

# Effect of Applying Strategic Management Accounting on the Operational Performance of Manufacturing Enterprises in Vietnam

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**Abstract:** *In a period of fierce competition today, Manufacturing businesses in Vietnam in general and manufacturing enterprises in Binh Duong province - Vietnam are always looking for solutions to improve operational efficiency. Through many studies in countries around the world shows, Business performance can increase if it applies effective management methods. One of the methods is to apply Strategic Management Accounting (SMA). This study surveyed 183 manufacturing enterprises in Binh Duong province - Vietnam to explore the factors that influence apply SMA and the effect of applying SMA to efficiency of production enterprises. The results show that there are four factors influencing application SMA is the level of competition, business strategy, company culture, accounting staff's qualifications; and applying SMA will help improve operating efficiency in manufacturing businesses in Binh Duong province.*

**Keywords:** Strategic management accounting, SMA, performance

## 1. Introduction

Today, many countries around the world have carried out research on SMA following the trend: emphasizes the importance of SMA; studying factors influencing the application of SMA; the impact of the SMA on corporate performance. The researches around the world have contributed both theoretically and practically about SMA, help businesses to apply many SMA techniques to bring success to businesses such as Japan, and European countries. In Vietnam, there have been studies on SMA but few and most research only approaching the trend is importance, orienting to apply SMA, or studying the techniques of SMA, but there are not many studies on the factors affecting the performance of manufacturing enterprises in relation to the application of SMA. Therefore, this study will explore the impact of using SMA on the performance of manufacturing enterprises in Binh Duong province - Vietnam. This is a necessary study so that manufacturing enterprises in Binh Duong province and manufacturing enterprises in Vietnam in general can build and apply an effective SMA system to improve operational efficiency for businesses. in today's competitive era.

## 2. Theoretical basis and research hypothesis

SMA was first mentioned by Simmonds (1981), since then many studies related to SMA have been done (Bromwich, 1990; Langfield-Smith, 2008; Ma and Tayles, 2009...). However, until now, there is still no official concept of SMA that is widely accepted. However, it can be seen that the SMA has in common: Firstly, it is oriented to information collected from outside (Mainly competitors in the same production and business industry); Second, using both financial information (production costs, rate of return ...) and non-financial information (product quality, customer satisfaction ...) and thirdly, the SMA was built for a long

business cycle.

### 2.1. Relationship between competition level with SMA

According to researchers such as Hoque et al (2001); Mia and Clarke (1999); Libby and Waterhouse (1996); Khandwalla, (1972) introduced the concept of market competition consisting of seven factors: (1) price; (2) product; (3) distribution channel; (4) technology; (5) package agreement; (6) the number of competitors; and (7) government policy. According to Libby and Waterhouse (1996) when the competitive environment of an organization becomes fierce, a more sophisticated management accounting and control system is needed to facilitate improved management decision-making. *Since then, hypothesis H1 is proposed: The higher the competitive level, the higher the demand for SMA application of manufacturing enterprises in Binh Duong province.*

### 2.2. The relationship between business strategy with SMA

A flexible business strategy will help the company navigate its operations. The role of management accountants is to provide information for planning, control and decision-making, in order to assist managers in making appropriate strategies (Daniel and Reitsperger, 1991). Research by Langfield Smith (1997) shows that the management accounting system is designed to ensure the correct implementation of the organization's strategy. The more appropriate a management accounting system is to the company's strategy, the more it can achieve its goals. *Therefore, the author builds hypothesis H2 as follows: Manufacturing enterprises applying flexible business strategies will increase the ability to apply SMA in manufacturing enterprises.*

### 2.3. Relationship between company culture and SMA

Corporate culture is defined by Ravasi and Shultz (2006) as a set of shared assumptions that guide what happens in the organization, by identifying appropriate behaviors for different situations. Thus, in businesses when employees receive support from the administrator, all members of the business are unanimously towards the common goal of the business, and departments in the business share each other throughout the operation, these characteristics are of a supporting culture or corporate culture management by goals. According to Erserim (2012) shows that different types of corporate culture affect the application of management accounting such as supporting culture, a culture of goal-driven governance and an innovation culture. *Therefore, the author builds hypothesis H3 as follows: In an enterprise with a supporting culture / a targeted management culture, it will increase the ability to apply strategic management accounting in manufacturing enterprises in Binh Duong province.*

### 2.4. The relationship between the accountant's qualifications with the SMA

Human resources always play an important role in the success of an organization. Therefore, the application of SMA in manufacturing enterprises will also be influenced by human resources, including the professional qualifications of accountants. Although there are currently no specific studies on the relationship between the accounting staff's qualifications factor with the application of strategic management accounting, but some scholars have confirmed that the qualifications of accountants affect the quality of management accounting information (Haldma and Laats, 2002, Ahmad, 2012). Ismail and King (2007) showed that the higher qualified accountants are, the higher the ability to apply management accounting. *Therefore, the author builds research hypothesis H4 as follows: Accounting staff with many degrees, vocational certificates, professional accounting certificates will increase the ability to apply strategic management accounting in the business produced in Binh Duong province.*

### 2.5. Relationship between SMA with operational performance of manufacturing enterprises

According to the contingency theory of management accounting, Chenhall (2003); Otley (1980); Tuan Mat (2010) explains that if organizations implement a strategic management accounting system that matches their organizational factors and their environment, they are more likely to achieve better performance. *Therefore, the author builds research hypothesis H5 as follows: The application of SMA has a positive impact on the performance of manufacturing enterprises in Binh Duong province.*

## 3. Research Methods

### 3.1. Research data

Respondents are managers and accountants of manufacturing enterprises in Binh Duong province. The sample selection

method is a simple random probability method (Businesses are selected randomly based on business information available). After the failed votes were screened, 183 were left for official analysis.

### 3.2. Measure observed variables

Inheriting Tuan Mat's scale (2010), the competitiveness factor is measured by 7 observed variables: raw material competition, human resources, sales and distribution, quality, product diversity, price. The business strategy factor also inherits from Tuan Mat's scale (2010) with 6 observed variables: making changes in design and quickly introducing products to the market; supplying products with high quality, wide distribution system, providing after-sales support services, manufacturing on-demand-delivery, manufacturing specialized goods according to customer requirements. The corporate culture factor uses Erserim's scale (2012) with 3 observed variables: the support from managers to employees in the enterprise, the mutual support from employees in the departments of the business, consensus on the overall development goal of the business. The factor of accountant qualifications inherits the scale of Ismail and King (2007), McChlery et al. (2004) including 4 observed variables: Accounting staff with intermediate and college degrees; accounting staff with bachelor degree or higher degree; accountants with domestic professional accounting certificates (chief accountant, financial director); accounting staff with international certificates of professional accounting (ACCA, CIMA ...). SMA factor is inherited from the scale of Cadez and Guilding (2008); Cinquini and Tenucci (2007), with 7 observed variables: Total Quality Management, Activity-Based Accounting, Balanced Scorecard, Product Life Cycle, Value Chain; target cost; Customer profit analysis. Performance factor is measured on financial and non-financial indicators on the basis of inheritance and modification of the scale of Hoque and James (2000) including: Standard production cost for a product ; Profits after corporate income tax; number of employees who are satisfied with the business; number of satisfied customers with the business; product quality of the enterprise; the number of new products produced by the enterprise; the market of the business.

## 4. Research results

### 4.1. Research sample

With 183 responses, the respondents are male accounting for 80.9%. Some other statistics such as 79.3% of businesses with charter capital below 50 billion, while the number of businesses with capital from 50 billion to 10 billion spent 13.7% and only 7.1% of enterprises interviewed had capital over 100 billion Vietnam dong.

### 4.2. Scale test results, model testing and research hypotheses

#### 4.2.1. Test the reliability of the scale

The analytical results are presented in Table 1 showing the redesigned scales in qualitative research achieve the required

reliability. For Cronbach's Alpha index, the value ranges from 0.720 (corporate culture scale) to 0.874 (corporate performance scale). All these values are greater than the limit value (0.7), so the scales have good reliability.

**Table 1:** Test the reliability of the scale

Factor	Number of variables	Cronbach's Alpha	General reliability
Business strategy	6	0,843	0,883
Operational performance of the business	7	0,874	0,902
Competition level	7	0,853	0,886
Qualifications of accountants	4	0,814	0,877
Corporate culture	3	0,720	0,842
Apply SMA	6	0,845	0,886

Source: Research results, 2020

If considered by general reliability, the research concepts have very high reliability when the value ranges from 0.842 (corporate culture scale) to 0.902 (Operational performance of the business). This is a high value, proving that the scales in this study are highly reliable and that other studies can use these scales for research in relevant fields. Thus, it can be concluded that the scales used are highly reliable and can be used in the next tests.

**4.2.2. Testing the validity of the data**

**Table 3:** Fornell - Larcker criteria

Factor	Business strategy	Operational performance of the business	Competition level	Qualifications of accountants	Corporate culture	Apply SMA
<b>Business strategy</b>	0,747					
Operational performance of the business	0,417	0,754				
Competition level	0,645	0,461	0,726			
Qualifications of accountants	0,472	0,354	0,396	0,801		
Corporate culture	0,305	0,506	0,395	0,440	0,800	
Apply SMA	0,351	0,573	0,352	0,464	0,298	0,751

Source: Research results, 2020

Table 3 confirms that the latent structures used are distinct from each other. Not only that, in Table 4, the HTMT values provided by SmartPLS are less than the limit value of 0.85.

**Table 4:** Coefficients of HTMT

Factor	Business strategy	Operational performance of the business	Competition level	Qualifications of accountants	Corporate culture	Apply SMA
Business strategy						
Operational performance of the business	0,476					
Competition level	0,766	0,521				
Qualifications of accountants	0,562	0,421	0,470			
Corporate culture	0,373	0,630	0,478	0,572		
Apply SMA	0,405	0,658	0,391	0,550	0,372	

Source: Research results, 2020

**4.2.4. Verify multi-collinearity phenomenon**

The results of multicollinearity analysis showed that the largest recorded VIF index was 2.080 of the observed variable CLKD2. This index is smaller than the threshold provided by Sarstedt et al. (2017) of 5. Therefore, it is concluded that the multi-collinearity phenomenon will not affect the results of SEM linear structure model analysis.

**4.2.5. Structure model evaluation**

**Convergence test**

AVE indexes of the scales shown in table 2 satisfy the condition greater than 0.5 when the smallest index is 0.526 (Competition level scale). This proves that the extraction factors are explained more than any other combination of extraction variance.

**Table 2:** Convergence test

Factor	Load external factor	AVE
Business strategy	0,713 – 0,837	0,558
Operational performance of the business	0,709 – 0,790	0,569
Competition level	0,705 – 0,748	0,526
Qualifications of accountants	0,742 – 0,845	0,641
Corporate culture	0,724 – 0,817	0,640
Apply SMA	0,776 – 0,832	0,565

Source: Research results, 2020

The external factor load factor has the limit value of 0.7. The results of Table 2 also show that these values of latent structures are greater than 0.7. Thus, it means that the observed variables converge on the research concept in which it is participating. Since both metrics pass, convergence of validation has been verified.

**4.2.3. Test of discrimination**

This shows that the test of distinction of the research concepts is satisfied. Research can move on to analysis of the next steps.

**Table 5:** R<sup>2</sup> values

Factor	R <sup>2</sup>
Operational performance of the business	0,328
Apply SMA	0,255

Source: Research results, 2020

Evaluation of linear structure model needs to consider whether the relationship between exogenous structures is

good or not. The model is assessed to be good when the R2 is satisfactory. Table 5 shows that the R2 indexes are all greater than 0.1 suggested by Falk and Miller's (1992). Thus, the structural model is considered satisfactory.

Next, the thesis uses the coefficient  $\beta$  to test the proposed research hypotheses. Figure 1 shows that all path coefficients are positive, that is, the relationships between the research concepts have a positive relationship. This means that the proposed research hypotheses are accepted.

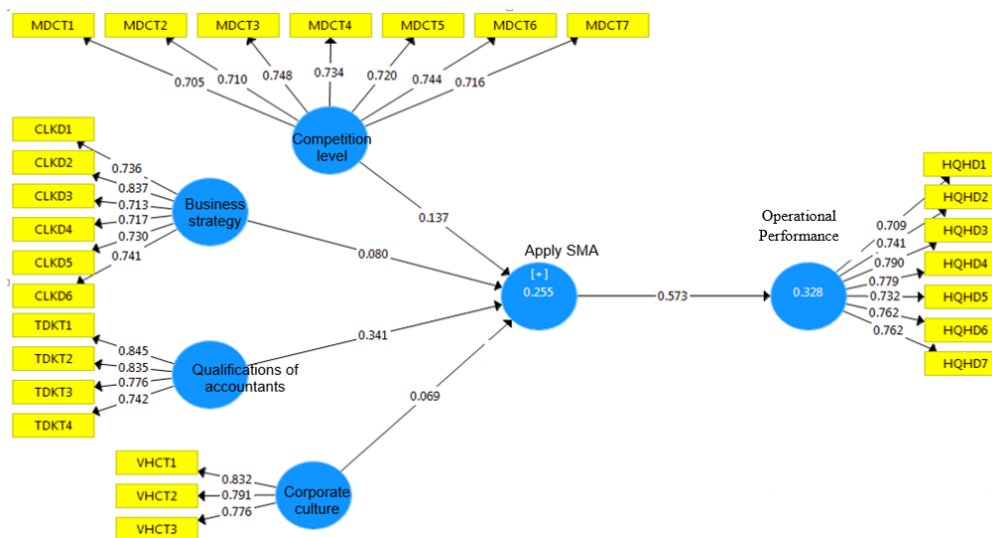


Figure 1: Results of the research model

Source: Research results, 2020

The results in Table 6 show that businesses need to use the SMA system because applying it will help improve business performance. The coefficient  $\beta$  of the relationship between the variable "Apply SMA" and "Operational performance of the business" are the largest and has a very high value (0.573). This result has once again affirmed the importance of the SMA system in order to enhance the competitiveness of businesses in the context of increasingly fierce competition in Binh Duong province - Vietnam in particular and in the world in general.

Table 6: Directions coefficient

Factor	Operational performance of the business	Apply SMA
Business strategy		0,080
Competition level		0,137
Qualifications of accountants		0,341
Corporate culture		0,069
Apply SMA	0,573	

Source: Research results, 2020

In table 7, the results show that, in addition to the above factor, the Qualifications of accountants ( $\beta$  aggregate = 0.196) has the second biggest impact to Operational

performance of the business

This is a very necessary conclusion for business leaders to pay attention because many businesses in Vietnam today still tend to use part-time accountants to minimize costs.

The results in Table 7 also show that in order to apply this SMA to be carried out smoothly, businesses need to pay attention to improving the qualifications of accountants ( $\beta = 0.341$ ) so that they can quickly master the system and use it in the most effective way.

In addition, the high competition level ( $\beta = 0.137$ ) will put pressure on businesses to innovate and implement the strategic management accounting system to be able to catch up with the trend and improve the competitiveness of the business.

The factors "Business strategy" and "Corporate culture" have a positive impact on the ability to apply SMA, but this impact is very small with the coefficient  $\beta$  respectively 0.08 and 0.069.

Table 7: Aggregate effects

Factor	Business strategy	Operational performance of the business	Competition level	Qualifications of accountants	Corporate culture	Apply SMA
Business strategy		0,046				0,080
Competition level		0,079				0,137
Qualifications of accountants		0,196				0,341
Corporate culture		0,039				0,069
Apply SMA		0,573				

Source: Research results, 2020

Surprisingly, the small intermediary role of "Apply SMA" in strengthening the relationship between "Operational performance of the business" and the factors "Business strategy", "Competition level" and "Corporate culture". The results in Table 9 show that the coefficient  $\beta$  for this indirect effect is 0.046, 0.079 and 0.039 respectively. This can be explained that although business leaders have paid attention to building and applying the SMA system to improve the business performance of the business, they still consider this as the task of the accounting department in the business. Therefore, building a business strategy based on the level of market competition often neglects to develop strategies for developing SMA. On the other hand, the accounting department is a fairly specific part of the business. The professional characteristics that need to comply with the accounting rules make it difficult for the culture of the business to change the habits and styles of the members of this department.

**Table 8:** Indirect effects

Factor	Indirect effects
Business strategy-> Apply SMA-> Operational performance of the business	0,046
Competition level-> Apply SMA-> Operational performance of the business	0,079
Qualifications of accountants-> Apply SMA-> Operational performance of the business	0,196
Corporate culture-> Apply SMA-> Operational performance of the business	0,039

Source: Research results, 2020

## 5. Conclusion

The research results show that factors affecting the application of SMA to improve operational efficiency in manufacturing enterprises in Binh Duong province are arranged in order from high to low: Qualifications of accountants, Competition level, business strategy, Corporate culture; and Apply SMA has a strong and positive influence on the performance of manufacturing enterprises in Binh Duong province.

This shows that manufacturing enterprises in Binh Duong province that want to increase their business efficiency need to actively apply the information system provided by SMA. To implement and apply SMA effectively, businesses need to focus on recruiting and training a team of qualified accountants who are knowledgeable about modern accounting techniques. And when the level of competition is higher, businesses need to plan appropriate business strategies, build a supportive culture / a targeted management culture that will increase the ability to apply SMA, thereby promote and improve the operational efficiency of production enterprises.

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