The Effect of Market Orientation on Business Performance of the Companies Designing and Manufacturing Clean Rooms

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Abstract: Problem statement: Theatrically claimed that there is relationship between market orientation and improvement of business performance of the companies, but the regular empirical research is carried out to understand deeply and prove these claims especially in Iranian environment. Considering the importance of market orientation, as well as lack of information on its effects, this study considered its effect on the business performance of companies engaging in clean room industry in Iran, while mentioning different viewpoints and theories on the market orientation. **Approach:** This study was a descriptive-survey, correlation-based research. Its population includes 110 units, from which, 80 units were selected as sample with using simple random sampling. Finally all study hypotheses were confirmed. At the present study, the different components were extracted for measuring business performance contains: Company effectiveness on the market, including success of new product, attracting the customer, keeping the customer and product quality. Domination over the market, including sale volume, sale growth, market share, financial performance, including profit, cash flows and rate of capital return. **Results:** The variables correlation coefficients in each of research hypothesis were respectively 0.671, 0.709, 0.659 and 0.517, which considering the acceptance criterion is 0.50 it can be concluded that there is a high correlation coefficient between each one variables. Finally all study hypotheses were confirmed. **Conclusion:** The positive and significant relationship between market orientation and business performance of the companies designing and manufacturing clean rooms was established though testing the principal hypothesis. In other words, it can be said that market orientation viewpoint on each of companies manufacturing clean rooms had positive influence on their business performance. Recommendations had been submitted as per market orientation components.

Key words: Customer orientation, competitor orientation and inter-department collaboration

INTRODUCTION

From a historical viewpoint, market orientation is defined as a stage of organization growth or as a level reflecting the organizational maturity-the definition which is confirmed by different writers such as Baker, Kotler and Dalgic. Looking at the market orientation as the final stage of business organization development, they believe market orientation has been created to develop the different business trends[1] Market-orientation culture is a group culture designed to create higher customer value by executing the required actions with the most efficient and effective means available. Thereby maintaining a high level of firm performance.

Therefore, market-oriented firms seek ways to provide added value to customers while simultaneously lowering the cost of the said product or service[2] Market-oriented culture composed of customer orientation, competitor orientation and inter-department collaboration was viewed as a group culture aimed at maintaining a high level of firm performance by effectively and efficiently executing actions required gaining customer value[3]. The clean room industry was chosen for study in this research. By definition, "the clean room is a room with one or some region(s) controlling the particles suspended in the environment". Manufacturing the rooms of this kind which are widely used in different industries (including electronics, computer, precision instrumentation, pharmacology, medical equipments and food industry) has a remarkable growth in advanced countries during the recent years. The conditions without particle and bacterial containments to be provided by clean rooms are considered as the basis of many modern manufacturing industries.

Today, the most important challenge for the consuming industries which move according to universally accepted standards is to inform from the

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latest achievements and technical knowledge in order to offer customer-intended products with suitable quality in difficult conditions.

Using the clean rooms enables the consuming industries to produce their intended products with a quality in conformity with the latest universally accepted standards through creating environmental conditions without different contaminations.

Furthermore by designing and manufacturing the different kinds of clean rooms through suitable quality and classifying along with the used technology, the consuming industries are able to pace according to the customers' opinions and demands, while observing the international standards. So the Iranian companies arrived in the newly established industry must have inter-organization collaboration in order to have presence in the market and meet the important, future needs of market and customers, while fulfilling their satisfaction.

By identifying the market threats and opportunities as well as the competitors' strategies, they must be able to response in time to the competitors' activities, while having a continuous presence in the market. It seems necessary to have a good viewpoint on market orientation (with competitive advantage of fast response to needs of market and customers).

After the searches carried out, two papers under titles:

- The influence of market orientation culture on the business performance of companies engaging in manufacturing automobile parts in Mashhad
- A new model for determining the scope of the market orientation influence on the trade performance, with considering the marketing capabilities in chemical industries

However considering the fact that the selected industry in the study is recently arrived in the country, no research is carried out about and there is no history on the subject above.

This study is intended to realize the market orientation effects on the performance of the companies designing and manufacturing clean rooms in Iran, which subdivided the following goals:

- Studying on the market orientation and familiarity with its characteristics
- Gathering a collection of theoretical concepts and different models on the market orientation
- Investigating the possible relationship between market orientation and domination on the market, of the companies engaging in clean room industry

- Proposing practical ways for developing the viewpoint on market orientation and its effects (for any of the companies engaging in clean room industry)

Methods and approach: The present study is based on an applied goal of which the method is considered as a descriptive-survey and correlation-based method. The managing directors of Iranian companies designing and manufacturing clean rooms (as active plants during the study time), were selected as the study population and 110 companies were identified, after referring Tehran Industries and Mines Office. Due to its low partiality and high generalizablity, the random sampling method with size of 80 records was selected for sampling. In order to calculate sample size, Bernoulli's binomial distribution which is expressed by the following equation, was used:

$$n = \frac{z^2 NPq}{d^2(N-1) + z^2 Pq}$$

Where:

$z = 1.96$ is the standard number at the confidence coefficient of 95%

$p = 0.5$, the proportion of people believing the influence of market orientation on business performance

$q = 0.5$, the proportion of people without any belief about the influence of market orientation on business performance

$d = 0.06$, the degree of accuracy for generalization of the sample group's results to the population

$N = 110$, the number of population; $p = 0.05$ and $q = 1-p$

$n = $ The number of sample[5]

At this study, two questionnaires were used for gathering data: one for measuring market orientation and another for measuring business performance of the sample companies. The influence of market orientation on the company performance was surveyed by using the Narver and Slater Questionnaire. The scale for measuring the mentioned questionnaires is Ligret's five-point Scale (from very low to very high) while 25 and 10 questions were designed to be considered for market orientation and business performance, respectively.

In addition to studying numerous books and papers as well as profiting the opinions of my tutor and educating consultant, twenty questionnaires-as pretest-ere given to the managers of companies designing and manufacturing clean rooms.

After gathering the questionnaires, the obtained data were used to calculate kronbach alpha by using the statistical analysis software (SPSS)[6] Kronbach alpha calculated for market orientation and business performance questionnaires were respectively 0.079 and 0.094, which indicated high reliability of the questionnaires.

At the present study, after reviewing most of the studies in the prior literature and considering the type of study population, the different components (as following categories) were extracted for measuring business performance:

- Financial performance, including profit, cash flows, rate of capital return
- Domination over the market, including sale volume, sale growth and market share
- Company effectiveness on the market, including success of new product, attracting the customer, keeping the customer and product quality

MATERIALS AND METHODS

In order to answer the study questions and test the hypotheses, it is necessary to distinguish the variables, which are considered as principal idea and changeable concept in any scientific research. These variables which can be divided into four categories in terms of their relationships and types are as the following variables at this study:

- Dependent variables (factors whose value is influenced by one or several independent variables)
- Independent variables or varied variables (by which the independent variables can be described)[5]

According to Fig. 1, the principal variables of the model include the market orientation and the business performance. The indexes related to the market orientation are Customer orientation, Competitor orientation and inter-department collaboration while the business performance indexes consist of customer performance, market performance and financial performance that all of them with their components were mentioned in Table 1[7].

RESULTS

Considering the statistical results of the study, because the highest amount of correlation is related to the variable of "domination over the market" for first sub-hypothesis, companies manufacturing clean rooms as well as the related organizations are recommended that in order to obtain better and more suitable performance, more attention must be drawn to the components of sale volume, sale growth and market share.
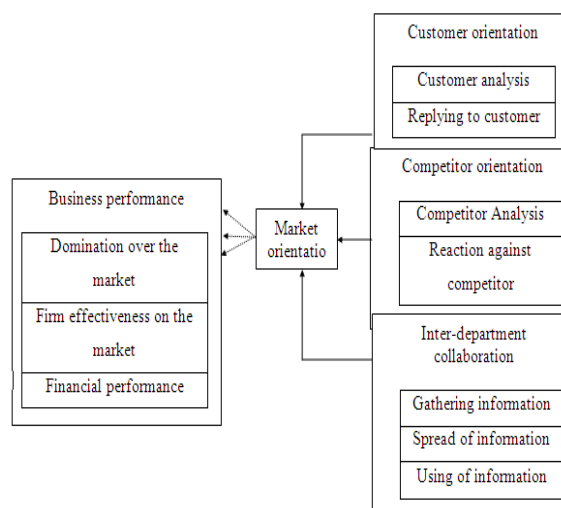

Fig. 1: Research theatric

Table 1: Principle index of model[8]

Indexes	Components	indexes	Components
Customer orientation	Studying customer satisfaction regularly Recognition of customer needs Firm obligation against customers-	Firm effectiveness on the market	keeping the customer- attracting the custom Product quality Success of new product
Competitor orientation	Reaction against competitor Choosing market opportunity Base on competition power Distributing policy in firm	Domination over the market	Sale volume Market share Sale growth
Inter-department Collaboration	Compiling marketing strategies and plants through of department's collaboration Distributing customer experience among Departments Inter-department collaboration for Satisfying customer needs	financial performance	Firm profit Cash flows Rate of capital return

DISCUSSION

The discussion will be followed by investigating and analyzing the study findings concerning the principal hypotheses and sub-hypotheses.

First sub-hypothesis: There is a positive relationship between market orientation and Domination over the market, of companies manufacturing clean room.

Hypotheses:

H_o: $\rho = 0$ there is an independent relationship between market orientation and domination over the market, of companies manufacturing clean rooms.

H_1: $\rho \neq 0$ there is a positive relationship between market orientation and domination over the market, of companies manufacturing clean rooms.

The statistical analysis of two variables shows that correlation coefficient between them is 0.709. On the other hand, by using T test, we tested the statistical significance of the relation for the level of significance of 0.05%, which was confirmed.

Degree of freedom is 78 and the statistic of test is 8.04 and because the level of significance is lesser than 0.05%, the opposite hypothesis suggesting the existence of a relationship between two factors will be accepted.

Many statistical analyses are performed on the variable of "domination over the market". In this manner the relationship between market orientation.

And all factors forming the variable of domination over the market was measured and shown in Table 2. The correlation coefficient between market orientation and each one of the variables related to domination over the market (including sale volume, sale growth and market share) were respectively 0.712, 0.692 and 0.723, which considering the acceptance criterion of 0.50 it can be concluded that there is a high correlation coefficient between each one of dimensions of the dependent variable of domination over the market.

Therefore, it was concluded that for Iranian companies designing and manufacturing clean rooms (as population of the present study), higher attention to market orientation implies an improvement on company performance concerning its domination over the clean room market.

Second sub-hypothesis: There is a positive relationship between market orientation and effectiveness of companies manufacturing clean rooms.

Table 2: The static of T test-Correlation coefficient between market orientation and the components of "domination over the market" variable

Item	Research result	Accepted criterion	Result
Level of significance	0.000	<0.05%	Ok
Sale volume	0.712	>0.50	Ok
Sale growth	0.692	>0.50	Ok
Market share	0.723	>0.50	Ok

Table 3: The statistic of T test- Correlation coefficient between market orientation variable and the components of effectiveness in market for index of the effectiveness in market

Item	Research result	Accepted criterion	Result
Level of significance	0.000	<0.05%	Ok
Success of new product	0.568	>0.50	Ok
Keeping customer	0.772	>0.50	Ok
Attracting customer	0.684	>0.50	Ok
Product quality	0.576	>0.50	Ok

Hypotheses:

H_o: $\rho = 0$ there is an independent relationship between market orientation and effectiveness of companies manufacturing clean rooms in market.

H_1: $\rho \neq 0$ there is a positive relationship between market orientation and effectiveness of companies manufacturing clean rooms in market.

The Correlation coefficient, obtained from the statistical analysis, between them is 0.659. On the other hand, On the other hand, by using the T test, we tested the statistical significance of this relation for level of significance of 0.05, which was confirmed.

Degree of freedom is 78 and the test statistic is equal to 9.494 and because the level of significance is lesser than 0.05%, the opposite hypothesis suggesting the existence of a relationship between two factors will be accepted.

The relationship between market orientation and the components of effectiveness, in the market, of the companies designing and manufacturing clean rooms (including success of new product, attracting customer, keeping customer and product quality) has correlation coefficients equal to 0.568, 0.772, 0.684 and 0.576, respectively than was shown in Table 3. Considering the acceptance criterion of 0.50, it can be concluded that there is a high correlation coefficient between each one of the dimensions of dependent variable of domination on market.

Therefore, it was concluded that, for the companies designing and manufacturing clean rooms, higher attention to market orientation implies an increase in their effectiveness (success of new product, keeping the present and future customers, attracting new customers and quality of offer able products.

Table 4: The statistic of T test-correlation coefficient between market orientation variable and the components of financial performance variable

Item	Research result	Accepted criterion	Result
Level of significance	0.008	<0.05	Ok
Profit	0.501	>0.50	Ok
Cash flows	0.529	>0.50	Ok
Rate of capital return	0.522	>0.50	Ok

Third sub-hypothesis: There is a positive relationship between market orientation and financial performance of companies manufacturing clean rooms.

Hypotheses:
H_o: $\rho = 0$ there is an independent relationship between market orientation and financial performance of companies manufacturing clean rooms.

H_1: $\rho \neq 0$ there is a positive relationship between market orientation and financial performance of companies manufacturing clean rooms.

The Correlation coefficient obtained from the statistical analysis between two mentioned variables, i.e., market orientation and financial performance, is 0.517. On the other hand, by using t test, we tested the statistical significance of the relation for level of significance of 0.05, which was confirmed.

Degree of freedom is 78 and the test statistic is equal to 9.494 and because the level of significance, is lesser than 0.008 (as per Table 4), the opposite hypothesis suggesting the existence of a relationship between two factors will be accepted.

According to Result of Table 4, the relationship between market orientation variable and all above-mentioned factors forming the financial performance was analyzed, on which the correlation coefficient between the variables of profit, cash flows and rate of capital return were respectively 0.501, 0.529 and 0.522. So considering the acceptance criterion of 0.50 it can be concluded that there is a high correlation coefficient between each one of dimensions of the dependent variable of financial performance.

Therefore, higher attention drawn by the companies designing and manufacturing clean rooms to market orientation implies an improvement on financial performance of the companies, not be to the extent of the improvement of company's domination over market and improvement of effectiveness in market.

The principal hypothesis: There is a positive relationship between market orientation and business performance.

Table 5: The statistic of T test-Correlation coefficient between market orientation and business performance variables

Item	Research result	Accepted criterion	Result
Level of significance	0.000	<0.05%	Ok
Business performance	0.671	> 0.50	Ok

Hypotheses:
H_o: $\rho = 0$ there is an independent relationship between market orientation and business performance of companies manufacturing clean rooms.

H_1: $\rho \neq 0$ there is a positive relationship between market orientation and business performance of companies manufacturing clean rooms.

The statistical analysis established the positive and significant relationship between market orientation and business performance and the correlation coefficient between these two variables is determined to be 0.671.as shown in Table 5. On the other hand, by using T test, we tested the statistical significance of the relation for level of significance of 0.05%, which was confirmed.

The discussion will be followed by computing the correlation coefficient between market orientation and business performance and considering the fact that the calculated value is higher than acceptance criterion, it indicates the strong correlation coefficient between them.

Degree of freedom is 78 and the statistic of test is equal to 8.04 and because the level of significance is lesser than 0.05 too, the opposite hypothesis suggesting the existence of a relationship between two factors will be accepted.

CONCLUSION

The positive and significant relationship between market orientation and business performance of the companies designing and manufacturing clean rooms was established though testing the principal hypothesis. The summery of research hypothesis was shown in Table 6. That all of hypotheses were confirm.

In other words, it can be said that market orientation viewpoint on each of companies manufacturing clean rooms has positive influence on their business performance. By analyzing the output resulting from testing the sub-hypotheses, it can be concluded that the market orientation viewpoint has positive influence on domination over active companies, effectiveness in market and their financial performance in the clean room industry.

Table 6: Summery of research hypothesis

Hypothesis	Correlation coefficient	Accepted criterion	Result
Principal hypothesis	0.671	0.5	OK
First sub-hypothesis	0.709	0.5	OK
Second sub-hypothesis	0.659	0.5	OK
Third sub-hypothesis	0.517	0.5	OK

∗: High correlation coefficient is (0.65-0.85), Suitable correlation coefficient is (0.35-0.65) and weak correlation coefficient is (0.00-0.35)[4]

As it was mentioned before, market orientation focuses on the three sectors, i.e., customer, competitors and collaboration inter-department, for which the following suggestions can be proposed.

In the area of competitor orientation:

- The companies engaging in this industry must consider the necessary measures for removing all weaknesses related to Competitor orientation (in the area of market orientation) through faster, suitable response to competitors' measures, identifying the strategies of competitors in each one of the consuming industries markets as well as identifying present opportunities in clean room market, based on their competitive strength

- Considering the fact that the clean room industry is counted as a newly established industry and there is increasing attack of new competitors to this industry, as well as intense competition between companies engaging in, identifying regularly the competitors' strengths and weaknesses can provide worthy help for the companies

- Studying marketing variables (including price, advertisements, how to market product and so forth) in a regular and periodic manner, can yield suitable information to the companies in order to identify measures of the competitors

- Considering the fact that in order to increase the competitive strength on market, all required factors must be mobilized, distributing competitor information between other sections of the organization, along with holding regular sessions of senior managers concerning the competitors, can provide worthy help for the companies

- Creating pattern from the competitors' strengths (considering it own competitive power), using optimally from their weaknesses as well as timely responding to those activities of competitor which can threat the company performance, must be considered as important case by the company managers

In the area of customer orientation:

- The companies engaging in clean room industry must done proper measures on how to communicate with the consumers in the area of market orientation and marketing through obtaining the customers' opinions, participating closely with each one of the costumers, creating commitment and confidence in them

- Maintenance of system for following dynamically the customers' complaints and special attention to after sale services must be considered as very important case concerning the customers

- Offering service via personal attention to the customers, affability to them and having regular communication

- Knowing the customers' viewpoints, studying environmental changes and the consuming industries' preferences

- Paying attention to dissatisfactions of the customers as well as trying to solve them, along with perceiving the importance of the subject by organization sectors

In the area of inter-department collaboration:

- The personnel of different sections of the organization and other company resources must be coordinated in the manner that can create value for the customers through collaboration and help together

- Emphasis on the importance of inter-department collaboration must be considered through participation of the organization sections in compiling the company plans and strategies, balanced state on how to utilize the recourses
  Between sections, distribution of information obtained from customer experiences between sections, as well as knowledge on offering the superior value to the customer

- After collecting, analyzing and organizing the information, they which can be about market (customers, competitors and environment), must be given to different sections and offices of the company to be utilized and used in their own decisions

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