

Organizational agility and firm performance: evidence from information and communication technology (ICT) businesses in Thailand

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Keyword

Organizational Agility, Marketing Effectiveness, Organizational Productivity, Business Excellence, Competitive Advantage

Abstract

The research objective of this investigation aims at testing the consequences of organizational agility on enterprises' performances through the intermediating influences of marketing effectiveness, productivity in any organizations, business excellence and competitive advantage. The data were gathered by survey questionnaires deal to the organizational managers from Information and Communication Technology (ICT) businesses in Thailand. The analysis counts on 153 entire questionnaires. The OLS regression analysis illustrates that responsiveness; competency, flexibility, and speed disclose a positive effect on consequences significantly. In addition, marketing effectiveness, organizational productivity, business excellence, competitive advantage increases demonstrate a positive association significantly with the firm performance. Long-term vision, market culture, and resource richness are the antecedents of organizational agility scheme. What's more, the competitive climate is the moderating variable of the relationships. Practicable discussion is efficaciously carried out in this research. Contributions to both theories and management are expressly arranged for further research.

1. Introduction

Presently, the organizational agility has been changed increasingly and importantly. This is because the variable situations have occurred with violent, swift and complexity. The term of strategic agility has been mentioned by many researchers and the uncertainty of future planning. The prediction methodology is uncertainty supposed to happen. Instead of the organization solely depends on the things that happen in the future, the organization is ready to do so. If the organization is able to adjust its agility very swiftly, it is ready to change as much as possible. For another reason to make agility important presently is to increase the imitation of the competitor's stability performance. Although the organization has emphasized on the importance of innovation, the imitation of competitor's stability increases and the organization must do more agility in the changes (Christofi, 2013). The capability to make customers' satisfaction is the process of the business operations which relies on agility to respond to customers' needs and flexibility in resource management, included with staffs, tools, machinery, and materials. In addition, businesses must possess rapidity to deliver new products, services, or improved products into markets, and they must be able to adjust from one process to another increasingly (Sherehiy et al, 2007).

Considering ICT business operations, to develop competency in organizational agility in order to increase the capability for competitions is to be composed of important factors which influence on business operations, such as long-term vision, market culture, and resources richness. Competitive climate must be considered seeing that it effects on the agility of business processes. ICT business operations which own high agility can cause marketing effectiveness, organizational productivity, and business excellence which will increase firm performances (Oosterhout et al, 2006).

Therefore, from reasons as above, a researcher takes an interest in studying the relationship between antecedents and the consequences of organizational agility which will increase competency in competitions for ICT businesses. This study has objectives (1) to study competency for management in organizational agility of information and communication technology business organizations in Thailand, (2) to consider performances in organizational agility of information and communication technology business organizations in Thailand, (3) to explore factors which have an effect on organizational agility of information and communication technology business

organizations in Thailand. This research question is “How does ICT business operations increase organizational agility?”

2. Literature Review and Hypothesis Development

In this research, the competency for organizational agility, marketing effectiveness, organizational productivity, business excellences on competitive advantage are obviously analyzed thoroughly reviewed. As a result, Figure 1 has shown the conceptual framework, the model of research, and linkage.

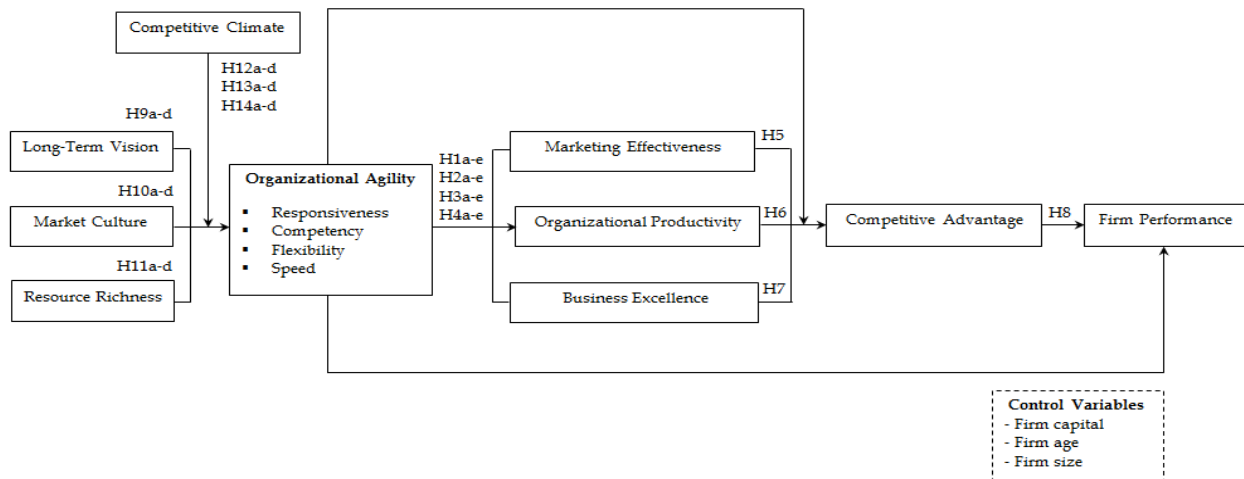


Figure 1: Conceptual Model of Organizational Agility and Firm Performance: Evidence from Informational and Communication Technology (ICT) Business in Thailand

Organizational Agility:

Organizational Agility is determined to the capability of firms in term of responsible and flexible. This is making the market efficiency and capability accumulation; furthermore, it can be able to establish the process of production and business administration. The organization capability, long-term vision and market prediction are included to make the readiness of all resources for the competition advantage. Besides, organizational agility has been related of Sharifi and Zhang, (1999)'s concepts such as: (1) Competitive Responsiveness, which can reveal capability to specify, react to, get better from changes rigorously; (2) Coherence Competency, which can disclose the capability to perceive firms' objectives effectively; that is, competency is the expanded ability, bringing about companies' productivity, capableness, and success to obtain its purposes and objectives. Strategic foresight, adequate technological competency, and cost-effectiveness are examples of these included capabilities; (3) Potential Flexibility, which means the capability to execute various means and employ diverse amenity to earn the same aims, contain such items as the volume adaptability in products, people's adaptability, etc.; and (4) Operation Speed, which refers to the capability to instantly complete a movement, contain nimbleness concerning new goods, response to market, appropriation of time for products and service transfer. Accordingly, organizational agility is primary force on the effectiveness or success of the markets. Organizational productivity and business excellence are for competitive advantage. By this reason, there are following hypotheses:

Hypothesis 1: Responsiveness positively influences on (a) Marketing Effectiveness, (b) Organizational Productivity, (c) Business Excellence, (d) Competitive Advantage, and (e) Firm Performance.

Hypothesis 2: Competency positively influences on (a) Marketing Effectiveness, (b) Organizational Productivity, (c) Business Excellence, (d) Competitive Advantage, and (e) Firm Performance.

Hypothesis 3: Flexibility positively influences on (a) Marketing Effectiveness, (b) Organizational Productivity, (c) Business Excellence, (d) Competitive Advantage, and (e) Firm Performance.

Hypothesis 4: Speed positively influences on (a) Marketing Effectiveness, (b) Organizational Productivity, (c) Business Excellence, (d) Competitive Advantage, and (e) Firm Performance.

Marketing Effectiveness:

Marketing Effectiveness refers to the responsibility to enhance marketers to usefully attain the objective and to ameliorate their distributing performances with achievement in not only short term but also long-term purposes (Nwokah and Ahiauzu, 2008). In addition, marketing effectiveness to influence market direction and customer satisfaction are to create a competitive advantage. Kotler (1977) described that efficacy in market causes the perception of many opportunities to choose the most appropriate customer operations and marketing efforts to offer higher level of value to customer needs. Similarly, marketing effectiveness is referred to the capability of the company. In general, marketing effectiveness led to a positive relationship with firms' competitive benefits. Accordingly, the following hypothesis is:

Hypothesis 5: Marketing effectiveness is positively related to competitive advantage.

Organizational Productivity:

Organizational Productivity refers to organizational productivity of organization in accumulation productivity; it can be able to establish the process of production and manage the business excellently. The organization capability, vision, and market prediction are included to make the readiness of all resources for the competition advantage and are related to competitive advantage as competition benefit of organization about product prices placed in promotion quality and just in time to market and effect on organizational achievement. Therefore, competitive advantage refers to competitive advantage as a comparator between a firm and rivals about comparatively positional superiority in competition market that leads a firm to outperform its (product price place promotion quality and just in time to market) rivals Barney (1991) ; Li et al. (2006) and Zhou et al. (2008). Thus, the following hypothesis is:

Hypothesis 6: Organizational productivity is positively related on competitive advantage.

Business Excellence:

Business Excellence refers to continuous improvement of operational processes and management. These factors are based on the needs of stakeholders. Indeed, the concepts of business excellence are based on the fundamentals of understanding and satisfaction and to meet the expectations of their customers and expenses from operations (Mirilees and Millton, 1999). Business Excellence is a long-term process involving key strategic issues; for example, the development of core processes is the best practice to get better and to improve the quality of customer service excellence. So, the business excellence is the best practice within the organization which effects, responds to meet the strategic objectives to the satisfaction of stakeholders, and sustains the company in competition (Ritchie and Dale, 2000). Thus, the following hypothesis is:

Hypothesis 7: Business excellence is positively related on competitive advantage.

Competitive Advantage:

Competitive Advantage refers to competition as a result of the obtainable scheme of the company (Wagner, 2006). A positive value must be generated by the companies equally or greater than their rivals, and the companies must outperform better than any other competitor, to accomplish a competitive advantage. Tien et al. (2005) are purposes that the companies have to take advantage of the competition for their excellent support operations. Navaro et al. (2010) refers to the value of strategy which helps the companies succeed in performing businesses and achieve supreme operations and companies' advancement. By this result, the following hypothesis is:

Hypothesis 8: Competitive Advantage is assertively association with firm performance.

Long-Term Vision:

Long-Term vision is related to important role of the company towards a greater understanding of innovation (Rayner, 1998). Cooper and Cronin (2000) refer to long-term vision that it means to describe the companies' performances later on and to create them in a long term. Meedan et al, (2010) refer to long-term vision is important to create a competitive, sustainable company and role of marketing success based on the orientation of the market which is strategically important as both short and long term visions. Thus, the following hypothesis is:

Hypotheses 9: Long-Term Vision positively influences on (a) Responsiveness, (b) Competency, (c) Flexibility, (d) Speed.

Market culture:

Market Culture is a custom which is associated with how to obtain production targets, profits, direction and confidence (Ussahavanichakit, 2003). Never and Slater (1990) suggested that an organization was able to develop new innovation to respond customer needs to competitive advantage. Webster (1995) regarded that marketing culture referred to a construction that placed on products and service qualities, personal relationship, the task selling, business, internal communications, and modernization. Thus, the following hypothesized is:

Hypothesis 10: Market Culture assertively influences on (a) Responsiveness, (b) Competency, (c) Flexibility, and (d) Speed.

Resource Richness:

Resource Richness refers to as superior resources in organization that are essential to obtain and maintain market positions, which can complete marketing segmentation. Superior physical resources (e.g., modern equipment innovation, attain to meaningful sources) are able to deliver products or services which are faster and more dependable (Kaleka, 2002). Thus, the following hypothesis is:

Hypothesis 11: Resource Richness positively influences on (a) Responsiveness, (b) Competency, (c) Flexibility, and (d) Speed.

Competitive Climate:

Competitive Climates refers to the capability of means for competitions and the volatility of external circumstances that may affect the competitive environment in the organization and may result in advantages or disadvantages in the competition. The climate of competition shows that many of the competitors and customers ask, "What happens constantly in the market, which has a direct impact on an organization?" Fluctuations may have a degree of uncertainty of the environment (Matanda and Freeman, 2009). Thus, the following hypotheses are:

Hypothesis 12: Competitive Climate will positively moderate among (a) the long-term vision - responsiveness relationship, (b) the long-term vision - competency relationship, (c) the long-term vision - flexibility relationship, and (d) the long-term vision - speed relationship.

Hypothesis 13: Competitive Climate will positively moderate among (a) the market culture - responsiveness relationship, (b) the market culture - competency relationship, (c) the market culture - flexibility relationship, and (d) the market culture - speed relationship.

Hypothesis 14: Competitive Climate will positively moderate among (a) the resource richness - responsiveness relationship, (b) the resource richness - competency relationship, (c) the market culture - flexibility relationship, and (d) the resource richness - speed relationship.

3. Research and Methodology

3.1 Selecting Sample and Collecting Data

To be populations, Information and communication Technology (ICT) Businesses in Thailand were selected, specifically from all 805 firms and the randomly chosen database on the Ministry of Information and Communication Technology (ICT), Thailand. The set of questionnaires was sent through mails towards chief executive officers, managing directors, or managing executives of ICT of Thailand, who were important participants. Apparently, 728 out of 805 mails were received and valid mails were 728, due to some enterprises were closed or moved to other unknown places. The response rate was approximately 21.01%, and it seemed acceptable because of a mail survey and appropriate follow-up greater than 20% (Aaker, Kumar and Day (2001).

The study examined both effective and non-response bias and was determined to possible drawbacks with non-response errors. Evaluation and examination of non-response bias stressed on (1) comparison of sample statistics and known values of the populations: job experience and average income per month, and (2) a comparison of the first and the second wave data suggested by Armstrong and Overton (1977). Evidently, there is no a significant difference statically between two different approaches.

For demographic information of respondents, the most of respondents who returned the questionnaire were male (51.6%), and married (59.5%), While the major age was between 31 to 40 years old (37.3%). The position of the manager or the director was 56.2 %. The firm's capital was less than 150 million Baht (82.3%); the number of employees was less than 10 employees (45.8%). In addition, most of the firms were located in Central area (26.8%).

3.2 Variable Measurements

Independent Variables:

Organizational Agility (OA) refers to such Sharifi and Zhang (1999)'s concepts as responsiveness, competency, flexibility and speed employed to evaluate the level that the enterprises has concentrated on (1) Competitive responsiveness means the capability to specify, react to, and get over from changes instantly and appropriately; (2) coherence competency refers to the capability to successfully understand enterprises' goals; that is, competency is an expanded list regarding the potentials which present the company obtaining productivity, efficiency, and effectiveness so as to attain its objectives. Strategic vision, sufficient technological capability, and cost-effectiveness are examples of the mentioned abilities; (3) capable flexibility refer to the capability to carry out various means and utilize diverse amenities as to fulfill the similar goals. Product volume flexibility and people flexibility are important elements of capable flexibility; (4) operation speed means the capability to instantly complete a movement, contain nimbleness concerning new goods, response to market, appropriation of time for products and service transfer.

Consequence Variables:

Marketing efficiency (ME) is measured by the achievement of the objectives of the organization, such as increased market share, the success of new product launches that are positively correlated with the achievement of financial performance in the long term (Mavondo 1999 Vorhories, et al, 1999). Marketing effectiveness has a tremendous impact on the satisfaction of customers with a taste for the market, the long-term growth, profitability and performance of the Company (Ussahawanitchakit 2012). Four themes were employed to estimate the variation that enterprises have emphasized on new innovation, management procedure, comparing competitors and customer demand.

Organization Productivity (OP) is related to the efficiency and effectiveness of the operations or profitability and production, such as time, quality and value (Oej et al., 2012), four items were used in the assessment. The company has focused its resources and systems to customers. Business Excellence (BE) is referred to the standard procedure as a whole, which is seen as the basis of a combination of strategic management development, competitiveness and the amount of resources used to transform inputs into and provide value to customers include eyes for future predictions. For businesses, the qualities of the organization are able to bring about the impact on operational objectives (Konthong and Ussahawanitchkit 2010). Four themes were employed to estimate the variation that enterprises have emphasized on strategy, quality, goal, and standard.

Dependent Variables:

Firm Performance (FP) is utilized as a dependent variable in most of outsourcing study (Lee et al, 2004). Performance is established by implications of firm's strategy (Venkatraman and Ramanujam, 1986). Four themes were employed to estimate the variation that enterprises have emphasized on profitability, segmentation, grow sale and performance.

Competitive Advantage (CA) is important to organization's competitive advantage on the product, price, place, promotion, quality and just time to market and their impact on organizational achievement. Thus, competitive advantage represents a competitive advantage that is a comparison between a company and its superior position compared to the competition in the market, and it leads to a more efficient company (Barney, 1991; Li et al. 2006; Zhou et al., 2008).

Antecedent Variables:

Long-term Vision (LV) is the important role of the company's vision towards a greater acknowledgment of technology. The future is the extent of vision that effects the needs of the company's competitors (Rayner, 1998), and four themes were employed to estimate the variation that enterprises have emphasized on taking care of anticipating, preparing and situation.

Market Culture (MC) refers to corporates' culture, generating the employee to discuss the special value of the Company's products to customers and help them achieve the best business outcomes more efficiently and profitably. Culture Market is reviewed that it has focused on external corporate employees' works towards a shared goal of competitive advantage and superior marketing. Marketing culture is determined as a frame which covers several key aspects which give

an importance on product or service qualities, interpersonal relationships, sales, corporate communications, and innovation (Webster, 1995).

Resources Richness (RR) refers to superior resources that are essential to both fulfill and maintain market stages in order to accomplish marketing performance. Superior physical resources (e.g., generate technological appliances, be accessible to appraise sources of supply) are able to be faster and more dependable delivery of not only products but also services. Readiness of financial plan is able to allow the funding of investments related with those activities devised and offered to be superior customers' products (Kaleka, 2002). Four themes were employed to estimate the variation that enterprises have emphasized on staff, equipment, budget, and investment.

Moderating Variables:

Competition Climate (CC) refers to the capability of means for competitions and the volatility of external circumstances that may affect the competitive environment in the organization and may result in advantages or disadvantages in the competition. The climate of competition shows that many of the competitors and customers ask, "What happens constantly in the markets, which have a direct impact on an organization?" Fluctuations may have a degree of uncertainty of the environment (Matanda and Freeman, 2009).

Control Variables

Firm capital, age, and size are control variables. Firm capital is possible to influence firms' capabilities so as to successfully carry out businesses' strategies to be splendid performances (Ussahawanichakit, 2005b) seeing that it is directly associated with investment in any business. Firm age has both negative and positive impacts on the competency regarding enterprises' innovation and technology, movements, and the profits deriving from business operations (Zahra, Ireland and Hitt, 2000). It can be measured through a number of years which any firm has been operating its affair. Ultimately, firm size is possible to produce learning ability, replacing affair, and fulfilling markets (Arora and Fosfuri, 2000). A great variety of employed staffs are a measure for it.

3.3 Data and Methods

A factor analysis was utilized in order to investigate the relationship between varied businesses and define if they are diminished to small group factor. It was managed by a set of separated items which could express the limitation for observation. Analyzing confirmatory factor was pertain to an analysis to find the capability of high- performing compositions. In general, especially a rule of thumb, 0.40 points was needed (Nunnally and Bernstein, 1994), and factor loadings had to address values higher than 0.40 points accompanied by statistical significance. Cronbach alpha coefficient was employed as to measure reliability related to acceptance, and it had to be higher than 0.70 (Nunnally and Bernstein, 1994). All measurements must be appropriate, evident, variable, and acceptable now that they are related to consequences and further studies. Table 1 shows the outcomes for factor loadings and Cronbach alpha coefficient for multiple-item scales employed in the study.

Items	Factor Loadings	Cronbach's Alpha
Responsiveness (RES)	0.694-0.888	0.855
Competency (COM)	0.764-0.837	0.830
Flexibility (FEX)	0.726-0.903	0.855
Speed (SPE)	0.780-0.887	0.843
Marketing Effectiveness (ME)	0.733-0.872	0.821
Organizational Productivity (OP)	0.768-0.908	0.849
Business Excellent (BE)	0.778-0.913	0.872
Competitive Advantage (CA)	0.844-0.891	0.888
Firm Performance (FP)	0.834-0.950	0.917
Long-Term Vision (LV)	0.703-0.910	0.838
Market Culture (MC)	0.874-0.908	0.909
Resource Richness (RR)	0.806-0.909	0.875
Competitive Climate (CC)	0.874-0.923	0.913

Table 1: Outcome of Measure Validation

3.4 The Ordinary Least Squares Regression Analysis

The relationships of the hypotheses regarding the impact of internal control strategy and obtaining an objective were performed through the ordinary least squares (OLS). Three main variables: independent, dependent, and controlling ones were identified information. Data OLS were suitable

to be approaches for studying related hypotheses (Aulakh, Kotabe and Teegen, 2000). In addition, hypotheses formed among relationships were conducted through the regression analysis.

Equation 1: $ME = 01+1RES+2COM+3FEX+4SPE+5FA+6FS+7FC+1$

Equation 2: $OP = 02+8RES+9COM+10FEX+11SPE+12FA+13FS+14FC+2$

Equation 3: $BE = 03+15RES+16COM+17FEX+18SPE+19FA+20FS+21FC+3$

Equation 4: $CA = 04+22RES+23COM+24FEX+25SPE+26FA+27FS+28FC+4$

Equation 5: $FP = 05+29RES+30COM+31FEX+32SPE+33FA+34FS+35FC+5$

Equation 6: $CA = 06+36ME+37OP+38BE+39FA+40FS+41FC+6$

Equation 7: $FP = 07+42CA+43FA+44FS+45FC+7$

Equation 8: $RES = 08+46LV+47MC+48RR+49FA+50FS+51FC+8$

Equation 9: $RES = 09+52LV+53MC+54RR+55(LV*CC)+56(MC*CC)+57(RR*CC)+58FA+59FS+60FC+9$

Equation 10: $COM = 10+61LV+62MC+63RR+64FA+65FS+66FC+10$

Equation 11: $COM = 11+67LV+68MC+69RR+70(LV*CC)+71(MC*CC)+72(RR*CC)+73FA+74FS+75FC+11$

Equation 12: $FEX = 12+76LV+77MC+78RR+79FA+80FS+81FC+12$

Equation 13: $FEX = 13+82LV+83MC+84RR+85(LV*CC)+86(MC*CC)+87(RR*CC)+88FA+89FS+90FC+13$

Equation 14: $SPE = 14+91LV+92MC+93RR+94FA+95FS+96FC+14$

Equation 15: $SPE = 15+97LV+98MC+99RR+100(LV*CC)+101(MC*CC)+102(RR*CC)+103FA+104FS+105FC+15$

4. Outcomes and Discussion

Table 2 illustrated that the descriptive statistics and correlation matrix for all variables. Potential drawbacks associated with multi collinearity and variance inflation factors (VIF) were beneficial to supply information on the range which standard errors were raised by non-orthogonality among independent variables. From 1.163 to 6.076, the VIFs range was lined up properly and the score below 10 was rightly, according to Neter and Slater, Wasserman and Kutner (1985)'s suggestion.

However, independent variables were inconsistent with each other. No significant multi collinearity problems were in this study.

Variable	FP	RES	COM	FEX	SPE	ME	OP	BE	CA	LV	MC	RR	CC	FC	EA	FS
Mean	4.057	4.234	4.172	4.19	4.249	4.943	4.155	4.061	4.034	4.016	4.057	4.149	4.212	0.313	0.83	0.54
S.D.	0.532	0.549	0.481	0.511	0.516	0.518	0.546	0.565	0.673	0.509	0.532	0.588	0.566	0.465	0.376	0.5
FP																
RES	.383***															
COM	.528***	.649***														
FEX	.511***	.735***	.700***													
SPE	.339***	.735***	.579***	.654***												
ME	.497***	.619***	.621***	.618***	.622***											
OP	.340***	.615***	.464***	.586***	.728***	.695***										
BE	.581***	.552***	.570***	.629***	.449***	.556***	.461***									
CA	.669***	.326***	.521***	.423***	.177**	.289***	.143*	.570***								
LV	.408***	.481***	.516***	.506***	.443***	.547***	.449***	.505***	.308***							
MC	.475***	.577***	.569***	.599***	.580***	.664***	.515***	.529***	.331***	.720***						
RR	.455***	.611***	.500***	.626***	.642***	.576***	.646***	.556***	.195**	.488***	.673***					
CC	.311***	.572***	.362***	.501***	.657***	.486***	.685***	.400***	.098*	.427***	.553***	.730***				
FC	.165**	.0055*	.110*	.128*	-0.012	.248***	.086*	.147*	.180*	.055***	.046**	.105*	.002*			
EA	.001*	.0034*	-0.055	.039*	.042*	.063*	.080*	.010*	.029*	.124*	.105*	-0.002	-0.03	.156*		
FS	.178**	.0114*	0.155	.110*	-0.035	.218***	.075*	.169*	.252**	.274***	.178**	.078*	.032*	.536***	.318***	

Table 2: Descriptive Statistics and Correlation Matrix

Hypothesis 2: To test the investigation of the relationship between organizational agility strategies, it was the second dimension of organizational agility strategy and its outcomes (marketing effectiveness, organizational productivity, business excellent, competitive advantage and firm performance). The findings indicated that the outcomes of competency had effects on marketing performance (H2a: $2=.252^{**}$, $p>0.05$), organizational productivity (H2b: $9=-.056$, $p>0.10$), business excellence (H2c: $16=.212^{**}$, $p>0.05$), competitive advantage (H2d: $23=.322^{***}$, $p>0.001$), and firm performance (H2e: $30=.108^{**}$, $p>0.001$). Thus, Hypotheses 2a, 2c, 2d, and 2e are supported, but hypothesis 2b is not supported.

Hypothesis 3: To test investigates the relationship between organizational agility, it was the third dimension of organizational agility strategy and its outcomes (marketing effectiveness, organizational productivity, business excellence, competitive advantage, and firm performance). The findings indicated that the outcomes of flexibility had effects on marketing effectiveness (H3a: $3=.130$, $p<0.10$), organizational productivity (H3b: $10=.179^{**}$, $p<0.05$), business excellence (H3c: $17=.384^{***}$, $p<0.001$), competitive advantage (H3d: $24=.146$, $p<0.10$), and firm performance (H3e: $31=.125^{**}$, $p<0.05$). Thus, Hypotheses 3b, 3c, 3e are supported, but hypotheses 3a and 3d are not supported.

Hypothesis 4: To test investigates the relationships between speeds, it was the fourth dimension of organizational agility strategy and its outcomes (marketing effectiveness, organizational productivity, business excellence, competitive advantage, and firm performance). The findings indicated that the outcomes of speed had effects on marketing effectiveness (H4a: $4=.324^{***}$, $p<0.001$), organizational productivity (H4b: $11=.608^{***}$, $p<0.05$), business excellence (H4c: $18=-.017$, $p<0.001$), competitive advantage (H4d: $25=-.179^*$, $p<0.10$), and firm performance (H4e: $32=.147^{**}$, $p<0.05$). Thus, Hypotheses 4a, 4b, 4d and 4e are supported, but hypothesis 4c is not supported. In addition, equation 6 showed that hypotheses 5-7 predicted four consequences (marketing effectiveness, organizational productivity, business excellence and competitive advantage) affecting firm performance. The findings were shown in Table 3 indicating that marketing effectiveness, organizational productivity, business excellence and competitive advantage were related to firm performance ($36=.037$, $p<0.10$; $37=-.170$, $p<0.10$; $38=.600^{***}$, $p<0.001$). Thus, Hypothesis 7 is supported, but hypotheses 5, 6 are not supported. On the other hand, competitive advantage was related to competitive advantage ($42=.663^{***}$, $p<0.001$). Then, The Hypothesis 8 is supported.

Independent Variables	Dependent Variable						
	EQ1 : ME	EQ2 : OP	EQ3 : BE	EQ4 : CA	EQ5 : FP	EQ6: CA	EQ7: FP
Responsiveness (H1)	.095 (.102)	.048 (.101)	.129 (.114)	.025 (.083)	.025 (.059)		
Competency (H2)	.252** (.083)	-.056 (.082)	.212** (.093)	.322*** (.068)	.108** (.048)		
Flexibility (H3)	.130 (.095)	.179** (.094)	.384*** (.106)	.146 (.078)	.125** (.055)		
Speed (H4)	.324*** (.089)	.608*** (.089)	-.017 (.100)	-.179* (.073)	.147** (.052)		
Marketing Effectiveness (H5)						.037 (.102)	
Organizational Productivity (H6)						-.170 (.093)	
Business Excellent (H7)						.600*** (.080)	
Competitive Advantage (H8)							.663*** (.063)
Firm Capital (FC)	.343 (.143)	.095 (.141)	.074 (.159)	.040 (.116)	-.115 (.082)	.041 (.170)	.121 (.155)
Firm Age (FA)	.014 (.159)	.052 (.157)	-.063 (.177)	.026 (.130)	.084 (.092)	-.044 (.185)	-.036 (.171)
Firm Size (FS)	.155 (.142)	.0100 (.141)	.137 (.159)	.163 (.116)	.172** (.082)	.300 (.164)	-.031 (.153)
Adjust R ²	.532	.539	.414	.310	.448	.343	.435

* $p<0.10$, ** $p<0.05$, *** $p<0.001$, =Beta coefficients with standard errors in parenthesis.

Table 3: Outcomes of Regression Analysis

Table 3 illustrated the outcomes of OLS regression testing concerning relationship on internal control strategies and its consequences (marketing effectiveness, organizational productivity, business excellence, competitive advantage, and firm performance). The outcomes of testing Hypothesis: 1a-e to Hypothesis: 4a-e were demonstrated. The first hypothesis emphasized on the relationship between the first dimension of organizational agility schemes that were responsiveness and marketing effectiveness (H1a), organizational productivity (H1b), business excellence (H1c), competitive advantage (H1d) and firm performance (H1e). The findings addressed the outcomes of responsiveness on marketing effectiveness, (1=.095, $p<0.10$), organizational productivity (8=.048, $p<0.10$), business excellence (15=.129, $p<0.10$), competitive advantage (22=.025, $p<0.10$), and firm performance (29=.025, $p<0.10$). Also, responsiveness had a primary impact positively on marketing performance, organizational productivity and business excellence because today regulations were as a part of competitive advantage. CEOs had created responsiveness to a top corporate priority approach. Thus, Hypotheses 1a, 1b, 1c, 1d and 1e are not supported

Independent Variables	Dependent Variable							
	RES		COM		FEX		SPE	
	EQ8	EQ9	EQ10	EQ11	EQ12	EQ13	EQ14	EQ15
Long-Term Vision (H9)	.130 (.092)	.095 (.091)	.220 (.096)	.236** (.098)	.166 (.090)	.173 (.092)	.091 (.089)	.035 (.089)
Market Culture (H10)	.205** (.107)	.248** (.103)	.190** (.110)	.287* (.111)	.273** (.103)	.224** (.104)	.228** (.103)	.265** (.101)
Resource Richness (H11)	.409*** (.086)	.356*** (.085)	.190** (.089)	.163** (.091)	.389*** (.083)	.364*** (.085)	.457*** (.083)	.453*** (.083)
LV×CC (H12)		.091 (.079)		.031 (.084)		.049 (.079)		-.086 (.077)
MC×CC (H13)		-.205** (.107)		.131 (.115)		.035 (.108)		-.163 (.105)
RR×CC (H14)		-.044 (.092)		-.193** (.099)		-.125 (.093)		.165 (.090)
Firm Capital (FC)	-.028 (.162)	-.031 (.156)	.142 (.167)	.125 (.168)	.215 (.157)	.206 (.158)	-.006 (.156)	-.005 (.153)
Firm Age (FA)	-.017 (.175)	.080 (.171)	-.356* (.182)	-.315** (.184)	-.003 (.170)	.038 (.173)	.149 (.169)	.162 (.168)
Firm Size (FS)	.037 (.161)	.008 (.157)	.073 (.167)	.029 (.169)	-.119 (.156)	-.149 (.158)	-.304* (.155)	-.289* (.153)
Adjust R ²	.409	.455	.367	.372	.446	.445	.452	.479

* $p<0.10$, ** $p<0.05$, *** $p<0.001$, -Beta coefficients with standard errors in parenthesis.

Table 4: Outcomes of the Regression Analysis

Table 4 illustrated the outcomes of the effect of four antecedents of organizational agility strategy that contained long-term vision, market culture, resource richness, and competitive climate. The outcomes indicated that long-term vision had a significant negative relationship with responsiveness, competency, flexibility, and speed. The outcomes indicated the long-term vision had a significant relationship positively with responsiveness, competency, flexibility and speed (46=.130, $p<0.10$; 47=.220, $p<0.10$; 48=.166, $p<0.10$; 49=.091, $p<0.10$). Thus, Hypotheses 9a-9d is not supported. Meanwhile, market culture had a significant positive effect with responsiveness, competency, flexibility and speed (47=.205**, $p<0.05$; 62=.190**, $p<0.05$; 77=.389***, $p<0.001$; 92=.228**, $p<0.05$). Thus, Hypotheses 10a, 10b, 10c, 10e are supported. On contrary, resource richness had a significant positive effect with responsiveness, competency, flexibility, and speed (48=.409***, $p<0.001$; 63=.190**, $p<0.001$; 78=.389***, $p<0.001$; 93=.457***, $p<0.001$). Thus, Hypotheses 11a, 11b, 11c, 11e are supported.

Finally, Table 4 demonstrated the outcomes of the relationship between organizational agility strategy and the antecedents (long-term vision, market culture and resource richness), in company with the moderating effect of competitive climate. The outcomes showed that long-term vision and organizational agility strategy (55=.091, $p<0.001$; 70=.031, $p<0.001$; 85=.049, $p<0.001$; 100=-.086, $p<0.001$). Thus, Hypotheses 12a, 12b, 12c and 12d are not supported. Interestingly, competitive climate had a significant positive effect with market culture and organizational agility strategy (56=-.205**, $p<0.05$) competency (71=.131, $p<0.10$), flexibility (86=.035, $p<0.10$), and speed (101=-.163, $p<0.10$). Hypothesis 13a is supported and hypotheses 13b, 13c, 13d are not supported. Also, the outcomes

indicated that resource richness had relationship with competency ($r = -.193^{**}$, $p < 0.05$). *Hypotheses 14b is supported, but hypotheses 14a, 14c, and 14d are not supported.*

5. Contributions and Directions for Future research

5.1 Theoretical Contribution and Directions for future Research

This study makes us understand the efficiency of Administration strategy agility, and it is significantly related with advantageous competition and business performance. Likewise, the capability of ICT is related with the marketing effectiveness, organizational productivity, and business excellence. Therefore, this study focuses on the extension of organizational agility and the beneficial drive of management strategy to be successful and establishes the new knowledge of theoretical administration.

5.2 Managerial Contribution

This study is based on the ICT entrepreneurs for examining research and revealing business conceptions: problems, threats, and opportunities. Although the ICT businesses have many high competitors, the ICT entrepreneurs are able to take advantage of organizational agility involving in a management process to enhance the efficient competition. Moreover, this study has presented the idea of establishing the business efficiency and led the business achievement.

6. Conclusion

According to the ICT businesses in Thailand, they have been continually developed seeing that this is to establish the efficiency of business management that can take more advantages among competitors. The purposes of this study are to investigate and focus on the relationship of organizational agility. There are positive impacts on marketing effectiveness, organizational productivity including the long-term vision, market culture, and resource richness. All of these are positively related to organizational agility. This conceptualized agility is reliable in establishing the competition benefits.

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