

Strategic Renewal Capability and Firm Sustainability: An Empirical Investigation of Software Businesses in Thailand

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Abstract

Strategic renewal capability has been viewed as one of key components that influence organizational outcomes. The objective of the study was to investigate the effect of strategic renewal capability on organizational survival and firm sustainability. The results were derived from a survey of 156 Software Businesses in Thailand which provided the interesting points of strategic renewal capability. The hypothesized relationships among variables were examined by using ordinary least square (OLS) regression analysis. Results suggested that all dimensions of strategic renewal capability positively influence on organizational survival and firm sustainability. Furthermore, organizational survival has a positive influence on firm sustainability. Theoretical and managerial contributions, conclusion, and suggestions for future research are also discussed.

Keywords: Strategic Renewal Capability, Organizational Survival, Firm Sustainability

1. Introduction

The increasing globalization and environmental turbulence makes it essential for organizations to respond to changing, competitive and unpredictable environments, if they wish to survive (Schmitt and Klärner, 2015). Moreover, the growth of information and communication technologies have resulted in changes in broader markets from the national to the global level (Yang & Sun, 2012). This means that organizations have to face an increasing number of competitors as well as increased stakeholder demands, which contribute to new challenges in business operations (Barich and Kotler, 1991). Therefore, to survive and succeed in business, an organizations need to be revised and change themselves continuously to suit the rapidly-changing economic environments (Hong & Stähle, 2005)

Which responding to these changes, organizations need to have the ability to create novel and improved products, services and product delivery strategies (Teece, Pisano, & Shuen, 1997). Stähle (1998) stated that this ability is an attribute of renewal capability. Previous studies demonstrated that renewal capability is the ability to refresh or adjust to organizational success and more long-lasting in the business (Pöyhönen, 2004). Renewal capability is also modifying proactively, it helps to promote the sustainability of the organization. Not only does the renewal capability respond to changing environment

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but it also is a proactive strategy to help organizations succeed in the competition (Hamel, 2000). Moreover, it has been found in previous research that renewal capability is directly related to the survival and sustainability of organizations (Khumyat & Pratoom, 2015).

The concept of renewal has often been used strategically (Capron & Mitchell, 2009; Lavie, 2006; Murmann, 2003; Salvato, 2009). Agarwal and Helfat (2009) indicated that strategic renewal includes the procedures, processes and means for the organization to focus on organization's long-term, which is directly related to success and failure in the future. To expand the understanding about the renewal capability, this research attempts to integrate the two concepts are the strategic renewal and renewal capability to generate a new concept. Therefore, strategic renewal capability in this research is defined as processes or methods to promote the ability of an organization to refresh itself within the terms of its business goals to make the organization become more sustainable; long-lasting and successful in the future.

To gain information efficient, studies of strategic renewal capability are investigated in the context of businesses that have been affected by changes in the environment and technology. Garrett, Buisson and Yap (2006) states that the business has been greatly affected by the rapidly changing environments composed of the telecommunications industry, the electronics industry and especially the software industry because the software industry has a high turnover rate of members. Many organizations are unable to survive in the situation of fierce competition. Moreover, the software business in Thailand is crucial for the growth of the national economy and in meeting the increasing challenges posed by foreign competitors. For this reason, it is important to investigate how firms in Thailand can best use strategic renewal capabilities to exploit their potentials in terms of maintaining and increasing their competitive advantage.

Thus, the main purpose of this research is to investigate the relationship between strategic renewal capability and firm sustainability. The key research question is how does strategic renewal capability relate to firm sustainability? The remains of this research are structured as follows. The first part reviews prior empirical research and relevant literature, proposes the theoretical framework to explain the conceptual model, and develops the related hypotheses. The third part describes the research methods, comprising the sample selection, data collection procedure, development of the measurements of each construct, the statistical analyses, the fourth part presents the results of statistical testing, demonstrates the empirical results and provides a discussion in full detail. The fifth part identifies the details of the conclusion, the theoretical and managerial contributions. Finally, the researcher concludes of this research.

2. Literature review and hypothesis development

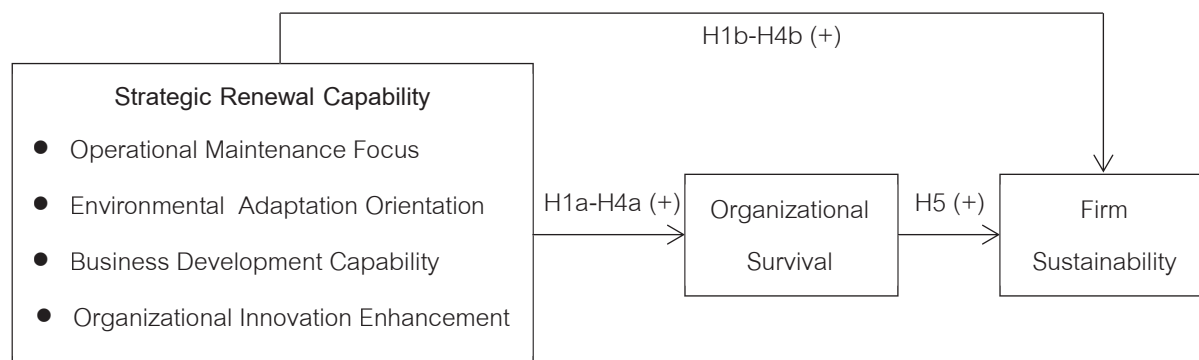
Strategic renewal capability emerges from the integration of three main perspectives, namely, knowledge management, intellectual capital and strategic management perspectives (Pöyhönen, 2004). Within these perspectives, the knowledge management perspective is to understand the context of the organization, which leads to the capability of the organization. Organizations used this capability to

maintain and develop themselves (Henderson & Cockburn, 1994; Zander & Kogut, 1995). The intellectual capital perspective focuses on the resources exploitation of the organization, which allows creating the organizational performance. Lastly, the strategic management perspective approaches the creation of competitive advantage. This perspective stimulates adaptation and innovation in order to build organizational competitiveness. Hence, these three perspectives support renewal capability as the dynamic capability of an organization.

The literature review discusses the three perspectives proposed by Hong and Stähle (2005), and it can be concluded that maintenance, development, adaptation and innovation are identified as key factors within the dimensions of strategic renewal capability. These factors are consistent with the concepts proposed by Stähle (2000) and Pöyhönen (2004). However, there remain differences between the studies of Stähle (2000) and Pöyhönen (2004). Stähle (2000) focused on organizational adaptation as a means of responding to changing environments to ensure organizational survival. He identifies the dimensions of strategic renewal capability as consisting of maintenance development and adaptation. Meanwhile, the study of Pöyhönen (2004), which focused on strategically proactive measures to promote organizational success and sustainability, identified dimensions of strategic renewal capability as consisting of maintenance development and innovation. In this research, the concepts of Stähle (2000) and Pöyhönen (2004) are integrated by combining the elements of the dimensions of strategic renewal capability proposed by them. Hence, the dimensions of strategic renewal capability as posited in this research combine operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement.

Strategic renewal capability also has been recognized as essential to dynamic capabilities because dynamic capabilities refer to the ability to renew the competencies to conform to the changing business environment by integrating, adapting, and reconfiguring organizational resources to achieve survival and sustainability (Helfat et al., 2007). Therefore, dynamic capability theory is applied to explain the relationships among the four dimensions of strategic renewal capability and organizational survival and firm sustainability. Finally, a conceptual model of this research is illustrated in Figure 1 as below.

Figure 1: Conceptual model of strategic renewal capability and firm sustainability



2.1 Strategic renewal capability

This research defines the strategic renewal capability processes of an organization as a means to promote its ability to adapt and develop and thereby sustain its long term prospects in achieving its future business goals. It relates to the organization's ability to implement renewal processes through effective maintenance, whether by incremental development, or radical innovation. Furthermore, renewal capabilities generate the competitive advantage for the organization, the overall long-term strategy or the vision of the organization, as well as its external environment. Ståhle (1998) suggested that the ability of renewal capability is a characteristic of dynamic systems. In addition, the researcher has related renewal ability to be reflective, adaptive or radically dependent on the environment as discussed by Junell and Ståhle, (2011). The study by Ståhle (1998) suggested that renewal ability includes the renewal capability to operate within different environments and the ability to prioritize the operational environment in line with organization strategy.

Prior research shows empirical evidence that renewal capability is directly related to the survival and sustainability of organizations (Khumyat & Pratoon, 2015). Junell and Ståhle (2011) suggested that the renewal concept consists of either maintenance and adaptation, or innovation to organizational change (Ståhle & Gronroos, 2000; Ståhle et al., 2003). In addition, the study of Junell and Ståhle (2011) and Pöyhönen (2004) stated that development capability is an aspect of renewal because it is the ability to bring sustainable growth of the organization, as well as the business development capability that was identified as the process about the potential creation for firm sustainability (Sørensen, 2012). Based on the literature reviewed above, this research proposes four dimensions of strategic renewal capability as follows.

2.1.1 Operational maintenance focus

Effective treatment is identified as one of the dimensions of strategic renewal capability in which the process of maintenance comprise the maintenance of skills, abilities and knowledge of the organization. It also includes maintenance tools, equipment or things that are used in the business of the organization (Junell & Ståhle, 2011; Pöyhönen, 2004). In addition, the main goal of maintenance relates to the efficiency of organizational operations over time (Pöyhönen, 2004). Hence, maintenance is important for administrators who need to maintain the efficiency of the organization in an environment that is changing rapidly (Chan, 2008).

Maintenance in this context relates to the linkages between management practices that sustain both tangible and intangible assets for the renewal functions of the organization (British Standards Institution, 1993). Swanson (2001) stated that the operational maintenance focus is the relationship between the concepts of maintenance policy and maintenance efficiency to accomplish organizational purposes. The studies of various researchers have highlighted the importance of the operational maintenance focus as it relates to the overall performance of an organization (British Standards Institution, 1993).

In this research, operational maintenance focus is defined as the activity of an organization which involves maintenance skills, abilities and knowledge, as well as providing the physical assets that facilitate the operations of the organization in order to maintain the firm in a rapidly changing environment; thus, influencing survival of the organization (Hamel, 1998; Teece, Pisano, & Shuen, 1997). Meanwhile, operational maintenance focus is viewed as the ability to lead the organization to sustainable development as it helps reduce operational conflicts and increases the performance of the organization (Swanson, 2001). Thus, this research has highlighted that the operational maintenance focus is associated with survival and sustainability of organizations. Hence, these ideas lead to posit the following hypotheses.

Hypothesis 1: Operational maintenance focus will positively relate to a) organizational survival and b) firm sustainability.

2.1.2 Environmental adaptation orientation

Environmental adaptation is defined as a specific capability within an organization to respond to environmental change and to use this ability to sustain both survival and competitiveness to bring about organizational success (Lee, 2001). This adaptation arises from an organization's efforts to improve its businesses to suit a rapidly changing environment and focus on achieving organizational success in the face of the challenges it confronts (Lee, 2001).

The concept of adaptation has been recognized as one of dimensions of strategic renewal capability because the successful adjustment of an organization to fit the business environment is consistent with the objectives of strategic renewal capability, and ensures the survival and sustainability of the organization (Junell & Ståhle, 2011; Pöyhönen, 2004). Moreover, the study of Pitt and Kannemeyer (2000) found that environmental adaptation can help to stabilize an organization as it aims to adapt its business model to harmonize with the market by taking into account the uncertainties relating to risk and technology which create business ambiguity. Similarly, Stoica and Schindehutte (1999) have stated that the adaptive organization helps its business to develop over time. The role of entrepreneurs is to use their experience to support the promotion of products and markets, and to assist suppliers, employees and other interests that have an influence on the organization. Therefore, it is highly probable that environmental adaptation orientation influences survival and sustainability.

In addition, Morris and Zahra (1999) suggested that adaptation is very useful for organizations in environmental change as organizations which successfully implement adaptations will achieve higher organizational competitiveness than organizations without adaptation. Therefore, the following hypotheses are proposed:

Hypothesis 2: Environmental adaptation orientation will positively relate to a) organizational survival and b) firm sustainability.

2.1.3 Business development capability

The potentiality for business development is a major factor relating to the success of an organization. Organizations rely on a capability for business development to create business opportunities for growth and as a factor which helps them achieve competitive advantage (Junell & Ståhle, 2011;

Pöyhönen, 2004). Business development capability has been identified as an aspect of business renewal capability; the ability to bring about change and sustainable growth within an organization. Additionally, business development capability has been identified as providing the potential for promoting organizational growth (Sorensen, 2012).

Business development capability has been identified as a dynamic capability that can cope with a changing environment (Eisenhardt & Martin, 2000; Teece, 2007) and which arises from the ability to integrate knowledge, expertise and resources within the organization for the successful construction of growth opportunities in an unpredictable environment (Sørensen, 2012). Business development capability is focused on efforts to enhance the business value of an enterprise. Thus, it is associated with the development of market channels, products and relationships with stakeholders (Gibb, 2006).

In addition, business development capability has also been recognized as having a relationship with the survival of organizations (Eisenhardt, 1989; Eisenhardt & Martin, 2000; Teece, 2007; Teece, Pisano, & Shuen, 1997). Likewise, the study of Soltani, Ramazanpoor and Eslamian (2014) suggested that business development is a key process towards gaining a market advantage over competitors thereby promoting sustainability. Hence, it may be related to stakeholder expectations. Therefore, hypotheses are proposed as follows:

Hypothesis 3: Business development capability will positively relate to a) organizational survival and b) firm sustainability.

2.1.4 Organizational innovation enhancement

Innovation is an important organizational strategy. It was identified as strategic proactivity, one of the goals of strategic renewal capability (Ståhle & Gronroos, 2000). The dimensions of strategic renewal capability indicate that innovation is about proactively building new strengths for the future (Pöyhönen, 2004). Many scholars have expressed the view that innovation relates to the introduction of a new concept, behavior or process. Such innovation may extend to new products, new services, new technologies, or new management strategies (Damanpour & Evan, 1984; Khan & Manopichetwattana, 1989). Wu and Lin (2011) stated that innovation has two distinct aspects, namely, technological innovation and management innovation. The concepts surrounding technology innovation refer to creating new products, new services and new technology and have led to a new term, “technovation”, being coined. Management innovation relates to creating new markets, new supply sources, and new organizational approaches. However, all are crucial to organizational renewal to ensue firm sustainability.

Organizational innovation enhancement in this research is defined as a comprehensive set of characteristics within organizations that (Burgelman, Maidique, & Wheelwright, 2004). Organizational innovation is about promoting new technology or new administrative practices to enhance the operation of an organization. It can also be referred to as the ability to transform knowledge into new ideas and new methods to benefit the organization (Lawson & Samson, 2001).

In addition, organizational innovation in terms of research and development are used in developing new products and services (Ussahawanitchakit, 2006). Peng, Liu and Lin (2015) stated that developing unique innovations to enable survival to succeed in an uncertain environment. Likewise, Moreover, Albers and Brewer (2003) have stated that organizational innovation is the driving force behind an organization's survival as it encourages the integration of resources and knowledge to achieve the goals of the organization. Hence, organizational innovation has been recognized as the ability to enable organizations to survive and sustainability in an uncertain environment. Therefore, the following hypotheses are proposed:

Hypothesis 4: Organizational innovation enhancement will positively relate to a) organizational survival and b) firm sustainability.

2.2 The effects of organizational survival on firm sustainability

The consequence of strategic renewal capability in this research is organizational survival and firm sustainability. This part emphasizes the effects of strategic renewal capability on firm sustainability.

2.2.1 Organizational survival

Organizational survival is a measure of success or failure arising from the operation of the organization (Mata & Portugal, 2002; Persson, 2004). Organizational survival is often dependent on the ability of the managers, when faced with an uncertain external environment, whether due to changes relating to the market, technology growth, or competitive turbulence, to respond appropriately (Claycomb, Droge, & German, 2005). Thus, to be successful organizations must be able to cope with external environmental threats if they are to survive in an uncertain external environment. However, Claycomb, Droge and German (2005), elaborated that organizational survival is associated with socio-political legitimacy. Therefore, this suggests that an organization's operations must remain in harmony with its external environment, both economic and political.

The focus of this research is organizational survival in terms of the ability of organizations to adjust to suit their environments. Thus, organizational survival in this research refers to the ability of organizations to create and maintain their stability by managing uncertain competitive environments to ensure long-term survival (Persson, 2004). In addition, the business operations of organizations, able to survive in an uncertain competitive environment, are more likely to increase their financial returns, by such strategies as enhancing their products and services and by maintaining their market share. Many scholars realize that the importance of organizational survival is associated with the sustainability of an organization (Ha, 2013).

2.2.2 Firm sustainability

In this research, a firm's sustainability is defined in terms of a continuous increase of business income and of profitability, improved product and service quality and growth of market share, relative to past operating results. These factors are related to expanding business growth, increasing shareholder value, corporate prestige and reputation, and correspondingly improved customer relationships (Szekely & Knirsch, 2005). However, firm sustainability correlates to organizational survival;

yet in this research, both are seen as distinct. Organizational survival focuses on the long term; the ability to remain in business over time in a competitive environment. However firm sustainability focuses on the ability to expand and grow a business; relating its present to its past operating results. Firm sustainability is determined by the firm's ability to survive in business and to generate business growth. Hence, firm sustainability is affected by organizational survival. Therefore, a hypothesis is proposed as follows:

Hypothesis 6: Organizational survival will positively relate to firm sustainability.

3. Methodology

3.1 Sample selection and data collection procedure

The target population was 855 software businesses in Thailand drawn from the Software Industry Promotion Agency (SIPA) of Thailand data base as of the 25th of March of 2016. Of the 855 questionnaires sent to the selected respondents by the chief executive officer (CEO) or executive director of each firm was considered as the appropriate key informant. All of questionnaires were mailed to respondent firms, and a period of eight weeks was allowed to receive replies, before a follow up mail-out was undertaken to non-respondents. It was found that 172 surveys were returned unclaimed and hence rejected as the firms had either ceased to operate or had moved to another (unknown) location. These undeliverable surveys were removed from the study. Consequently 683 surveys remained valid for research purposes, and of these 163 firms responded. However, of these, seven surveys were incomplete, and were discarded leaving a balance of 156 completed surveys that were usable for purposes of analysis. This yields a calculated response rate of approximately 22.84 percent. According to Aaker, Kumar, and Day (2001), the effective response rate for a mail-out survey without an appropriate follow-up procedure, should be more than 20 percent, a range that is considered acceptable for data analysis.

3.2 Test of non-response bias

The non-response bias is evaluated to ensure the legitimacy of the research outcomes by ensuring that the final sample represents the population of the research. The non-response bias is tested before the data are analyzed. Non-response bias testing is used to verify bias between "response" and "non-response" by comparing early versus late responders (Armstrong & Overton, 1977). In analyzing the data received this research used t-test comparisons to compare the firms' characteristics, such as the amount of capital, the number of employees, and average income per year between early and late respondents. If the t-test comparison shows no significant difference between these two groups of respondents, it can be assumed that these returned questionnaires have no non-response bias problem (Armstrong & Overton, 1977). All of the received questionnaires were divided into two equal groups. The early respondents' responses and the late respondents' responses have been compared by using, t-test analysis. The firms' demographics, including business entity, business types, working capital, number of employees, operating periods and average annual incomes were compared.

The results were not significant between early and late responses. It can be confidently concluded that the non-response bias is not a serious problem in this research (Armstrong and Overton, 1977).

3.3 Variable measurement

In this research, the measurement and evaluation of responses have been developed from several sources, including the relevant literature, definition of terms, and prior research instruments. Each construct in the conceptual model is measured against multiple items. All constructs in this research are abstract, they cannot be measured directly. The use of multiple items to measure abstract constructs is the one of the methods for solving this situation (Churchill, 1979). Each construct is rated on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). The variable measurements of this research are described as follows:

3.3.1 Dependent variable

Firm sustainability is the measure for evaluating the achievement of the operation of the organization (Stanley, Hult, & Olson, 2010) which focuses on the achievement of continuous incremental growth such as sales growth, profitability and market share when compared with operating results in the past. It also includes providing outstanding services over competitors and having reputation that is accepted by customers. To measure firm sustainability, five items in the questionnaire were adapted from a study by Phokha and Ussahawanitchakit (2011).

Organizational survival is measured by the perception about the survival of the business in the long term, business overall outcome, recognized by customers, retain old customers and business administration under the risks (Esteve-Perez & Manez-Castillejo, 2008). The assessment of responses in relation to organizational survival was based on a five items in the questionnaire developed from the literature and definitions.

3.3.2 Independent variables

Strategic renewal capability is an independent variable that consists of four dimensions: operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement. These dimensions reflect renewal capability through the operation of the organization. Each dimension is separately measured using its definition as follows.

Operational maintenance focus is assessed by activities of the organization that focus on maintenance knowledge, monitoring of knowledge, data preservation and taking advantage of the organizational capabilities over time. Operational maintenance focus is measured by five new scale, five items in the questionnaire were developed from the literature.

Environmental adaptation orientation is measured by activities involving modification, adaptation, and flexibility of policy and operations under a changing environment of an organization. Four items in the questionnaire were adapted from a study by Chankaew and Ussahawanitchakit (2011).

Business development capability is measured by a five-item new scale which involves improving processes, expanding markets and developing products, with the objective of increasing quality and reducing waste.

Organizational innovation enhancement refers to new processes, new services, and new products created by an organization. Organizational innovation enhancement was assessed using four items in the questionnaire adapted from the research of Pongpearchan and Ussahawanitchakit (2011).

3.3.3 Control variables

Control variables in this research comprise age and size of the firm. For the analysis, firm age is represented by a dummy variable including 0 (less than or equal to 15 years), and 1 (more than 15 years). Firm size is represented by a dummy variable including 0 (less than 25 employees), and 1 (equals 25 or more employees).

3.4 Validity and reliability

In this research, convergent validity was tested by the factor loading, which acceptable cut-off score was 40, as a minimum (Nunnally & Bernstein, 1994). For the reliability of the measurement, this research used the Cronbach's alpha by test the internal consistency of each construct. Coefficient alpha indicates the degree of internal consistency among items that should be greater than 0.70 (Hair et al., 2010).

Table 1: Result of measure validation

Variables	Factor Loadings	Cronbach's Alpha
Operational Maintenance Focus (OMF)	.726 - .817	.818
Environmental Adaptation Orientation (EAO)	.824 - .908	.895
Business Development Capability (BDC)	.795 - .878	.885
Organizational Innovation Enhancement (OIE)	.794 - .897	.868
Organizational Survival (OSV)	.839 - .885	.915
Firm Sustainability (FSU)	.881 - .916	.941

Table 1 shows the results of measurement verification of the 30 sets of pretest data. Both factor loading and Cronbach's Alpha were tested. The factor loadings were tabulated and the range of variables was between 0.726-0.916, which it indicates that construct validity is at acceptable levels. Moreover, the range of Cronbach's alpha coefficient was between 0.818-0.941, all of which was greater than 0.7. Therefore, it can be concluded that all items in this research have sufficient internal consistency.

3.5 Statistical techniques

The Ordinary Least Squares (OLS) regression analysis was applied to examine the hypotheses. Given the range of distribution of data collected in this research, across a wide range of variables, both interval and categorical regression analysis was appropriate to test the relationships among all variables (Hair et al., 2010). From the conceptual model and hypotheses, the following five equation models are formulated:

$$\text{Equation 1: OSV} = \alpha_1 + \beta_1 \text{FAG} + \beta_2 \text{FSI} + \epsilon_1$$

$$\text{Equation 2: OSV} = \alpha_2 + \beta_3 \text{OMF} + \beta_4 \text{EAO} + \beta_5 \text{BDC} + \beta_6 \text{OIE} + \beta_7 \text{FAG} + \beta_8 \text{FSI} + \epsilon_2$$

$$\text{Equation 3: FSU} = \alpha_3 + \beta_9 \text{FAG} + \beta_{10} \text{FSI} + \epsilon_3$$

$$\text{Equation 4: FSU} = \alpha_4 + \beta_{11} \text{OMF} + \beta_{12} \text{EAO} + \beta_{13} \text{BDC} + \beta_{14} \text{OIE} + \beta_{15} \text{FAG} + \beta_{16} \text{FSI} + \epsilon_4$$

$$\text{Equation 5: ASA} = \alpha_5 + \beta_{17} \text{OSV} + \beta_{18} \text{FAG} + \beta_{19} \text{FSI} + \epsilon_5$$

4. Results and discussion

The correlations among each dimension of strategic renewal capability, its consequential relationships are shown in Table 2. The results show that the correlation among the dimensions of strategic renewal capability, including operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement are between 0.420 - 0.612. These correlations do not exceed 0.8, so they are within the limits as recommended by Hair et al. (2010). In addition, the maximum VIFs value of four dimensions of strategic renewal capability is 1.930 which is well below the cut-off value of 10 (Hair et al., 2010). Thus, this research identified no multi-collinearity problems.

Table 2: Descriptive statistics and correlation matrix

Variable	OMF	EAO	BDC	OIE	OSV	FSU	FAG
Mean	4.08	4.22	4.11	4.12	3.80	3.51	-
SD	0.55	0.59	0.58	0.59	0.63	0.83	-
OMF	1						
EAO	.612***	1					
BDC	.502***	.420***	1				
OIE	.540***	.533***	.612***	1			
OSV	.500***	.472***	.468***	.495***	1		
FSU	.516***	.470***	.443***	.512***	.824***	1	
FAG	-.026	.116	.086	.041	.023	-.017	1
FSI	-.011	.042	-.045	.049	.088	.137	.272***

Note: *** $p < .01$

Hypothesis testing, of the results of OLS regression analysis are presented in Table 3. Firstly, the results indicate that operational maintenance focus (first dimension) significantly and positively relates to organizational survival ($\beta_3 = 0.197$, $p < 0.05$) and firm sustainability ($\beta_{11} = 0.227$, $p < 0.05$). Swanson (2001) suggested that operational maintenance focus is viewed as the ability to lead the organization to survival

and sustainable development because maintenance helps to reduce errors caused by the operation and increase the performance of organizations. *Therefore, Hypotheses 1a and 1b are supported.*

Secondly, the results show that there is relationship between environmental adaptation orientation and its consequences comprising organizational survival ($\beta_4 = 0.175$, $p < 0.05$) and firm sustainability ($\beta_{12} = 0.158$, $p < 0.1$). The research of Pöyhönen (2004) and Junell and Ståhle (2011) indicated that adapting to suit the business environment can be promote the survival and sustainability of an organization. *Thus, hypotheses 2a and 2b are supported.*

Thirdly, the results reveal that business development capability has a significantly positive effect on organizational survival ($\beta_5 = 0.193$, $p < 0.05$) and firm sustainability ($\beta_{13} = 0.145$, $p < 0.1$). The study of Soltani, et al. (2014) suggested that business development is a key process for firm sustainability. In addition, levels of business development are recognized as having a relationship with the survival of organizations and this is discussed in the dynamic capabilities literature (Teece, Pisano, & Shuen, 1997; Eisenhardt, 1989; Eisenhardt & Martin, 2000; Teece, 2007). *Thus, hypotheses 3a and 3b are supported.*

Table 3: Results of Hierarchical Regression Analysis for Effects of Each Dimension of Strategic Renewal Capability on Its Consequences

Independent Variables	Dependent Variables ^a				
	OSV	OSV	FSU	FSU	FSU
Operational Maintenance Focus (OMF : H1a-H1b)		.197** (.090)		.227** (.089)	
Environmental Adaptation Orientation (EAO : H2a-H2b)		.175 ** (.088)		.158* (.086)	
Business Development Capability (BDC : H3a-H3b)		.193 ** (.086)		.145* (.085)	
Organizational Innovation Enhancement (OIE : H4a-H4b)		.165* (0.091)		.205** (.090)	
Organizational Survival (OSV : H5)					.815*** (.046)
Firm Age (FAG)	-.007 (.176)	-.089 (.147)	.127 (.175)	-.196 (.144)	-.122 (.108)
Firm Size (FSI)	.230 (.200)	.235 (.165)	.384* (.199)	.378** (.162)	.197* (.115)
Adjusted R ²	.004	.331	.011	.335	.674
Maximum VIF	1.080	1.930	1.080	1.930	1.089

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

Finally, the results demonstrate that organizational innovation enhancement has several consequences, including organizational survival ($\beta_6 = 0.165$, $p < 0.1$) and firm sustainability ($\beta_{14} = 0.205$, $p < 0.05$). Albers and Brewer (2003) said that organizational innovation is the driving force for the organization's survival by taking advantage of the integration of resources and knowledge to achieve the goals of the organization. **Therefore, hypotheses 4a and 4b are supported.**

Additionally, the relationships between organizational survival and firm sustainability, the analysis reveals that there is significant relationship between the aforementioned relationships ($\beta_{14} = 0.815$, $p < 0.01$). Likewise, the study of Mozilo (2001) identified that organizational survival has the ability to respond to the diverse needs of the market, by an operating efficiency that includes adapting to technology growth, which leads to ongoing firm sustainability. **Therefore, hypothesis 5 is strongly supported.**

With respect to the control variables, firm age shows there are no significant influences on organizational survival and firm sustainability. However, firm size has a significant positive influence on firm sustainability. The research of Patel, Terjesen, and Li (2012) suggests that firm size relates directly to firm performance and sustainability as large firm have advantages in terms of operational resources.

5. Contributions

5.1 Theoretical contribution

This research attempts to expand knowledge regarding the importance of the use of strategic renewal capability in an organization to promote sustainability in an environment of intensive competition. It helped broaden understandings of concepts underpinning strategic renewal capability by offering a new dimension of strategic renewal capability in terms of an operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement. Furthermore, this research has emphasized the importance of strategic renewal capability in increasing organizational survival and firm sustainability.

5.2 Managerial contributions

There are several managerial implications with respect to managers facing strong pressure from aggressive and volatile competition. Where a firm is under pressure, internally or externally, to modify itself to survive and prosper, strategies are needed to lead to the achievement of hence firm sustainability. Based on this study there are strategies that top management can adopt. In this regard management needs to recognize the importance of environmental adaptation and business development, to enable survival of a firm. Managers should focus on a management philosophy that promotes operational maintenance and organizational innovation as these are important factors that enable an organization to remain competitive and achieve its goals.

6. Conclusion

This study suggests the relationships the four dimensions of strategic renewal capability (operational maintenance focus, environmental adaptation orientation, business development capability and organizational innovation enhancement) on organizational survival and firm sustainability. 156 software businesses are employed as the sample of the study. The data is analyzed by regression analysis. The empirical results reinforce the conclusion that strategic renewal capability is an important factor in terms of survival and sustainability. Furthermore, organizational survival has a positive influence on firm sustainability.

This research has a number of limitations. Firstly, the software industry has a high turnover rate as many firms drop out of the industry while at the same time new firms are always entering this industry. Hence the membership list of the Software Industry Promotion Agency (SIPA) is not always up to date. Therefore, this limitation may be reflected in the number of undelivered questionnaires. Its limitations suggest that need for future research both within and across the software industry in Thailand but also in other countries and with reference to other industries operating in highly turbulent environments.

7. Conclusion

Future research might introduce additional moderating factors such as the relevance of levels of business acumen displayed by managers or, at a more complex and controversial level, the long and short term effects of governmental financial interventions on organizations intended to promote or supplement strategic renewal. Parallel or comparative studies of other organizations in Thailand, or elsewhere might be undertaken with reference to this research.

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