. The related company will challenge to cope with the invisible relationship between the software that always packaged the vendor's view in it and the organization requirements from this software. This relationship depends on the fit level of packaged software to the adopting organization.
Solving this relationship for the implementation success involved in considering many influent factors from vendors, adopting organization and human issues as well. The concept of success also defers from point of view of vendor, organization or users. In this kind of relationship, we need to find the compromise or "adaptation", which including vendor's adaptation (i.e. software adaptation), the organizational process adaptation and user adaptation (changeable ability), and put it together in the implementation success criteria.
From the previous studies, we can see the significant roles of business fit of software and the clear impact of organizational resistance to the IS implementation success, especially in ERP project. But, there are still controversial opinions about the role of packaged software adaptation and business process adaptation in implementation success. Understanding the impact of these relationships will make the company control the process and avoid failure from implementation.
The literature review showed that there were a few researches on APS. Most of studies focused on ERP issues. But, there are some common features between APS and ERP. We might think that, they would show the similar concerns in terms of APS implementation perspective. The section will try to justify these common features between ERP implementation and APS implementation. And from this, we will set up necessary steps to study the issues in our research.

2. RESEARCH MODEL

2.1. Linking APS implementation with ERP implementation

Because there were a few researches studied in APS implementation. Most of them focus on ERP implementation and we have reviewed them as to find the basic conceptual framework for our research. The purpose of this part is using the common features to link APS implementation to ERP implementation.

As mentioned in the literature review, ERP is the highest level of APS. But, regardless to the difference in size characteristics, both of them are information processing systems with three important components such as system data, system processes (including control and feedback processes) and system outputs. An information system performs three functions:

- It collects and stores data about activities and transactions so that the organization can review what has happened.
- It processes data into information under various output formats that are useful for making decisions.

- It provides adequate controls to safeguard the organization's assets, including its data. These controls ensure that the data in available when needed and that it is accurate and reliable.

In addition, as the package software, Both ERP and APS must bring one typical characteristic in implementation of this kind of software. That is the existing gap between what the software provides and what the adopters need in using EPR and APS because software package is functioned not only for one user but also for many users with standardized operations. Thus, this gap is inevitability; both EPR and APS implementation processes should be the compromising processes between software vendors and adopters. This compromise process is influent by many factors; some of them were mentioned in the literature review: the existing fit of software to business needs, the adaptable ability of software, business process and the human factor.

Therefore, we can assume that ERP or APS implementation is the integration, compromising and adaptation process of a new IS with their components (data, processes, output) into the existing IS (in adopting company). (See figure 1).

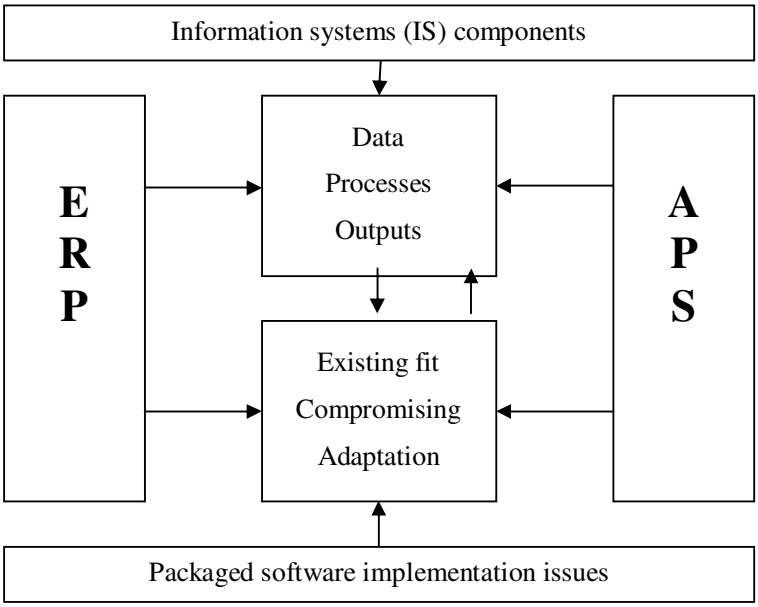

Figure 1. **Common features between ERP and APS**

This concept is an important background for our research in developing the concepts used in the study.

2.2. Setting hypotheses and modeling study

2.2.1 The effect of each factors on APS implementation success

In the literature review, we can see that while there is a wide range of configuration available in any major of packaged software products, they are frequently unable to model some of adopting firm's existing procedures. A critical challenge in the implementation is has to do with the first identifying gaps between the generic functionality of the packaged software and the specific organizational requirement and then deciding how these gaps will be handled. Thus, for the successful implementation of packaged software, especially APS, the fit of software to organization is important, because organizational misfit of software requires massive changes in the adopting organization's business process, packaged software characteristics or both. The more fit, the more opportunities to be successful in APS implementation. This is our first hypothesis:

Hypothesis 1: *There is a positive relationship between the APS fit and its implementation success.*

$$\mathbf{IS = a_{01} + a_1 F} \qquad \mathbf{H_1}$$

With: IS: implementation success
F: APS fit
a_i: the regression coefficients

As variable IS is implementation success measured in reversed Likert scale, from the H_1, we will expect that a_1 is negative sign "-"i.e. ($a_1 < 0$). The test here is the one-tailed test of Pearson correlation coefficients between IS and F with the significant level 1% in random sample.

Hypothesis 2: *There is a negative relationship between the organizational resistance and APS implementation success.*

$$\mathbf{IS = a_{02} + a_2 OR} \qquad \mathbf{H_2}$$

With: IS: implementation success
OC: Organizational resistance to change
a_i: the regression coefficients

As variable IS and OR were measured in the same direction of Likert scale, from the H_2, we will expect that a_2 is positive sign "+"i.e. ($a_2 > 0$). The test here is the one-tailed test of Pearson correlation coefficients between IS and OR with the significant level 1% in random sample.

2.2.2 The interaction between APS fit and organization resistance in APS implementation success

In this section, we are going to discuss the interaction between APS fit and organizational resistance in APS implementation success. APS fit is considered as the objective factor that existed before the APS implementation, organizational resistance is a subjective factor that can be controlled. The expectation here is that the objective factor and subjective factor might interact each other and affect to the implementation success.

The package software implementation usually triggers a diverse group of overt and covert opponents within the organization because of the organization and process changes induced by the software implementation force involuntary changes and frequently lead to different power and resource allocations. When the level resistance is high, we expect the high level fit of package software to organization; otherwise, this give more chance to fail in the package software implementation. That means this kind of fit is significant for the success of software implementation when the level resistance is high.

Conversely, if the organization resistance is low, there are many supporters in the implementation, the gaps between package software and organization is not the matter despite high or low.

Hypothesis 3: *There is an interaction effect between the organization resistance and the fit of software on its implementation success.*

$$\mathbf{IS = a_{01} + a_{11} \text{ x } F + a_{21} \text{ x } OR + a_{31} \text{ x } F \text{ x } OR} \qquad \mathbf{H_3}$$

With: IS: implementation success
F: APS fit
OR: Organizational resistance to change
F x OR: The interaction effect APS fit and Organizational resistance
a_i: the regression coefficients

Variable IS and OR were measured in the same direction of reverse Likert scale and different direction from F. Thus, from the H_3, we will expect that a_{33} is negative sign "-"i.e. ($a_{31} < 0$). The test here is the one-tailed ANOVA for the regression model among IS, F and OR with the significant level 1% in random sample.

If we accept above hypothesis, the partial derivatives of each independent variable will be used to analyze the interaction between two independent variables (F, OR) to dependent variable (IS). The research model can be summarized in the Figure 2.

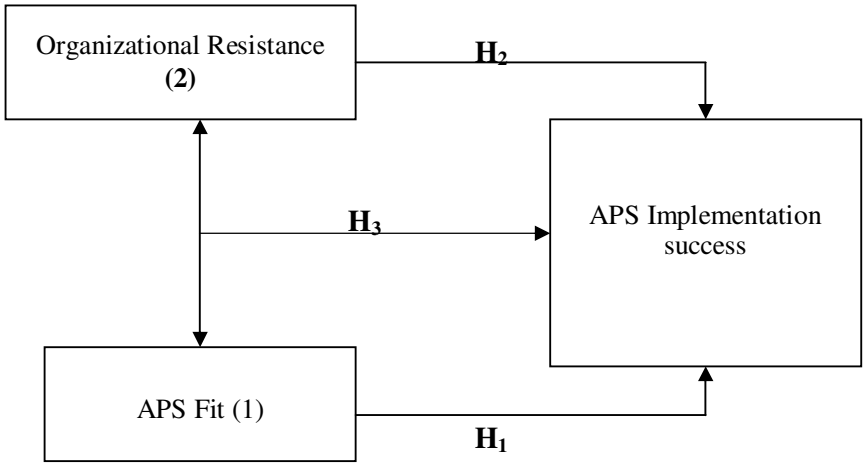

Figure 2. **The research model**

3. RESEARCH METHODOLOGY

3.1 Measurement of model variables

3.1.1 APS implementation success (APSSUC)

As mentioned in literature review chapter, there are different approaches with various factors in measuring software implementation process. For overall measurement, with considering almost related factors, APS implementation success, the dependent variable in this study is considered in the point of view of the successful project. Implementation project is frequently defined in achieving some predetermined goals which normally include multiple parameters such as time, cost, and function. In this study, we used the project approach to measure APS implementation success in terms of the deviation from the expected project goals such as cost overrun, schedule overrun, system performance deficit and failure to archive the expected benefits. These four items were measured by the seven-point Likert-type scale and reverse score. (See table 2)

Table 2. **Measured items in APS implementation success**

Measured factor	Items	Objective	Method
Accounting software implementation success	Cost	Comparing to expected cost	Reverse seven-point Likert scaled
	Time	Comparing to scheduled time	
	System performance	Comparing to expected level	
	Benefit	General evaluation of benefit to the company	

3.1.2 APS fit (FIT)

The previous studies showed the definition of business fit of packaged software as the congruence between "ideal profile" of packaged software and existing business or organizational contexts. We used it as the basic definition for our study. In addition, as mention in figure 1, APS implementation is basically characterized as the integration of data, processes and outputs within the organizations. Depending on the scope of implemented software, the data, process, outputs are limited only the boundary of accounting function or spread to the company as a whole.

Thus, our definition of APS fit is the match or congruence of APS to the adopting company in terms of data, processes and outputs between them. The fit variable of APS in our study was constructed in terms of data, process and the output fit of this kind of software in implementation. The seven-point Likert-type scale is also used to measure these items. (See table 3)

Table 3. **Measured items for APS fit**

Measured factor	Items	Objective	Method
Fit of Accounting Packaged software to business	Data	The level of correspondence in name, meaning, format	Seven-point Likert scaled
	Process	The correspondence of design and sequence to present or future need	
	Output	The correspondence of structure to work, user capability, business needs	

3.1.3 Organizational resistance (ORGRES)

For organizational resistance, our study used Romney (1999) approach to identify it. That included three forms: aggression, projection and avoidance. Aggression is behavior that is usually intended to destroy, cripple, or weaken the effectiveness of a system. Projection involves blaming the new system for any and every unpleasant occurrence. Avoidance is one way for users to deal with new AIS is to avoid using it in the hope that the system can be ignored or that will eventually go away. The resistance variable in this study is built on that identification and measured in seven-point Likert-type scale (See table 4).

Table 4. **Measured items for Organizational resistance**

Measured factor	Items	Objective	Method
Organizational Resistance	Aggression	The degree of intention to destroy, weaken project	Seven-point Likert scaled
	Projection	The degree of intention to blame the project	
	Avoidance	The degree of intention to use the traditional practices.	

3.2. Sample and data collection

The target of this study was the APS adopting companies that have implemented APS in HCMC, Vietnam. We use the key informant method for colleting information on a social setting by interviewing or surveying a selected number of participants through a 31-item questionnaire (see Appendix). It was first constructed in English and then translated into Vietnamese to conduct the survey in HCMC region. In this method, we first asked the company who was the key person that can understand and provide relevant information about the APS implementation success in the company. After contacting that person, an interview appointment to be set or sent him (her) the questionnaire by email. For the first time of survey, the researcher conducted the survey by interview face to face with the key person to check the questionnaire understandable and long enough. Then, this survey continued conducting by himself, his colleagues in Accounting Department of HCMC University of Economics, by a group of accounting students and his friends through direct interview or e-mail.

The companies were selected by randomly providing that they have been implemented APS in their operations. The source to select came from this list of customers from software vendors, from asking executive master student studying in Accounting Department, HCMC University of Economics or from other sources that make sure that these kinds of companies are using the APS.

The sample size of survey was not specified in advance. We try to contact the companies as much as possible. But for the significant of sample and statistics analysis, we set the minimum number of sample size was 30 companies. After that, the study will use statistics software SPSS 10 to assist in processing collected data, analyzing the outputs, building the regression model and from that making the result and conclusions for the research.

The limitations might appear to this method of data collection and research sample. First, it was very ambiguous to identify the key person in adopting companies. This kind of person was assigned from the company and on the perception of the company. So that, the information provided might be inaccurate. Second, because of time limitation and it is not easy to receive the acceptance from the selected companies and the interviewed persons, the survey could not conduct a broad sample. Thus, the results from this study might be influent by these limitations.

4. RESULTS AND DISCUSSION

4.1. Results

4.1.1 The relationship between APS fit and APS implementation success

The correlation analysis was used for testing the relationship between APS fit and APS implementation success. The results extracted from SPSS in Table 5 indicated that the relationship between APS fit and APS implementation success was significant at the level 1% random sample ($r = -0.472$, $P = 0.00$), supporting the Hypothesis 1.

Because implementation success factor was measured reverse scale, the negative sign "-"of relationship between APS fit and APS implementation success states the positive relation. Independently, the more APS fit is, the more chance of APS implementation success we have.

Table 5. **Correlations between FIT and APSSUC**

		APSSUC	FIT
Pearson Correlation	APSSUC	1.000	-.472
	FIT	-.472	1.000
Sig. (1-tailed)	APSSUC	.	.000
	FIT	.000	.

In simple regression of on APS implementation success, we have results in Table 6. The value of R square and adjusted R square was 0.223 and 0.211 respectively. It indicates that 21% of the APS implementation success variances are explained by the APS fit in the model at the level of significant 1% in random sample.
The model for this relationship is

$$\mathbf{IS = 5.843 - 0.610\ F} \qquad \mathbf{M_1}$$

Every change in increasing of one score of APS fit (F) will lead to the decrease of IS dependent variable by 0.61 at the level of significance 1% in random sample, i.e. the score of APS implementation success will increase 0.61.

Table 6. **Model of relationship between FIT and APSSUC**

	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Beta		
(Constant)	5.843		7.866	.000
FIT	-.610	-.472	-4.355	.000

Dependent Variable: APSSUC, R Square = .223, Adjusted R Square = .211

4.1.2 The relationship between organizational resistance and APS implementation success

The results of correlation analysis extracted from SPSS in Table 7 indicated that the relationship between organizational resistance and APS implementation success was significant at the significant level 1% random sample (r= 0.98, P = 0.001), supporting the Hypothesis 2.
Because implementation success factor was measured in the reverse direction of scale with organizational resistance factor, the positive sign of relationship between organizational resistance and APS implementation success indicates the negative

relationship between organizational resistance and APS implementation success. Independently, the more level of organizational resistance will lead to the less chance of APS implementation success and vice versa. The high value of correlation (0.98) also insists that this kind of relationship is very strong; the organizational resistance factor will impact very much on the APS implementation success.

Table 7. **Correlations between ORGRES and APSSUC**

		APSSUC	ORGRES
Pearson Correlation	APSSUC	1.000	.980
	ORGRES	.980	1.000
Sig. (1-tailed)	APSSUC	.	.000
	ORGRES	68	68

In simple regression of on APS implementation success, we have results in Table 8. The value of R square and adjusted R square was 0.96 and 0.959 respectively. It indicates that nearly 96% of the APS implementation success variances are explained by the organizational resistance factor in the model.

The model for this relationship is

$$\mathbf{IS = 0.392 + 0.653OR \quad M_2}$$

Every change in increasing of one level of organizational resistance (OR) will lead to the decrease of the score of APS implementation success by 0.653 at the significant level of 1%, random sample.

Table 8. **Models of relationship between ORGRES and APSSUC**

	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Beta		
(Constant)	.392		6.249	.000
ORGRES	.653	.980	39.565	.000

Dependent Variable: APSSUC, R Square = .96, Adjusted R Square = .959

4.1.3 The interaction between APS fit and organizational resistance on APS implementation success

Next, we measured the interaction between APS fit and organizational resistance on APS implementation success to test the Hypothesis 3. We used the multiple regression models as a basis for examining the effect.

The empirical results of the multiple regression models interaction in Table 9 show that the interaction between APS fit and organizational resistance was significant (P value = 0.004) at the level of significant 1%, random sample. Thus, the

hypothesis 3 is supported. This means that the evidence of organizational resistance and the APS fit taken together having an effect on the APS implementation success is existed. The standardized multiple regression models can be built as follows:

$$\mathbf{IS = 0.037F + 1.328OR – 0.360\ F\ x\ OR} \qquad \mathbf{M_3}$$

Table 9. **Model of interaction between FIT and ORGRES on APSSUC**

	Mean	SD	Unstandardized Coefficients	Standardized Coefficients	T	Sig.
			B	Beta		
(Constant)			.218		.629	.531
FIT	5.2412	.8295	4.712E-02	.037	.753	.454
ORGRES	3.4529	1.6058	.885	1.328	10.222	.000
Interaction	17.4353	7.6690	-5.023E-02	-.360	-3.018	.004

Dependent Variable: APSSUC, $R^2 = 0.971$; Adj $R^2 = 0.969$; F = 708.287, Sig = 0.000

To obtain the additional insight of the nature and direction of the interaction effects of APS fit (F), we computed the partial derivative of M_5 over the extent of APS fit (F). The partial derivative is:

$$\frac{\delta IS}{\delta F} = \mathbf{0.037 – 0.360\ OR} \qquad \mathbf{(3)}$$

The equitation (3) will be zero when OR has the value of 0.1027 (0.037/0.36). This is the inflection point that relationship lines of organizational resistance (OR) and APS implementation success at any level of APS fit will intersect here. (See the figure 3)

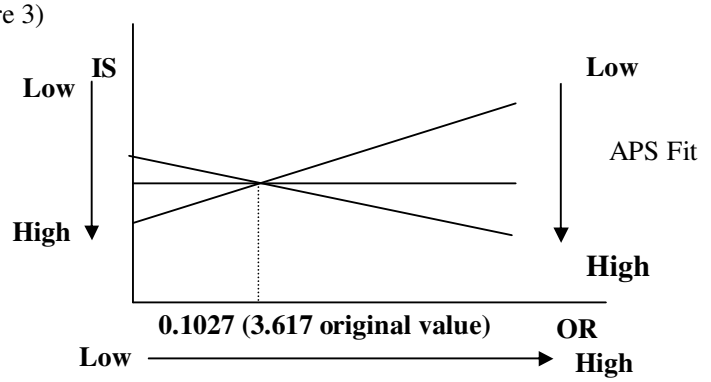

Figure 3. **The relationship of IS and OR at each APS fit level**

We had used the standardized variables in standardized multiple regression models. Hence the orginal inflection point of OR is calculated folllowing:

$$FIT_{orginal} = 0.1027 \times S.D_{OR} + Mean_{OR}$$
$$= 0.1027 \times 1.61 + 3.45$$
$$= 3.617$$

The organizational resistance (OR) variable is ranged from 1 to 7. From figure 3, we can see that if OR variable level is more than 3.617 (above 3.45 of OR means value, that is high level of organizational resistance) we need the high level of APS fit because in this case, the higher level of APS fit will have smaller value of IS variable, in other means, the high APS implementation succes. The more fit level we have, the more chance of APS implementation success we will get.
Conversely, in case of OR variable is less than 3.617, which means the we have the low level of organizational resistance, the high value of APS fit will lead to the high value of IS varible in comparison with low APS fit. Thus, in this situation, the high APS fit level will not contribute to more chances of APS implementation success.

Similarly, the level of APS fit that can reflect the improtance of level of organizational resistance (OR) to the APS implementation success can be calculated from the zero-partial derivative equation of (M_3) over the extent of organizational resistance (OR).

$$\frac{\delta IS}{\delta OR} = \mathbf{1.328 - 0.360F = 0} \qquad \mathbf{(4)}$$

Hence, the value of F is equal to 3.689 or original value is 8.3 {(3.689 x $0.829(SD_{Fit})$ + $5.24(Mean_{Fit})$). Because the F score is ranged from 1 to 7, so that the ratio (4) is always more than zero with any value of F from 1 to 7. Thus the relationship between variable OR and variable IS is always positive under any values of fit variable F. In other words, The organizational resistance factor is always importance, the negative relationship between the level of organizational resistance and APS implementation succes is not influenced at any fit level of APS. The more level of organizational resistance, the less chance of APS impelementation succes and vice versa.

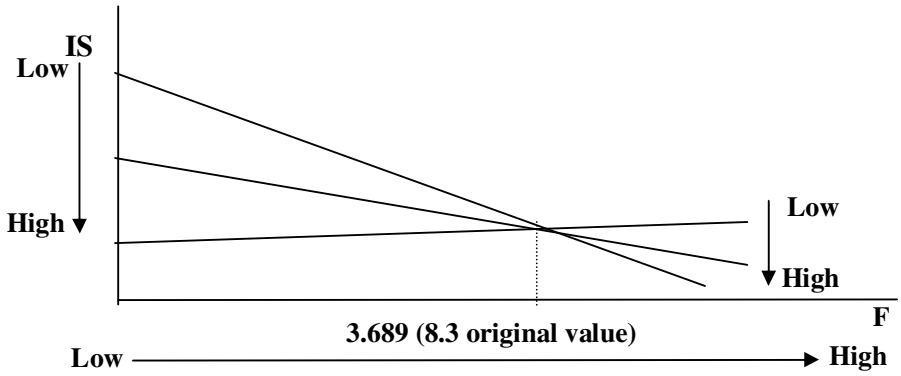

Figure 4. **The relationship of IS and APS fit at each OR level**

4.2. Discussion

APS implementation success has been one of the most significant challenges for not only adopting firms but the software suppliers as well. There are a lot of factors impacting on and having a certain role in on this process. In the previous section, we found that the APS fit and organizational resistance have a significant effect on the APS implementation success. It was also found these factors influence each other in the degree of APS implementation success.

4.2.1 APS fit to business

In the simple regression models, we found that 21% of the APS implementation success was significantly explained by the APS fit and the direction if this relationship is positive, the more fit level, the more chance of APS implementation success. The results in HCM city supported our expectation on this relationship set before and having the same results as previous studies.

Besides, the interaction between APS fit and business process or with organizational resistance significantly explained 31% and 97% of the APS implementation success variance, respectively. These facts showed that not only the fit level of APS has its influences on the APS implementation success but it also play an important role when considering business process adaptation and organizational resistance in this process.

The results also showed that, the high fit level of APS will be necessary when the business adaptation below a certain level, but when the business adaptation level is high, which beyond that certain level, the high fit level of APS will not important to APS implementation success. This adaptation will compensate for this misfit of APS.

Because of its significant role, any adopting companies, APS project managers, APS providers and related parties must evaluate the level fit of APS and plan for appropriate type and level of adaptation (business and user adaptation) before embarking on an APS implementation job. This fit analysis requires a comprehensive understanding of critical organizational process, the data used and the needs from APS users. Through this analysis, we will reduce the escalating risks over the course of implementation.

4.2.2 Organizational resistance

In this study, we can see a very strong and important role of organizational resistance factor in APS implementation success. It could explain directly 96% the variances of APS implementation success or 97% this variance when interacted with the fit of APS in APS implementation success. This can lead one interesting

finding that of three factors related adaptation in this study, one is belonged to outside (APS adaptation), one is belonged to adopting companies (business process adaptation), one is belonged to people, the former one has the most significant role in APS implementation success. Human factor always plays an important role in organizational management activities even these activities are related to technology.

The study also stated that organizational resistance has a negative impact on the APS implementation success even though in a high fit level of APS. At any fit level of APS, the lack of user participation, unacceptability and avoidance will lead to decrease the chance of APS implementation success. Thus, the APS adopting companies cannot spend much time on selecting the best fit APS to its business without caring of attitudes, perceptions or behaviors of users. The related user analysis should be conducted before deciding to implement an APS in the companies.

Therefore, for the higher chance of APS implementation success, the manager, implementers, vendors and other APS implemented parties should pay attention to role of APS users in APS implementation. The encourage, stipulation of active participation is very important, it might promote as social process of interaction between users and APS implementation teams through which both parties can learn about each other's expectation and requirements and hence resolve their resistance.

CONCLUSIONS AND SUGGESTIONS

More and more Vietnamese companies are investing in APS for replacing their legacy accounting system to get more benefits and to facilitate their business operations. However, choosing an appropriate APS and successfully implement it into the company current operating system are not an easy job. This kind of process is impacted by various influent factors which in turn, make the implementation success or failure.

This research studied the influences of three types of adaptation on the APS implementation success. These consisted of the business process adaptation, APS adaptation and organizational resistance (human adaptation). A data analysis surveyed in HCMC lead us some conclusions following:

+ There is a positive relationship between the APS fit level and APS implementation success. The higher fit level we have, the higher APS implementation success degree we get.

+ A clear influence of organizational resistance on APS implementation success was proved. This was very strong influent factor which impacted negatively to the APS implementation success without compensation at any level of APS fit. When organizational resistance exists, the APS implementation process will be more difficult and facing more risks of failure.

From these conclusions, we can draw some suggestions related APS implementation in terms of managerial implications and further study in the coming time. These are discussed in the following section of the chapter.

There are some managerial implications drawn for APS implementation success. First and for most, this study confirms the positive contribution of APS fit to successful outcome of the implementation. Therefore, the management should conduct intensively an analysis of organizational fit characteristics of offered APS before deciding to implement in the company.

The second one is the initiation of adopting company in change its existing business processes to adapt new accounting system from APS implementation. Once investing in new technology, the company has an opportunity to reform its business to have more competitive advantages. However, these changes should be relevant with the fit level of implemented APS to take advantage the organizational fit characteristics of this APS.

Last but not least, human factor always play an important role in project implementation, especially in APS implementation success referred in this study. This factor should be considered carefully before, during and after the implementation.

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