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Competitor Accounting and Marketing Performance: An Empirical Investigation of Electronics and Electrical Appliance Businesses in Thailand

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Abstract

This study's objective is to investigate the effects of competitor accounting on marketing performance of electronics and electrical appliance businesses in Thailand through marketing capability, marketing effectiveness and competitive advantage as the mediators. Competitor accounting includes competitor cost assessment, competitive position monitoring and competitor performance appraisal. Research samples comprise 175 electronics and electrical appliance businesses in Thailand. A questionnaire is used to collect data. The quality of research tool is statistically tested using factor analysis, discriminant power and reliability, and the results are considerably accepted. Correlation analysis and multiple regression analysis are applied for testing the research hypotheses. Findings reveal that both competitor cost assessment and competitor performance appraisal have significant effects on marketing capability and competitive advantage while competitive position monitoring has an important influence on marketing capability, marketing effectiveness and marketing performance. In addition, marketing capability, marketing effectiveness, competitive advantage, and marketing performance definitely relate to each other. This study attempts to integrate the competitor cost assessment, competitive position monitoring and competitor performance appraisal components of competitor accounting in the same model. It contributes to the existing literature in terms of driving marketing capability and marketing

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effectiveness and explaining competitive advantage and marketing performance. Executives can effectively utilize the advantages of initiating competitor accounting systems in an organization by allocating their resources for operational activities and strategies relating to competitors in order to gain sustainable competitive advantage and achieve superior performance in both financial and non-financial aspects.

Keywords: competitor accounting, marketing capability, marketing effectiveness, competitive advantage, marketing performance



การบัญชีคู่parallel และผลการดำเนินงาน ทางการตลาด: การติดตามและประเมินผลทางการตลาด ประสิทธิผล และการตลาด และความต้องการของลูกค้า

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บทคัดย่อ

การวิจัยนี้มีวัตถุประสงค์เพื่อทดสอบผลกระทบของการบัญชีคู่แข่งขันที่มีต่อผลการดำเนินงานทางการตลาดของธุรกิจอิเล็กทรอนิกส์และเครื่องใช้ไฟฟ้าในประเทศไทยซึ่งมีศักยภาพทางการตลาด ประสิทธิผลทางการตลาด และความต้องการของลูกค้า เป็นตัวแปรกลาง การบัญชีคู่แข่งขัน ประกอบด้วยการประเมินต้นทุนคู่แข่งขัน การติดตามตำแหน่งทางการแข่งขันและการประเมินผลการดำเนินงานคู่แข่งขัน โดยศึกษาจากธุรกิจอิเล็กทรอนิกส์และเครื่องใช้ไฟฟ้าในประเทศไทย จำนวน 175 บริษัทเป็นกลุ่มตัวอย่าง และใช้แบบสอบถามเป็นเครื่องมือ ตรวจสอบเครื่องมือวิจัยโดยใช้สถิติการวิเคราะห์ปัจจัย การหาค่าอำนาจจำแนก และการหาค่าความเชื่อมั่น พบว่า มีคุณภาพอยู่ในเกณฑ์ที่ยอมรับได้ ผลการทดสอบสมมุติฐานการวิจัยด้วยสถิติการวิเคราะห์สหสมพันธ์และการวิเคราะห์ความถดถอยแบบพหุคุณ พบว่า การประเมินต้นทุนคู่แข่งขันและการประเมินผลการดำเนินงานคู่แข่งขัน มีผลกระทบสำคัญต่อศักยภาพทางการตลาดและความต้องการของลูกค้า ประสิทธิผลทางการตลาด และผลการดำเนินงานทางการตลาด นอกจากนี้ ศักยภาพทางการตลาด ประสิทธิผลทางการตลาด ความต้องการของลูกค้า และการประเมินต้นทุนคู่แข่งขัน แสดงผลการดำเนินงานทางการตลาดมีความสัมพันธ์กัน การวิจัยนี้พยายามบูรณาการการประเมินต้นทุนคู่แข่งขัน การติดตามตำแหน่งทางการแข่งขัน และการประเมินผลการดำเนินงานคู่แข่งขันของ การบัญชีคู่แข่งขันในกรอบแนวคิดเดียวกัน และก่อให้เกิดประโยชน์โดยสามารถขับเคลื่อนศักยภาพทางการตลาดและประสิทธิผลทางการตลาด และอธิบายผลลัพธ์ของความต้องการของลูกค้า ผลการดำเนินงานทางการตลาดได้เป็นอย่างดี ซึ่งผู้บริหารสามารถประยุกต์ใช้ประโยชน์ของข้อดีและข้อเสียได้เปรียบ

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จากการเริ่มต้นนำระบบการบัญชีคู่แข่งขันมาใช้ในองค์กรได้อย่างมีประสิทธิผล โดยจัดสรรทรัพยากรเพื่อให้เกิดการจัดเตรียมกิจกรรมและกลยุทธ์การดำเนินงานเกี่ยวกับคู่แข่งขันได้ดี ส่งผลให้มีความได้เปรียบทางการแข่งขันอย่างยั่งยืน และบรรลุผลการดำเนินงานที่เหนือกว่าทั้งด้านการเงินและไม่ใช่การเงิน

คำสำคัญ: การบัญชีคู่แข่งขัน ศักยภาพทางการตลาด ประสิทธิผลทางการตลาด ความได้เปรียบทางการแข่งขัน ผลการดำเนินงานทางการตลาด

Introduction

Competition in business markets and environments has been rigorous, complex and volatile. Firms have potentially attempted to search for valuable practices, actions, activities, and strategies to successfully deal with the competitive markets and environments by coping with their problems, obstacles and limitations and gaining their competitive advantage and performance in both financial and non-financial aspects. Accordingly, a good understanding of the competitors' operations, positions and performances becomes a strategic business tool in helping firms compete in the markets and achieve their goals, objectives, missions, and vision (Guilding, 1999). More valuable tools explicitly encourage firms to gain greater competitiveness and better performance. Thus, this study has implemented competitor accounting as a valuable strategic tool for enhancing firms to meet their performance, survival, stability, and sustainability in current and future operations. Hence, competitor accounting is a key to determine and drive firms' marketing capacity, marketing effectiveness, competitive advantage, and marketing performance. In accounting and marketing literature, competitor accounting presents the integrative concepts of accounting and marketing in order to understand competitors' behaviors, activities and strategies through usefulness of strategic

management accounting information. Best strategic management accounting information definitely encourages firms to succeed in the highly and rigorously competitive situations and circumstances.

To support firms' goal achievements, competitor accounting plays a critical role in finishing and gaining their goals and objectives. Here, competitor accounting is defined as the provision and analysis of management accounting data about each of a firm's competitor relating to the competitor's resources, objectives and competitive stance, for use in developing and monitoring business strategy (Fong & Wong, 2012). It is a central element in management and business planning and control. It consists of industry benchmarking, learning from competitors, positioning, and identifying opportunities and threats. Firms with greater competitor accounting tend to successfully manage and maintain customer relationships and customer satisfaction, potentially identify and rank their competitiveness and excellently gain and achieve their financial and non-financial performance in a highly competitive market and environment. Also, competitor accounting refers to a formal competitor intelligence system as focusing on a competitor's future goals, its assumptions concerning its industry, its strategy and capability to react to strategic moves (Anderson & Guilding, 2006). It is fundamental to the

pursuit of competitive advantage and business performance. While business performance includes financial performance, marketing performance and executive satisfaction, this study focuses on only marketing performance because competitor accounting is likely related to marketing aspects. To highlight the benefits and advantages of competitor accounting practices, competitor cost assessment, competitive position monitoring, and competitor performance appraisal are main components of those practices (Cadez & Guilding, 2008). Thus, competitor accounting is positively related to competitive advantage and marketing performance.

With the interests of the competitor accounting-marketing performance relationships in mind, the research objective of this study is to examine the effects of competitor accounting (competitor cost assessment, competitive position monitoring and competitor performance appraisal) on marketing performance of electronics and electrical appliance businesses in Thailand through marketing capability, marketing effectiveness and competitive advantage as the mediators. The key research question is how competitor accounting relates to marketing performance. The specific research questions are: (1) How does competitor

accounting influence marketing capability, marketing effectiveness and competitive advantage? (2) How does marketing capability impact marketing effectiveness, competitive advantage and marketing performance? (3) How does marketing effectiveness affect competitive advantage and marketing performance? and (4) How does competitive advantage interact with marketing performance? The rest of this study, relevant literature reviews, hypotheses development, research methods, results and discussions of the study, and contributions, suggestions for future research, and conclusion of the study are presented.

Literature Review of Competitor Accounting and Its Consequences

This study empirically examines the competitor accounting-marketing performance relationships. Thus, literature on competitor accounting (competitor cost assessment, competitive position monitoring and competitor performance appraisal), marketing capability, marketing effectiveness, competitive advantage, and marketing performance is reviewed. Figure 1 shows the research model of the competitor accounting-marketing performance relationships.

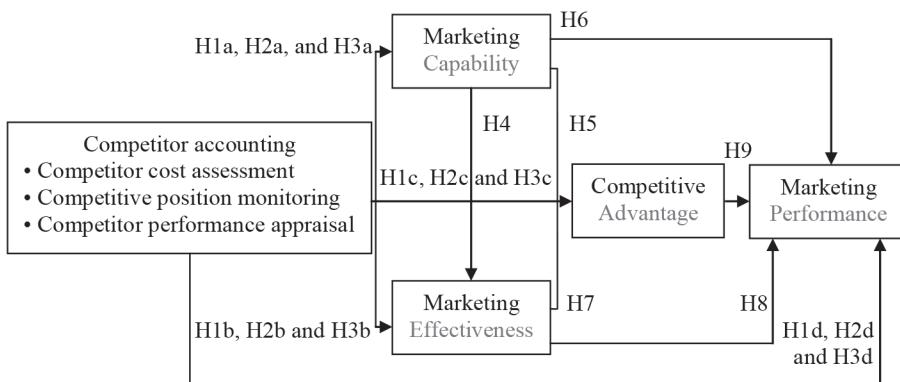


Figure 1 The Research Model of the Competitor Accounting-marketing Performance Relationships

1. Competitor Cost Assessment

Competitor cost assessment is a main concept of competitor accounting and it refers to the provision of regularly scheduled updated estimates of a competitor's unit cost (Cadez & Guilding, 2008). It helps firms better understand their competitors' cost structure for providing strategic decision-making in order to gain competitive advantage and to achieve their performance in both financial and non-financial aspects. Greater competitor cost assessment explicitly enhances firms to determine their valuable operational strategies for dealing with complex and uncertain environments and pursuing their competitiveness, profitability, survival, and sustainability in rigorous competition. Also, competitor cost assessment has a specific concentration on cost structures of competitors (Cadez & Guilding, 2007). This assessment of a key competitor's relative cost position potentially enhances firms to provide strategic decision-making situation in order

to compete with highly competitive markets and environments. Firms attempt to build and develop best competitor cost assessment system for understanding the competitor's cost structures and identify valuable business actions, activities, techniques and strategies for gaining competitive advantage and superior performance. They must screen public information, tear down competitors' products, identify the competitors' suppliers and costs, analyze efficiency and cost of competitive labor force, and assess state and capacity utilization of competitors assets employed (Cooper & Slagmulder, 1998). Those competitors' related cost information is critical to affect how firms set operations and strategies to cope with their competitors' potential actions and future strategies. Thus, competitor accounting is a strategic tool in supporting firms to set valuable strategies for gaining competitive advantage and business success. Hence, it is positively related to marketing capability, marketing

effectiveness, competitive advantage and marketing performance. Therefore, the research hypothesis is as follows:

H1a: Competitor cost assessment has a positive influence on marketing capability.

H1b: Competitor cost assessment has a positive influence on marketing effectiveness.

H1c: Competitor cost assessment has a positive influence on competitive advantage.

H1d: Competitor cost assessment has a positive influence on marketing performance.

2. Competitive Position Monitoring

Competitive position is a valuable asset with finite earning potential respect to concerning with competitors' sales, market share, volume, profit, unit cost, and cash flow (Cadez & Guilding, 2007). Then, competitive position monitoring helps firms formulate critical strategies by using management accounting information relating to their competitive position, competitive standing and competitive trend. Successful competitive position monitoring encourages firms to initiate relevant and powerful strategies for doing business activities, operations and actions in order to meet their goal achievements in short- and long-term perspectives. Likewise, competitive position monitoring is defined as the analysis of competitor status and situation within the industry by assessing and evaluating trends in competitor sales, market

share, volume, unit costs, and return on sales (Cadez & Guilding, 2008). It provides a basis for the assessment of a competitor's market strategy. Competitive position information can be useful in promoting firms' competencies and capabilities to generate sustain corporate marketing strategies and to determine and drive their success, growth and survival. Moreover, competitive position is obtained by comparing firms' performance to their competitors on a set of criteria (Radas & Matovac, 2006). Those criteria include product quality, application of new production processes, production cost, investments in innovation, investments in research and development, employee skills, flexibility to satisfy customer needs, and quality and scope of sales network. Similarly, competitive position consists of differentiation position and low-cost position (Li, Zhou & Shao, 2009). To achieve competitive advantage and superior performance, this study focuses on only competitors' financial performance, namely competitor sales, market share, return on sales, and cash flow. Firms' more useful competitive position monitoring information tends to provide greater marketing capability and marketing effectiveness, to have better competitive advantage and to get more marketing performance in a highly competitive market and environment. Therefore, the research hypothesis is as follows:

H2a: Competitive position monitoring has a positive influence on marketing capability.

H2b: Competitive position monitoring has a positive influence on marketing effectiveness.

H2c: Competitive position monitoring has a positive influence on competitive advantage.

H2d: Competitive position monitoring has a positive influence on marketing performance.

3. Competitor Performance Appraisal

Competitor performance appraisal is a valuable and popular approach for prioritizing developments and improving firms' competitive advantage and performance (Chen, 2014). Here, competitor performance appraisal refers to the numerical analysis of a competitor's published statements as a part of an assessment of a competitor's key sources of competitive advantage (Cadez & Guilding, 2008). It explicitly implements an analytical technique to investigate, interpret and compare competitors' accounts in published financial statements to firms' financial situations. This appraisal helps firms set and identify successful operational strategies in order to enhance their competitiveness and performance. Firms attempt to utilize competitor performance appraisal for supporting their business activities and strategies and gaining competitive advantage and superior performance. Then, competitor performance appraisal becomes an important strategic tool in explaining and driving

firms' business outcomes, namely marketing capability, marketing effectiveness, competitive advantage, and marketing performance. Furthermore, competitor performance appraisal is defined as an appropriately conducted analysis of competitors' published financial statements (Cadez & Guilding, 2007). It is a key source of competitive advantage and performance. Better knowledge of competitors' financial information in published statements enhance firms to establish critical and valuable organizational strategies in order to achieve sustain competitiveness and have their outstanding profitability. In existing literature, firms potentially apply competitor performance appraisal to reach succeed in business operations and practices. Thus, competitor performance appraisal is positively related to marketing capability, marketing effectiveness, competitive advantage, and marketing performance. Therefore, the research hypothesis is as follows:

H3a: Competitor performance appraisal has a positive influence on marketing capability.

H3b: Competitor performance appraisal has a positive influence on marketing effectiveness.

H3c: Competitor performance appraisal has a positive influence on competitive advantage.

H3d: Competitor performance appraisal has a positive influence on marketing performance.

4. Marketing Capability

Marketing capability is an important outcome of competitor accounting and it refers to the ability of firms to integrate collective knowledge, skills and their resources to effectively understand and respond to changing market needs and meet competitive pressure (Griffith, Yalcinkaya & Calantone, 2010). It emphasizes a joint process of bringing intangible and tangible resources together to create outcome through collectively combining their knowledge and skills via their past experiences, namely selling, new product development and distribution. It plays a critical role in driving competitive advantage and achieving superior marketing performance. Firms with greater marketing capability attempt to bring marketing resources and assets together and deploy them advantageously. They utilize their abilities to design, produce, market, and distribute their products and services to target customers efficiently and effectively. Outstanding marketing capability enhances firms' ability to succeed, survive and sustain in a highly competitive market. Besides, marketing capability is a potential determinant of firms' marketing performance and it is defined as the integrative process of firms in using their tangible and intangible resources to understand complex consumer specific needs, achieve product differentiation relative to competition, promote superior brand equity,

and gain sustainable competitive advantage and great marketing performance (Nath, Nachiappan & Ramanathan, 2010). It helps firms create and retain strong bond with customers and channel members and support them to produce superior performance. Firms spend more resources to interact with customers in order to enhance their market sensing abilities for effectively responding to customers, markets and environments. Marketing capability definitely focuses on an integration process designed to apply collective knowledge, business strategy and organizational structure to the market-related needs of the business via market-sensing capability, market-bonding capability and spanning capability (Ripolles & Blesa, 2012). Thus, marketing capability possibly has a positive effect on marketing effectiveness, competitive advantage and marketing performance. Therefore, the research hypothesis is as follows:

H4: Marketing capability has a positive influence on marketing effectiveness.

H5: Marketing capability has a positive influence on competitive advantage.

H6: Marketing capability has a positive influence on marketing performance.

5. Marketing Effectiveness

To achieve short- and long-term business goals, marketing effectiveness is a critical key to drive firms' competitive advantage and

marketing performance. Marketing effectiveness refers to the function of improving how firms access market with the goal of optimizing their marketing activities spend to achieve even better results for both the short- and long-term objectives (Nwokah & Ahiauzu, 2008). It includes five components: namely customer philosophy, integrated marketing organization, adequate marketing information, strategic orientation, and operational efficiency. It has a strong association with stable long-term growth, enhanced customer satisfaction, sustainable competitive advantage, and superior financial and marketing performance. Thus, marketing effectiveness is essential for achieving sustained competitive performance and superior marketing performance. Also, marketing effectiveness is defined as a return on investment in marketing activities in an organization (Milichovsky & Simberova, 2015). It encourages firms to provide and utilize adequate information for planning and allocating resources properly to different markets, products, territories, and marketing tools through analyzing the market, searching new and potential opportunities, and implementing superior value to chosen customers' needs and wants. Accordingly, more useful marketing effectiveness is likely to affect greater competitive advantage and better marketing performance. Firms with marketing effectiveness attempt to provide their abilities to develop fruitful strategies from marketing philosophy, organization and information

sources to serve and fulfill customer needs and gain business success and sustainability (Appiah-Adu, 1999). Hence, marketing effectiveness positively interacts with competitive advantage and marketing performance. Therefore, the research hypothesis is as follows.

H7: Marketing effectiveness has a positive influence on competitive advantage.

H8: Marketing effectiveness has a positive influence on marketing performance.

6. Competitive Advantage

The significant outcome of competitor accounting, marketing capability and marketing effectiveness is competitive advantage. Competitive advantage is defined as the comparative positional superiority in the marketplace that leads to outperform rivals (Tsao, 2014). It leads to improving customer satisfaction, encouraging repeat purchase of goods, and attracting new buyers in markets. The achievement of competitive advantage can be measured by a product differentiation advantage and a cost leadership advantage. Then, more competitive advantage potentially affects firms' superior marketing performance. Firms tend to provide competitive advantage in order to enhance their business performance and success in rigorous markets and environments. Moreover, competitive advantage refers to a resource or capability that is difficult to imitate and is valuable in helping a firm to outperform its rivals (Wang, 2014).

Firms with competitive advantage are likely to control the endowment of rare, valuable and inimitable resources. Thus, competitive advantage is a principal source of marketing performance. It is positively related to marketing performance. The measurement of marketing performance includes enhancing customer satisfaction, promoting customer loyalty, improving long-term reputation, and encouraging marketing profitability (Saeidi, Sofian, Saeidi, Saeidi & Saaeidi, 2015). Greater competitive advantage positively influences firms' marketing performance in business markets and environments. Therefore, the research hypothesis is as follows.

H9: Competitive advantage has a positive influence on marketing performance.

7. Marketing Performance

Marketing performance is the last consequence of competitor accounting in this study and it is defined as the outcomes of effective, efficient and successful business operations, practices, and strategies in a marketing aspect. In the existing literature, marketing performance can be measured in several approaches such as (1) market share, customer satisfaction, customer loyalty, and brand loyalty (Lamberti & Noci, 2010); (2) market share, total sales, and market share (Pino, Felzensztein, Zwerp-Villegas & Arias-Bolzmann, 2016); and (3) customer satisfaction,

customer loyalty, long-term reputation, and marketing profitability (Saeidi et al., 2015). Firms with greater implementation of marketing strategy tend to have more marketing performance. Thus, marketing performance becomes a significant business outcome in the complex and uncertain environments.

Research Method

Samples and Data Collection Procedure

In this study, 933 electronics and electrical appliance companies in Thailand are the samples of the study. The electronics and electrical appliance businesses in Thailand are chosen because these businesses have generated the Thai national income as the number one ranking compared with other businesses. Likewise, there are more than 500,000 people working in those businesses and the value of their exports is 30 percent of the whole of Thai export market. The data is collected via a questionnaire survey as the research tool. The questionnaire surveys via mail procedures were sent by using accounting executives as the key informants. In the mailing process, 77 surveys were undeliverable because some listed firms had moved to unknown locations. Deducting the undeliverable mails, the valid mailing was 856 surveys, from which 181 responses were received. Of the surveys completed and returned, there are 175 usable questionnaires that were empirically utilized

to measure validation of the research tool and to analyze data for the research results. The effective response rate was approximately 20.44%, which is considered acceptable for the response rate for mail survey because it is greater than 20% (Aaker, Kumar & Day, 2001). To test non-response bias and detect and consider possible problems with non-response errors, there are two different procedures as a comparison of sample statistics and known values of the population, such as firm age, firm size and firm capital, and a comparison of the first, the second and the third wave data as recommended by Armstrong and Overton (1977) to evaluate the non-response-bias. Here, neither procedure explicitly showed significant differences.

Constructs and Measurements

All constructs were measured using a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree), except for firm age, firm size and firm capital. Firstly, competitor cost assessment was measured by how firms provided competitors' information about screening of public information, tearing down competitors' products, identifying the competitors' suppliers and costs, analyzing efficiency and cost of competitive labor force, and evaluating state and capacity utilization of the competitor's assets employed (Cooper & Slagmulder, 1998). Secondly, competitive position monitoring was gauged by how

firms provided the analysis of competitor status and situation within the industry by assessing trends in competitor sales, market share, volume, unit costs, and return on sales (Cadez & Guilding, 2008). Thirdly, competitor performance appraisal was evaluated by how firms implemented an analytical technique to investigate, interpret and compare competitors' accounts in published financial statements to firms' financial situations in statements (Cadez & Guilding, 2008). Fourthly, marketing capability was assessed by how firms provided the ability of firms to integrate collective knowledge, skills and their resources to effectively understand and respond to changing market needs and meet competitive pressure (Griffith et al., 2010). Fifthly, marketing effectiveness was measured by how firms accessed markets with the goal of optimizing their marketing activities spent to achieve even better results for both the short- and long-term objectives (Nwokah & Ahiauzu, 2008). Sixthly, competitive advantage was evaluated by how firms provided comparative positional superiority in the marketplace that leads to outperform their rivals (Tsao, 2014). Lastly, marketing performance was assessed by how firms gained an outcome of efficient, effective and successful business activities in marketing aspect through enhancing customer satisfaction, promoting customer loyalty, improving long-term reputation, and encouraging marketing profitability (Saeidi et al., 2015).

To verify the competitor accounting-marketing performance relationships, control variables in this paper are tested, including firm age, firm size and firm capital, which are the control variables of the study. Firm age was measured by the number of years a firm has been in existence. Next, firm size was measured by the number of employees in a firm. Finally, firm capital was measured by the amount of money a firm has invested in doing business.

Instrument Tests and Statistical Methods

To prove the quality of the research tool in this research, factor analysis was firstly utilized to measure the underlying relationships of a large number of items and to determine whether they can be reduced to a smaller set of factors through a higher rule-of-thumb, a cut-off value of 0.40 (Nunnally & Bernstein, 1994). In this study, the results show that all variables have the factor loadings from 0.68 to

0.91. All factor loadings are greater than the 0.40 cut-off and are statistically significant. Secondly, discriminant power was used to evaluate the validity of the measurements by item-total correlation via the scale validity as greater than 0.30 of item-total correlation (Churchill, 1979). Lastly, the reliability of the measurements was assessed by Cronbach's alpha coefficients with the scale reliability as greater than 0.70 of Cronbach's alpha coefficients (Nunnally & Bernstein, 1994). Hence, the scales of all measures appear to produce internally consistent results and these measures are deemed appropriate for further analysis as shown in Table 1.

To empirically investigate the research relationships, the ordinary least squares (OLS) multiple regression analysis is conducted because all variables in this research were neither nominal data nor categorical data (Chan & Mak, 2012). The results of this study are presented in the next section.

Table 1 Results of Measure Validation

Items	Factor Loadings	Item-total correlation	Cronbach's alpha
Competitor cost assessment (CCA)	0.68-0.87	0.33-0.69	0.80
Competitive position monitoring (CPM)	0.75-0.88	0.45-0.79	0.83
Competitor performance appraisal (CPA)	0.74-0.90	0.49-0.85	0.86
Marketing capability (MKC)	0.75-0.83	0.48-0.77	0.84
Marketing effectiveness (MKE)	0.80-0.89	0.52-0.82	0.87
Competitive advantage (COA)	0.71-0.88	0.40-0.74	0.81
Marketing performance (MKP)	0.81-0.91	0.54-0.85	0.88

Findings and Discussion

In Table 2, the descriptive statistics and correlation matrix for all variables are presented. Variance inflation factors (VIFs) were used to provide information on the extent to which non-orthogonality among independent variables

inflates standard errors. Here, VIFs range from 1.06 to 4.26, well below the cut-off value of 10 as recommended by Neter, Wasserman, and Kutner (1985). This means that the independent variables are not correlated with each other because no substantial multicollinearity problems were encountered in this model.

Table 2 Descriptive Statistics and Correlation Matrix

Variables	CCA	CPM	CPA	MKC	MKE	COA	MKP
Mean	4.11	3.93	4.07	3.84	3.69	4.04	3.88
s.d.	0.51	0.61	0.62	0.56	0.62	0.57	0.64
CCA							
CPM	0.66***						
CPA	0.62***	0.66***					
MKC	0.46***	0.52***	0.52***				
MKE	0.38***	0.48***	0.43***	0.68***			
COA	0.55***	0.48***	0.61***	0.54***	0.46***		
MKP	0.39***	0.45***	0.41***	0.65***	0.69***	0.46***	

***p<.01

Table 3 shows the results of OLS multiple regression analysis of the relationships among competitor accounting, marketing capability, marketing effectiveness, competitive advantage, and marketing performance. Firstly, competitor cost assessment positively has a significant effect on marketing capability ($b = 0.40$, $p < 0.02$) and competitive advantage ($b = 0.27$, $p < 0.05$). Consistent with the existing literature, competitor cost assessment helps firms better understand their competitors' cost structure

for providing strategic decision making in order to gain competitive advantage (Cadez & Guilding, 2008). Firms with greater competitor cost assessment explicitly determine their valuable operational strategies for dealing with complex and uncertain environments and pursuing their competitiveness in rigorous competition. Therefore, *Hypotheses 1a and 1c are supported, but Hypotheses 1b and 1d are not*. Secondly, competitive position monitoring positively has an important influence

on marketing capability ($b = 0.30, p < 0.04$), marketing effectiveness ($b = 0.37, p < 0.02$) and marketing performance ($b = 0.27, p < 0.09$). Accordingly, competitive position monitoring helps firms formulate critical strategies by using management accounting information relating to their competitive position, competitive standing and competitive trend (Cadez & Guilding, 2007). Firms with more successful competitive position monitoring potentially initiate relevant and powerful strategies for doing business activities, operations and actions in order to meet their goal achievements in short- and long-term perspectives. Therefore, Hypotheses 2a, 2b and 2d are supported, but Hypothesis 2c is

not. Finally, competitor performance appraisal positively has a critical impact on marketing capability ($b = 0.25, p < 0.07$) and competitive advantage ($b = 0.40, p < 0.01$). Similarly, competitor performance appraisal helps firms investigate, interpret and compare competitors' accounts in published financial statements to firms' financial situations in statements (Cadez & Guilding, 2008). Firms with better knowledge of competitors' financial information in published statements efficiently establish critical and valuable organizational strategies in order to achieve sustain competitiveness. Therefore, Hypotheses 3a and 3c are supported, but Hypotheses 3b and 3d are not.

Table 3 Results of OLS Multiple Regression Analysis^a

Independent variables	Dependent variables			
	MKC	MKE	COA	MKP
CCA	0.40** (0.15)	0.03 (0.14)	0.27** (0.13)	0.12 (0.15)
	0.30** (0.14)	0.37** (0.16)	0.02 (0.14)	0.27* (0.16)
CPM	0.25* (0.13)	0.16 (0.14)	0.40*** (0.13)	0.17 (0.15)
	0.04 (0.12)	0.03 (0.13)	0.04 (0.12)	0.06 (0.13)
CPA	-0.10 (0.10)	-0.10 (0.11)	0.04 (0.10)	-0.09 (0.11)
	0.09 (0.13)	0.24 (0.17)	0.07 (0.15)	0.12 (0.17)
Adjusted R ²	0.40	0.28	0.41	0.25

* $p < .10$, ** $p < .05$, *** $p < .01$, ^a Beta coefficients with standard errors in parenthesis.

Table 4 presents the results of OLS multiple regression analysis of the relationships among marketing capability, marketing effectiveness, competitive advantage, and marketing performance. Interestingly, marketing capability is positively related to marketing effectiveness ($b = 0.78, p < 0.01$), competitive advantage ($b = 0.54, p < 0.01$) and marketing performance ($b = 0.78, p < 0.01$). It helps firms integrate collective knowledge, skills and their resources to effectively understand and respond to changing market needs and meet competitive pressure (Griffith et al., 2010). Firms with greater marketing capability attempt to bring marketing resources and assets together and deploy them advantageously to gain sustainable competitive advantage and great marketing performance. *Therefore, Hypotheses 4-6 are supported.* Also, marketing effectiveness positively interacts with competitive advantage ($b = 0.45, p < 0.01$) and marketing performance ($b = 0.80, p < 0.01$).

It helps firms access market with the goal of optimizing their marketing activities spend to achieve even better results for both the short- and long-term objectives (Nwokah & Ahiauzu, 2008). Firms with more useful marketing effectiveness outstandingly utilize their abilities to develop fruitful strategies from marketing philosophy, organization and information sources to serve and fulfill customer needs and gain business success and sustainability. *Therefore, Hypotheses 7-8 are supported.* Likewise, competitive advantage is positively connected with marketing performance ($b = 0.46, p < 0.01$). It leads to improving customer satisfaction, encouraging repeat purchase of goods, and attracting new buyers in markets (Tsao, 2014). Firms with more competitive advantage potentially achieve their superior marketing performance. *Therefore, Hypothesis 9 is supported.*

Table 4 Results of OLS Multiple Regression Analysis^a

Independent variables	Dependent variables					
	MKE	COA	COA	MKP	MKP	MKP
MKC	0.78*** (0.08)	0.54*** (0.10)		0.78*** (0.08)		
MKE			0.45*** (0.10)		0.80*** (0.07)	
COA						0.46*** (0.11)
FAG	0.03 (0.10)	-0.04 (0.12)	-0.04 (0.13)	0.04 (0.10)	0.02 (0.09)	0.08 (0.13)
FSI	-0.01 (0.08)	0.15 (0.10)	0.17 (0.10)	-0.01 (0.08)	0.01 (0.07)	-0.05 (0.11)
FCA	-0.08 (0.13)	-0.05 (0.17)	0.08 (0.17)	-0.19 (0.13)	-0.04 (0.12)	0.11 (0.17)
Adjusted R ²	0.59	0.32	0.26	0.57	0.64	0.22

***p<.01, ^a Beta coefficients with standard errors in parenthesis.

Contributions and Directions for Future Research

1. Theoretical Contribution and Directions for Future Research

This study attempts to integrate three components of competitor accounting, namely, competitor cost assessment, competitive position monitoring, and competitor performance appraisal in the same model. In congruence with the existing literature, those components play significant roles in determining, driving, and explaining business activities (marketing

capability and marketing effectiveness) and organizational outcome (competitive advantage and marketing performance). However, each dimension of competitor accounting has some effect on marketing capability, marketing effectiveness, competitive advantage, and marketing performance. Thus, future research should cover a reconceptualized literature review relating to competitor accounting and its consequences in order to verify and confirm the current study's results and upgrade usable results of the study. Moreover, future research needs to collect data from a large sample

group and a different population in order to improve, increase, add, and expand the validity and reliability to this study.

2. Managerial Contribution

This research helps executives effectively implement and potentially utilize the benefits and advantages of competitor accounting very well. Executives need to initiate, build and develop competitor accounting system in an organization through paying more attention on valuable strategic allocation of their resources to this system. Successful implementation of competitor accounting system helps executives provide useful operational activities and strategies, gain sustainable competitive advantage and achieve superior performance in both financial and non-financial aspects. Accordingly, competitor accounting is key to promote firms' competitiveness and enhance their success, survival, stability, and sustainability in highly competitive markets and environments.

Conclusion

Competitor accounting is a valuable approach of strategic management accounting and it leads to sustainable competitive advantage and superior business performance. Hence, this study attempts to examine the influences of competitor accounting on

marketing performance of electronics and electrical appliance businesses in Thailand through marketing capability, marketing effectiveness, and competitive advantage as the mediators. Competitor accounting consists of competitor cost assessment, competitive position monitoring, and competitor performance appraisal. The samples of the study are 175 electronics and electrical appliance businesses in Thailand. Interestingly, competitor cost assessment and competitor performance appraisal have a significant effect on marketing capability and competitive advantage, while competitive position monitoring has an important influence on marketing capability, marketing effectiveness and marketing performance, respectively. Likewise, the relationships among marketing capability, marketing effectiveness, competitive advantage, and marketing performance are empirically verified and definitely confirmed. In summary, competitor accounting is a key business tool in helping firms provide business activities and strategies, promote competitiveness, and encourage outstanding outcomes in rigorous and complex competitive environments. To increase and expand the benefits and advantages of the current study, future research needs to include a reconceptualized literature review and to collect data from new aspects.

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