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EFFECT OF COOPERATION OF THE PRODUCTION, LOGISTIC AND MARKETING DEPARTMENTS ON PERFORMANCE OF THE ENTERPRISE: ERZURUM ORGANIZED INDUSTRIAL ZONE IMPLEMENTATION

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Abstract

The enterprises shall develop the products that are appropriate for expectations of their target market in order to maintain their existence and get the edge in the competition. Within this process, production, logistic and marketing departments' cooperatively working has a big importance for reaching the success. The object of this study is to determine effect of cooperation of the production, logistic and marketing departments at SMEs (small and medium sized enterprises) available in Erzurum Organized Industrial Zone on performance of the enterprise. With the aim of fulfilling this, necessary data were obtained with survey method and necessary analyses were done. At the end of the study, it was concluded that cooperation between production and marketing departments in SMEs carrying on business in Erzurum were effective on performance of the enterprise and logistic department did not show direct effect on this performance.

Keywords: Production, Logistic, Marketing, Performance, Cooperation, Interdepartmental

INTRODUCTION

The efforts of managers for maintaining their continuity at today's economy that customer expectations and product life cycles has fast changed has increasingly become much more difficult. Especially at today's market conditions at which instability of both current competition conditions and macroeconomic conditions have been experienced, the enterprises that are able to recognize the change on customer expectations earlier has been gaining advantage in the competition and they may increase their performances (Porter, 1980). One of the most important factors at providing this advantage and success is that the departments in the enterprise work cooperatively (Hausman et al., 2002). The production, logistic and marketing departments are included in these departments.

The production department is the enterprise department that is responsible for producing at the time and place that the customer wants with minimum cost and at desired quality by using the sources such as the raw material, equipment and energy that enterprise provides to it (Sezen et al., 2002). The logistic department is the department that deals with planning and applying strategic, tactics and activities regarding to moving the raw materials, spare parts and finished products from sellers to the buyers (Tek, 1999). The marketing department is the department that carries out activity for forming a superior customer value (Guenzi &Troilo, 2007).

As seen there, these departments covering the process from supply to sale and after sale in order to manufacture the product is continuously in relationship. It will affect performance of the enterprise that this relationship has been effectively achieved and turned to cooperation.

The performance of enterprise will provide continuity of the existence at the competition environment as an indicator of ability of adaptation to changing environmental conditions of the enterprise as well as that it will also allow for reaching main economic targets (Hagedoorn & Cloodt, 2003). It requires that the enterprises are to strengthen their performances with interdepartmental cooperation for continuity of the enterprises and superiority in the competition.

In this study, effect of the cooperation between production, logistic and marketing departments on the performance was reviewed. The study is formed from 3 parts. At the first and second part, the concepts of production, logistic, marketing, cooperation and performance were mentioned and its application was mentioned at the third part. The survey method was used and data were analyzed with the help of SPSS 20.00 package program and results were interpreted.

The Concepts of Production, Logistic and Marketing at the Enterprises

While the production is bringing the production factors together and transforming these into good or service, the production management is defined as planning, organization, staffing, leading and control of all works in relevant departments of the organizations that transform inputs into products and services (Demirdöğen & Küçük, 2013). With production management, it is aimed to use the sources effectively, working efficiently by minimizing the losses and reaching desired level in terms of quality (Demir & Gümüşoğlu, 1998). Within this scope, aims of the production management are combined in three points. These aims are as follows:

- Providing production of goods and services with low cost,
- Providing quality of the goods and services being at the expected level,
- Providing the customer demands' being produced and fulfilled at desired price, time, amount and quality (Mayer, 1982).

The logistic is a process that covers planning, carrying out and controlling the physical flow of goods and services from production points to consumption points in order to fulfill the customer demands. In short, it refers to reach the right product to the right customer at right place and time (Kotler &Armstrog, 2004). The groups, foreign and internal customers, distributors and suppliers are the ones with who the logistic department is in relationship. This department allows for storing of the products, departmentalizing, fluidity of the marketing channels, minimizing the costs while fulfilling the orders and therefore increasing the profitability thanks to the groups (Gattorna et al., 1991). In general, the logistic plays a supportive role for enterprise functions such as marketing and production. The logistic of which activity field role has started to change in the recent year has become evident more explicitly and has started to be seen as a critic factor allowing for a competition advantage in the enterprises (Baki, 2004).

The marketing is an enterprise department that searches for customer needs and demands, departmentalizes the target market within this direction, tries to increase market share and profitability of each target market, focuses on the continuous customer satisfaction and collects opinions devoted to form and develop new good and service and motivates all departments in terms of being customer driven (Kotler & Keller, 2009). The duty of this department is to determine target customer, understand their lifestyles and opinions and use all enterprise sources lucratively (Tokol, 1996).

The marketing acts as a bridge that allows for the enterprise establishing a relation with its environment, mediating for the good and service being ready at desired place and time appropriately and customers' having the good and service and in short allowing for establishing a relation between producer and customer (Mclever,1972).

Relation of Cooperation and Performance at the Enterprises

The cooperation is defined as that different persons or groups who will establish communication will come together with the aim of achieving the common objects and work together in tandem (Malone & Crowston, 1994). Another way of enterprises' making a difference compared to their competitors is to provide interdepartmental cooperation. As the production and logistic departments are to work together in demand estimation, transportation, packing, customer services, etc., cooperation of the production and logistic departments is a very important issue (Gattorna et al., 1991). Interdepartmental cooperation is not only at production and logistic departments, it is also related with other departments in the organization and its close surrounding. In other words, it requires sharing the experiences and relevant knowledge obtained within time that all departments affecting final product or service are in relationship with each other (Slater & Narver, 1995). As a result of the interdepartmental close relations, the bureaucracy will decrease and flexibility will increase (Lings, 2004).With reference to previous studies, it is concluded that cooperation between marketing, production and logistic departments of the enterprises affects performance of the enterprise (Gray & Hooley, 2002).

Even if the conceptual definition and measurement of the performance at the enterprises form one of the subjects that have not been reached a consensus and harden the researchers, the performance is stated as the degree of achieving the object and targets (Simşek, 2002). Performance of the enterprise refers to the degree of the enterprise achieving its targets at a specific period within direction of the enterprise targets and in other words refers to its success level (Porter, 1991). The corporate moves that will fulfill expectation of the target mass in the market will make contribution to enterprise performance both quantitatively and qualitatively (Lukas & Ferrel, 2000).

It will also allow for high enterprise performance that satisfaction of the ones who are working in the production, logistic and marketing departments against each other and their cooperation feelings are high. If the positives sides of acting together is taken into hand, the status at which interdepartmental cooperation is achieved will be the status at which highest enterprise performance is achieved (Murphy & Poist, 1996). In this study, it is revealed out that effect of cooperation on enterprise performance is higher than the effect that the departments will make severally (Wind & Robetson,1983).

Research Objective and Scope

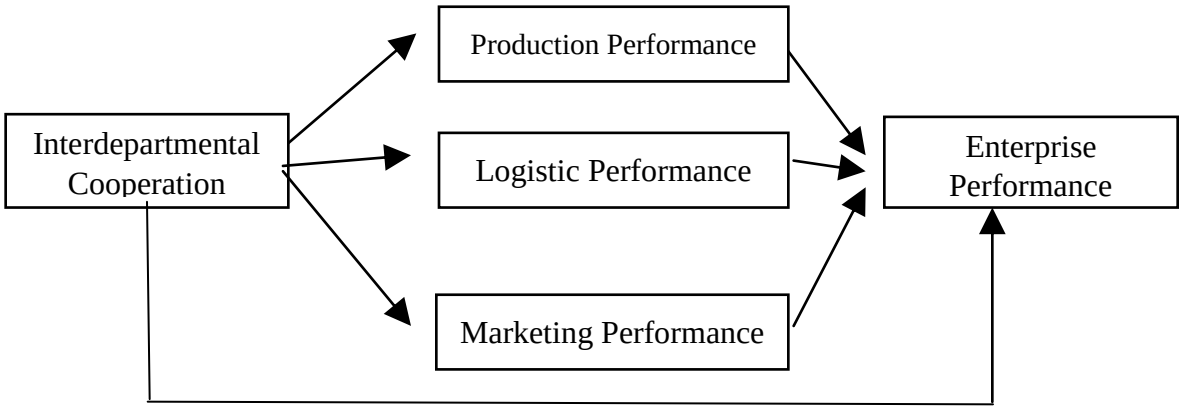
Object of this study is to review effects of the cooperation between production, logistic and marketing departments of SMEs carrying on bussiness in Erzurum Organized Industrial Zone on

general performance of the enterprise. The manufacturer SMEs carrying out activity in Erzurum Organized Industrial Zone constitute scope of this research.

Model and Variables of the Research

The effect of cooperation between production, logistic and marketing departments of manufacturer SMEs carrying on business in Erzurum Organized Industrial Zone constitutes the basis of this research. The research model that was formed within the scope of this object is shown at Figure 1.

Figure 1. ProposedResearch Model



METHODOLOGY

In this study, survey method was used. Within this direction, 13 manufacture enterprises carrying on production activity within the light of these data taken from Erzurum Chamber of Industry and Commerce constitute groundmass of the research. The convenience sampling method was used in the survey research.

While forming the survey form, the literature review concerning to the effect of cooperation between production, logistic and marketing departments of the enterprises on the enterprise performance was done. Within this direction, survey form was formed by getting benefit from the scales that Chow et al (1994), Ellinger et al (2000), Murphy & Poist (1996) and Sezen et al (2002) used in their studies.

The survey form is formed from six parts. At the first part, the questions concerning to the demographic attributes were asked and at the other parts, the questions concerning to the interdepartmental cooperation, logistic performance, production performance, marketing performance and enterprise performance, respectively were asked by using 5 Likert scale. The surveys were applied to the managers one to one. 100 of 135 manufacture enterprises replied

to survey questions and 35 of these enterprises did not want to fill the questionnaire. Within direction of object of the research, we may express hypothesis of the research as follow.

H1: The production performance positively affects performance of the enterprise.

H2: The logistic performance positively affects performance of the enterprise.

H3: The marketing performance positively affects performance of the enterprise.

H4: The interdepartmental cooperation positively affects production performance.

H5: The interdepartmental cooperation positively affects logistic performance.

H6: The interdepartmental cooperation positively affects marketing performance.

H7: The interdepartmental cooperation positively affects performance of the enterprise.

The data that were obtained with the aim of testing the hypothesis, they were subjected to analyses by using SPSS 20.00 package program.

ANALYSİS AND FİNDİNGS

Table 1. Demographic Attributes

	Frequency N=100	**%**		**Frequency N=100**	**%**
Position in the Enterprise			**Activity Field**		
Employer	15	15	Food	19	19
General Manager	18	18	Construction	15	15
Deputy General Manager	26	26	Chemistry	12	12
Department Manager	25	25	Logistic	11	11
Other	16	16	Metal	15	15
Educational Background	**N=100**	**%**	Plastic	7	7
Primary School	5	5	Automotive	10	10
High School	23	23	Textile	6	6
Undergraduate	46	46	Other	5	5
Postgraduate	25	25	**Number of the Employees**	**N=100**	**%**
Doctorate	1	1	1-9	9	9
Sex	**N=100**	**%**	10-49	47	47
Male	92	92	50-249	44	44
Female	8	8	**Establishment Date**	**N=100**	**%**
Age	**N=100**	**%**	Before 1970	4	4
20-29	11	11	1970-1980	14	14
30-39	36	36	1980-1990	23	23
40-49	50	50	2000-2010	46	46
50- +	3	3	2010- +	13	13

As seen from Table 1, frequency distributions of 100 enterprises that participated in the research are as follows. 26% of the participants who participated in the survey and responded the questionnaire were deputy general managers with the highest rate. 46% of the survey

participants were high school graduates with the highest rate. 92% of the participants were male and 50% of them were between the age of 40 and 49 yrs old with the highest rate. 19% of the activity fields were food sector with the highest rate and number of the employees was between 10 and 49 with the highest rate. 59% of the enterprises that participated in the survey were formed from the enterprises established on 2000 and afterwards with the highest rate. The production, logistic, marketing performances and interdepartmental cooperation levels of the enterprises participated in the research and average and standard deviation values of them belonging to the enterprise performance are shown at Table 2.

Table 2. Descriptive Statistics Belonging to the Variables

	Average*	**Standard Deviation**
Production Performance Variable	4,49	0,50
Logistic Performance Variable	4,57	0,31
Marketing Performance Variable	4,61	0,31
Interdepartmental Cooperation Variable	4,51	0,41
Enterprise Performance Variable	4,63	0,31

*: 1. I Absolutely Disagree, ……, 5. I Absolutely Agree

Reliability test was done as relevant to main variables of the study and the reliability coefficient (cronbach's alpha) was determined as 77.5%. As seen from Table 2; while the highest average variable is enterprise performance variable, the variable having the lowest average is logistic performance variable. The correlation analysis was done with the aim of scaling the correlation among the variables of the study and the results are shown at Table 3.

Table 3: Correlation Table

	Production Performance	**Logistic Performance**	**Marketing Performance**	**Cooperation**	**Enterprise Performance**
Production Performance	1				
Logistic Performance	0,208'				
Marketing Performance	0,285"	0,279"			
Interdepartmental Cooperation	0,247'	0,192	0,324"		
Enterprise Performance	0,422"	0,194	0,345"	0,314"	

Correlation is significant at the "0.01 level (2-tailed); '0.05 level (2-tailed)

As a result of the correlation analysis, the highest correlation was determined between performance of the enterprise and production performance 0,422 (p>0,01). The lowest correlation was determined between cooperation and logistic performance with the value of 0,192.

Determination of Effect of Production, Logistic and Marketing Performance on the Enterprise Performance with Regression Analysis

A regression analysis was done with the aim of reviewing the effect of production, logistic and marketing performance on performance of the enterprise. While enterprise performance was taken as the dependent variable, production, logistic and marketing performances were taken as independent variable. As a result of the analysis, multiple regression model was statistically significant as a whole at 0,05 significance level (p=0,000) and explanatoriness power of the model was (R-square=0,236) 0,236. When the model is reviewed, it is seen that production performance among the independent variables (B = 0,213; p= 0,000) and logistic performance (B= 0,237; p=0,018) is not directly correlated with enterprise performance. This result means that 1 unit increase at production performance at 0,05 significance level increases general performance of the enterprise at the rate of 0,213 unit and 1 unit increase at the marketing performance increases general performance of the enterprise at the rate of 0,237 unit.

Determination of Effect of the Cooperation on the Production Performance with Regression Analysis

A regression analysis was done with the aim of reviewing the effect of cooperation on the production performance. While production performance was taken as the dependent variable, interdepartmental cooperation was taken as independent variable. As a result of the analysis, multiple regression model was statistically significant as a whole at 0,05 significance level (p=0,013) and explanatoriness power of the model was (R-square=0,061) 0,061. When the model is reviewed, it is seen that independent variable interdepartmental cooperation (B=0,307; p=0,013) is positively correlated with general performance of the enterprise. This result means that 1 unit increase at interdepartmental cooperation at 0,05 significance level increases logistic performance at the rate of 0,307 unit.

Determination of Effect of the Cooperation on the Logistic Performance with Regression Analysis

A regression analysis was done with the aim of reviewing the effect of cooperation on the logistic performance. While logistic performance was taken as the dependent variable,

interdepartmental cooperation was taken as independent variable. As a result of the analysis, multiple regression model was statistically significant as a whole at 0,05 significance level (p=0,056) and explanatoriness power of the model was (R-square=0,037) 0,037. When the model is reviewed, it is seen that independent variable interdepartmental cooperation (B=0,146; p=0,056) is not positively correlated with general performance of the enterprise. This result means that 1 unit increase at interdepartmental cooperation at 0,05 significance level increases logistic performance at the rate of 0,146 unit.

Determination of Effect of the Cooperation on the Marketing Performance with Regression Analysis

A regression analysis was done with the aim of reviewing the effect of cooperation on the marketing performance. While marketing performance was taken as the dependent variable, interdepartmental cooperation was taken as independent variable. As a result of the analysis, multiple regression model was statistically significant as a whole at 0,05 significance level (p=0,001) and explanatoriness power of the model was (R-square=0,105) 0,105. When the model is reviewed, it is seen that independent variable interdepartmental cooperation (B=0,243; p=0,001) is positively correlated with general performance of the enterprise. This result means that 1 unit increase at interdepartmental cooperation at 0,05 significance level increases marketing performance at the rate of 0,243 unit.

Determination of Effect of the Cooperation on the Enterprise Performance with Regression Analysis

A regression analysis was done with the aim of reviewing the effect of cooperation on the enterprise performance. While enterprise performance was taken as the dependent variable, interdepartmental cooperation was taken as independent variable. As a result of the analysis, multiple regression model was statistically significant as a whole at 0,05 significance level (p=0,001) and explanatoriness power of the model was (R-square=0,099) 0,099. When the model is reviewed, it is seen that independent variable interdepartmental cooperation (B=0,242; p=0,001) is positively correlated with general performance of the enterprise. This result means that 1 unit increase at interdepartmental cooperation at 0,05 significance level increases general performance of the enterprise at the rate of 0,242 unit.

Acceptance and rejection statuses of the research hypotheses as a result of the analyses are shown at Table 4. While H1, H2, H4, H6 and H7 hypotheses were accepted, H3 and H5 hypotheses were rejected.

Table 4: Results of the Research Hypotheses

Hypotheses	β	p	Result
H1: The production performance positively affects performance of the enterprise.	.344	.000	Accepted
H2: The logistic performance positively affects performance of the enterprise.	.231	.018	Accepted
H3: The marketing performance positively affects performance of the enterprise.	.058	.537	Rejected
H4: The interdepartmental cooperation positively affects production performance.	.247	.013	Accepted
H5: The interdepartmental cooperation positively affects logistic performance.	.192	.056	Rejected
H6: The interdepartmental cooperation positively affects marketing performance.	.324	.001	Accepted
H7: The interdepartmental cooperation positively affects performance of the enterprise.	.314	.001	Accepted

CONCLUSIONS AND SUGGESTIONS

The data obtained from 100 manufacture enterprises carrying on bussiness in Erzurum Organized Industrial Zone were used at the analysis of research and necessary analyses were done by using SPSS 20.00 package program. The demographic attributes and frequency distributions belonging to the sampling that was concluded at the end of the research are as follows: 26% of the participants who participated in the research and responded the questions were deputy general managers. Educational background of 46% of the survey participants were high school graduates. 92% of the participants were male and the age range was 40-49 with the rate of 50%. 19% of the activity field was food sector and number of the employees were 10-49 with the rate of 10-49 and 59% of the enterprises that participated in the survey were the enterprises that were established on 2000 and afterwards. Reliability test was done relevant to the main variables of the research and the reliability coefficient (cronbach's alpha) was determined as 77.5%

As seen at Table 4, 5 of 7 hypotheses of the study were accepted and 2 of these hypotheses were rejected. When logistic performance variable is assessed together with other variables, this becomes meaningless in terms of enterprise performance. But this will not be a true approach to interpret this finding as that logistic performance does not affect the enterprise performance. It will be a more logical approach to review indirect effects of logistic performance on the enterprise performance.

On the other side, the hypothesis of that production performance and marketing performance positively affect the enterprise performance as put forth at H1 and H2 hypothesis

was validated. Especially the production performance affects the enterprise performance at a larger extent.

The thesis of that logistic performance positively affects the enterprise performance put forth at H3 was rejected. This result may be resulted from that it includes the data taken from 100 enterprises. Also it may allow for obtaining healthier results that different variables will included in the analyses at further researches.

The thesis put forth at H4 and H6 in terms of that interdepartmental cooperation positively affects production and marketing performance. Making cooperation will affect especially marketing function at a larger extent.

On the basis of acceptance of H7 hypothesis, interdepartmental cooperation will positively affect performance of the enterprise. Most of our hypothesis that we determined by departing from object part of our study was accepted and it was concluded that cooperation between production and marketing departments positively affects the performance. Only our hypothesis concerning to logistic performance were rejected. The reason of these hypothesis being rejected was that logistic also plays a binding role between production and marketing while logistic does not have a direct effect on the performance.

If the performance in the enterprises is wanted to be increased, cooperation between marketing and production may be achieved. By this way, performance increase may be increased. This increase will bring competitiveness and rantability.

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