THE RELATIONSHIP BETWEEN RESOURCE AND CAPABILITY EFFECTS ON THE EXPORTER'S COMPETITIVE ADVANTAGE: THAI CANNED AND PROCESSED SEAFOOD EXPORTERS

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Abstract

A competitive advantage emerges when change occurs within an organization or industry environment. Generating superior business returns above competitors is the means to achieve such a competitive advantage. This research empirically examined and placed emphasis on the importance of a firm's resources and the capabilities of the organization in relation to the firm's competitive advantage. A total of 156 Thai canned and processed seafood exporters were invited to participate in the study. A questionnaire survey was conducted collecting a sample which obtained data from 48 respondents, namely managers or leading team members in canned and seafood exporter companies. Canonical correlation analysis (CCA) was used to test the hypotheses. The overall findings indicated that resource-related variables are the most important explanatory variables regarding the competitive advantage of export companies. However, there are strong interactive effects between the two variable-sets, resources and capability. The results reveal that it is recommended to build resources, in order to be effective in developing superior business returns; this should be followed by developing capabilities.

Keywords: Resource, Capability, Competitive advantage (CA), Canonical correlation

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1. INTRODUCTION

Thailand's fishing industry has developed and become one of the world's largest fish exporters, generating about 20 percent of Thailand's total food product exports. Major export items accounting for over 70 percent of total fish product exports are canned and processed seafood, such as canned tuna and sardines, processed shrimp, prawn, and squid. The expansion of the agricultural industry and its products has been inconsistent, demonstrated by the expansion ratios from 2014, 2015, 2016 and 2017, which were 4.77, 2.56, 7.56 and 5.02, respectively. The largest group of exports in this category was canned and processed seafood, yet it had an average negative expansion, with values of –5.12%, –8.97%, 0.33% and –0.23% over the four years (Information Communication and Technology Center, Ministry of Commerce, 2018). The total income of this sector shrank by 30%, caused by the reduced quantity and shortage of some raw materials, while India and Ecuador continued as the top two exporters in the world market with a 35 percent and 18 percent increase in supplies, respectively, during the first half of 2017 (Department of International Trade Promotion, 2018). Among the other top exporters, Vietnam and China reported higher shipments during January–June 2017, while exports from Thailand declined (Food and Agriculture Organization of the United Nations, 2017). In order to compete with other competitors, companies must create a competitive advantage (CA) and ensure superior performance. Ritthaisong, Johri, and Speece (2014) identified that internal resources and capabilities were the main reasons for the competitive advantage of Thai rice exports. Similarly, Ahmad, Julian, Mohamad, and Tooksoon (2012) used a set of internal resources and capabilities applied to exports of processed food products from Thailand, finding that financial, human, and R&D resources, and networks had a significant positive impact on export marketing performance.

Peteraf and Barney (2003) also identified competitive advantage as superior differentiation and/or lower costs by comparison with marginal (breakeven) competitors in the product market. Moreover, competitive advantage is defined as the ability of firms to offer products and services that meet or exceed the customer value currently offered by rivals, substitutes, and possible market entrants (Porter, 1990). The concept of competitive advantage is widely used in modern economic literature to evaluate the patterns of trade and specialization of firms in commodities which have a competitive edge (Saboniene, 2009).

It is important for companies to understand the effects of the competitive advantages derived from resources and skills, on the company’s performance in international markets. Resources and capabilities have a critical influence on export performance. From the

competitive advantage point of view, firms obtain a competitive advantage and sustainable performance via the use of firm-specific capabilities and resources (Barney, 1991; McEvily & Zaheer, 1999; Nelson, 1991; Thomas & Weigelt, 2000). In addition, CA has been referred to as a factor of success and has been defined as "the quality that brings about success" (Porter, 1985: 138). CA is based on the resource-based theory (Wernerfelt, 1984), which focuses on a firm's resources and capabilities in respect of its growth of performance. Prior resource-based view (RBV) anchored research has put forward a number of theoretical export performance models, but very few attempts have been made to test these models empirically (Wernerfelt, 1984; Collis & Mongomery, 1995; Mahoney & Pandian, 1992; Fahy, 2002). Newbert (2007) also supported that a specific resource, capability, or core competence that is valuable, rare, inimitable, and non-substitutable, when controlled by a firm, will affect its competitive advantage. However, later Newbert (2008) stated that both individual resource value, and rareness, are not appropriate measures to investigate competitive advantage. Markman, Espina, and Phan (2004) also stated that competitive advantage is related to inimitability, but not substitutability of patents. Thus, this study applied the Resource-Based View (RBV) of the firm as the ground theory to investigate the relationship between resources and capabilities, and competitive advantage with a focus on integration capabilities.

2. LITERATURE REVIEW

2.1 Competitive Advantage

Numerous studies have set out to investigate the relationship between competitive advantage (CA) and firms using an RBV approach. Barney (1991) defined competitive advantage (CA) as the implementation of a strategy that facilitates the reduction of cost, the exploitation of market opportunities, and/or neutralisation of competitive threats. Hamel and Prahalad (1985) stated that CA accrues to those multinational firms that have been able to extend their product lines into open market niches in foreign markets. Hofer and Schendel (1978) referred to CA as the manner in which a firm applies its skills and resources. Peteraf and Barney (2003) stated that a firm that has attained a competitive advantage has created more economic value (the difference between the perceived benefits of a resource-capability combination and the economic cost to exploit them) than its competitors. Therefore, to generate benefits from its resource-capability combination, a firm must first obtain a competitive advantage derived from its exploitation (Newbert, 2008: 749; as cited in Tuan & Yoshi, 2010: 7).

2.2 Resource-Based View (RBV) and Capability

The distinction between resources and capabilities is important. From the dominant view, resources and capabilities are clearly distinguishable from one another. (Amit & Schoemaker, 1993; Day, 1994; Grant, 1991). Moreover, Makadok (2001) concluded that the rent creation mechanism is 'resource picking and capability building'. Resource combinations hold more promise for contribution than individual resources and capabilities.

***Resource Based Theory*:** The Resource Based Theory focuses on the internal organization of firms and complements the traditional emphasis of strategy on industry structure, and strategic positioning within that structure, as the determinant of competitive advantage (Porter, 1979). Resources can be defined as all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm, that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness (Barney, 1986; Barney, 1991; Dierickx & Cool, 1989; Peteraf, 1993; Reed & DeFllippi, 1990). Resources are valuable, rare, inimitable, and non-substitutable assets (Barney, 1991) that make it possible for businesses to develop and maintain competitive advantages (Collis & Montgomery, 1995; Grant, 1991; Wernerfelt, 1984). However, Newbert (2008) argued that individual resource value and rareness are not appropriate measures to investigate competitive advantage.

Resources: According to the RBV, an organization can be considered a collection of physical resources, human resources, and organizational resources (Barney, 1991; Amit & Shoemaker, 1993). The most prominently investigated classes include human, technological, and financial resources; organizational culture; and managerial capabilities (Barney, 1986; Hall, 1993; Prahalad & Hamel, 1990). In 1984, Wernefelt suggested that a firm's resources at a given time could be defined as those tangible and intangible assets which are tied semi-permanently to the firm. Grant (1991) also agreed that resources are stocks of tangible or intangible assets, such as fixed assets, information, brand, technology, and human capital, which firms use as inputs into production processes for conversion into products or services.

Capabilities: Capabilities are defined as "complex bundles of skills and accumulated knowledge, exercised through organizational processes that enable firms to coordinate activities and make use of their assets" (Day, 1994: 38). Leonard-Barton (1992) stated that "capabilities are embedded deep within a firm's skills, knowledge, systems and norms and this makes them difficult to imitate by competitors". Marketing capability

involves knowledge of the firm's resources and market, which is used to create added value, and the capacity to maintain relationships with customers contributes to the firm's competitive advantage (Reed & DeFillippi 1 9 9 0 ; Amit & Schoemaker, 1 9 9 3 ; Day, 1 9 9 4 ; Makadok, 2 0 0 1 ; Helfat & Peteraf, 2003).

A firm possesses or controls a pool of resources and capabilities (Grant, 2002; Newbert, 2008), and these resources and capabilities, which are different among firms, create competitive advantages, which can improve performance (Amit & Schoemaker, 1993; Barney, 1991; Newbert, 2008*)*. Value and inimitability are the two most important and central characteristics of the RBV (Hoopes, Madsen & Gordon, 2003).

Capability with VRIN (Value, Rare, Inimitability, Non-substitutable) characteristics is a source of resources that enables firms to gain a CA (Barney, 1986; Barney, 1991; Dierickx & Cool, 1989; Peteraf, 1993; Reed & DeFllippi, 1990; Leonard-Barton, 1992; Day, 1994; Hoopes, Madsen & Gordon, 2003). Interestingly, resource combinations hold more promise for contribution than individual resources and capabilities (Newbert, 2008). Therefore, the main purpose of this paper is to investigate the relationship of resources, capabilities, and competitive advantage by examining the impact of resources and capabilities on competitive advantage, leading to further understanding of the importance of resources and capabilities, which can lead to a superior export competitive advantage.

3. CONCEPTUAL FRAMEWORK AND HYPOTHESES

The proposed conceptual model of this research can be seen in Figure 1; there are three dimensions: *1) Resources* (human, financial, and physical), *2) Capabilities* (marketing, managerial, and relationship), and *3) Competitive Advantage* (cost, product efficiency and service efficiency). The following section explains the framework (Figure 1).

Research Hypotheses

To examine these relationships, three research hypotheses were developed:

- **H1**: Resource variants (human, financial, and physical) have a strong correlation with the competitive advantage variants (cost, product efficiency, and service efficiency).
- **H2**: Resources variants (human, financial, and physical) and capability variants (marketing, managerial, and relationship) have a strong correlation with competitive advantage variants (cost, product efficiency, and service efficiency).
- **H3**: Capability variants (marketing, managerial, and relationship) have a strong

correlation with competitive advantage variants (cost, product efficiency, and service efficiency).

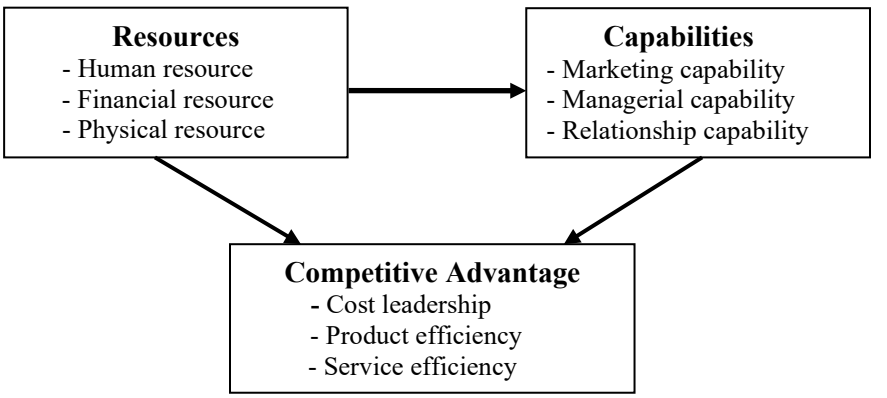

Figure 1. Conceptual framework

4. METHODOLOGY

In empirical testing of the model of competitive advantage, the exporters' resource measurement and capabilities were used as independent variables, while competitive advantage in international export markets comprised the dependent variable; a set of multivariate regressions and canonical correlations was conducted, using all the dependent and independent variables. This study examined Thai canned and processed seafood exporters. The analysis measured the correlation levels between the two multidimensional variables and described the relationship structure for the dependent and independent variants.

Data Collection and Questionnaire Structure

Data from the Thai foods processors' association indicated that the target population comprised of 156 Thai canned and processed seafood exporters. A questionnaire survey procedure, distributed via mail, was used for data collection. The questionnaires were sent to top executives and managers whenever possible. Since most of the questions primarily related to the strategy aspect of competitive advantage and performance, the senior managers were more likely to be the key informants. At first, a total of 30 usable returns were received, with a response rate of 19.23 %. Upon return, 1 months after the first mailing, a second reminder

questionnaire was distributed via e-mail, telephone, and mail, to the 126 companies which had not responded to the first letter. Of this second and final mailing, 18 firms responded. With regard to the questionnaire mailing, a total of 48 usable responses were received. The effective response rate was approximately 31%, generating a usable sample which provided great insight for research. According to Menon, Sundar, Phani, and Steven (1999) "regarding the response rate for a mail survey, with an appropriate follow-up procedure, the average top management response rates are in the range of 15% to 20%, which is considered acceptable". The questionnaire focused on the resources and capabilities that had been collected by theoretical studies on analysis of the competitive environment, business strategy and business performance.

Data were collected with a survey to identify and measure firms' resources, capabilities, and competitive advantages. The questionnaire contained 56 items with responses rated on a seven-point Likert type scale anchored in 'much worse' (1), and 'much better' (7), or 'highly disagree' (1) and 'highly agree' (7), and a five-point Likert type scale anchored in 'not important' (1) and 'very important' (5), which were rated on a nominal scale and ordinal scale.

Variates and Measures

Dependent Variate

Competitive advantage (CA) is the dependent variable. CA was assessed using ten items, pertaining to three dimensions (cost advantage, product efficiency, and service efficiency). These items were adapted from Al-Awadh, (1996); Prajogo, Laosirihongthong, Sohal & Boon-itt., (2007); Butt, (2009); Beleska-Spasova, (2009); Tuan & Yoshi, (2010); and Pakdeenurit, Suthikannarunai & Rattanawong (2017).

Independent Variables

Resources: To examine a firm's resources, respondents were asked to rate 23 items. Respondents were asked to rate their firms' resources in the export market, pertaining to three dimensions (human, physical, and financial), adapted from Ahire, Golhar & Waller, (1996); Lages, Silva & Styles, (2009); Kamasak, (2014); Cavusgil & Zou, (1994); Freeman, (2009); Beleska-Spasova, (2009); and Pakdeenurit et al., (2017).

Capabilities: To assess each firm's capabilities, participants were asked to rate 28 items. Regarding capabilities, they were asked to rate their firm's capabilities in three dimensions (marketing, managerial, and relationships); these items were adapted from Beleska-Spasova, (2009); Murray, Gao & Kotabe, (2011); Kamasak, (2014); Ahire,

Golhar & Waller, (1996); Lages, Silva & Styles, (2009); and Pakdeenurit et al., (2017).

Reliability and Validity

Cronbach's alpha was used to test reliability. With values ranging from 0 to 1, a satisfactory value is required to be more than 0.6 for the scale to be accepted as reliable (Malhotra & Gupta, 2002).

As shown in Table 1, the overall Cronbach's alpha test for the two independent variables showed an alpha between 0.771–0.900 for resources and between 0.870–0.883 for capabilities, both of which are considered acceptable. An EFA on the resource and capability items identified two dimensions of resources and capabilities which accounted for 66.648 % of the variance with a Cronbach's alpha of 0.771-0.900. The resource items indicated three factors, with human resources explaining 17.292% of the variance.

Among the main variables, frequency (α = 0.983) scored the highest Cronbach's alpha value of (α = 0.90), while the lowest value of 0.771 indicates reliability in internal consistency. To measure linear relationships, a canonical correlation analysis (CCA) was used as it is a standard approach to measure the linear relationship between two groups of variables.

A principal component factor analysis was utilized to determine each variable in Table 1, with

Table 1 Resources and Capabilities: Exploratory factor analysis (EFA)

Variable	Eigen	Factor Loadings	% variance	(Cronbach's Alpha)
1. Human resource	15.032	0.559–0.859	17.292	0.900
2. Financial resource	4.581	0.660–0.922	16.289	0.870
3. Physical resource	4.028	0.446–0.882	9.690	0.771
1. Marketing capability	2.908	0.657–0.816	9.495	0.883
2. Managerial capability	2.283	0.589–0.810	9.051	0.879
3. Relationship building	1.827	0.622–0.863	4.831	0.870

Note: *Kaiser-Meyer-Olkin=0.724; Chi-Square = 151.461; Significance = .000*

*"Cronbach's alpha: > 0.9 – Excellent, 0.8 – Good, > 0.7 – Acceptable, > 0.6 – Questionable, > 0.5 – Poor, and < 0.5 – Unacceptable" (*George & Mallery, 2003: 231*).*

Bartlett's test of sphericity significant (p = 0.000) for all variables. The KMO measure of sampling adequacy was adequate (0.724) for firms' resources and capabilities.

5. DATA ANALYSIS

Descriptive analysis was carried out in order to test whether there were significant positive inter correlations among the variables. To test the hypotheses, canonical correlation analyses (CCA) was conducted. This study focused on the association between the resources, capabilities, and competitive advantages of Thai exporters by applying canonical correlation analysis. Using the R-MANOVA program in order to comprehend the relationships among the two sets of dependent and independent variables in this study.

The results showed that the respondents had appropriate experience and were knowledgeable enough to respond to questions. Regarding the number of years the respondents served in the company, the majority (30%) had 6.9–12.6 years or 1-6.8 years of experience, the respondents included heads of department and department managers (66.7%), managing directors (14.6%), board members (2.1%), and others (16.7%). It was found that 72.5 percent of the sample companies were domestic corporations, while only 27.5 percent were foreign partnerships.

Descriptive Statistics

A correlation matrix including all variables is shown in Table 2, presenting means, standard deviations, and correlations. The bivariate analysis measures the strength of association between the 6 variables and the direction of the relationship. The most influential variables are among the set of resources (human, physical, and financial), and among the set of competitive advantage (costs, product efficiency, and service efficiency).

Table 2 Pearson correlation analyses of resources and competitive advantage

		Human resource	Physical resource	Financial Resource	Cost Advantage	Product efficiency	Service efficiency	Mean	S.D.
Spearman's rho	Human resources	1.000						4.200	0.568
	Physical resources	**0.136**	1.000					4.114	0.613
	Financial Resources	0.279	0.352	**1.000**				4.138	0.478
	Cost Advantage	0.133	**0.289****	**0.360***	1.000			4.270	0.557
	Product efficiency	0.242	**0.033**	0**.320***	**0.559****	1.000		4.130	0.664
	Service efficiency	**0.410****	**0.734****	0**.344***	**0.734****	**0.761****	1.000	4.222	0.681

***. Correlation is significant at the 0.01 level (2-tailed)*

**. Correlation is significant at the 0.05 level (2-tailed)*

The maximum correlation (0.761) is found between 'product efficiency' and 'service efficiency,' while the least is between 'financial resources' and 'product efficiency' (0.033). A positive correlation is observed between all variables. However, physical resources and financial resources show below 0.05, where it has a significant relationship with cost advantage. However, only financial resource is statistically significant with cost advantage.

Hypothesis 1: Resources are positively related to competitive advantage.

To examine the relationship between resources and competitive advantage, the CCA method was used. The CCA analyzed changes in the three measures of competitive advantage, with all three factors of company resources generating canonical functions. Three criteria are recommended for considering interpretations of canonical functions (Hair, Anderson, Tatham, William & Black, 1998). Generally, a significant association of $\rho<0.1$ is used in exploratory studies to indicate significant associations of the two sets of variables in a canonical correlation. The multivariate test, Wilks' lambda, is used to evaluate all functions simultaneously.

As shown in Table 3, the combined canonical functions were statistically significant at the 0.05 confidence level ($p = 0.008$), while individually only the first canonical function was statistically significant at the 0.05 level. The canonical correlation of the first function was 0.525 which is greater than 0.3; this value measures the strength of the relationship between two variants (Garson, 2006). This suggests that resources and competitive advantage

Table 3 Overall Model Fit for Canonical Correlation Analysis (resources and competitive advantages dimension): The results of Chi-square

Resources and Competitive advantages							
Canonical Function	**Canonical correlation (Rc)**	**Square correlation (Rc^2)**	**Wilks' Lambda**	**F**	**df**	**Error**	**p-value**
1	**0.525**	0.275	0.598	2.669	9	102.000	.008
2	0.395	0.156	0.826	2.152	4	86.000	.081
3	0.143	0.020	0.979	0.919	1	44.000	.343

Wilks' Lambda = 0.598, F (9, 102) = 2.669, p = 0.008; Wilks' Lambda = 0.826, F (4, 86) = 2.152,
p = 0.081 and Wilks' Lambda = 0.979, F (1, 44) = 0.919, p = 0.343

have a positive correlation; resource's canonical factor explains 27.5 percent of the competitive advantage variable. The canonical functions 2 and 3 were not statistically significant at the 0.05 level, excluding them from further analysis.

Table 4 shows that the most important variable is the first canonical variable. Accordingly, the most important sub-criterion in the linear combination of correlation coefficients is human resources (-0.944), followed by physical resources (-0.658). The main sub-criterion in the linear combination of competitive advantage is service efficiency (-0.937), followed by product efficiency (-0.599), and cost advantage (-0.482) respectively. This suggests that resources and the possible integration of competitive advantage have a positive correlation, and the two sets of variables were moderately associated (r = -0.525; $p<0.05$). The canonical factors of the human and physical resources variables explain 41.2 percent ((1– Wilks' Lambda) *100) = (1-0.598) *100 =41.2) of the competitive advantage variable. The first function also explained 89 percent of the human resources variable in the resources variable set, and 43.3 percent of the physical resources variable. The results revealed that all variables of competitive advantage meet the required measurement.

Hypothesis 2: There is a significant relationship between resources and capability, and competitive advantage

Table 4 Canonical loadings in the canonical function

variable	Coefficients	**Function 1** Structure Coefficients	Square Structure Coefficients (%)
Independent Canonical Variate: Resources			
Human resources	-0.814	<u>-0.944</u>	89.00
Financial resources	-0.169	-0.277	7.67
Physical resources	-0.281	<u>-0.658</u>	43.30
Dependent Canonical Variate: Competitive advantage			
Cost advantage	0.447	<u>-0.482</u>	23.23
Product efficiency	0.267	<u>-0.599</u>	35.80
Service efficiency	-1.468	<u>-0.937</u>	87.80

Note: Structure coefficients (r_s) greater than |0.30| are underlined

Table 5 Canonical loadings in the canonical function (resource and capability): The results of Chi-square

Resources and CompeCapabilities							
Canonical Function	Canonical correlation (Rc)	Square correlation (Rc^2)	Wilks' Lambda	F	df	Error	p-value
1	0.586	0.343	0.517	1.618	18	110.79	0.067
2	0.423	0.179	0.787	1.020	10	80.00	0.434
3	0.204	0.041	0.958	0.444	4	41.00	0.776

In Table 5, the CCA of changes in the three competitive advantage measures and the three factors of company capabilities generated three canonical functions. The canonical correlation of all three functions was not statistically significant at the 0.05 level, indicating a weakness in the relationship between the two variables (Garson, 2006), and excluding them from further analysis. Thus, the canonical variables could not be analyzed.

Hypothesis 3: The relationship between capability and competitive advantage

Table 6 Canonical loadings in the canonical function (capability and competitive advantage) Multivariate test of significance

Capability and Competitive advantage							
Canonical Function	Canonical correlation (Rc)	Square correlation (Rc^2)	Wilks' Lambda	F	df	Error	p-value
1	0.533	0.285	0.669	2.045	9	102.37	0.042
2	0.224	0.050	0.935	0.738	4	86.00	0.569
3	0.125	0.016	0.984	0.702	1	44.00	0.406

Table 6 shows that the combined canonical functions were statistically significant at the 0.05 confidence level ($p = 0.042$), while individually only the first canonical function was statistically significant at the 0.05 level. This suggests capability and competitive advantage are positively correlated; capability's canonical factor explains 28.5 percent of the competitive advantage variable. This suggests that capability and the possible integration of competitive advantage have a positive correlation; the canonical factor for human resources and physical resources explain 33.2 percent ((1– Wilks' Lambda) *100) = (1-0.669)* 100 = 33.2) of the competitive advantage variable.

Table 7 Canonical loadings in the canonical function

Variable	Function 1		
	Coefficients	Structure Coefficients	Square Structure Coefficients (%)
Independent Canonical Variate : Capabilities			
Marketing capability	0.640	0.919	84
Managerial capability	0.580	0.878	77
Relationship capability	–0.238	0.412	16
Dependent Canonical Variate: Competitive Advantage			
Cost advantage	–0.303	0.541	29
Product efficiency	–0.479	0.503	25
Service efficiency	1.515	0.927	85

Note: *Structure coefficients* (r_s) *greater than* |*0.30*| *are underlined*

In Table 7, canonical coefficients of capability and competitive advantage for root 1 are shown. The first function also explained 84 percent of variation in marketing capability, and 77 percent of managerial variation in the resources' variable set. Accordingly, the most important sub-criterion in the linear combination of canonical coefficients is marketing capability (0.919), followed by managerial capability (0.878), and relationship capability (0.412), all of which are greater than the suggested cut-off of 0.3 (Garson, 2006). Also, the main sub-criterion in the linear combination of competitive advantage was service efficiency (0.927), followed by cost advantage (0.541), and product efficiency (0.503).

6. DISCUSSION AND CONCLUSION

The study was undertaken to investigate the perceived impacts of competitive advantage (CA) on a company's resources and capabilities. The CCA indicated that there was a significant relationship between resources, capability, and competitive advantage. In the first relationship, CA corresponded to the resource variants of human resources and physical resources, both of which were significant predictors of competitive advantage. The results of the study contrast with those of previous studies; a firm's resources can also lead directly to a competitive advantage (Morgan, Kaleka & Katsikeas, 2004; Adner & Helfat, 2003; Datta, Guthrie &

Wright, 2005). Financial resources was the only parameter in the resources variable set which was not significant. This relationship examined the association between changes in the first canonical analysis.

Capability is positively related with a firm's competitive advantage. These results provide convincing support and confirm the importance of capabilities gained through marketing and mechanisms of managerial capabilities in order to create a firm's competitive advantage, especially regarding service efficiency. Capability is strictly independent of resources, with no significant relationship identified. Therefore, it can be argued that the variety of resources implicated in capability encoding and retrieval does not contribute to increasing the strength of the association between these dimensions. Here, the fact that the relationship between resources and competitive advantage is affected by the capability variables (marketing, managerial, and relationship) enhances the possibility that the VRIN does not apply to the underlying competitive advantage regarding both resource and capability tasks.

The results show that both resources and capabilities are important antecedents of competitive advantage (Wernerfelt, 1984; Dierickx & Cool, 1989; Barney, 1991; 2001). While the majority of previous studies focused on individual capabilities, this study confirms that resources are an important antecedent of a firm's competitive advantage and could provide better predictions compared with capabilities. Interestingly, the results indicate that with or without the VRIN model, it cannot be inferred that the rarer the resources and capabilities combination, the greater the probability of attaining competitive advantage, as shown in the previous study by Newbert (2008). Moreover, the research supported the dominant view of Amit & Schoemaker, 1993; Day, 1994; Grant, 1991; and Makadok, 2001; that resources and capabilities are clearly distinguishable from one another.

Therefore, Thai canned and seafood exporters should enhance the exporting skills, training program, and experience of managers, including management of their physical resources such as sources of raw materials and locations. Moreover, they should be effective and productive in their operations in order to serve service efficiently in export markets, including being customer-oriented as well as market-oriented.

7. RESEARCH CONTRIBUTIONS

1 . It can be demonstrated that following the theoretical concepts from the resource-based view of the firm (Wernerfelt, 1984; Barney, 1991; Conner, 1991) human and physical resources can be a source of competitive advantage, although they do not meet the criteria of being

valuable, rare, inimitable, or non-substitutable. One can conclude that human and physical resources are a potential source of competitive advantage.

2. The causal relationship between resources and capabilities through competitive advantage in this study, suggests that for an exporter's success, the export firm should be more interested in making resources (human and physical) based on internal capabilities (managerial and marketing). These resources can contribute significantly to a competitive advantage by creating specific knowledge, skills, and culture within the firm's marketing and managerial capabilities, in other words, by creating a competitive advantage through service efficiency.

REFERENCES

Adner, R., & Helfat, C. E. (2003). Corporate effects and dynamic managerial capabilities. *Strategic Management Journal, 24*(10), 1011–1025.

Ahire, S. L., Golhar, D., & Waller, M. A. (1996). Development and validation of TQM implementation constructs. *Decision Sciences 27*(1), 23–53.

Ahmed, Z. U., Julian, C. C., Mohamad, O., & Tooksoon, P. (2012). The empirical link between resources, networks and export marketing performance and the implications for developing countries. *Journal of Transnational Management, 17*(1), 63-88

Al-Awadh, M. A. M. (1996). *Competitive strategies and barriers to achieving competitive advantage: A study of two Saudi Arabian industries.* PhD thesis, University of Sheffield, UK.

Amit, R. P., & Schoemaker, J. H. (1993). Strategic assets and organizational rent. *Strategic Management Journal, 4*, 33–46.

Barney, J. B. (1986). Strategic factor markets: Expectations, luck, and business strategy. *Management Science, 32*, 1231–1241.

Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99–120.

Barney, J. B. (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of Management, 27*, 643–650.

Beleska-Spasova, E. (2009). *Determinants of export strategy and performance: evidence from British exporters*. PhD thesis, University of Sheffield. UK.

Butt, I. (2009). *The Impact of product positioning strategy, manufacturing strategy and their co-alignment on firm's performance*. Doctor dissertation, Management Sprott School of Business Carleton University Ottawa, Canada.

Cavusgil, S. T., & Zou, S. (1994). Marketing strategy performance relationship: An investigation of

the empirical link in export market ventures. *Journal of Marketing, 58*, 1–21.

Collis, D. J., & Mongomery, C. A. (1995). Competing on resources: strategy in the 1990s. *Harvard Business Review, 73*(4), 118–128.

Conner, K. R. (1991). A historical comparison of resource-based theory and five schools of thought within industrial organization economics: Do we have a new theory of the firm? *Journal of Management, 17*(1), 121–154.

Datta, D. K., Guthrie, J. P., & Wright, P. M. (2005). Human resource management and labor productivity: Does industry matter? *Academy of Management Journal, 48*(1), 135–145.

Day, G. S. (1994). The capabilities of market-driven organizations. *Journal of Marketing 58,* 37–52.

Department of International Trade Promotion, Ministry of commerce. (2018). Foreign Trade Statistics of Thailand. Retrieved 15 October 2018 from http://www.moc.go.th/index.php /trade-information/2015-11-16-12-08-59.html

Dierickx, I., & Cool, K. (1989). Asset stock accumulation and sustainability of competitive advantage. *Management Science, 35*(12), 1237–1249.

Fahy, J. (2002), A resource-based analysis of sustainable competitive advantage in a global environment. *International Business Review, 11*(1), 57-78.

Food and Agriculture Organization of the United Nations (FAO). (October, 2017). Globefish Highlights: A quarterly updated on world seafood markets (Jan-Jun, Statistics). Retrieved 10 May 2018 from http://www .fao.org/3/a-i8204e.pdf.

Freeman, J. (2009). *Factors contributing to successful export performance of regional and metropolitan SME exporters.* Doctor of Philosophy, University of the Sunshine Coast, UK.

Garson, G. D. (2006). *Reliability Analysis* [online]. Retrieved 10 May 2018 from http://www2.chass.ncsu.edu/garson/pa765/reliab.htm.

George, D., & Mallery, P. (2003). *SPSS for Windows Step by Step: A Simple Guide and Reference. 11.0 update* (4th ed.). Boston: Allyn & Bacon.

Grant, R. M. (1991). The resource-based theory of competitive advantage: implications for strategy formulation. *California Management Review, 33*(3), 114–135. Berkeley, Calif.: University of California.

Grant, R. M. (2002). *Contemporary Strategy Analysis* (4thed.). Oxford: Blackwell Publishers Inc.

Hair, J. F., Anderson, R. E., Tatham, R. L., William, C., & Black, W. C. (1998). *Multivariate Data Analysis*: Upper Saddle River, NJ: Prentice Hall.

Hall, R. (1993). A framework linking intangible resources and capabilities to sustainable competitive advantage. *Strategic Management Journal, 14*(8), 607–618.

Hamel, G., & Prahalad, C.K. (1985). Do you really have a global strategy? *Harvard Business Review, 63*(4), 139–148.

Helfat, C. E., & Peteraf, M. A. (2003). The dynamic resource-based view: capability lifecycles. *Strategic Management Journal, 24*, 997–1010.

Hofer, C. W., & Schendel, D. (1978). *Strategy Formulation: Analytical Concept.* St. Paul, USA*:* West Publishing.

Hoopes, D. G., Madsen, T. L., & Gordon, W. (2003). Guest editors' introduction to the special issue: Why is there a resource-based view? Toward a theory of competitive heterogeneity. *Strategic Management Journal, 24,* 889–902.

Information Communication and Technology Center, Ministry of Commerce. (2018). Thailand trading report. Retrieved from http://www2.ops3.moc.go.th/

Kamasak, M. E. (2014). Computation of variance in compartment model parameter estimates from dynamic PET data. *Med. Phys. 39*(5), 2638–2648.

Lages, L. F., Silva, G., & Stlyles, C. (2009). Relationship Capabilities, Quality, and Innovation as Determinants of Export Performance. *Journal of International Marketing, 17*(4), 47–70.

Leonard-Barton, D. (1992). Core Capabilities and Core Rigidities: A Paradox in Managing New Product Development. *Strategic Management Journal, 13*, 111–125.

Mahoney, J. T., & Pandian, J. R. (1992). The Resource-Based View Within The Conversation of Strategic Management. *Strategic Management Journal, 13*(5), 363 – 380.

Makadok, R. (2001). Toward a synthesis of the resource-based and dynamic capability views of rent creation. *Strategic Management Journal, 22*, 387–401.

Markman, G. D., Espina, M. I., & Phan, P. (2004). Patents as surrogates for inimitable and non-substitutable resources. *Journal of Management, 30*(4), 529–544.

Malhotra, S., & Gupta, N. (2002). Childhood disintegrative disorder: Re-examination of the current concept. *European Child & Adolescent Psychiatry, 11*, 108–114.

McEvily, B., & Zaheer, A. (1999). Bridging ties: a source of firm heterogeneity in competitive capabilities. *Strategic Management Journal, 20*, 1133–1156.

Menon, A., Sundar, G. B., Phani, T. A., & Steven, W. E. (1999). Antecedents and consequences of marketing strategy making: A

model and test. *Journal of Marketing, 63*(2), 18–40.

Morgan, N. A., Kaleka, A., & Katsikeas, C.S. (2004). Antecedents of export venture performance: A theoretical model and empirical assessment. *Journal of Marketing, 68*, 90–108.

Murray, J., Gao, G., & Kotabe, M. (2011). Market orientation and performance of export ventures: the process through marketing capabilities and competitive advantages. *Journal of the Academy of Marketing Science, 39*(2), 252–269.

Nelson, R. R. (1991). Why do firms differ, and how does it matter? Strategic Management *Journal, Winter Special, 2*, 61–74.

Newbert, S. L. (2007). Empirical research on the resource-based view of the firm: An assessment and suggestions for future research. *Strategic Management Journal, 28*(2), 121–146.

Newbert, S. L. (2008). Value, rareness, competitive advantage, and performance: A conceptual-level empirical investigation of the resource-based view of the firm. *Strategic Management Journal, 29*(7), 745–768.

Pakdeenurit, P., Suthikarnnarunai, N., & Rattanawong, W. (2017). Location and key success factors of special economic zone in Thailand. *Marketing and Branding Research, 4*(2), 169–178.

Peteraf, M. A. (1993). The cornerstones of competitive advantage: A resource-based view. *Strategic Management Journal, 14*, 179–191.

Peteraf, M. A., & Barney, J. (2003). Unraveling the resource-based tangle. *Managerial and Decision Economics, 24*, 309–323.

Porter, M. E. (1979). How competitive forces shape strategy. *Harvard Business Review, 57*(2), 137–146.

Porter, M. E. (1985). Competitive Advantage. Creating and Sustaining Superior Performance. Free Press, New York.

Porter, M. E. (1990). *The Competitive Advantage of Nations*. New York: The Free Press.

Prahalad, C. K., & Hamel, G. (1990). The core competence of the corporation. *Harvard Business Review, 68*, 79–91.

Prajogo, D. I., Laosirihongthong, T., Sohal, A., & Boon-itt, S. (2007). Manufacturing strategies and innovation performance in newly industrialised countries. *Industrial Management & Data Systems, 107*(1), 52–68.

Reed, R., & De Fillippi, R. J. (1990). Causal ambiguity, barriers to imitation, and sustainable competitive advantage. *Academy of Management Review, 15*(1), 88–102.

Saboniene, A. (2009). Lithuanian export competitiveness: Comparison with other Baltic States. *Engineering Economics, 2*(62), 49–57.

Thomas, L., & Weigelt, K. (2000). Product location choice and firm capabilities: Evidence from the U.S. automobile industry. *Strategic Management Journal, 2*, 689–705.

Tuan, N. P., & Yoshi, T. (2010). Organisational capabilities, competitive advantage and performance in supporting industries in Vietnam. *Asian Academy of Management Journal, 15*(1), 1–21.

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal, 5*(2), 171–180.