

Factors affecting the application of ABC costing method in manufacturing firms in Vietnam

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ABSTRACT

In the current market economy with fierce competition, the number of newly established businesses is increasing, but the number of businesses that are unprofitable or have low profit also accounts for a large proportion. Accordingly, one of the main reasons for low operational efficiency is an outdated management method and low-cost efficiency. Previous studies on cost management focused primarily on traditional cost methods. Different from previous studies, this study explores the relationship between the application of the cost-based method (ABC costing-method) and the improvement of business performance in manufacturing firms in Ho Chi Minh City. The authors conducted quantitative research by analyzing the Structural equation modeling (SEM) with AMOS - SPSS with secondary data collected from the survey of managers of 620 firms. The research results show that if businesses make good use of the ABC costing-method, their business performance will be significantly improved.

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1. Introduction

According to Kaplan and Cooper (1998), norms and standards of progressive costs vary with the development of technology, management methods, and new business methods, whereby businesses need to timely grasp new trends to cost-effective management, thereby contributing significantly to the business performance of the unit. As such, one of the essential issues posed to managers of businesses is cost control. In particular, ABC costing-method is the preeminent method to help businesses increase operational efficiency and competitiveness. Based on the information that this method provides, administrators know which activities create added value, which activities can be eliminated with the purpose to save costs for the firm. Besides, this method also helps managers to determine the cost of products more accurately, thereby pricing products more accurately. At the same time, ABC costing-method (Chouhan et al., 2017; Amiri & Khmidi, 2019; Le & Nguyen, 2019) provides information for the firm to focus on which groups of customers and which markets are most profitable for the firm to increase competitiveness. This is important for firms to rely on information about the estimated costs allocated to corporate resource users. This method also provides a clear picture of the resources used for business activities that help the firm manage costs effectively. The application of the ABC method has been evaluated quite scientifically by the researchers, but there are very few articles sharing about the experience of applying this model in practice (Jamaliah & Maliah, 2008; Henrik & Erling, 2011; Ibatova et al., 2018). According to Huynh and Gong (2014) and Huynh et al. (2013, 2014), the application of this method to firms in Vietnam is very limited. According to our research, comprehensive research on factors affecting the application of the ABC method to improve business performance for manufacturing firms in Ho Chi Minh City is currently lacking. This is the research gap of this method in Vietnam in general and in Ho Chi Minh City in particular. Finding the factors that affect the application of the ABC method to manufacturing firms in Ho Chi Minh City is important, helping managers to identify suitable conditions to be able to successfully apply this method to each specific enterprise helps improve business efficiency at the unit.

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2. Literature review

Swenson (1995) studied the benefits of ABC costing-method in manufacturing enterprises. The research results have confirmed that all businesses have positive business results when applying this method. Accordingly, managers believe that production costs are improved and cost control is more effective. The ABC method helps managers see the cost of each customer and the profit each customer brings. Besides, the study also showed that 20% of enterprises in the sample survey using ABC method use information to make optimal decisions about resources; 70% of businesses want to use information from this method to make decisions about prices and product packages. On the other hand, the study also shows the support of management and the need to use the information provided from the ABC method to meet the cost management system in enterprises. The study of Gosselin (1997) examines the organizational structure and the status of business strategy on the acceptance and implementation of operational management. The sample was conducted on several subsidiaries in several manufacturing groups in Canada. Activity Management (AM) research is divided into three levels: activity analysis (AA) research, activity cost analysis (ACA), and ABC costing-method. Activity analysis (AA) is a prerequisite for performing cost analysis for each activity under the ACA method. Research shows that the strategy influences the acceptance of operational management (AM). The organizational structure clearly distinguishes functions and centralized powers from which it is easy to accept governance. Enterprises with a competitive strategy easily accept the application of the cost method. Innes et al. (2000) studied the survey and analyzed the acceptance of the ABC method and built a standard model for this method on 1,000 units. The study found that significant adoption rates of the ABC method focus on large-scale businesses and financial enterprises. The research results show that there is a tendency to apply the ABC method more to economic units, but they have little experience in applying this technique in practice. Also, Innes et al (2000) also argue that the implementation depends heavily on methods, techniques and the costs incurred when implementing also limit this application. Cotton et al. (2003) studied ABC costing-method in New Zealand and England. The results of the study suggest that the difference in acceptance of the ABC method in New Zealand and the UK is due to the support of the leader. The active participation of accountants is also an important factor contributing to the successful implementation of the ABC method. The study also showed that there is no relationship between industry sectors and the adoption of this method. Small businesses have also studied the ability to apply ABC and deployment resources. Businesses that successfully apply this method also reduce operating costs, develop a more reasonable product pricing method, evaluate results and make management improvements, thereby improving efficiency and operational results for the unit. Research by Huynh et al (2013) shows that the proportion of enterprises applying the ABC method in the world is very limited. On the other hand, Huynh et al (2013 a) suggest that this approach applies to small and medium enterprises. Further, this study also shows that it is possible to combine the ABC method with cost norms to be a strategic decision support tool.

Research by Dubihlela and Rundora (2014) on employee training, management commitment to implementing the ABC method in small and medium enterprises shows that the application of the ABC method has a positive impact on performance results. Based on 149 sample surveys in South Africa, the model conducted by quantitative research shows that the employee training factor and the management commitment and support factor have a positive effect on the acceptance of the ABC method adoption. Ramezani (2015) studied the problems of implementing ABC costing-method in Iran. The study examines the obstacles when implementing the ABC method in Europe and the US where there are similar conditions in Iran. The results showed that 7 factors had similar results. The study only stops at the level of identification of similarly interfering factors, not measuring the impact level of each factor.

In summary, the studies confirmed that the number of businesses that accept ABC is quite large in many countries. To apply the ABC method, business managers consider the impact factors such as management's awareness and support, market competitiveness, technical implementation methods, and qualifications. accounting staff, training, and training. On the other hand, the research also confirms that the successful application of the ABC method also contributes to improving the business performance of the units. This is an important basis for the author to build a research model for the article on factors affecting the application of the ABC method in manufacturing enterprises in Ho Chi Minh City.

2.1 ABC costing-method

Activity costing (ABC) is an activity-based costing system. According to Krumwiede and Roth (1997), the ABC method is a centralized accounting management system that measures costs, activities, products, customers and cost objects. This method allocates costs to cost objects based on the amount of activity used by that cost object. According to Horngren (2003), the ABC method is an improvement of the traditional pricing method that focuses on the specific activities of the basic cost objects. This method aggregates the cost for each activity and allocates the cost for each product or service based on the activity consumed by that product or service. According to Maher (2006), the ABC method is an operational-based management tool. First, the cost is allocated to activities, then it is allocated to each product or service based on the activities that this product or service has consumed. ABC provides information on the activities and resources needed to carry them out. Therefore, ABC is not only a process of allocating costs but also changing managerial thinking from cost-cutting to improving business value. It can be seen that many scholars around the world have come up with different concepts about the ABC method. In general, these authors acknowledge that the ABC method overcomes the disadvantages of the systematic costing method. The ABC methods considered to be a strategic cost management tool, helping businesses determine which activities create value and which do not create value, thereby continuously improving the business process. to lower production costs

and improve the centuries of businesses In a nutshell, the ABC method is a system of measuring costs, aggregating and allocating the cost of resources into activities based on the use of resources, and then the costs of activities. are allocated to pricing objects based on their usage.

2.2 Pros and cons of the ABC costing method

According to the ABC method, general production costs are aggregated by activities, that is, costs are aggregated according to the source of costs. Applying the ABC method, management accounting has the flexibility in using the cost allocation criteria for the product. This pricing method takes care of all the general costs, including the costs of the above functional parts, and so this allocation goes beyond the traditional boundaries for a long time only calculating costs incurred at the workshop. The application of the ABC method also contributes to supporting marketing activities in determining product structure as well as price policy. The biggest drawback of the ABC method is costly and time-consuming. When applying the ABC method, there are still many cases where it is not possible to allocate general production costs accurately. The ABC method requires the cooperation of many departments in the business, the support of business leaders and employees in the business, especially the accounting department.

3. Research methods and research hypothesis

3.1. Data and methodology

The sample in the official study was conducted by a non-probability sampling method, collecting data from 620 enterprises out of more than 2,000 manufacturing enterprises (corresponding to 13.34%) on the city table. HCM. Subjects of the survey are representatives of the board of directors of the businesses in charge of the accounting and financial work of the unit. The author desires to gather more businesses for the survey but cannot because the conditions of the survey do not allow. The time for conducting the survey and data collection is from July 2019 to October 2019 in the main production sectors of Ho Chi Minh City.

Table 1

Statistics of surveyed firms by industry sectors

Scope of activities	Symbol	Number of firms	Proportion
Customer goods	HTD	187	30.16
Food and beverage industry	TPTU	175	28.22
Industrial manufacturing industry	CN	168	27.1
High-tech industry	CNC	58	9.35
Medical and pharmaceutical industry	YKDP	15	2.42
Agricultural production	OTCG	11	1.77
Motor vehicle industry	NN	6	0.98
Total		620	100%

The main data analysis method used for this study is the Structural equation modeling (SEM) model analysis method with AMOS - SPSS. Therefore, to obtain a reliable estimate for this method, according to Tauchen (1986), the sample often has to be larger than $n > 200$. Based on the rule of experience of Hair et al. (2010), with $15-44$. For an estimated variable, the minimum sample size needed for this study is $396 = 44 \times 9$, or $n > 50 + 8 \times \text{number of variables} = 50 + 8 \times 9 = 122$. Combining these principles, the sample size at a minimum chosen by the author for the official research is $n \geq 396$. Thus, with 620 surveyed firms to collect data for analysis, it has exceeded the sample of at least 224 samples.

3.2. Research models and hypotheses

The theory of contingency has been developed and used by management accounting researchers between the 1970s and 1980s. The theory of contingency has studied management accounting in general and the ABC method in particular. an organization in its interaction with the operating environment of that organization. In other words, an accounting system is appropriate for an organization depending on the specific characteristics and operating environment. This means that building an effective ABC costing method must be appropriate for each organization, with the internal and external environment in which it operates. Based on the contingency theory, it shows how the types of factors of business characteristics and environment influence the use of information provided by the ABC cost method. The study of Gordon & Miller (1976) is applied to the thesis, according to which the theory of contingency will be applied in explaining the influence of the Environmental factor - The degree of competition; cost control strategies and organizational identity factors - The level of information technology to the behaviour of applying the ABC method of business managers. According to Hanley and Spash (1993), the theory of cost-benefit analysis started in 1808 by Albert Gallatin mentioned in an irrigation project when comparing benefits and costs. By 1936, this theory was formally mentioned in an American flood control law when undertaking an irrigation-related project that had to consider the benefits and costs. Later, this theory was expanded by Eckstein (1958) for the economics of social welfare. The benefit relationship theory indicates that the benefits resulting from the provision of accounting information must be considered with the costs of creating and providing such information. In general, the benefits from accounting information can be used for users: they are related parties, investors and even firms; while the cost is borne by the person who makes the

accounting information report but broadly, this cost is borne by society. Therefore, this relationship must always be considered and balanced to ensure that the costs generated do not exceed the benefits. The purpose of management accounting is to serve the needs of corporate governance, so different organizations have different management accounting information system requirements, applying different management accounting techniques. This theory contributes to the explanation of the Awareness factor of administrators; Methods and techniques for implementation; Qualifications of accountants; training as well as information technology level of an organization when applying the ABC method in particular for businesses.

The information systems theory began to be interesting in the mid-1960s with the main role in discussing data selection skills and data processing technology solutions. According to Vodáček (1998), the theory of information systems studies the objectives and objects associated with the information used, requiring the governance process to be standardized to achieve planning and testing functions. control, and always find ways to provide effective decision-making information in tasks. Based on the content of this theory, the author applies this theory as a basis to determine the cognitive factors of administrators; The unit's information technology level in the research model on factors affecting the author's application of ABC cost method.

Inheriting the previous studies and the application of the theories above, the author formulated the research model and the research hypotheses as follows:

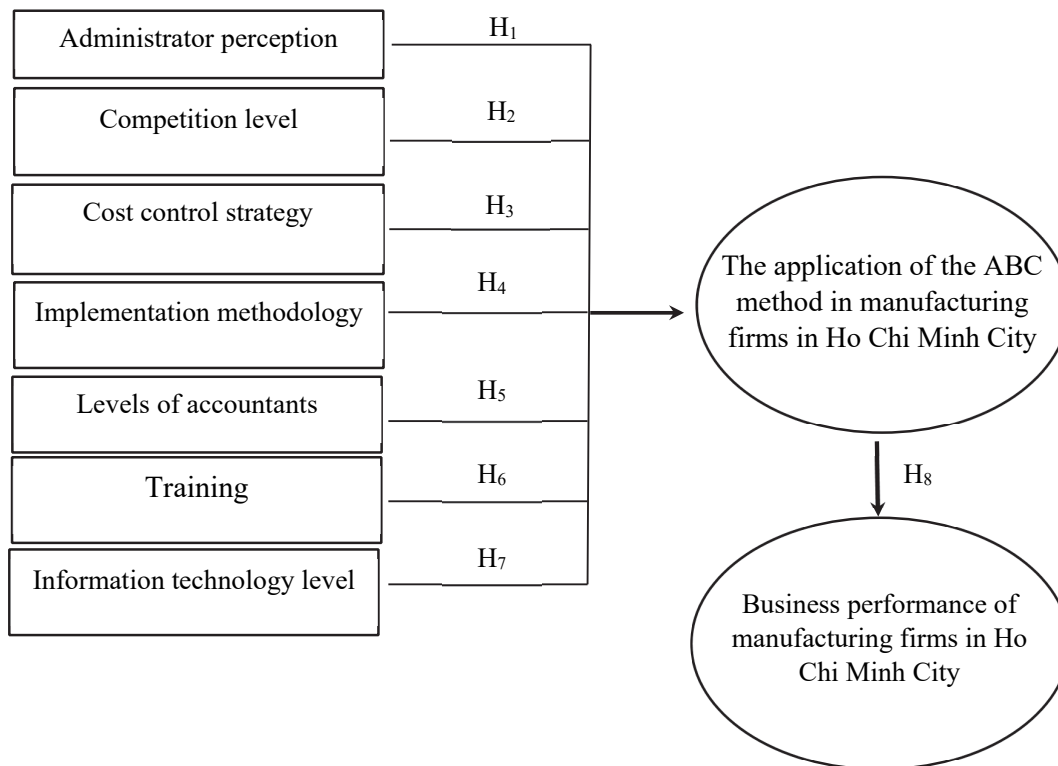


Fig. 1. Research model

To consider the influence and importance of factors affecting the application of the ABC method to improve the business performance of manufacturing firms, the assumptions are formulated as follows:

Hypothesis H1: The administrator perception has a positive (+) effect on the application of the ABC method to improve the business performance of manufacturing firms in Ho Chi Minh City. Chi Minh.

Hypothesis H2: The competition level has a positive (+) effect on the application of the ABC method to improve the business performance of manufacturing firms in Ho Chi Minh City.

Hypothesis H3: The cost control strategy element has a positive (+) effect on the application of the ABC method to improve the business performance of manufacturing firms in Ho Chi Minh City. Chi Minh.

Hypothesis H4: Implementation methodology has a positive (+) impact on the application of the ABC method to improve the business performance of manufacturing firms in the city. Ho Chi Minh.

Hypothesis H5: The levels of accountants have a positive (+) effect on the application of the ABC method to improve the business performance of manufacturing firms in Ho Chi Minh City. Chi Minh.

Hypothesis H6: Training has a positive (+) effect on the application of the ABC method to improve the business performance of manufacturing firms in Ho Chi Minh City.

Hypothesis H7: The information technology level has a positive (+) effect on the application of the ABC method to improve the business performance of manufacturing firms in Ho Chi Minh City. Chi Minh.

Hypothesis H8: The application of the ABC method has a positive (+) effect on improving the efficiency of the business operations of manufacturing firms in Ho Chi Minh City.

3.3. Model specification

We develop a multivariate regression equation to test the research hypotheses as follows:

On a theoretical basis, the proposed regression equation reflects the correlation between factors affecting the application of the ABC method in manufacturing firms in Ho Chi Minh City. Follow the regression equation:

$$VD = \beta_0 + \beta_1 NT + \beta_2 CT + \beta_3 CP + \beta_4 PK + \beta_5 TD + \beta_6 HL + \beta_7 CN + \varepsilon$$

where:

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7$: model regression coefficients

ε : error

Dependent dock. Example: The application of the ABC method.

Independent variables:

NT: Administrator perception;

CT: Competition level;

CP: Cost control strategy;

PK: Implementation methodology;

TD: Levels of accountants;

HL: Training;

CN: Information technology levels.

4. Empirical results

4.1 Measurement scales

The results of reliability test by Cronbach's Alpha coefficient show that: 44/44 observed variables of 9 factors in the research model are all standard, all factors are correlated with the total variables greater than 0.3; Cronbach's alpha coefficient is greater than 0.7 so it can be concluded that the reliability of the scales used in the model ensures the permitted reliability. The following table summarizes the analysis results to check the reliability of the scales used in the study.

Table 2
Summary of Cronbach's Alpha test results

No.	Scale	Number of initial observed variables	Number of variables observed after testing	Cronbach's Alpha	Corrected Item-Smallest Total Correlation
1	Administrator perception (NT)	5	4	0.803	0.590
2	Competition level (CT)	7	5	0.845	0.574
3	Cost control strategy (CP)	4	4	0.824	0.625
4	Implementation methodology (PK)	4	4	0.882	0.657
5	Levels of accountants (TD)	5	4	0.812	0.596
6	Training (HL)	5	4	0.862	0.684
7	Information technology levels (CN)	4	4	0.808	0.599
8	The application of the ABC method in manufacturing firms in HCM City (VD)	4	4	0.818	0.618
9	Business performance of manufacturing firms in HCMC (HQ)	6	6	0.881	0.648

4.2 EFA discovery factor analysis

Exploratory Factor Analysis (EFA)

When analyzing EFA for scales in the research model, the author uses the Principal Component Analysis method with Varimax rotation and stops extracting elements with Eigenvalue > 1. EFA results show KMO coefficient = 0.878 and the Barlett test with Sig. = .000 (<.05) indicate that the EFA analysis is appropriate.

Table 3**KMO Analysis and Bartlett's test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.878
Bartlett's Test of Sphericity	Approx. Chi-Square	11926.374
	Df	741
	Sig.	.000

At Eigenvalue = 1.085 > 1 extracted from 9 factors from 44 observed variables with a total variance extracted is 56.632% (> 50%) and no new factors have been formed compared to the proposed research model. Thus, after EFA analysis, these 44 observed variables ensure the EFA analysis standard (satisfactory). No variables were excluded at this stage

Table 4**Total Variance Explained**

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	9.212	23.621	23.621	8.790	22.538	22.538	5.630
2	2.771	7.105	30.727	2.368	6.072	28.610	4.555
3	2.446	6.273	36.999	2.034	5.217	33.826	4.417
4	2.329	5.973	42.972	1.977	5.070	38.896	3.825
5	2.240	5.745	48.717	1.788	4.584	43.481	4.244
6	1.973	5.058	53.774	1.528	3.918	47.398	3.875
7	1.817	4.659	58.434	1.388	3.559	50.957	3.816
8	1.574	4.036	62.469	1.128	2.893	53.850	4.504
9	1.531	3.925	66.395	1.085	2.783	56.632	5.154
10	.807	2.069	68.463				

Using the EFA method, we analyze each variable separately to test the multidirectional of the factor and evaluate the scale for the factors.

Table 5**The summary of EFA analysis of scales**

STT	Scales	KMO	Eigenvalues	Variance	Note
1	Administrator perception (NT)	0.787	2.021	50.513	Accept
2	Competition level (CT)	0.857	2.631	52.621	Accept
3	Cost control strategy (CP)	0.783	2.163	54.066	Accept
4	Implementation methodology (PK)	0.742	2.700	67.496	Accept
5	Levels of accountants (TD)	0.790	2.087	52.180	Accept
6	Training (HL)	0.820	2.453	61.313	Accept
7	Information technology levels (CN)	0.794	2.062	51.541	Accept
8	The application of the ABC method in manufacturing firms in HCM	0.808	2.125	53.127	Accept
9	Business performance of manufacturing firms in HCMC (HQ)	0.893	3.346	55.770	Accept

As a result, all factors being analyzed have factor loading > 0.55; Eigenvalue > 1, all Sigs = 0.00 < 0.05, showing that factor analysis is appropriate. Besides, all of the extracted variances of factors are > 50%. Thus, the conduct of factor analysis explores the factors affecting the application of the ABC method to improve the efficiency of business operations in manufacturing enterprises in Ho Chi Minh City. The scales after preliminary analysis remain the same and are used in official research through CFA affirmation factor analysis and testing of the research hypothesis by the Structural equation modeling (SEM) model in the research section.

*Empirical Results of the Confirmatory Factor Analysis (CFA)***Table 6****Summary of CFA results with standardized regression weights (Standardized Regression Weights)**

HQ2	←	HQ	0.844	CT6	←	CT	0.606	TD4	←	TD	0.743	NT5	←	NT	0.63
HQ3	←	HQ	0.774	PK3	←	PK	0.974	TD3	←	TD	0.813	CN1	←	CN	0.79
HQ1	←	HQ	0.71	PK4	←	PK	0.965	TD2	←	TD	0.717	CN3	←	CN	0.682
HQ5	←	HQ	0.701	PK2	←	PK	0.625	CP1	←	CP	0.81	CN4	←	CN	0.681
HQ4	←	HQ	0.722	PK1	←	PK	0.622	CP2	←	CP	0.685	CN2	←	CN	0.713
HQ6	←	HQ	0.7	HL4	←	HL	0.846	CP4	←	CP	0.683	VD1	←	VD	0.737
CT5	←	CT	0.79	HL3	←	HL	0.77	CP3	←	CP	0.771	VD3	←	VD	0.725
CT1	←	CT	0.763	HL1	←	HL	0.767	NT1	←	NT	0.773	VD2	←	VD	0.741
CT3	←	CT	0.701	HL2	←	HL	0.748	NT4	←	NT	0.663	VD4	←	VD	0.713
CT2	←	CT	0.734	TD1	←	TD	0.828	NT2	←	NT	0.732				

In the summary table of CFA results (Table 6) with standardized regression weights, all standardized weights are > 0.5 so the observed variables of the scale have convergent values and P-value values are statistically significant. The results show that

the model is suitable for the data with Chi - squared = 1255.238; Degrees of freedom = 659; CMIN / df = 1,905 <2; P value = 0.000. Other measurement criteria also reached the required value: CFI = 0.951 > 0.9; GFI = 0.908 > 0.9; TLI = 0.945 > 0.9; RMSEA = 0.038 < 0.05. All the weights of the variables are > 0.5, P values = 0.000 should be statistically significant.

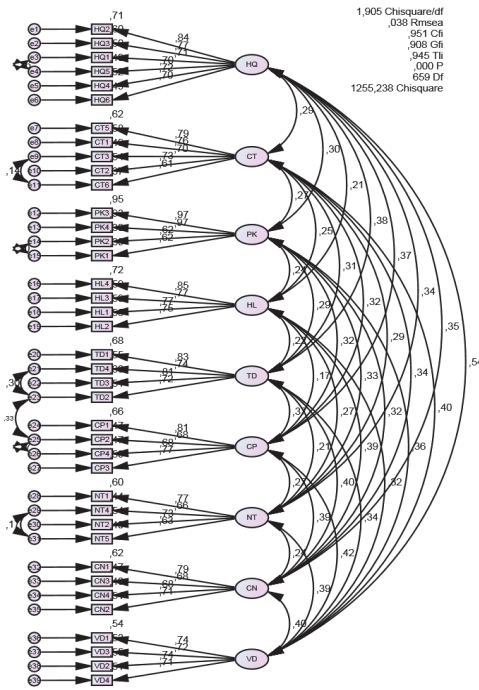


Fig. 2. CFA result model

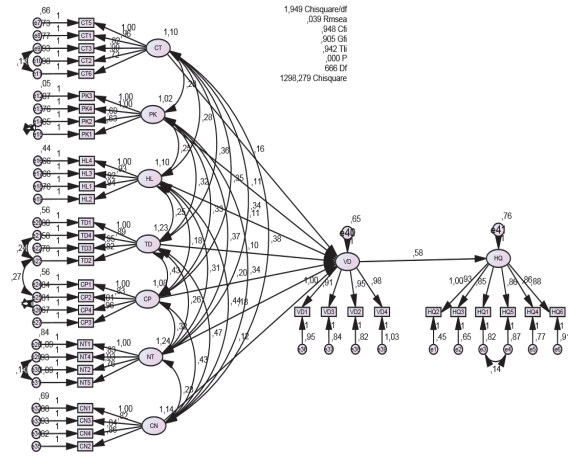


Fig. 3. SEM test results of the theoretical model

Testing theoretical models and research hypotheses with Structural equation modeling (SEM)

Testing theoretical models

The results show that the model has a good fit with data, Chi-squared = 1298.279, degrees of freedom = 666, CMIN / df = 1.949 <2, P values = 0.000. Other measurement criteria also met the required values: TLI = 0.942; CFI = 0.948; GFI = 0.905 > 0.9, RMSEA = 0.039 < 0.05. All the weights of the variables are > 0.5, P values = 0.000 should be statistically significant. The indicators show that the theoretical model is suitable for the survey data. The results show that all relationships have a positive and direct impact on the application of the ABC method to improve the efficiency of business operations in manufacturing firms in Ho Chi Minh City (See Fig. 2 and Fig. 3).

Table 7

Results of testing the causal relationship between concepts in the theoretical model

		Estimate	S.E.	C.R.	P
The application of ABC method in manufacturing firms in HCM City (VD)	← Competition level (CT)	0.160	0.047	30.422	***
	← Implementation methodology (PK)	0.114	0.045	20.566	***
	← Training (HL)	0.107	0.046	20.360	***
	← Levels of accountants (TD)	0.101	0.045	20.256	***
	← Cost control strategy (CP)	0.196	0.050	30.894	***
	← Administrator perception (NT)	0.184	0.045	40.069	***
	← Information technology levels (CN)	0.117	0.052	20.265	***

Table 7 shows that all the hypothesized relationships in the research model are proved by testing the SEM model. The results of estimating the weights are all positive (+) and statistically significant. That proves the concepts in the theoretical model: Administrator perception (NT); Competition level (CT); Cost control strategy (CP); Implementation methodology (PK); Levels of accountants (TD); Training (HL); Information technology levels (CN). The concept has a positive impact on the application of the ABC method to improve the efficiency of business operations in manufacturing enterprises in Ho Chi Minh City.

Testing and estimating theoretical models with Bootstrap

The Bootstrap test is used to re-estimate the parameters in the theoretical model that are estimated by the optimal estimation method (Maximum Likelihood).

Table 6
Estimated results by Bootstrap with N = 1000

	Parameter	SE	SE-SE	Mean	Bias	SE-Bias	C.R
The application of the ABC method in manufacturing firms in HCM City (VD)	← Competition level (CT)	00.053	00.001	00.162	00.002	00.002	1
	← Implementation methodology (PK)	00.043	00.001	00.112	00.001	00.002	00.5
	← Training (HL)	00.049	00.001	00.11	00.003	00.002	10.5
	← Levels of accountants (TD)	00.048	00.001	00.101	0	00.002	0
	← Cost control strategy (CP)	00.059	00.001	00.197	00.001	00.002	00.5
	← Administrator perception (NT)	00.05	00.001	00.183	-00.001	00.002	00.5
	← Information technology levels (CN)	00.056	00.001	00.116	-00.001	00.002	00.5

In this study, we performed Bootstrap by repeated sampling with a sample size of N = 1000. The value of CR is less than 2 so we can confirm the bias is very small and not statistically significant in reliability. 95%. This proves that the estimates in the model are reliable.

Testing the research hypotheses

Table 7
Regression coefficient of the research model

Hypothesis	The relationship	Estimate	S.E0.	C.R.	P
H1	← Competition level (CT)	0.161	0.047	30.422	***
H2	← Implementation methodology (PK)	0.111	0.045	20.566	0.010
H3	← Training (HL)	0.108	0.046	20.360	0.018
H4	← Levels of accountants (TD)	0.107	0.045	20.256	0.024
H5	← Cost control strategy (CP)	0.195	0.045	40.069	***
H6	← Administrator perception (NT)	0.197	0.050	30.894	***
H7	← Information technology levels (CN)	0.120	0.052	20.265	0.024
Business performance of manufacturing firms in HCMC (HQ)	← The application of the ABC method in manufacturing firms in HCM City (VD)	0.571	0.049	110.749	***

After the overall structure model is analyzed and tested, the next step is to look at the estimated values to examine causal relationships. Through the above data table, we see that all factors have a positive impact on the application of the ABC method in manufacturing firms in Ho Chi Minh City. The administrator perception is the strongest factor (standardized weight is 0.197). The second most powerful factor is the cost control strategy (standardized weight is 0.195). The third most powerful factor is the competition level (standardized weight is 0.161). The fourth is the information technology level factor with a standardized weight of 0.120, the fifth is the Method and implementation factor (standardized weight is 0.111) and then the training factor (the standardized weight is 0.108). Finally, the levels of accountants (standardized weight is 0.107) have the lowest impact. There is a strong correlation between the application of the ABC method and the improvement of business performance in manufacturing firms in Ho Chi Minh City. Estimated results show that this hypothesis is accepted and achieved a standardized beta value of 0.571 with significance level $P = 0.000 < 0.05$. This result confirms the positive relationship and the impact between factors Applying the ABC cost method to improve business performance in manufacturing enterprises in Ho Chi Minh City. We have $P\text{-value} = \text{Sig.} = 0.000 < 0.05$ and the value of standardized beta equals 0.571. If the application of the ABC cost method changes by 1 point (level), it will increase the efficiency of business operations in a manufacturing firm in Ho Chi Minh City (or decrease) 0.571 points without considering the other factors.

5. Conclusion and managerial implications

The research results indicate that all hypotheses confirm the effects of the application of the ABC method improve the business performance in manufacturing firms in Ho Chi Minh City. Accordingly, the administrator perception, competition level, the cost control strategy, Implementation methodology, levels of accountants, training, and information technology level have positive impacts on the application of the ABC method. At the same time, the application of the ABC method has a positive impact on improving business performance in manufacturing firms in Ho Chi Minh City. In particular, the three factors that have the strongest impact on the application of the ABC method to the improvement of business performance in manufacturing firms in Ho Chi Minh City are the competition level, administrator perception and the cost control strategy. The research results show that the application of the ABC method is advantageous. To improve business performance in enterprises, business administrators need to pay attention to the following issues:

Managers should be aware of the need for the application of the ABC cost method in determining the cost and cost of the unit's product. The manager has to have a clear direction to build the ABC costing-method system for the unit. At the same time, he or she should provide reasonable spending to deploy this application. To illustrate, firms need to perform well the training for staff, improve the levels of an accountant to be able to implement the technical methods in the conditions of using information technology. Therefore, the application of the ABC cost method is performed methodically and effectively at the unit. On the other hand, managers need to consider cost control as an important work and have a clear and specific control strategy for firms. Cost-effective management is one of the decisive factors in improving the operational efficiency of the

unit. Moreover, firms need to implement good inventory policies, pricing policies, policies to diversify and improve product quality to improve their competitiveness in a fiercely competitive environment. Proposed actions will help businesses to apply the ABC method smoothly and contribute to improving the performance of the business. This research studies the impact of several internal factors that have not been studied that of external factors affecting the application of the ABC cost method. On the other hand, the scope of the research is limited to manufacturing firms in Ho Chi Minh City because the sample size is not representative of firms in every industry.

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