

# **Investigating the Effect of Salability and Marketing Dashboards on Cost Control and Customer Performance from the Viewpoint of Environmental Sensitivity in Appliance Manufacturing Companies in Isfahan Province**

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DOI: 10.6007/IJARBSS/v4-i4/812 URL: <http://dx.doi.org/10.6007/IJARBSS/v4-i4/812>

## **Abstract**

This study investigates the effect of salability and marketing dashboards on cost control and customer performance from the viewpoint of environmental sensitivity in appliance manufacturing companies in Isfahan province. Given to research model, two primary hypotheses (which study the significant effect of salability and marketing dashboards on environmental sensitivity and significant effect of increased environmental sensitivity on cost control and customer performance) and four secondary hypotheses (which study significant effect of salability on environmental sensitivity, significant effect of marketing dashboards on environmental sensitivity, significant effect of environmental sensitivity on customer performance and significant effect of environmental sensitivity on cost control) were proposed. The survey was conducted using correlation-field method. The statistical population included one-hundred twenty four senior managers (marketing, manufacturing and research and development) of appliance manufacturing companies in Isfahan province. Sampling was not necessary because the statistical population was limited. Researcher self-made questionnaire containing 31 questions was tool of data collection. Supervisor professors and management experts confirmed validity of the questionnaire and the reliability was obtained via Cronbach's alpha coefficient equal to 97% that contained individual and specialized characteristics required to examine the hypotheses. One-hundred twelve questionnaires (return rate equal to 90%) were returned. The data collected via SPSS and AMOS software was analyzed through statistical tests at descriptive level (frequency, percentage, cumulative percent, mean and standard deviation) and inferential level (t-test, regression model, variance analysis, Kolmogoroff-Smirnoff test and Friedman test). Considering the output of structural equations, models' goodness of fit was suitable. According to the obtained results, all hypotheses were confirmed. Also, the results revealed that the independent variable of marketing dashboard has the

highest effect in comparison with the dependent variable of salability. Path coefficient of marketing dashboard was equal to 48%. Therefore, salability and marketing dashboards have a significant effect on cost control and customer performance from the viewpoint of environmental sensitivity.

**Key words:** Salability, Marketing Dashboard, Environmental Sensitivity, Cost Control, Customer Performance

### **Introduction**

Track Sales include helping clients to buy what it wants for its own needs . MERCHANTABILITY as qualified vendors selling process with knowledge , skills, sales management, systems planning and control, sales management and training system suitable for active vendors to be defined. Vendibility that the ability to cover market-oriented firms is crucial. potential sales skills sales force , as well as for system control and programming skills, sales management , sales force and organizational performance can be improved . Seller: The seller is an individual within a company or organization to undertake any of the activities, identify potential customers , interact , is a collection of services . Who is the real seller of art and knowledge to succeed in today 's complex and competitive markets.( Bryan , 2000).

Features: Key skills and abilities in the use and exploitation of said resources , capabilities to help organizations To make optimal use of resources to maximize productivity, marketing capabilities and performance In recent Mtlaat the ability to create value -added goods and services to satisfy competing demands and meet the requirements of the relevant market is defined ( January, 1994). The importance of the learning process has been emphasized in the development of marketing capabilities , especially when employees are able to quickly use their knowledge and skills to solve marketing problems . In order to describe the marketing of the company's performance , is paid to describe the specific process that is consistent with the company's competitive strategy .

Sahn Gyma direction of operational marketing capabilities , multiple processes , each of which can be defined by the organization to reach target customers and create value added to goods and services to be used ( Sahn Gyma , 1993), the first the process, the service of to customers, in a way that will meet the needs of the buyer and consumption . Many researchers believe that marketing services to the customers so that the index can lead to competitive advantage . The second process, effectiveness of promotion activities to achieve growth in market share and sales. Through these activities are used to communicate with target markets . The third process is to have a strong distribution network in a way that will interact with distributors efficient and effective communication . The fourth process of communication with the customer. This process is used to determine Customer Reviews and fellowship with him . The fifth process of marketing research to identify needs and evaluate customer needs and unseen goods and services provided by Rqbast . The last process , the organization's ability to create distinct products in terms of quality, price , image, and so is the service . Each of these variables have a positive relationship with organizational performance , especially in terms of innovation

, entrepreneurship , create competitive advantage and increase sales and market share ( Vyravardyna , 2003).

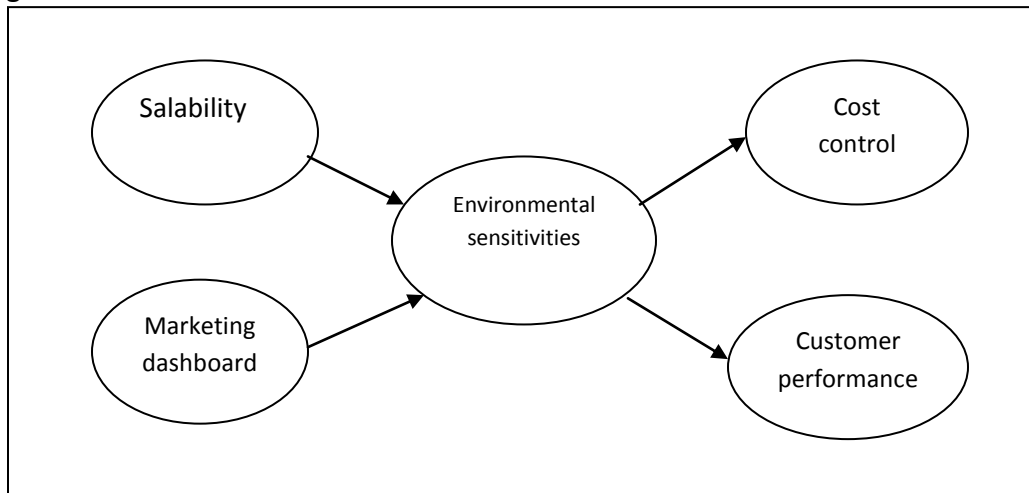
Marketing capabilities ( Grant , 1991). Says, the result of the resource groups that are working together . They are associated with different sources and organizations are able to generate superior financial performance . According to the text view of the resources , capabilities as an efficient means by which organizations are given a set of resources to achieve specific goals to work , they can be seen . Literature on the resource-based perspective , as capability to develop management skills and accumulated knowledge assets are defined. Capabilities , organizational processes and procedures are rather common , and they are very difficult to imitate . Therefore , they can cause lasting competitive advantage for organizations . Research literature, the concept of classification has different categories .

Have been classified according to the different tasks ( Morgan , 2005). Eight ability to specify a task (ie, product development capabilities , features , pricing , channel management capabilities , communication capabilities , marketing and sales capabilities , marketing capabilities , capabilities, marketing planning , marketing implementation capabilities ) , and the ability to relate to the business knows . They argue benchmarking of these capabilities can help companies gain sustainable competitive advantage

**Research hypotheses and evaluation of the variables**

**Conceptual model of the survey**

Figure 1.1. Theoretical framework



**Hypotheses**

Primary hypothesis

Salability and marketing dashboards have a significant effect on cost control and customer performance from the viewpoint of environmental sensitivity in appliance industry in Isfahan province.

### **Secondary hypotheses**

H1: Salability has a significant effect on environmental sensitivity of appliance manufacturing companies in Isfahan province.

H2: Marketing dashboards have a significant effect on environmental sensitivity of appliance manufacturing companies in Isfahan province.

H3: Increasing of environmental sensitivity has a significant effect on cost control of appliance manufacturing companies in Isfahan province.

H4: Increasing of environmental sensitivity has a significant effect on customer performance of appliance manufacturing companies in Isfahan province.

### **Theoretical principles**

**Salability:** It is an integrated process in which companies utilize tangible and intangible resources to perceive complexity of special needs of customers, achieve a relative differentiation of products as well as competitive superiority and finally obtain an appropriate brand quality (Desario et al, 2005).

**Marketing dashboards:** They are technologies which accumulate various measures of marketing performance for managers. These systems simplify marketing initiatives and attempts in having access to important measures (Kraus, 2005).

**Environmental sensitivity:** It describes how information are interpreted and understood by the company and contains a "retrospective process". It helps the company in market learning through re-organization and establishment of patterns via "different observations and references" (Johnson et al, 2004).

**Customer performance:** It maintains the company's success in establishment of a competitive resource for satisfied customers and enhances accountability of organizations as well as customer satisfaction. According to concept of customer orientation, it is necessary for companies to focus on needs and demands of purchasers in the past, present and future and fulfill the concept of customer orientation through offering a friendly and prompt service, paying special attention to complaints and giving information about products that are easily accessible for consumers (Walker, 2001).

**Cost control:** Cost leaders try to decrease the cost of manufacturing each unit of products and services to be able to resist against the competitors. Low cost tactics and cost leadership are resulted from promotion of innovation, benefits of experience curve, economies of scale, decreased time of product design and expenses and activities of re-engineering (Allen & Holms, 2006).

**Productivity:** It means to what extent there are good products manufactured using the existing resources if more or better products have been produced using fixed resources or if the same products have been produced via fewer resources. Higher productivity will be achieved when activities and resources increase value of manufactured products in a manufacturing process (Bruman, 2004).

### **Methodology**

The survey was conducted using correlation-field method. The statistical population included one-hundred twenty four senior managers (marketing, manufacturing and research and development) of appliance manufacturing companies in Isfahan province. Sampling was not

necessary because the statistical population was limited. Researcher self-made questionnaire containing 31 questions was tool of data collection. Supervisor professors and management experts confirmed validity of the questionnaire and the reliability was obtained via Cronbach's alpha coefficient equal to 97% that contained individual and specialized characteristics required to examine the hypotheses. One-hundred twelve questionnaires (return rate equal to 90%) were returned. The data collected via SPSS and AMOS software was analyzed through statistical tests at descriptive level (frequency, percentage, cumulative percent, mean and standard deviation) and inferential level (t-test, regression model, variance analysis, Kolmogoroff-Smirnoff test and Friedman test).

**Testing of hypotheses based on results of path analysis model**

Path analysis model was used in order to test the hypotheses. The obtained results are as follows:

H1: Salability has a positive effect on environmental sensitivities.

Results of Table 1 show that salability with standard coefficient equal to 0.397 has a positive and significant effect on environmental sensitivities associated with service offering. Hence, hypothesis one is confirmed.

Table 1. Testing secondary hypothesis one

	Secondary hypothesis	Standard coefficient	Standard error	Critical ratio	Significance (P)	Result
Salability → Environmental sensitivity	H1	0.397	0.057	5.906	***	It is confirmed
*** It shows p is less than 0.001.						

H2: Marketing dashboards have a positive effect on environmental sensitivities.

Results of Table 2 show that marketing dashboards with standard coefficient equal to 0.480 have a positive and significant effect on environmental sensitivities. Hence, hypothesis two is confirmed.

Table 2. Testing secondary hypothesis two

	Secondary hypothesis	Standard coefficient	Standard error	Critical ratio	Significance (P)	Result
Marketing dashboards → Environmental sensitivity	H2	0.480	0.077	6.964	***	It is confirmed
*** It shows p is less than 0.001.						

H3: Increasing of environmental sensitivity has a positive effect on cost control.

Results of Table 3 show that environmental sensitivities with standard coefficient equal to 1 have a direct, positive and significant effect on cost control. Hence, hypothesis three is confirmed.

Table 3. Testing secondary hypothesis three

	Secondary hypothesis	Standard coefficient	Standard error	Critical ratio	Significance (P)	Result
Environmental sensitivity → Cost control	H3	0.931	0.097	10.299	***	It is confirmed
*** It shows p is less than 0.001.						

H4: Increasing of environmental sensitivity has a positive effect on customer performance.

Results of Table 4 show that environmental sensitivities with standard coefficient equal to 1 have a direct, positive and significant effect on customer performance. Hence, hypothesis four is confirmed.

Table 4. Testing secondary hypothesis four

	Secondary hypothesis	Standard coefficient	Standard error	Critical ratio	Significance (P)	Result
Environmental sensitivity → Customer performance	H4	1	0.079	13.591	***	It is confirmed
*** It shows p is less than 0.001.						

**Testing of primary hypotheses**

For hypotheses one and two, we have:

Table 5. Durbin-Watson test for hypotheses one and two

Model	Correlation coefficient (R)	Coefficient of determination (R <sup>2</sup> )	Adjusted coefficient of determination	Estimation of standard error	Durbin-Watson
1	0.833	0.693	0.688	0.426	2.020

Source: researcher's findings (output of SPSS software)

Since Durbin-Watson test statistic (2.020) is in the distance between 1.5 and 2.5, the assumption regarding lack of correlation among errors is not rejected and regression can be used. Also comparing the two diagrams of frequency distribution and normal distribution of errors show that distribution of errors is relatively normal; thus regression can be utilized. The presented value in this diagram is close to zero and standard deviation is close to one. Adjusted coefficient of determination is equal to 0.688; that is, if the independent variable (salability and marketing dashboard) is changed one unit, the change of the dependent variable (environmental sensitivity) will be equal to 0.688. Because census was used, value of coefficient of determination is real and no generalization is needed.

Table 5 reports summary of degree of relationship between the model and the dependent variable. Multiple correlation coefficient, R, is the linear correlation between observed values and values of the model which predict the dependent variable. Large values of it show a strong

Model	Dimension	Eigenvalue	Condition index
1	1	2.959	1
	2	0.031	9.793
	3	0.010	17.238

relationship. Coefficient of

determination or R square is square value of multiple correlation coefficient. According to Table 5, almost 70% of the dependent variable (i.e. 0.693) has been explained by the model.

Another assumption is studying the co-linearity which shows an independent variable is a linear function of other independent variables. If co-linearity in a regression equation is high, it means that there is a high correlation among the independent variables and the model might have not a high validity despite that  $R^2$  is high. In other words, although the model seems good but it does not have significant independent variables. Result of co-linearity test in SPSS software has two outputs. The first output reports tolerance and VIF (Variance Inflation Factor). Whatever tolerance is lower, there is less information related to variables and some problems are created in using the regression. Variance inflation factor is the reverse of tolerance and whatever it is increased, variance of regression coefficients is enhanced and thus regression will no longer be suitable for prediction.

The second output shows eigenvalue and condition index. Eigenvalues close to zero show that internal correlation of predictions is high and condition indexes more than 15 show probability of co-linearity among the independent variables. Values more than 30 indicate a serious problem in using the regression in the current status.

Table 6. Studying co-linearity of hypotheses one and two (first output)

Variable	Co-linearity statistics	
	VIF	Tolerance
Salability	2.794	0.358
Marketing dashboards	2.794	0.358

Dependent variable: environmental sensitivity

Table 7. Studying co-linearity of hypotheses one and two (second output)

Results of the above table demonstrate that the eigenvalue shows three values more than 15 which indicate the probability of co-linearity among independent variables, but there is no serious problem in using the regression because condition index is less than 30.

Table 8. Testing of hypotheses one and two using regression test

Model	Non-standardized coefficients		Standardized coefficients	t-statistic	Significance
	$\beta$	Standard error	Beta		
Constant	-0.001	0.188		-0.007	0.994
Salability	0.416	0.099	0.373	4.225	0.00
Marketing dashboards	0.565	0.099	0.503	5.703	0.00

Source: researcher's findings (output of SPSS software)

Dependent variable: environmental sensitivity



Results of Table 8 show that all independent variables have a significant effect on environmental sensitivity (significance less than 5%). Therefore, hypotheses one and two are confirmed via multi-variable linear regression test.

Hypothesis 3

Table 9. Durbin-Watson test for hypothesis 3

Model	Correlation coefficient (R)	Coefficient of determination (R <sup>2</sup> )	Adjusted coefficient of determination	Estimation of standard error	Durbin-Watson
1	0.662	0.438	0.433	0.616	2.227

Source: researcher's findings (output of SPSS software)

Since Durbin-Watson test statistic (2.227) is in the distance between 1.5 and 2.5, the assumption regarding lack of correlation among errors is not rejected and regression can be used. Also comparing the two diagrams of frequency distribution and normal distribution of errors show that distribution of errors is relatively normal; thus regression can be utilized. The presented value in this diagram is close to zero and standard deviation is close to one. Adjusted coefficient of determination is equal to 0.433; that is, if the independent variable (environmental sensitivity) is changed one unit, the change of the dependent variable (cost control) will be equal to 0.433. Because census was used, value of coefficient of determination is real and no generalization is needed.

Table 10. Studying co-linearity of hypothesis three (first output)

Variable	Co-linearity statistics	
	VIF	Tolerance
Environmental sensitivity	1	1

Dependent variable: cost control

Table 11. Studying co-linearity of hypothesis three (second output)

Model	Dimension	Eigenvalue	Condition index
1	1	1.967	1
	2	0.033	7.702

Condition index in Table 11 is suitable; thus regression test can be used.

Table 12. Testing hypothesis three using regression test

Model	Non-standardized coefficients		Standardized coefficients	t-statistic	Significance
	$\beta$	Standard error	Beta		
Constant	0.672	0.227		2.961	0.004
Environmental sensitivity	0.711	0.076	0.662	9.308	0.00

Source: researcher's findings (output of SPSS software)

Dependent variable: cost control

Results of Table 12 reveal that independent variable of environmental sensitivity has a significant effect on cost control. Therefore, hypothesis three is confirmed by means of



regression test.

Hypothesis 4

Table 13. Durbin-Watson test of hypothesis four

Model	Non-standardized coefficients		Standardized coefficients	t-statistic	Significance
	$\beta$	Standard error	Beta		
1	0.790	0.625	0.621	0.505	2.124

Source: researcher's findings (output of SPSS software)

Since Durbin-Watson test statistic (2.124) is in the distance between 1.5 and 2.5, the assumption regarding lack of correlation among errors is not rejected and regression can be used. Also comparing the two diagrams of frequency distribution and normal distribution of errors show that distribution of errors is relatively normal; thus regression can be utilized. The presented value in this diagram is close to zero and standard deviation is close to one. Adjusted coefficient of determination is equal to 0.621; that is, if the independent variable (environmental sensitivity) is changed one unit, the change of the dependent variable (customer performance) will be equal to 0.621. Because census was used, value of coefficient of determination is real and no generalization is needed.

Table 13. Studying co-linearity of hypothesis four (first output)

Variable	Co-linearity statistics	
	VIF	Tolerance
Environmental sensitivity	1	1

Dependent variable: customer performance

Table 14. Studying co-linearity of hypothesis four (second output)

Model	Dimension	Eigenvalue	Condition index
1	1	1.967	1
	2	0.033	7.702

Condition index in Table 14 is suitable; thus regression test can be used.

Table 15. Testing hypothesis four using regression test

Model	Non-standardized coefficients		Standardized coefficients	t-statistic	Significance
	$\beta$	Standard error	Beta		
Constant	0.270	0.186		1.145	0.150
Environmental sensitivity	0.852	0.063	0.790	13.593	0.000

Source: researcher's findings (output of SPSS software)

Dependent variable: customer performance

Results of Table 15 reveal that independent variable of environmental sensitivity has a significant effect on customer performance. Therefore, hypothesis four is confirmed by means of regression test.

### **Conclusion**

The results revealed that salability and marketing dashboard have a significant effect on environmental sensitivity. Also, increasing of environmental sensitivity has a significant effect on cost control and customer performance.

As it was mentioned earlier, the present survey will have effective consequences in the future to improve performance of organizations through increasing of assets (marketing dashboard and information) and intangible capabilities (skills of sellers). The obtained results indicate that there is a significant relationship between sensitivity and marketing dashboards. Salability and marketing dashboards enhance organization's learning with regard to its surrounding environment, so it can better interpret the information obtained from the organization, customers, competitors, etc to simplify the marketing processes. Because sellers are in the margin and --- of the organization (in relation with customers), they can have an influential role in offering good products, recognizing customer needs and after-sale services to customers. They have market intelligence and take part in market knowledge and can achieve helpful information about the market and customers to enhance more sales. Similarly, sales managers have skills for planning and controlling of sales force. Marketing dashboards are important information resources which take data from the environment and analyze them. Distribution of such data across the whole organization can be vital for market learning. Senior managers use the integrated and key information to enhance customers' performance and sale. Hence, salability and marketing dashboards as inputs of environmental sensitivity interpret and understand the information and can increase effectiveness and productivity of marketing. These results also show a significant relationship among salability, marketing dashboards and increasing of environmental sensitivity. Moreover, customer performance is effective on keeping the current customers and attracting the new ones through better recognition of sellers and market information as outputs of environmental sensitivity. When an organization becomes sensitive towards the environment, it can perceive customers' needs better and simultaneously decreases costs. According to results, there is a significant relationship among customer performance, cost control and environmental sensitivity.

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