

**“The study of controllably environmental factors affecting on export buyers’ decision-making process of steel products”****<sup>1</sup>Seyyed Mahmoud Hosseini Amiri, <sup>2</sup>Syedhossein Naslmosavi and <sup>3</sup>Seyyed Vahid Jabbarzade**<sup>1</sup>*Economics and Social sciences department, Payame Noor University (PNU), PO BOX 46179-33586 Amol, Iran.*<sup>2</sup>*Department of Accounting, Qaemshahr Branch, Islamic Azad University, Qaemshahr, Iran.*<sup>3</sup>*Department of Business Management, Babol Branch, Islamic Azad University, Babol, Iran.*

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**ABSTRACT**

Decision purchase process are effected by two types of controllable and uncontrollable factors that some of the most important of them are socio-cultural group ,Situational factors and the factors as for Marketing mixes (stokes, 2002: 121).Today, controllable environmental factors or marketing mixes elements of Steel manufacturer is typically influence on the decision process of steel buyer. In this research, one main aim meaning the influence of Marketing mixes elements on the process of organizational buyers is considered. The orientation of this research was applied and according to nature and way, is descriptive – survey and is used from inferential tests like T test and Co-relational test and ANOVA to analyze the data for testing the hypothesis and other results. The result of this research is that researcher could get acceptable significant relationship between the payment conditions of goods value and delivery conditions and payment conditions of goods and organizational personality consists of both real and legal person of steel manufacturer.

**Key words:** Controllably environmental factors, Marketing mixes, Export buyers, buyer’s decision process, Steels products.

**Introduction**

The intricate and competitive conditions of today’s business enforce the producing companies of export sector that for maintaining their profitability and market share and for staying beyond the rear of the match race, always consider the changeable conditions.

Indubitably, as today business conditions of different countries more are considered, it appears that many countries join to the global producers, sellers, and showdown with others [6].

Moreover, the behavior knowledge of organizational buyers: marketers should respond to relatively difficult questions. Some of these questionnaires are as follows: which kind of decisions do buyers get? What is their benchmark for choosing sellers? Who are the main decision-makers? How is the decision process? What are the factors that influence on buyers decision [14]?

Researchers that are looking for aspects of organizational buying behavior, often report opposite results [15]. Today, active producers in export field acknowledge that buyer decision process is one of

the most important sections in industrial marketing zone specially in organizational buying. So, this essay consider to the survey of controllably and uncontrollably environmental conditions that influence on decision process of export buyers of steel products.

*2-A review of literature research (background research):*

According to the Peter Drucker, marketing includes all business activities that from its ultimate results meaning the customer's points are measured [10]. Simply put, marketing start from market and finish in the market(roosta,2004) and totally marketing means the process of customer’s satisfaction and it is not the process of producing goods [9].

Marketing research in the export market is study and survey of a foreign market for nominating of needs and ways that can produce the products with the best style for that market [1].

Marketing environment is the combination of powers and elements that has ability and capability

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of a company that influence efficient performance for supplying products and services to customers [12]. These capabilities and abilities of company in the style of Marketing mixes like product; price, promotion and place are manifested. Moreover, importance and to be effective degree of each elements on buyers decision process according to kinds of products and foreign markets is different [1]. Marketing environment according to a definition is a complex and dynamic concept. so, companies should intensify their abilities for collecting information until can show appropriate reaction to the uncontrollably environmental changes [12].

So, with finding out the nature of buyer's decision and effective elements on decision process, producing companies can be able to recognize buyers and customers well and with this recognition and anticipate of buyers' behavior for satisfying their requirement and satisfaction and maintaining their loyalty. they would be able to access to stable competitive advantages; The advantage with excellent and surpass logistic power from a producer company that adversaries could not mimic and benchmark from it [16].

Organizational buying is typically considered like a basic activity in the related agencies with industry. This organizational buying done by organizational customers allocates the wide share from income of organization; 60 percent of income range spends in supplying the ingredients (Juha and Pentti, 2008: 253). Basic conceptualizations of organizational buying behavior is related like a black box and buying activities point to those transparent actions that occur in the decision process.

In the other hand, typically organizational buying decisions are made by buying center. Buying center consists of some people that know from their applying responsibilities or their roles in buying. Buying center is so important according to marketers and if, marketers can proportion their marketing programs with specific interests of various buying center members, they can earn fully benefit [9]. So, an organizational buying decision is made by a group from inside of organization that these people have different roles in decision making; so they participate in purchase decision and in some common aims and have shares in these decision risks.

So buying center is the decision center and paying attention to organizational buying decision process is as paying attention to buying center member's decision and effective factors on their buying decision process. In each organization, buying center according to number and kind of participants for different level will be variable. Organizational marketers for targeting their attempts in the correct way, must determine that: 1) who are the important participants in decision-making process of buying center? 2) Which decisions do they effect on? 3) What is their influence level? 4) Which kind

of evaluation do they use for choosing a producer [14]?

Philip Kotler and Gary Armstrong in their "principles of marketing book", offer a model from organizational buying according to picture #1 that the behavior of organization's purchase to the offering stimulants from producing companies shows reaction. An organization not only react to stimulants of market like marketing mixes as price, product, promotion and place, but also react to market environment meaning uncontrollable environment which company work on that. This uncontrollable environment can be divided to economic, technological, political, cultural and competitive factors. These uncontrollably environmental factors with marketing mixes stimulants are as inputs of one buyer organization and as it appears in bottom picture, outputs or results are selfsame decisions that buyers pursue. These buyers' responds appear in the component style that is choice or selection of a supplier or seller, amount of order, terms of service and payback conditions.

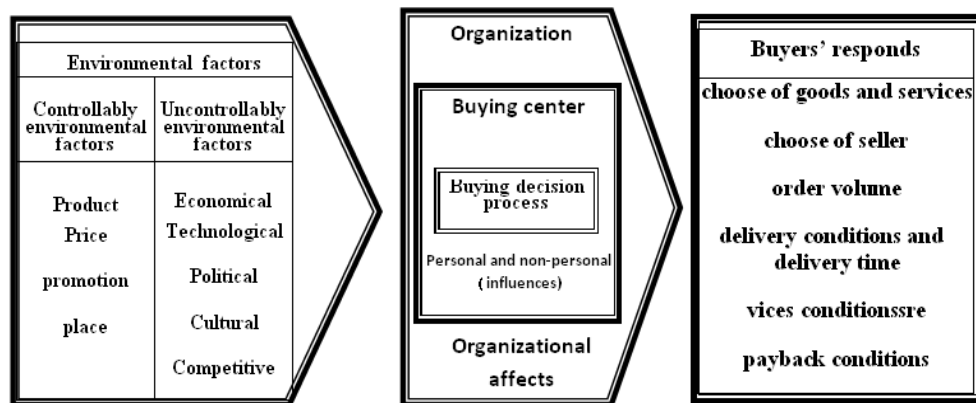
Therefore, this study wants to inspire from Philip Kotler and Gary Armstrong's buying behavior model. According to figure1, in this research, just controllably environmental factors that effect on organizational buyers' decision process are considered according to choosing one appropriate seller of steel products. Thus, inconformity with span, numerous variables affecting on organizational buyers' decisions; researchers want, in steel export field, just keep attention to the survey of marketing mixes index as controllable factors affecting on organizational buyers' decisions.

Among the most important Marketing mixes in steel products export, it can be noticed such as product, promotion, price and place mixes. So better recognition of these factors and other factors like importance proportion of marketing mixes and their influence measure on decision process of buying center in the buyer's organization in steel field should be surveyed seriously so that according to proportion of production capacity and appropriate capability, they can access considerable place from steel global markets shares. However, decision issue is as a solution choice between existing solutions for achieving to the aim and management decisions is equivalent with total management process (Sagheb Tehrani and Tadayon, 2005). According to Kotler, marketers should put their feet beyond the influence on buyer and should present deep attitude about buyers' ways of decision-making. On the other hand, marketers should know that who make buying decision. What are decision kinds? In addition, what levels does decision process pass over (Kotler, 2005)?

With regard to this matter, that marketing mixes is a frame for tactical management to establish communication with customer, which include product, price, place and promotion; also include

service elements, process, people and physical events (Jobber and Fahy, 2003). Therefore, each reader, researcher, manager or marketing expert should survey marketing mixes of an institute in different

conditions so that he/she can be familiar with special marketing problems of that institute and makes decision for that matter.



**Fig. 1:** Kotler and Armstrong's organizational buying model (source: Kotler and Armstrong (2008). Principles of marketing. P240).

Although today some experts of marketing science divide marketing mixes to seven or eight parts, this research is done in the realm of steel industry and export of steel products, and also interviews performed with superior managers in the field of export of steel products and research library show that product, price, promotion, and place mixes are of more importance. In steel export industry; so in this research, all efforts are concentrated on evaluation and survey of four main points of marketing mixes in the field of steel products export in Isfahan steel company. However, the main aim of researcher is not just achieving the predicted results meaning the influence of marketing mixes on export buyers' decision-making process. Keeping attention to value and importance of each marketing mixes in export industry of steel products and influence of marketing mixes on each other according to lateral outcomes that majority of results in this research is based on lateral outcomes.

### 3) Research methodology:

This research is an applied research according to the aim and is a descriptive-survey one according to the nature and method and with regard to following mentioned aims, primary and secondary hypothesis are as follows:

- 1) product mixes influence on the export buyers' decision process.
- 2) Product mixes of steel producing company influence on the export buyers' decision process.
- 3) Price mixes of steel producing company influence on the export buyers' decision process.

4) Promotion mixes of steel producing company influence on the export buyers' decision process.

5) Place mixes of steel producing company influence on the export buyers' decision process.

In this research, by using Cochran's formula for measuring the degree of sample and without pointing to error percent and variance of primary sample and ultimately in 95% of meaningful level, 36 steel producing companies is considered for the study.

Validity of this questionnaire is determined by using the deputy's comments in the marketing section of steel producing companies and some academic professors of Isfahan university. Then, for determining the reliability of the questionnaire, Kronbach's Alpha coefficient is used which is measured by or over 75 percent. It is important to mention that Likert's five-point measure is used.

### 4-Data analysis:

#### 4-1- Test of hypotheses:

For testing the main hypothesis of the study, it is necessary to survey the four hypotheses.

According to the following table, the observed values of T in the significant level of  $P \leq 0/05$  for each of the above hypothesis was significant,  $H_0$  hypothesis is rejected and opposite supposition or  $H_1$  is approved. Therefore, with confidence level of 95 percent and with value amount of test equal to or more than 3, we can claim that respectively product, price, promotion and place mixes related to steel export filed influence on decision process of export buyers.

**Table 1:** T test related to minor hypotheses of research.

Research hypotheses	Average	t	Degree of freedom	p
Product mixes of steel producer company influence on decision of export buyer process.	3.6910	5.892	35	0.000
Price mixes of steel producer company influence on decision of export buyer process.	3.6310	4.855	35	0.000
Promotion mixes of steel producer company influence on decision of export buyer process.	3.4931	3.525	35	0.000
Place mixes of steel producer company influence on decision of export buyer process.	3.7049	5.007	35	0.000

**4-2- Related analysis to main hypothesis:**

According to following table, the observed value of t in level of  $0/05 \leq P$  was meaningful;  $H_0$

hypothesis reject and opposite hypothesis or  $H_1$  approve. Therefore, with confidence of 95 percent can claim that marketing mixes ingredient influence on decision process of export buyer of steel products.

**Table 2:** T test related to main hypothesis of research.

Main hypothesis of research	Average	t	Degree of freedom	p
Marketing mixes influence on decision of export buyers.	3.6300	7.476	35	0.000

**4-3-Discuss about lateral findings of research:****4-3-1- The comparative survey of averages of export buyers' responds according to different payback terms:**

For comparing the averages of export buyer's responds based on different payback terms

mentioned in business contracts (P1 {cash payment}; P2 {letter of credit (LC)}; P3 {combination of both}), we can use Single-factor analysis of variance. Statistic hypothesis in this test are as follows:

$H_0$ :  $P1=P2=P3$

$H_1$ : At least, one of averages is not equal.

**Table 3:** Comparing the customers' responds according to different payment terms.

Marketing mixes	F	P
product	0.963	0.392
price	1.475	0.244
promotion	0.066	0.937
Place of distribution	0.634	0.537

According to above table, the averages of export buyers' responds based on different payment terms in most of selling agreements, have not meaningful differences at  $P \leq 0/05$  in four types of effective marketing mixes.

**4-3-2-The comparative survey of averages of export buyers' responds according to different types of delivery terms:**

For comparing the averages of export buyers' responds based on different delivery terms in most of agreements, [D1 {EXW (Ex-works) and FCA (Free

carrier)}; D2 {FOB(Free on board) and C&F (cost and Freight)}; D3 {(combination of both)}], we can use single-factor analysis of variance again. Statistic hypothesis in this test are as follows:

$H_0$ :  $D1=D2=D3$

$H_1$ : At least, one of averages is not equal.

It is important to mention that according to the interviews with experts and marketing management at Steel Company, mentioned delivery terms are the most common ways for carrying the steel products in international business and the other delivery terms in export of steel product is just of special cases.

**Table 4:** Comparing the customers' responds according to different delivery terms.

Marketing mixes	F	P
product	0.357	0.702
price	0.920	0.409
promotion	0.302	0.741
Place of distribution	0.115	0.892

Based on the above table and observed F, the averages of export buyers' responds based on different delivery terms in most of the signed contracts, have not meaningful differences at  $P \leq 0/05$  in four types of marketing mixes.

**4-3-3- Survey of correlation between delivery and payment terms in most of selling agreements:**

The correlation between delivery terms and payment terms is studied in this research and thus, the hypotheses are posed in this case and regression test (deduction about  $\beta$ ) is used for testing these hypotheses:

$$H_0 : \beta = 0$$

$$H_1 : \beta \neq 0$$

In this test, method of payment is considered as independent variable and delivery terms is regarded as dependent variable. According to table #5, the

amount of calculated beta ( $\beta$ ) in this test, at significant level of 5% is meaningful, meaning that  $H_0$  hypothesis is rejected and the opposite hypothesis or  $H_1$  is approved. In the other words, delivery terms of steel products in most of selling agreements directly influence on payment terms.

**Table 5:** Comparing the correlation between delivery terms and types of payment terms.

Model		Standard deviation		Standard quotient	T	Level of significance
		B		Beta		
1	Fixed amount	0.503	0.216	-----	2.325	0.026
	Type of delivery	0.740	0.123	0.719	6.029	0.000

The correlation ratio R in the regression test is calculated to 71.9 percent in which indicates that 51.7 percent of changes in payment terms can be explained through the influence of different terms of product delivery.

As it is deduced from the above results, buyers who use Ex-works terms (delivery of product in the factory place) or FCA terms (delivery of product in nominated place) are more willing to use with cash payment terms and also buyers who use FCA (free on board) or C&F (delivered at destination port) more than of other delivery terms are more willing to use with LC method in payment delivery (letter of credit). This is a logical result because when more products enter to the customs origins, stoppages of goods in the port of origin country or destination port may impose much costs on buyers and risks of releasing goods is increased more and more through passing more time. So, buyers using letter of credit as a credit agreement, enforce producer or seller of steel products to load the goods on the deck of introduced ship in time or send the goods quickly to the destination port. Therefore, buyers' responsibility would be less in this condition and do not have to pay all money of goods before which less risks are encountered to buyers.

#### 4-3-4- Survey of pair correlation between marketing mixes:

In addition, a correlation quotient test is used for studying the relationship between marketing mixes so these hypotheses as below are demonstrated  
 $H_0: \rho = 0$  - There is not meaningful correlation between marketing mixes.

$H_1: \rho \neq 0$  - There is meaningful correlation between marketing mixes.

According to table#6, the amounts of P measure of all pair variable are less than of 5 percent and so calculated hypothesis in this test at 5% is meaningful and  $H_0$  hypothesis is rejected and opposite hypothesis or  $H_1$  is approved. It means that marketing mixes have meaningful relationship to each other or in the other hand; each variable of marketing mixes influences on each other. It is necessary to explain the matter that the amount of correlation between price mix and place mix is of most in which 88.4 percent with positive direction is reported and the least amount of these correlations is related to the relationship between promotion mix and price mix that reports 64.8 percent with positive direction.

**Table 6:** Study of relationships between marketing mixes by Pearson Correlation test.

Correlation		Product	Price	Promotion	Distribution
		Product	Pearson Correlatix	1	.696
	Sig. (1-tailed)		.000	.000	.000
	N	36	36	36	36
Price	Pearson Correlatix	.696	1	.648	.884
	Sig. (1-tailed)	.000		.000	.000
	N	36	36	36	36
Promotion	Pearson Correlatix	.761	.648	1	.737
	Sig. (1-tailed)	.000	.000		.000
	N	36	36	36	36
Distribution	Pearson Correlatix	.794	.884	.737	1
	Sig. (1-tailed)	.000	.000	.000	
	N	36	36	36	36

The report of correlation between price and place (distribution) mixes is completely indicating a logical result because many variables of place mix like shipping and freight costs typically affect on final price and totally, in different delivery terms, prices are different.

#### 4-3-5- Survey of the importance of four elements of marketing mixes from export buyers' viewpoints:

In addition, this question appears that whether there is any meaningful difference between elements of marketing mixes. For better demonstration of this matter, Friedman's test is used for studying the

importance and average degree of marketing mixes. According to the table #7, it appears that there is not meaningful difference between elements of marketing mixes at 95 percent level of confidence. In any way, product mix under sample of this research has the most importance with the average degree of 2.82 in comparison with other elements of marketing mixes related to steel producing companies. This

result indicates that export buyers have special attention to business marks and also chemical and mechanical properties of steel products, while promotion mix has the least importance with degree of 2.07 in export industry of steel products because advertisement and publicity and all items of promotion in steel industry is more blurred in comparison with other elements of marketing mixes.

**Table 7:** Surveying the importance of four elements of marketing mixes in steel industry.

Rank	Uncontrollably environmental factors of marketing (Marketing mixes) with their respective significance	Average Rank	Average Degree	$X^2$	P
1	Product	2.82	3.6910	6.923	0.074
2	Place (Distribution)	2.65	3.7049		
3	Price	2.46	3.6310		
4	Promotion	2.07	3.4931		

##### 5- Conclusion:

About the main hypothesis, researchers by investigating of secondary tests related to controllably environmental factors and significance of their influence on decision-making process of buyers from the viewpoint of sample, can achieve to expected results based on Kotler and Armstrong's organizational purchase model. Therefore, controllably environmental factors or marketing mixes of steel producing company at the meaningful level of 5% have influence on export buyers' decision-making process.

The results demonstrates that for more preparation of Iranian's steel companies to problems and challenges facing with privatization of company in order to acquire more independence at steel global marketing, it is necessary to make strategically marketing programs in contexts of controllably environmental factors. In addition, increasing expansion of producing abilities from the dimensions of quality and quantity for absorbing more shares of steel global markets and sustaining customers' loyalty can lead to stably competitive advantages for steel producing companies. In addition, steel producing companies should identify all problems and factors that typically damage their fame and product position in both domestic market and international markets and ultimately. By considering the results of this research, steel producing companies working in export field should concentrate the main part of their future development programs on producing steel products with different qualitative marks.

This research according to title and realm of research can provide favorable background for future researches in the realm of export. Researches like studying about uncontrollably environmental elements meaning politically environmental elements, law-legal, technological, economic, and etc and exact examination of these factors in different industries and surveying some meaningful relationships between them and also correlation survey between controllably and uncontrollably

environmental elements can help devise new and more comprehensive models of organizational purchase at industrial and non-industrial fields.

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