

Building a System of Assessment Criteria for Responsibility Centers at Garment Enterprises in Hanoi



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ABSTRACT: Building the textile industry into one of the spearhead industries, oriented to export, and capable of meeting the increasing domestic consumption demand is the goal of Hanoi City. Garment enterprises in Hanoi city need to establish responsibility centers in enterprises and must build a system of criteria for assessing responsibility centers in accordance with their development strategy. The article studies data from 120 garment enterprises on the factors affecting the building of a system of criteria for assessing responsibility centers at garment enterprises in Hanoi. The results show that the usefulness, ease of use, and influence of the environment all have a positive and statistically significant relationship to the intention to apply the responsibility center evaluation criteria system at this enterprise.

KEYWORDS: assessment criteria, responsibility center, garment enterprises.

1. INTRODUCTION

In the context that major export markets of textiles and garments such as the US and Europe have large inventories and purchasing power has plummeted, Vietnamese textile and garment enterprises are still trying to find enough ways to maintain production. The important thing now is to maintain production and retain workers while waiting for the market to recover. Also trying to find solutions to overcome difficulties, garment companies in Hanoi have strongly innovated technology in the direction of automation and digital transformation in the fields of human resource management, production, transactions, and signing orders. Effective business organization and cost control are two of the factors that help garment enterprises in Hanoi overcome some of the difficulties. To organize production and business effectively, enterprises need to decentralize management to form responsibility centers. In addition, the enterprise must evaluate the results achieved by the responsibility centers as well as the shortcomings, causes, and responsibilities of related departments. This means that businesses need to have a system of criteria for assessing responsibility centers appropriately

Therefore, to enhance competitiveness in the market, garment enterprises in Hanoi must develop not only financial but also non-financial strategies. To do this, businesses need to build a system of criteria to evaluate responsibility centers in accordance with their development strategies. This article aims to find out the factors affecting the development of a system of criteria for assessing responsibility centers at garment enterprises in Hanoi.

2. LITERATURE REVIEW

Method of building responsibility center evaluation criteria

The responsibility center manager is responsible for achieving the optimal relationship between inputs and outputs (Hansen, Mowen, and Guan, 2009). Usually, this is a cause-and-effect relationship. For example, in the manufacturing department, where input materials are a tangible part of the finished product, control is focused on producing the product in the required time, in the desired volume, in accordance with quality standards and characteristics, and with minimal input. However, in some cases, input and output are not directly related. For example, advertising costs are an input that is expected to increase revenue, but revenue depends on many factors, not only advertising, so the relationship between increased advertising costs and increased revenue is more difficult to determine.

Also, according to Hansen, Mowen, and Guan (2009), the assessment of responsibility centers is based on the principle of controllability. Controllability is the degree of influence a particular manager has over the costs, revenues, and related amounts for which the manager is responsible. Controllable costs are all costs that are affected by a manager's decision. Uncontrollable costs are costs that are not affected by management decisions (Garrison, 1991). This principle holds that managers are responsible

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for the decisions they have the power to make.

There are many views that agree that managers should be evaluated solely on the amounts under their control. However, strict application of the controllability principle has two disadvantages. First, holding managers accountable only for factors directly under their control will not encourage them to take actions that affect events beyond their control. Second, when the principle of controllability is applied, managers are held accountable for their actions, leading to counter-functional activities that can emerge. Performance measures all cause opportunism to emerge through accounting manipulations.

Criteria to evaluate cost centers

Financial indicators: indicators reflect the fluctuation of direct material costs and direct labor costs by product type, cost center, and the whole enterprise in the implementation period compared to the estimate period; The indicators reflect the fluctuation of general production costs by type of variable and fixed costs between the implementation period and the estimate period; the indicators reflect the price fluctuation by product type, each cost center, and the total cost of the implementation period compared with the estimate period..

Non-financial indicators: indicators reflecting the quality of products and services (product quality index, product specifications, designs, etc.) Indicators reflect internal processes (quantity, quality, price of raw materials, efficiency of machine hours, etc.) in the performance period compared to the estimate period; The indicators reflect the process of learning and development (training, fostering knowledge, production practice skills, etc.) in the implementation period compared with the estimate period.

Criteria to evaluate revenue centers

Financial indicators: Indicators reflect the change in revenue of each type of product, each center and the whole company in the implementation period compared with the estimated period.

Non-financial indicators: indicators that reflect the relationship with customers (customer growth rate; rate of customers returning or not returning to buy products; rate of customer complaints and disputes; etc.) performance period compared to the estimated period; The indicators reflect the internal process (growth rate of sales contracts, level of improvement in the product distribution process, etc.) performance period compared with the estimate period; The indicators reflect the learning and development process (percentage of employees attending training courses and seminars; percentage of employees participating in marketing refresher courses; remuneration, sales supervision, etc.) during the implementation period compared to the budget period.

Criteria to evaluate profit centers

Financial indicators: indicators reflect the change in profit of each type of product, each center and the whole company in the implementation period compared to the estimated period.

Non-financial indicators: indicators that reflect the relationship with customers (customer satisfaction rate on selling prices, customer structure, customer segments, market share growth rate, etc.) performance period compared with the estimate period; The indicators reflect internal processes (structure of products produced, consumed, etc.) in the implementation period compared to the estimate period; The indicators reflect the learning and development process (percentage of employees attending trainings, seminars on production management, sales, finance, etc.).

Criteria to evaluate investment centers

Financial indicators: indicators of return on equity; revenue profitability; rate of return on investment; added economic value... of each center and the whole company in the implementation period compared to the estimate period.

Non-financial indicators: indicators of investor relationship evaluation (investor satisfaction about project profitability, project payback, professionalism in project management, etc.); Internal process evaluation criteria (proportion of projects with high profitability; rate of new investment projects; rate of economic, technical, and labor norms to be rebuilt...); Indicators to evaluate the learning and development process (percentage of employees attending training in production management, sales, finance, strategy, remuneration, etc.)

3. RESEARCH METHOD

The research sample was conducted at garment enterprises in Hanoi in 2023. The survey sample was randomly stratified. With 11 observed variables in the study, the minimum sample size in factor analysis and regression analysis is from 5 to 10 times the observed variable (Hair et al., 1998). Therefore, the authors used the number of survey samples in this study to be $n = 120$ investigation units, so they met the minimum sample size requirement.

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The author uses the Tam model, which is the first model researched and introduced by Davis (1986), focusing on clarifying the factors affecting users' acceptance of new technology and explaining the behavior of users in terms of trust, attitude, usefulness, and intention to use. Inheriting previous studies, the author proposes the following hypotheses:

Hypothesis 1 (H1): Being aware of the usefulness of the responsibility center evaluation criteria system has a positive influence on the application of the responsibility center evaluation criteria system at garment enterprises in Hanoi.

Hypothesis 2 (H2): Being aware of the ease of use of the indicator system will have a positive influence on the application of the responsibility center evaluation criteria system at garment enterprises in Hanoi.

Hypothesis 3 (H3): Environmental influences encourage the use of the indicator system in assessing responsibility centers at garment enterprises in Hanoi.

Specific measures in the factor research model:

"Perceived usefulness" is measured by 5 scales: useful in determining financial metrics; useful in identifying non-financial metrics; useful to increase the work efficiency of managers; useful for evaluating performance; necessary and appropriate for the business.

"Perceived ease of use" is measured by 2 scales: Understanding the indicator system is not difficult; it is an easy-to use indicator system.

"Environmental influence" is measured on 3 scales: Management requested, friends used, and good managers recommended.

Table 1: Explanatory table and coding of the scale

No	Factor	Code	No. Variables
1	Perceived usefulness	HU	5
2	Perceived ease of use	SD	2
3	Environmental influence	MT	3
4	Application of the indicator system	VD	1

Analytical methods

After receiving the survey form back, the answer sheets are processed before updating to the data analysis software SPSS 22 and performing the following 4 steps: Check the reliability of the scale (Cronbach's Alpha); Exploratory Factor Analysis (EFA); Check the correlation coefficient; Using the multivariable linear regression model

4. RESULTS

KMO and Bartlett test

The author uses 10 observed variables to measure 03 factors affecting the application of the indicator system in the assessment of responsibility centers (perceived usefulness, perceived ease of use, and environmental influences). The results of the KMO and Bartlett tests are shown in Table 2 as follows:

Table 2. KMO and Bartlett's

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.802
Approx. Chi-Square	389.102
Bartlett's Test of Sphericity	df
	45
	Sig.
	.000

KMO = 0.802 > 0.05 shows that the study has enough observed variables to constitute a factor. The significance level Sig. = 0.000 < 0.05% shows that the Bartlett test is statistically significant and shows that the analysis of factors is appropriate..

Exploratory factor analysis

With the research hypothesis that these factors have a proportional relationship with the level of application of the indicator system in the assessment of responsibility centers at garment enterprises in Hanoi city. The results of the factor analysis are shown in Table 3.

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Table 3. Exploratory factor analysis

	Component	
	1	2
P1.HI1		.874
P1.HI2		.742
P1.HI3		.689
P1.HI4		.521
P1.HI5		.565
P2.SD1	.775	
P2.SD2	.818	
P2.XH1	.680	
P2.XH2	.786	
P2.XH3		

The results show that the observed variables all have factor loading coefficients larger than the standard (0.50) and so in the case of 1 variable being eliminated: Good managers recommend. About easy-to-use groups and environmental influence groups are merged into one. Thus, the group of factors affecting the application of the responsibility center evaluation criteria system includes: useful groups and easy and influential groups (including easy-to-use groups and environmental influences). However, to be able to confirm with certainty whether these observed variables are coherent enough, the authors evaluate the reliability of the scale..

Reliability analysis

Reliability analysis is to check the consistency of the questions with the research problem. In this analysis, Cronbach's Alpha coefficient will be used to evaluate the reliability. If Cronbach's Alpha coefficient is greater than or equal to 0.70, we can confirm that the observed variables have a reliable scale..

Table 4. Reliability Statistics

Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected if Item-Total Correlation	Cronbach's Alpha if Item Deleted	Scale Mean if Item Deleted
Cronbach's Alpha = .753				
P1.HI1	16.77	2.769	.683	.653
P1.HI2	16.62	2.843	.520	.709
P1.HI3	16.68	2.773	.576	.687
P1.HI4	16.43	3.004	.417	.748
Cronbach's Alpha = .812				
P2.XH1	11.63	2.722	.612	.775
P2.XH2	11.68	2.403	.607	.778
P2.SD1	11.69	2.467	.639	.760
P2.SD2	11.72	2.440	.675	.743

Evaluate the reliability of the useful factor group

The analysis results of the useful factor group show that the Cronbach's Alpha coefficient of the scale is $0.753 > 0.7$, the correlation coefficients of the total variables of the observed variables in the scale are all greater than 0.4. Therefore, all observed variables are accepted and will be used in the next factor analysis.

Evaluation of the reliability of the group of factors perceived ease of use, environmental impact

The analysis results of the group of easy-to-use factors and environmental influences show that the Cronbach's Alpha coefficient of the scale is $0.812 > 0.7$, the correlation coefficients of the total variables of the observed variables in the scale are larger 0.4. This proves that the variables are reliable enough in terms of cohesion for the assessment of factors affecting the application of the responsibility center evaluation criteria system.

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Multivariate regression analysis

In order to assess the influence of two groups of factors on the application of the indicator system in the assessment of responsibility centers, which are usefulness and ease of use and the influence of the environment according to the stated hypotheses, the author performed a multivariate regression analysis.

Table 5. Model Summary

Model	R	R Square	Adjusted Square	Std. Error of the Estimate
1	.664 ^a	.441	.431	.37984

The coefficient R² = 0.441 shows the usefulness and ease of use, the influence of the environment can explain 44.1% of the total impact of the factors on the intention to apply the indicator system to evaluate the center responsibility in garment enterprises in Hanoi.

Hypothesis testing about the overall fit of the model, value F=46,158 with sig.=000 < 5%. Prove that the R squared of the population is not 0. It means that the built linear regression model is suitable for the population.

Table 6. ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	13.319	2	6.660	46.158	.000 ^b
Residual	16.881	117	.144		
Total	30.200	119			

Table 7. Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	.594	.368		1.612	.110		
HU	.528	.096	.434	5.507	.000	.768	1.302
SD_MT	.329	.078	.335	4.247	.000	.768	1.302

The results in Table 7 show that the values in column Sig. Both are <5%, indicating that the two independent variables have a statistically significant impact on the dependent variable. The relationship between the variables is shown by the following equation:

$$VD = 0.594 + 0.528 * HU + 0.329 * SD_MT$$

Analyze the level of agreement of each factor

From the results of the regression equation, it is shown that 2 groups of useful variables and ease of influence (ease of use, environmental impact) have an impact on the intention to apply the responsibility center evaluation criteria system. According to the results of Table 8, the degree of agreement of the individual factors on the intention to apply the indicator system is different. The group of usefulness factors, including financial usefulness, non-financial measurement usefulness, management efficiency increase, and performance evaluation usefulness have the greatest impact intention using the indicator system (mean values ranged from 4.07 to 4.37).

Table 8. Analyze the level of agreement of each factor

	N	Minimum	Maximum	Mean	Std. Deviation
P1.HI1	120	2	5	4.04	.541
P1.HI2	120	2	5	4.19	.612
P1.HI3	120	2	5	4.13	.602
P1.HI4	120	3	5	4.37	.623
P1.HI5	120	3	5	4.07	.537
P2.SD1	120	2	5	3.88	.651
P2.SD2	120	2	5	3.86	.639
P2.XH1	120	2	5	3.94	.569
P2.XH2	120	2	5	3.89	.696
Valid N (listwise)	120				

5. CONCLUSION

The regression results support the following hypotheses: Usefulness, ease of use, and the influence of the environment all have a positive and statistically significant relationship to the intention to apply the responsibility center evaluation criteria system at garment enterprises in Hanoi city. The usefulness affects the intention to apply the indicator system with a coefficient of 0.528, while the ease of use and the impact on the environment are lower with a coefficient of 0.329. This means that each positive change in usefulness will increase the intention to use the indicator system by 0.528 times. Each positive change in leadership, friends, and ease of use will promote the use of the criteria system to evaluate the responsibility center by 0.329 times. Thus, the results of factor analysis show that two basic groups of factors are usefulness and ease of use, and the influence of the environment has a positive impact on the application of the evaluation criteria system at garment enterprises in Hanoi city. Results of assessing the level of agreement of each factor with the intention to apply the responsibility center evaluation criteria system at garment enterprises in Hanoi city show that the group of useful factors has a higher influence than the group of factors on ease of use and environmental impact.

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