

The Relationship between Perceived Environmental Turbulence, Strategic Orientations and New Product Success in Export Companies (Case Study: Wagon Pars Company)

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Abstract

The aim of the present study is to examine the relationship between perceived environmental turbulence, strategic orientations, and new product success in export companies. For this purpose, 137 expert employees of Wagon Pars Company were selected in order to complete the research questionnaire. Content validity of this questionnaire has been established by experts in this field and the reliability was determined by using Cronbach's alpha test. In the end, for analyzing research hypothesis, linear regression test was used and results indicated that there is a significant relationship between perceived environmental turbulence and its dimensions including perceived technological turbulence, perceived market turbulence, perceived competitive turbulence and market innovation orientation in Wagon Pars Company. On the other hand, it was observed that there is a significant relationship between market orientation and new product success in Wagon Pars Company and the relationship between innovation orientation and new product success in Wagon Pars Company is as well a significant one.

Key words: Perceived environmental turbulence, strategic orientations, new product success

1- Introduction

Success in future challenging markets requires the necessary readiness for awareness and rapid reaction. Those Businesses possess, this readiness that are active in an intensely competitive environment and that are far from unreasonable supports and this will not be realized without having knowledgeable and motivated employees. On the other hand, making employees

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participating in creating business strategies in organization and certain strategies in each sector finally leads to fostering happy and customer-oriented employees and encourages them toward a better delivery of services to customers. Striving to deliver better services to customers requires various factors and resources and manpower is one of the most important resources here. Knowledgeable, trained, motivated manpower who are interested in the organization and who understand organizational goals in satisfying customers' needs can deliver high quality services to customers [1].

In general, success of new products depends on a set of activities and solutions for creating growth leads to change or minor/major modification of product in various stages of production in current market which allocates a certain market share to itself [2]. Identification of changes in consumers' needs and demands in various markets with constant competition in businesses and increased economic boom have led to implementation of new product development programs in companies [3]. The aim of developing new products is to respond to customers' needs, increasing profitability, customers' satisfaction and confronting with competitors' policies. Experts consider various strategies for developing new products, among which we can refer to competitive strategy[4], Strategy of the new product compatibility with the company's research and development skills[5], development of quality application model [6], product map model and product stage to stage development[2].

2- Literature Review

There are various factors which can increase exports in each society. One of them is the functions of manufacturers and producers which are related to supply chain management issues. However there are several problems like selection of best order portfolio between the received orders and detailed and accurate calculation of order fulfilling costs [7]. Perceived environmental turbulence refers to lack of stability in economic environment and activities of companies and organizations which make companies and organizations to face with environmental threats and challenges which are resulting from uncertainty [8]. Innovation orientation refers to an attitude in market which leads to innovative performance through research and development processes, which finally lead to increased business success [8]. Market orientation is a business culture which considers organization's stakeholders as well [8].

In the abstract of another research with respect to the focusing on ranking the effective factors and dimensions on the process of new product development [9], it has been argued that success in new product development projects has been a critical challenge for managers in the past and unfortunately, these challenges have encompassed today's managers as well. In fact, finding a response for this

question that why still failure rate is high in new product development projects has occupied the mind of most of researchers in this field. This topic is so much complex and importance, in a way that determining the effective factors on successful development of new product in various studies has found mixed findings. For example, failure of these projects in small and medium sized companies which are considered as entrepreneurial resources in economy is a more critical matter when it is discussed in large companies, in a way that some of these failures practically deprive these companies from their normal life. This study is a quantitative one in which an extensive relevant literature has been reviewed and through administration of author-made interviews with managers of the target SMEs, the necessary questionnaire was developed for data collection. The research findings reveal that five factors are critically important for the success of new product development. These can be categorized as technological, supportive, marketing, intra-organizational, and commercial factors. Also, ranking results of the effective dimensions on new product development success indicated that encouraging the creation of appropriate and practical ideas and attraction of the launched new product in the market are the most important dimensions.

In the abstract of another study, [10] have conducted a study with the title of “analyzing the effective factors on new product development success in small and medium sized corporation”, it has been mentioned that the subject of success in delivering new product is a very importance topic for managers and owners of corporate. Also, it has been mentioned that this topic in addition of being of great importance has its unique complicacies, because research literature review has indicated that determining the effective factors on successful development of new products in various studies have to be accompanied with mixed findings. One of the reasons for these findings is related to a number of characteristics such as technology, structure and size in the examined industries. In this study, for a more accurate study regarding the variable of company size, the focus has been solely on small and medium sized companies. This study is a quantitative study in which with extensive review of research literature and also with administration of structured interviews with the managers of the target companies, the required questionnaire was developed and it was used for collecting data. Studying the results of this study indicated that five factors are effective on successful development of new products in the examined companies. On the other hand, considering the discovered gap between the status quo and ideal situation in these companies, problematic factors in causing such gap were identified and solutions were presented for these gaps.

In the abstract of another study [11], have conducted a study with the title of “identifying and ranking the key effective factors on developing new product

by using AHP approach” stated that new product development and its importance for companies as a new approach although is accompanied by risks, however, identifying the effective key factors of this approach can be useful in reducing decisions making risks for managers. In this study has been tried to identify the effective factors and its indicators by bibliographical studies and consultation with professors, managers and experts in sectors related to product development in Saipa Group as much as possible. Hence, with administration of a pretest on 12 experts, 4 key factors of technology, marketing, commercialization and management of product development team were determined and the importance of indicators were determined and 5 important indicators were selected for each factors and next, by using Comparative test analytic hierarchy process AHP, research questionnaire was distributed among 23 managers and experts in relevant departments (departments of product development strategy, technical and procurement of parts and marketing) and 21 questionnaires were collected back. After performing the consistency ratio test, opinions were integrated and the importance of factors and indicators with pair-wise comparisons, marketing, management of product development team, technology and commercialization factors were identified as important factors in this process, respectively and determining the priority and rank of these factors in development and implementation of product development strategy, facilitates and expedites success rate and reduces risk of decision making.

In another study [12], have conducted a study with the title of new product development based on acceptance and they have found that focus on manufacturer leads to development of pricing approach of a new product. Also in other study[13], have identified key factors in the marketing performance of pharmaceuticals. They have found that individual, organization, especial environment and general environment factors have a direct and positive effect on ethic marketing.

In another study[14], have conducted a study with the title of supplier role in new product development in food industry and have found that supplier’s participation is one of the success factors in product development and that supplier’s involvement increases production. As it was mentioned in research background also, so many various studies have been conducted in the field of our study (environment turbulence, strategic orientations and new product success). However, few studies have been carried out regarding the relationship between these variables. It should be mention that another unknown aspects of this study is that in various industries such as food, the subject of new product success has been researched. However, so far in export companies especially Wagon Pars Company no study has been done with the title of “relationship

between perceived environmental turbulence, strategic orientations and new product success”.

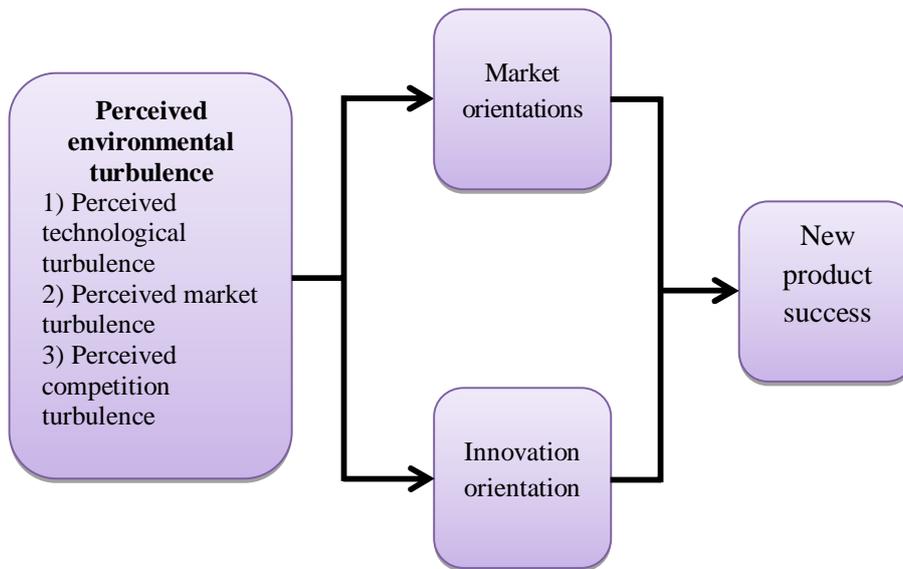


Figure 1 Research conceptual model [15]

Therefore, research hypotheses are presented as follows:

1. There is a significant relationship between perceived environment turbulence and market orientation in Wagon Pars Company.
2. There is a significant relationship between perceived technological turbulence and market orientation in Wagon Pars Company.
3. There is a significant relationship between perceived market turbulence and market orientations in Wagon Pars Company.
4. There is a significant relationship between perceived competition turbulence and market orientation in Wagon Pars Company.
5. There is a significant relationship between perceived environmental turbulence and innovation orientation in Wagon Pars Company.
6. There is a significant relationship between perceived technological turbulence and innovation orientation in Wagon Pars Company.
7. There is a significant relationship between perceived market turbulence and innovation orientation in Wagon Pars Company.
8. There is a significant relationship between perceived competition turbulence and innovation orientation in Wagon Pars Company.

9. There is a significant relationship between market orientation and new product success in Wagon Pars Company.

10. There is a significant relationship between innovation orientation and new product success in Wagon Pars Company.

3- Research Method

The present study is an applied study in terms of goal and aim it is a descriptive – correlation study. Since, this study has make use of those group of data collection instruments that their aim is to describe the examined condition or phenomenon therefore, this study is a descriptive study and the data collection in this study is supported by using bibliographical studies and questionnaire, it can be considered as a field study as well.

Research variables: Independent research variable of perceived environmental turbulence and dependent research variable of new product success and the mediating variable of innovation orientation and market orientation were considered in this study.

Statistical population and sample: Research statistical population is consisted of expert employees of Wagon Pars Company which has a coherent and integrated structure.

For determining minimum required sample volume, Cochran's formula for limited population was used and minimum required sample volume was determined to be 137 individuals. Due to homogeneity of the units available in statistical population and also due to the number of statistical sample members being limited, simple random method was used. In this method, all statistical population members have a certain and equal chance of being selected as participants.

Demographical characteristics of respondents are as follows:

Table 1 Participant's Characteristics

Respondent characteristics		Frequency	Percentage
Gender	Male	110	80.3
	Female	27	19.7
Marital status	Single	45	32.8
	Married	92	67.2
Education	Associate degree and lower	17	12.4

Respondent characteristics		Frequency	Percentage
	Bachelor degree	69	50.4
	Master degree	38	27.7
	PhD degree	13	9.5
Age	Less than 25 years	0	0
	26 to 30 years	29	21.2
	31 to 35 years	53	38.7
	36 to 40 years	28	20.4
	40 years and higher	27	19.7
Service tenure	Less than 1 year	0	0
	1 to 3 years	18	13.1
	4 to 6 years	32	23.4
	7 to 10 years	38	27.7
	More than 10 years	49	35.8

3.1. Data collection

Data collection in this study was conducted by using questionnaire. 137 questionnaires were distributed among research population and were collected back. Respondents were assured that their name would remain confidential and would not be disclosed in any way.

3.2. Measurement Scale, Validity and Reliability:

In this study for quantitative analysis of information and also for understanding the attitude of the expert employees' of Wagon Pars Company, relationship between perceived environmental turbulence, strategic orientations and new product success was studied and required data was collected through questionnaire. Research questionnaire have 42 items. Considering the fact that research questionnaire is a standard scale, so its validity confirmed. However, for gaining more confidence, face validity method was used (confirmation by

experts) and its reliability was also measured by using Cronbach's alpha coefficient (larger than 0.7), which indicates to questionnaire's reliability. Every question in questionnaire contains 5 options (including totally disagree, disagree, neutral, agree, totally agree) and participants can choose one of these options [16].

4. Research findings

After confirming research variables normality by using Kolmogorov-Smirnov test, research hypotheses were tested by using linear regression. Summary of the results of analysis are as follows:

Table 2: Results of regression model's fit with the variable of market orientation

Parameter	Regression coefficient	Estimation error	Standardized coefficient	t-test value	Sig. level	Correlation coefficient with market orientation
Perceived environmental turbulence	0.419	0.066	0.478	6.352	0.000	0.478
Perceived technological turbulence	0.221	0.058	0.312	3.811	0.000	0.312
Perceived market turbulence	0.138	0.046	0.250	2.996	0.003	0.250
Perceived competition turbulence	0.420	0.055	0.552	7.690	0.000	0.552

Based on table (2), it is clear that all these factors significantly are effective on market orientation (at 0.05 level). However, among these variables, the variable of perceived competition turbulence has the highest effect and correlation with market orientation, so that for every unit of

increase in perceived competition turbulence, 42% unit increase is seen in market orientation indicator. After that, perceived environmental turbulence is the second factor which has the highest effect market orientation therefore, for every unit of increase in perceived environmental turbulence, about 41% unit increase is seen in market orientation indicator.

Table 3 Results of regression model's test with the variable of market orientation

Parameter	Model's coefficient of determination	Model's variance analysis test value	Model's significance level	Durin-Watson value
Perceived environmental turbulence	0.229	40.010	0.000	1.877
Perceived technological turbulence	0.097	14.527	0.000	1.796
Perceived market turbulence	0.062	8.978	0.003	1.862
Perceived competition turbulence	0.305	59.133	0.000	2.141

Based on table (3) Durbin-Watson, value for all models is in the range of 1.5 to 2.5. Therefore, independence assumption of error terms is confirmed in all models. Based on this table, all models are significant at 0.05 levels. Also, as it is expected the most major factor which explains the process of market orientation is perceived competition turbulence, because it has the highest factor of determination and after that, perceived environmental turbulence factor has the second rank.

Table 4 Results of regression model's fit with the variable of innovation orientation

Parameter	Regression coefficient	Estimation error	Standardized coefficient	t-test value	Sig. level	Correlation coefficient with innovation orientation
Perceived environmental turbulence	0.399	0.089	0.359	4.474	0.000	0.359
Perceived technological turbulence	0.156	0.0796	0.174	2.053	0.042	0.174
Perceived market turbulence	0.115	0.059	0.166	1.951	0.053	0.166
Perceived competition turbulence	0.481	0.072	0.499	6.693	0.000	2.147

Based on table (4), it is clear that expect for the variable of perceived market turbulence, all these factors significantly are effective on innovation orientation (at 0.05 level). However, among all these variables, the variable of perceived competition turbulence has the highest effect and correlation with innovation orientation, in a way that for each unit of increase in perceived competition turbulence, 48% unit increase is seen in innovation orientation indicator. After that, perceived environmental turbulence is the second factor which has the highest effect innovation orientation, in a way that for each unit of increase in perceived environmental turbulence, about 40% unit increase is seen in innovation orientation indicator.

Table 5 Result of regression model's test with the variable of innovation orientation

Parameter	Model's coefficient of determination	Model's variance analysis test value	Model's significance level	Durin-Watson value
Perceived environmental turbulence	0.129	20.015	0.000	1.865
Perceived technological turbulence	0.030	4.215	0.042	1.707
Perceived market turbulence	0.027	3.805	0.053	1.817
Perceived competition turbulence	0.249	44.790	0.000	2.147

Based on table (5), Durbin-Watson, value for all models is in the range of 1.5 to 2.5. Therefore, independence assumption of error terms is confirmed in all models. Based on this table, all models are significant at 0.05 levels. Also, as it is expected the most major factor which explains the process of innovation orientation is perceived competition turbulence, because it has the highest factor of determination and after that, perceived environmental turbulence factor has the second rank.

Table 6 Results of regression model's fit with the variable of new product success

Parameter	Regression coefficient	Estimation error	Standardized coefficient	t-test value	Sig. level	Correlation coefficient with new product success
Market orientation	0.537	0.145	0.304	3.704	0.000	0.304
Innovation orientation	0.403	0.115	0.289	3.507	0.001	0.289

Based on table (6), it is clear that all these factors significantly are effective on new product success (at 0.05 level). However, among the two variables, market orientation has the highest effect and correlation with new product success, in a way that for each unit of increase in market orientation, 53% unit of increase is seen in new product success indicator.

Table 7 Results of regression model's test with the variable of new product success

Parameter	Model's coefficient of determination	Model's variance analysis test value	Model's significance level	Durbin-Watson value
Market orientation	0.092	13.717	0.000	1.927
Innovation orientation	0.084	12.301	0.001	2.039

Based on table (7) Durbin-Watson, value for all models is in the range of 1.5 to 2.5. Therefore, independence assumption of error terms is confirmed in both models. Based on this table, both models are significant at 0.05 levels. Also, as it is expected the most major factor which explains the process of new product success is perceived market orientation, because it has the highest factor of determination.

5- Conclusion and recommendations

Based on the conducted analyses, there is a significant relationship between perceived environmental turbulence and market orientation in Wagon Pars Company. Hence, this company is recommended to try to have accurate knowledge and information about product preferences of customers and try to make use of these preferences and to improve market share of company's products by managing this trend. To this end, this company should make use of appropriate channels for promotion as well. Also results of the present

study indicated that there is a significant relationship between perceived technological turbulence and market orientation in Wagon Pars Company. Therefore, this company is recommended to identify customer's needs by conducting necessary needs assessment and future studies and to implement the necessary technologies on this basis in the company. Also, the company should try to pay special attention to new ideas in organizational technologies development. On the other hand, research results indicated that there is a significant relationship between perceived market turbulence and market orientation in Wagon Pars Company. Therefore, this company is recommended to pay attention to customer's characteristics in delivery of services and try to deliver products which satisfy customers all needs. Also, the company is recommended to consider appropriate and special privileges for past and loyal customers. Research finding also indicated that there is a significant relationship between perceived competition turbulence and market orientation in Wagon Pars Company. Therefore, this company is recommended to try to provide appropriate and high quality product comparing to its competitors and also try to improve its competitiveness comparing to its competitions by obtaining update knowledge and using latest technology. Based on the results obtained from this study, there is a significant relationship between perceived environmental turbulence and innovation orientation in Wagon Pars Company. Therefore, this company is recommended to accept technical innovate based on research findings quickly and easily and the management is recommended pay attention to innovative ideas. Also, there is a significant relationship between perceived technological turbulence and innovation orientation in Wagon Pars Company. Therefore, this company is recommend to pay special attention to practical opinions and recommendations of employees and customers and try to improve employee's organizational commitment by improving organizational processes and to this end, employees also should try to put organizational goals before their personal goals. Results findings indicated that there is a significant relationship between perceived market turbulence and innovation orientation in Wagon Pars Company. Therefore, this company is recommended to improve the position of its products comparing to its competitors and also should try to be the first company to launch new products in the market. Since, there is significant relationship between perceived competition turbulence and innovation orientation in Wagon Pars Company, this company is recommended to accept innovations easily and quickly in project management and also try to have planning for creating customer value. In addition, there is a significant relationship between market orientation and new product success in Wagon Pars Company, therefore, this company is recommended to try to exchange resources with

other business units and also try to emphasize on sharing information between various departments. Based on the obtained results, there is a significant relationship between innovation orientation and new product success in Wagon Pars Company, therefore, this company is recommended to always try to avoid underestimating competitive companies and also try to understand customer's needs and make the necessary planning in this field.

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