

Accounting Control System, Accounting Information Quality, Value Creation, and Firm Success: An Empirical Investigation of Auto Parts Businesses in Thailand

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ABSTRACT

This study aims at examining the effects of accounting control system on accounting information quality, value creation and firm success of auto parts businesses in Thailand. It also highlights the roles of accounting information quality and value creation as the mediating variables of the study. Here, 179 auto parts businesses in Thailand are the samples of the study. The results show that accounting control system has a significant positive effect on accounting information quality and value creation. Also, accounting information quality has a significant positive effect on both value creation and firm success, and it is a critical mediator of the accounting control system-firm success relationships. Likewise, value creation has a significant positive effect on firm success and it importantly mediates the accounting control system-firm success relationships. Accordingly, accounting control system is important for helping achieve firms' competitiveness, performance and success in long-term and future operations. It enhances a commitment to standards and guidelines of providing accounting information quality and can also build firms' sustainable values, benefits, advantages, and contributions in doing businesses under highly complex markets and environments.

JEL Classification: M41

Keywords: accounting control system; accounting information quality; value creation; firm success

I. INTRODUCTION

Recently, competitive markets and environments as external factors of firms' doing businesses have rigorously changed (Pollitte et al., 2015). These markets and environments comprise continuous technology growth, more required laws and regulations, increased number of both existing and new competitors, diversity of customer needs and wants, and multiplied expectations of stakeholders. They have affected firms' business operations, competitiveness and performance directly and indirectly. Also, internal factors of the firms' business practices, namely organizational vision, top management support, resource readiness, corporate strategies, operational techniques, and employee competency have enhanced their success, survival and sustainability (Valtakoski, 2017). Firms need to capably implement and utilize their resources and capabilities to deal with highly rigorous markets and environments in order to achieve superior and long-term success and future survival and sustainability. More effectiveness of resource and capability implementation is positively related to greater business outcomes. In this study, accounting control system is valuable one of firms' capabilities and it becomes a strategic mechanism tool of their operations that can help provide qualified accounting information, build incremental business value and promote sustainable organizational success. Firms with effective accounting control system can determine their outcomes, namely competitive advantage, performance and success in long-term operations and future practices. Accordingly, accounting control system is one source of firms' competitive advantage and performance and it is a key determinant of firms' sustainable success.

Accounting control system plays a significant role in determining, driving and explaining firms' accounting information quality, value creation and corporate success. Here, accounting control system is defined as plans and processes of firms which are used within an organization to safeguard their assets from loss by fraud or unintentional errors, check accuracy and reliability of accounting data that use in making decisions and promote operational effectiveness and encourage adherence to adopted policies in those business responsibilities (Hayale and Abu Khadra, 2006). It is a control of procedures, methods and approaches that guarantees reliability in accounting records and accuracy in preparation of accounting information associated with compliances with accounting standards, rules, laws, and regulations, make easier reviews of authorized financial operations and safeguard firms' assets and resources directly and indirectly (Nogueira and Jorge, 2017). Thus, accounting control system becomes an important business process of helping achieve strategic objectives in both short and long-term operations, gain competitive benefits and contributions and encourage survived growth and sustainable success. Within an effective accounting control system, firms can carry out their business practices, operations, activities, and functions successfully under dynamic complex markets and environments in the short term and well into the future. They can effectively implement and utilize accounting control system in order to provide accounting information quality, create business value and competitiveness and enhance their performance and success. Then, this purposes that accounting information quality, value creation and firm success are consequences of implementing and utilizing accounting control system.

Accounting information quality, value creation and firm success are purposed as and outcomes of accounting control system implementation. Firstly, accounting

information quality is defined as valuation usefulness and contract validity of firms' accounting system outputs, namely financial report and information (Zhai and Wang, 2016). Both financial report and information can help users make business valuation decisions that link to firms' superior performance and sustainable success. They also benefit contracts between investors and executives, including better understanding of their businesses that can encourage the investors to participate and join their operations and activities more. The valuation usefulness and contract validity reflect pricing and governance functions of accounting information. Thus, accounting information quality must faithfully represent economic phenomena of firms' businesses and operations and it needs to be complete, neutral and free from error (Drum et al., 2017). Firms with more accounting information quality can create greater business value and promote more operational success. Accordingly, accounting information quality is likely to relate to value creation and firm success. Secondly, value creation refers to an ability of firms to develop new products and services through utilizing superior knowledge and technological capabilities, which leads to higher product quality and performance (Morgan et al., 2018). It is concerned with all activities that are structured within and across organizational functions to increase customer satisfaction and loyalty and market acceptance and reliability. Also, value creation can enhance a unique position in a marketplace, competitive advantage and sustainable success (Zacharias et al., 2016). It is one of the most important aspects of firms' long-term success. Thirdly, firm success is another consequence of utilizing accounting control system and it is an outcome of firms' doing business operations, activities, practices, and functions effectively and efficiently. According to Selomon et al. (2016), firm success can be measured by financial and non-financial measures, namely increased sales, cash flow from operations, market share, customer satisfaction, business growth, and increased profits.

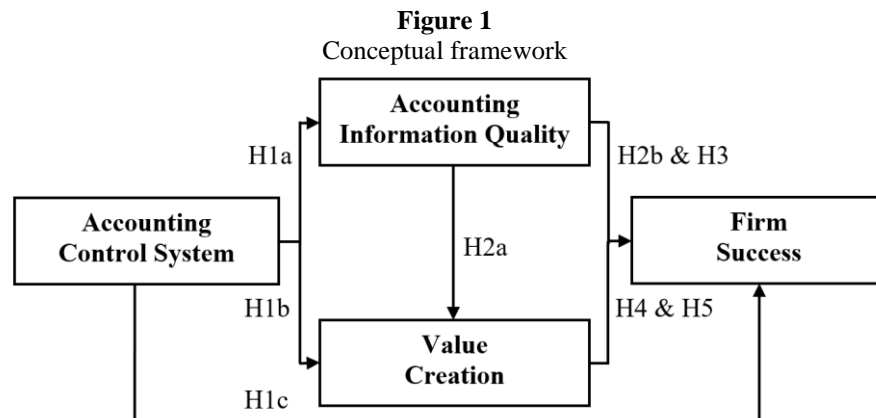
In this study, the effects of accounting control system on accounting information quality, value creation and firm success are examined. Accounting control system, accounting information quality, value creation, and firm success are the independent variable, mediating variables and dependent variable of the study respectively. Here, auto parts businesses in Thailand are the appropriate samples of the study because these businesses are subsets of Thailand automotive industry. Thailand automotive industry has been significantly developed for over 50 years. The industry contributed 12% of the GDP with more than 1.94 million vehicles produced and worth USD 27 billion in 2016 (Thailand Board of Investment, 2017). These successes ranked the country as the largest automotive producer in Southeast Asia and 12th in the world. Also, they ranked the 2nd one-ton pickup producer in the world and the 6th commercial vehicle producer in the world. As an "Automotive Hub of Asia", Thailand continuously accelerates its next-generation automotive industry to follow the S-Curve promotion with higher value-added production. To examine the research relationships, the key research question is how accounting control system leads to firm success. The specific research questions are: (1) How accounting control system has an effect on accounting information quality, (2) How accounting control system has an effect on value creation, (3) How accounting control system has an effect on firm success, (4) How accounting information quality has an effect on value creation, (5) How accounting information quality has an effect on firm success, (6) How value creation has an effect on firm success, (7) How accounting information quality mediates the accounting control system-firm success relationships,

and (8) How value creation mediates the accounting control system-firm success relationships

The remainder of this study is as follows. Firstly, relevant literature review of accounting control system, accounting information quality, value creation, and firm success are provided, and their hypotheses development is presented. Secondly, research methods, namely samples of the study, data collection procedure, test of non-response bias, measures, instrument test, and statistical techniques are considered. Thirdly, research results are showed and discussions with reasonable explanations are presented. Lastly, limitations of the study, theoretical and managerial contributions, suggestions for future research, and conclusion of the study are provided.

II. LITERATURE REVIEW

In this study, the effects of accounting control system on accounting information quality, value creation, and firm success are empirically investigated. According to the knowledge-based view of the firm (KBV), knowledge is an intangible resource of firms and it is the most important resource and heterogeneous knowledge bases across their functions are the main determinants of performance differences (Mejri et al., 2018). The development, integration and transfer of knowledge are critical aspects of firms' success, survival and sustainability. Here, accounting control system is an idiosyncratic knowledge base that gives rise to firms' organizational capabilities. They can generate sustainable competitive advantage, superior performance and outstanding success from their knowledge. Accordingly, this study considers that accounting control system is a valuable knowledge of the firms and it is a key determinant of accounting information quality, value creation and firm success. Thus, the research relationships of these variables are discussed and hypothesized. The conceptual model presents the aforementioned relationships, as shown in Figure 1.



A. Accounting Control System

Internal control system is considered as a valuable management tool of firms that can help prevent loss and misappropriation of resources and assets, comply with laws and regulations, ensure a reporting of reliable financial information, and achieve performance targets (Paletta and Alimehmeti, 2018). It is a set of instructions, processes, procedures, systems, and structures which firms ensure that resources are obtained and used effectively and efficiently in accomplishment and achievement of their strategic objectives and organizational affectivity and performance (Suarez, 2017). It comprises operational, administrative, political, and accounting internal controls. In this study, accounting control system is one component of internal control system and it is proposed as a key determinant of driving and explaining firms' accounting information quality, value creation and corporate success. Interestingly, accounting control system is defined as a control of procedures aimed at guaranteeing reliability in accounting records and accuracy in preparation of accounting information, associated with compliance with accounting rules, making easier reviews of authorized financial operations and safeguarding firms' assets and resources directly and indirectly (Nogueira and Jorge, 2017). It is a main instrument for credibility and validation of firms' financial information. Firms with effective accounting control system can have beneficial and useful information to facilitate and support managerial decision making consistent with their strategic goals. Accordingly, accounting control system can ensure accuracy and integrity of accounting records and reliability of information produced, safeguard their assets from loss by fraud or unintentional errors, promote planning, operational and decision-making effectiveness, and encourage adherence to adopted policies in those business responsibilities.

Accounting control system can facilitate planning and monitoring of organizational activities and organizational performance. It enables to use accounting information in improving better accuracy of organizational decision making and more effectiveness of organizational performance. Also, accounting control system refers to plans and processes of firms with are used within an organization to check accuracy and reliability of accounting data used in making decisions (Hayale and Abu Khadra, 2006). Five interrelated components of accounting control system are derived from ways and guidelines of management run and do businesses and integrated with a management process, namely control environment, risk assessment, control activities, information and communication, and monitoring. Firstly, firms need to provide working environments that are appropriate with efficiency enhancement, smooth business operations and increased goal achievement. Secondly, firms need to be aware of organizational risks and manage and prevent those risks effectively and efficiently. Thirdly, firms need to consider policies, processes and activities of controls that can enhance effective goal achievement. Fourthly, firms need to communicate information and understanding relating to activities, rules and regulations well both inside and outside organizations. Lastly, firms need to monitor changing internal and external environments, modify their control systems that are congruent with existing situations and conditions and assess a quality of all working and operational systems continuously. Thus, accounting control system becomes an important business tool that promotes accounting information quality, establishes value creation and enhances organizational success in highly rigorous

competitive markets and environments. It is hypothesized to have a positive effect on accounting information quality, value creation and firm success. Therefore,

H₁: Accounting control system has a positive effect on (a) accounting information quality, (b) value creation and (c) firm success.

B. Accounting Information Quality

Accounting information quality is an outcome of effectively implementing, applying and utilizing accounting control system and it is defined as content and format attributes of information, namely relevance, conservatism, objectivity, understandability, accuracy, usability, and timeliness (Bagaeva, 2008). It focuses on attributes of outputs from accounting system procedures (Gorla et al., 2010). These attributes are related to a real-world entity, a value stored in another database, a result of an arithmetic computation, all data relevant to an application, an absence of conflict between two datasets, and up-to-date information. They can make accounting information useful for financial reporting. Also, accounting information quality can be measured indirectly by investigating motives and incentives of accounting information prepares. Higher accounting information quality can make an allocation of capital market resources more efficient and give investors more protection (Hu et al., 2012). Likewise, accounting information quality enables managers to identify better investment opportunities and improve greater investment decisions through superior identification of projects and more truthful accounting numbers for internal decision makers (Elaoud and Jarboui, 2017). It makes these managers more accountable by allowing better monitoring, reduces adverse selection and moral hazard, decreases information asymmetries, and diminish overinvestment and underinvestment problems. Thus, accounting information quality is desirable to better business and financial decision making, greater value creation and enhancement, and more performance and success in firms' business operations, activities, functions, and responsibilities. Firms with accounting information quality can enhance their financial health and performance.

In addition, accounting information quality refers to valuation usefulness and contract validity of firms' accounting system outputs, namely financial report and information (Zhai and Wang, 2016). It faithfully represents economic phenomena of firms' businesses and operations and it needs to be complete, neutral and free from error (Drum et al., 2017). It benefits better understanding between investors and executives and encourage the investors to participate and join their operations and activities more. Both valuation usefulness and contract validity reflect pricing and governance functions of accounting information. Then, accounting information quality can make business valuation decisions that link to firms' superior performance and sustainable success. Firms with more accounting information quality can create greater business value and promote more operational success. Hence, accounting information quality is positively related to value creation and firm success. In this study, accounting information quality is also proposed as a mediator of the accounting control system-firm success relationships. Firms with effective accounting control system can provide accounting information quality in order to achieve their success. Thus, accounting information quality is likely to mediate the relationships between accounting control system and firm success. According to earlier discussions, accounting control system is hypothesized to

have a positive effect on firm success and mediates the accounting control system-firm success relationships. Therefore,

H₂: Accounting information quality has a positive effect on (a) value creation and (b) firm success.

H₃: Accounting information quality mediates the relationships between accounting control system and firm success.

C. Value Creation

In a marketplace, value creation is responsible for competitive advantage and sustainable success (Zacharias et al., 2016). It is one of the most important aspects of firms' long-term success. Here, value creation is defined as an ability of firms to develop new products and services through utilizing superior knowledge and technological capabilities, which leads to higher product quality and performance (Morgan et al., 2018). It is their abilities to use, explore, exploit, adapt, and utilize market-based resources, assets and capabilities to attract and retain customers for these products and services. Also, value creation refers to the procurement, management and use of resources for responding customers' perceived interactive relativistic preference experience for and evaluation of those product attributes, attribute performance and consequences arising from use that facilitate achieving with customers' purposes in use situations (Gidhagen et al., 2011). It can help achieve a main goal of firms' operations with a satisfaction of customers' demands. Firms with emphasized value creation are all activities that are structured within and across organizational functions to increase customer satisfaction and loyalty and market acceptance and reliability. They can offer better products and services to customers and enhance an increased knowledge and its retention to talent development, talent retention and lubrication of talenting culture (Ganaie and Haque, 2017). Thus, firms have attempted to serve and respond their customers' needs, wants and requirements well in order to increase customer satisfaction, improve customer loyalty, promote outstanding competitive advantage, achieve superior performance, and gain sustainable success.

In order to complete organizational success and become a leader in competitive markets and environments, value creation is a measurement of firms' success and it is from an integration of vision, strategy and tactics which they have implemented to achieve their goals (Mali et al., 2012). It reflects to managing performances of individual business units with respect to realized money flows and returns on investment rate. Firms with effective value creation can gain outperforming results from their doing businesses and operations. Likewise, value creation comprises two components, namely value creation for customers and value creation for enterprises. Value creation for customers is a process of understanding customer needs and offering firms' products and services by considering competitive advantage over rival enterprise while value creation for enterprises is a process of searching for pitfalls inside enterprise operations and optimizing business process models (Rehman et al., 2016). It emphasizes an articulation of encompassing strategic postures and business orientations and a strategic space of processes, capturing firm capabilities' space of processes, including value offering, customer equity, customer value, and brand equity, and occupying a value outcome space of processes (Ngo and O'Cass, 2010). It can enhance customer responses effectively and

efficiently that can build customer satisfaction and loyalty and promote firms' competitive advantage and success. To verify a mediating role, value creation is proposed to mediate the accounting control system-firm success relationships. Value creation is a consequence of successful accounting control system implementation while effective value creation is a key determinant of sustainable success. Accordingly, value creation is hypothesized to become a main factor of achieving operational and business success and mediate the accounting control system-firm success relationships. Therefore,

H₄: Accounting information quality has a positive effect on (a) value creation and (b) firm success.

H₅: Accounting information quality mediates the relationships between accounting control system and firm success.

III. RESEARCH METHODS

A. Sample and Data Collection

In this study, all 582 auto parts businesses in Thailand are provided by the Thai Auto Parts Manufacturers Association and they are chosen as the samples of the study. Thailand automotive industry as an Automotive Hub of Asia has been significantly developed and it has had higher value-added production for over 50 years (Thailand Board of Investment, 2017). While auto parts businesses in Thailand are subsets of Thailand automotive industry, they are the appropriate samples of the study. Here, internal audit executives, namely internal audit directors, internal audit managers or internal audit heads, of auto parts businesses in Thailand are the key informants of the study because they have taken the highest responsibilities of internal audit and control functions and other related activities in an organization. To effectively collect data, a mail survey procedure via questionnaire was used as the data collection method. With regard to the questionnaire mailing, 32 surveys were undeliverable because some listed firms had moved to unknown locations. Deducting the undeliverable from the original 582 mailed, the valid mailing was 550 surveys, from which 183 responses were received. Of the surveys completed and returned, 179 were usable. The effective response rate was approximately 32.55%. Then, the response rate for a mail survey, with an appropriate follow-up procedure, if greater than 20% is considered acceptable (Aaker et al., 2001). The data collection procedure is shown in Table 1.

Table 1
Data collection procedure of questionnaire mailing

Procedures	Number of Questionnaires
Mailed questionnaires	582
Undelivered questionnaires	32
Valid questionnaire mailing	550
Received questionnaires	183
Unusable questionnaires	4
Usable questionnaires	179
Response rate	32.55%

To test potential and non-response bias, to detect possible problems with non-response errors and to verify appropriateness and accuracy of data, the assessment and investigation of non-response-bias was centered on a comparison of the first ninety data and the second eighty-nine data as recommended by Armstrong and Overton (1977). The mean differences of firm size, firm age and firm capital are applied for testing the non-response bias. There were no statistically significant differences between first and second groups at a 95% confidence level as firm size ($t = 0.12$, $p > .05$), firm age ($t = 0.14$, $p > .05$) and firm capital ($t = 0.13$, $p > .05$). In this regard, neither procedure showed significant differences. Accordingly, this study can appropriately use the samples of this for testing the research relationships and approving the research results.

B. Measures

All constructs were measured using a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree), except for firm size, firm age and firm capital. Measurements of these constructs are self-developed from existing literatures as shown in Table 2. Appendix A presents the measurements of all variables in this study.

Table 2
A summary of measurements of all variables

Variables	Items	References
Accounting control system	6	Hayale and Abu Khadra (2006)
Accounting information quality	7	Bagaeva (2008)
Value creation	5	Morgan et al. (2018)
Firm success	6	Selomon et al. (2016)

In this study, accounting control system, accounting information quality, value creation, and firm success are the key variables of the study. Firstly, accounting control system refers to a control of procedures aimed at guaranteeing reliability in accounting records and accuracy in preparation of accounting information, associated with compliance with accounting rules, making easier reviews of authorized financial operations and safeguarding firms' assets and resources directly and indirectly (Nogueira and Jorge, 2017). Six-item scale was developed to assess how firms provide appropriate working environments, manage organizational risks effectively and efficiently, consider effective policies of controls, communicate information and understanding relating to their activities and regulations, and monitor changing internal and external environments. Secondly, accounting information quality refers to valuation usefulness and contract validity of firms' accounting system outputs, namely financial report and information (Zhai and Wang, 2016). Seven-item scale was established to measure how firms present content and format attributes of information, namely relevance, conservatism, objectivity, understandability, accuracy, usability, and timeliness. Thirdly, value creation refers to an ability of firms to develop new products and services through utilizing superior knowledge and technological capabilities, which leads to higher product quality and performance (Morgan et al., 2018). Five-item scale was initiated to evaluate how firms use, explore, exploit, adapt, and utilize market-based resources, assets and capabilities to attract and retain customers for these products and services. Lastly, firm

success refers to an outcome of firms' doing business operations, activities, practices, and functions effectively and efficiently, namely increased sales, cash flow from operations, market share, customer satisfaction, business growth, and increased profits (Selomon et al., 2016). Six-item scale was introduced to gauge how firms can achieve increased sales, cash flow from operations, market share, customer satisfaction, business growth, and increased profits.

To prevent and verify effects of other variables on the aforementioned research relationships, the control variables of the study are considered. They comprise firm size, firm age and firm capital. Firstly, firm age (FA) was measured by the number of years a firm has been in existence (Zahra et al., 2000) by using a dummy variable as less than 10 years = 0 and equal to or greater than 10 years = 1. Secondly, firm size (FS) was measured by the number of employees in a firm (Arora and Fosfuri, 2000) by using a dummy variable as less than 100 employees = 0 and equal to or greater than 100 employees = 1. Thirdly, firm capital (FC) was measured by the amount of money a firm has invested in doing business (Ussahawanitchakit, 2007) by using a dummy variable as less than 75 million baht = 0 and equal to or greater than 75 million baht = 1.

C. Validity and Reliability Tests

In order to ensure the validity and reliability of the research tools and test instruments. According to Gerbing and Anderson (1988), this study performs confirmatory factor analysis and assesses the construct validity and reliability of the measures. The measurement model estimation results for factor loadings and composite reliability for each construct are provided in Table 3. The descriptions of factor loadings and composite reliability for each question item are also presented in Appendix A. The confirmatory factor analysis was applied to assess the underlying relationships of a large number of items and to determine whether they can be reduced to a smaller set of factors (Bagozzi et al., 1991; Nunnally and Bernstein, 1994). All factor loadings as values of 0.67-0.96 are larger than the 0.40 cut-off and are statistically significant. Also, discriminant power was utilized to gauge the validity of the measurements by item-total correlation (Churchill, 1979). In the scale validity, item-total correlation as values of 0.67-0.96 is larger than 0.30. In addition, the reliability of the measurements was evaluated by Cronbach alpha coefficients (Borg and Gall, 1979). In the scale reliability, Cronbach alpha coefficients as values of 0.81-0.96 are larger than 0.70. In this study, all the factor loadings for each construct turn out to be significant, providing a convergent validity. This study establishes reliability by securing composite reliability for each construct. Thus, the scales of all measures appear to produce internally consistent results and these measures are deemed appropriate for further analysis as they express an accepted validity and reliability in this study.

Table 3
Results of measure validation

Items	Factor Loadings	Item-total Correlation	Cronbach Alpha
Accounting control system (ACS)	0.67-0.82	0.67-0.82	0.81
Accounting information quality (AIQ)	0.85-0.92	0.85-0.92	0.91
Value creation (VCA)	0.80-0.92	0.81-0.92	0.90
Firm success (FSC)	0.93-0.96	0.94-0.96	0.96

IV. RESULTS AND DISCUSSION

The descriptive statistics and correlation matrix for all variables are presented in Table 4. The descriptive statistics comprise mean and standard error. Likewise, the correlations as values of are investigated to prove the relationships between independent variable and dependent variable and it shows the associations of independent variables. With respect to potential problems relating to multicollinearity, variance inflation factors (VIFs) were used to provide information on the extent to which non-orthogonality among independent variables inflates standard errors. The VIFs range from 1.13 to 2.82, well below the cut-off value of 10 as recommended by Neter et al. (1985), means that the independent variables are not correlated with each other. Therefore, there are no substantial multicollinearity problems encountered in this study.

This study investigates the effects of accounting control system on accounting information quality, value creation and firm success. It hypothesizes that there are positive relationships of these variables and both accounting information quality and value creations are also proposed to mediate the accounting control system-firm success relationships. To examine the research relationships, structural equation model is considered as the appropriate statistical methods. The comparative fit index (CFI), the goodness of fit index (GFI), the incremental fit index (IFI), and the root mean square error of approximation (RMSEA) are considered as the determinants of the goodness of fit of the models in the study (Herda and Lavelle, 2012) as shown in Table 5. Firstly, CFI values always lie between 0 and 1, with values over 0.90 indicating a relatively good fit (Bentler, 1990). Secondly, GFI value is an index that ranges from 0 to 1, with value over 0.90 indicating a relatively good fit (Byrne, 1998). Thirdly, IFI values exceeding 0.90 indicate a relatively good fit (Kline, 1998). Lastly, a RMSEA value of less than 0.05 indicates a close fit and less than 0.08 suggests a marginal fit (Bollen and Long, 1993). Thus, the initial test of the measurement model results in a good fit to the data.

Table 4
Descriptive statistics and correlation matrix

Variables	ACS	AIQ	VCA	FSC
Mean	4.25	4.25	4.05	3.95
Standard Deviation	0.39	0.44	0.45	0.66
Accounting control system (ACS)				
Accounting information quality (AIQ)	0.28**			
Value creation (VCA)	0.29**	0.58***		
Firm success (FSC)	0.13	0.24**	0.62***	

Note: **p<.05, ***p<.01

Table 5
Results of the goodness of fit of the models

Indices	Values
Comparative fit index (CFI)	0.92
Goodness of fit index (GFI)	0.91
Incremental fit index (IFI)	0.93
Root mean square error of approximation (RMSEA)	0.05

Table 6
Results of path coefficients and hypotheses testing for direct effects

Hypothesis	Relationship	Coefficient (s.d.)	t-value	Result
H1a	Accounting control system has a positive effect on accounting information quality. (ACS → AIQ)	0.50** (0.24)	2.12	Supported
H1b	Accounting control system has a positive effect on value creation. (ACS → VCA)	0.44** (0.21)	2.07	Supported
H1c	Accounting control system has a positive effect on firm success. (ACA → FSC)	0.02 (0.25)	0.08	Not Supported
H2a	Accounting information quality has a positive effect on value creation. (AIQ → VCA)	0.78*** (0.18)	4.27	Supported
H2b	Accounting information quality has a positive effect on firm success. (AIQ → FSC)	0.41* (0.27)	1.53	Supported
H4	Value creation has a positive effect on firm success. (VCA → FSC)	1.18*** (0.33)	3.64	Supported

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The results of path coefficients and hypotheses testing of the research relationships for direct effects are presented in Table 6. Interestingly, accounting control system plays a significant role in determining both accounting information quality and value creation. For testing Hypotheses 1a-1b, accounting control system has a positive effect on accounting information quality ($b = 0.50$, $p < 0.04$) and value creation ($b = 0.44$, $p < 0.04$). In existing literature, accounting control system can help guarantee reliability in accounting records and accuracy and integrity in preparation of accounting information, associated with compliance with accounting rules and make easier reviews of authorized financial operations (Nogueira and Jorge, 2017). It explicitly safeguards firms' assets and resources directly and indirectly from loss by fraud or unintentional errors. Firm with effective accounting control system can have credibility and validation of their financial information in order to facilitate managerial decision making consistent with their strategic goals through achieving competitive advantage and organizational success. Thus, accounting control system has a positive effect on accounting information quality. Therefore, Hypothesis 1a is supported.

In addition, accounting control system can ensure that resources, assets and capabilities are obtained and used effectively and efficiently in accomplishment and achievement of their strategic objectives (Suarez, 2017). It effectively facilitates planning and monitoring of organizational activities and organizational performance. Firms with best accounting control system can utilize superior knowledge and technological capabilities in order to develop new products and services, which lead to higher product quality and performance. They are likely to have a great value creation that can affect

sustainable competitive advantage and outstanding success. Hence, accounting control system has a positive effect on value creation. Therefore, Hypothesis 1b is supported. Surprisingly, accounting control system has no effects on firm success.

According to Hayale and Abu Khadra (2006), accounting control system focus on plans and processes of firms with are used within an organization to check accuracy and reliability of accounting data that use in making decisions for achieving their success. It is likely to have an indirect effect on firm success. Firms with efficient accounting control system tend to provide accounting information quality and create business values through utilizing their resources and capabilities in order to enhance their competitiveness and promote their sustainable success. Similar to the existing literature, this study indicates that accounting control system has no direct effects on firm success, but it critically has an indirect effect on firm success through accounting information quality and value creation as the mediators of the study according to the results of H3 and H5 as shown in Table 7. Accordingly, accounting control system has no effects on firm success. It has no influence on firm success. Therefore, Hypothesis 1c is not supported.

Table 7
Results of path coefficients and hypotheses testing for mediating effects

Hypothesis	Direction	Coefficient (s.d.)	t-value	Result
H3: Accounting information quality mediates the accounting control system-firm success relationships	ACS → AIQ	0.50** (0.24)	2.12	Supported
	AIQ → FSC	0.41* (0.27)	1.53	
H5: Value creation mediates the accounting control system-firm success relationships.	ACS → VCA	0.44** (0.21)	2.07	Supported
	VCA → FSC	1.18*** (0.33)	3.64	

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Accounting information quality can benefit both value creation and firm success. It is an important determinant of driving and explaining value creation and firm success. It has a positive effect on value creation ($b = 0.78$, $p < 0.01$) and firm success ($b = 0.41$, $p < 0.10$). Here, accounting information quality reflects content and format attributes of outputs from accounting system procedures relating to a real-world entity, a value stored in another database, a result of an arithmetic computation, all data relevant to an application, an absence of conflict between two datasets, and up-to-date information (Gorla et al., 2010). It faithfully represents economic phenomena of firms' businesses and operations and it needs to be complete, neutral and free from error (Drum et al., 2017). Likewise, accounting information quality can help provide good knowledge and understanding relating to firms' products and services and their customers and competitors in order to make appropriate investments and implement valuable strategies and techniques for achieving sustainable competitive advantage and success. Thus, accounting information quality has a positive effect on both value creation and firm success. Therefore, Hypotheses 2a-2b are supported. Additionally, value creation is important in determining firm success. It has a positive effect on firm success ($b = 1.18$, $p < 0.01$). Firm with emphasizing value creation can use, explore, exploit, adapt, and utilize market-based resources, assets and capabilities to attract and retain customers for

these products and services in order to promote superior competitive advantage and sustainable long-term success (Zacharias et al., 2016). They can achieve a main goal of firms' operations with satisfaction and loyalty of customers' demands in order to promote outstanding competitive advantage, achieve superior performance, and gain sustainable success. Thus, value creation significantly affects firm success. It has a positive effect on firms' sustainable success. Therefore, Hypothesis 4 is supported.

To verify the mediating effects of accounting information quality and value creation on the research relationships, the results in Table 7 show that accounting information mediates the accounting control system-firm success relationships ($b = 0.50$, $p < 0.04$; $b = 0.41$, $p < 0.10$) and value creation mediates the accounting control system-firm success relationships ($b = 0.44$, $p < 0.04$; $b = 1.18$, $p < 0.01$). According to existing literature, firms with successful accounting control system can have a quality of valuable information while they can implement and utilize this information in order to provide effective strategies and techniques for achieving sustainable competitive advantage and long-term success. Similarly, accounting control system can enhance increased value creation through acceptance, reliability and credibility of customers and this value creation also promotes customer satisfaction and loyalty that affect firms' potential competitiveness and outstanding success. Thus, both accounting information quality and value creation importantly mediates the accounting control system-firm success relationships. Therefore, Hypotheses 3 and 5 are supported.

V. CONTRIBUTIONS AND DIRECTIONS FOR FUTURE RESEARCH

A. Theoretical Contribution and Directions for Future Research

This study has attempted to investigate the benefits and advantages of accounting control system and it confirms that accounting control system is important for providing accounting information quality, initialing value creation and enhancing organizational success. According to the knowledge-based view of the firm (KBV), accounting control system is an intangible resource of firms and it is the most important resource and heterogeneous knowledge bases across their functions are the main determinants of performance differences. It is a valuable source of firms' competitive advantage, performance and success. To increase and expand the current study, future research needs to do and search for more literatures of accounting control system's components and dimensions and put them as independent variables that are considered as key factors of determining accounting information quality, value creation and firm success. Also, under rigorously complex competitive markets and environments, governmental policies and supports and technological growths and pressures may affect Thai auto parts businesses' sustainable performance and long-term success. Future research may put the governmental policies and supports and technological growths and pressures as moderating variables in the research model. To increase the generalizability of the study, future research may collect data from other industries or larger populations in order to implement a research technique as a comparative study for testing the research relationships and achieving more benefits and contributions of the study. Lastly, there are several statistical techniques for testing the research relationships, namely structural equation model, regression analysis and partial least squared. In this study, one structural equation model is applied as a valuable statistical technique. Future research may utilize

regression analysis or partial least squared to investigate the research relationships and confirms the results of the current study.

B. Managerial Contribution

Accounting control system can help enhance sustainable competitive advantage and achieve long-term success. It becomes an important determinant of driving, explaining and promoting firms' outstanding competitiveness and superior performance. Thus, firms need to pay an attention of building, creating and searching for best accounting control system in an organization. They must invest and utilize their resources, assets, capabilities, and competencies in order to develop this accounting control system through enhancing participation of employees and joining all functions and departments in an organization. Successful accounting control system definitely affects firms' growth, stability, survival, and sustainability. Moreover, competitive markets and environments have changed dramatically, dynamically and continuously. Firms must study, learn and understand these markets and environments effectively and efficiently. They need to adjust and modify their accounting control system in order to fit and be congruent with these conditions and situations for keeping and maintaining their best performances and achieving and increasing their sustainable long-term success. In summary, accounting control system is a significant mechanism for sustaining competitive advantage and performance.

VI. CONCLUSION

Recently, accounting control system becomes an important business strategy for achieving sustainable competitive advantage and long-term performance. Hence, the objective study is to investigate the effects of accounting control system on firm success of auto parts businesses in Thailand through accounting information quality and value creation as mediators of the research relationships. Accounting control system, accounting information quality, value creation, and firm success are the independent variable, mediating variables and dependent variable respectively. Here, 179 auto parts businesses in Thailand are the samples of the study. Within the results of the study, accounting control system has a significant positive effect on both accounting information quality and value creation, but it has no effects on firm success. Also, accounting information quality positively affects value creation and firm success while value creation has a significant positive effect on firm success. Likewise, both accounting information quality and value creation significantly play mediating roles in determining, driving and explaining the accounting control system-firm success relationships. Accordingly, accounting control system is important for successfully doing businesses. Firms can implement and utilize this accounting control system as a strategic tool and a valuable mechanism for enhancing continuous competitive advantage and superior performance. To verify and expand the current study, future research needs to do and search for more literature of accounting control system's components and dimensions, put governmental policies and supports and technological growths and pressures as moderating variables in the research model, collect data from other industries and or larger populations, and utilize regression analysis or partial least squared to investigate the research relationships.

Appendix A

Measurement of all variables^a

Items

Accounting Control System (ACS)

1. We believe that an effectiveness of accounting control system can guarantee reliability in accounting records and accuracy in preparation of accounting information, associated with compliance with accounting rules. (0.81; 0.82)
2. We can provide working environments that are appropriate with efficiency enhancement, smooth business operations and increased goal achievement. (0.79; 0.80)
3. We are aware of organizational risks and manage and prevent firms' risks effectively and efficiently. (0.67; 0.68)
4. We consider policies, processes and activities of controls that can enhance effective goal achievement. (0.82; 0.80)
5. We communicate information and understanding relating to activities, rules and regulations well in both inside and outside organizations. (0.78; 0.79)
6. We monitor changing internal and external environments, modify our control systems that are congruent with existing situations and conditions and assess a quality of all working and operational systems continuously. (0.77; 0.77)

Accounting Information Quality (AIQ)

1. We can provide value information for making a decision involving fair values compared to existing practices. (0.87; 0.88)
2. We can present fair value measurements of information that are more verifiable, faithfully represented and unbiased than we are under existing practices. (0.91; 0.90)
3. We can better enable different firms to measure, report and disclose fair values of information relating to assets and liabilities in a similar manner. (0.90; 0.89)
4. We are better able to measure fair values of information in a similar manner from period to period. (0.85; 0.87)
5. We can present valuable information for executives that is congruent and fits with existing business conditions and situations. (0.88; 0.85)
6. We are always aware of information benefits, contributions and advantages from accounting system procedures, methods and approaches. (0.92; 0.91)
7. We believe that useful accounting information can provide better investment opportunities and improve greater investment decisions. (0.90; 0.92)

Value Creation (VCA)

1. We can always use our knowledge, understanding and learning in order to develop and improve our products and services in responding customer needs. (0.89; 0.90)
 2. We focus on effective adaptation of our resources and assets being congruent with business markets and environments. (0.80; 0.81)
 3. We have systematically utilized our existing knowledge for creating valuable products and services in serving customers' wants and requirements. (0.90; 0.92)
 4. We believe that knowledge and information exchanges can enhance value added to our business operations, activities, functions, and practices. (0.87; 0.88)
-

Appendix A (Continued)

Items

Value Creation (VCA)

5. We can ensure efficiency and effectiveness of doing businesses for achieving increased business values through implementing and utilizing best working systems. (0.92; 0.91)

Firm Success (FSC)

1. We can continuously gain increased sales of business operations, activities, practices, and functions from past to present. (0.93; 0.94)
 2. We can outstandingly generate cash flows from business operations better than our competitors compared to the markets. (0.96; 0.95)
 3. We can continuously increase and improve our market share of our operations by focusing on operational efficiency and organizational effectiveness. (0.94; 0.96)
 4. We can always create acceptance, reliability and credibility from our customers that reflect more customer satisfaction and loyalty than competitors. (0.95; 0.94)
 5. We have a confidence that our business can continuously grow, succeed, survive, and sustain in doing businesses. (0.93; 0.95)
 6. We can achieve maximized and increased profits outstandingly under our effectively and efficiently doing and operating businesses. (0.94; 0.94)
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^a Factor loading and item-total correlation in parenthesis respectively.

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