

IDENTIFICATION AND RANKING OF EFFECTIVE ELEMENTS IN THE INTERNATIONAL TRADE OF GRAINS FROM THE VIEWPOINT OF EXPERTS

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Abstract

International trade is the most important goal of companies aiming at optimal profitability. This research was made with the goal of identification and ranking of effective elements in the international trade of grains from the viewpoint of experts. In the qualitative section, statistical population included 11 faculty members and authorities. Population in quantitative section consisted of 385 members who were expert in trade and strategic management. Data collection means in qualitative section included semi-structuralized interviews. The results showed that based on the 34 major identified factors, 5 major elements, namely effectiveness; such as product quality, specialized marketing, services and facilities, innovation and diversity and identification of type and need of consumer based on accurate management affect the international trade of grains. Moreover, according to the favorable fitness of the designed model, the identified elements are the basic factor in international trade of grains.

Keywords: International Trade, Innovation and Diversity, Specialized Marketing, Consumer.

1. Introduction and theoretical fundamentals

International trade is an interconnected system in which success is subject to competitive advantage and being capable enough to compete with other competitors and companies of the same policy (Distanont et al., 2018). Considering the business organizations which are common in their work structures, modern trade structure has changed the necessity of business competitiveness and success in trade based on the corresponding principles into a major and essential factor in this field (Elbanna et al., 2015). On this basis, recent business and structural conditions require a holistic and general view that allows success in macro dimensions and the respective sections (Durmaz and Dusun, 2016). An efficient management is a multidimensional branch and it is in relation to various indexes (De Brito, 2016). Therefore, formulation of a comprehensive and structured executive policy and a guidance program are the most important factors for movement and struggling of a system in this regard (Budhar and Debrah, 2011; Rhokeyun, 2015). To succeed in business, trade scope needs to be shifted from an internal and closed business to a larger and international one allowing the production, sale and provision of more extensive services (Gretzel et al., 2016). International trade has been formed with

such a goal and based on development of sales scope and business success. In such a trade, buyers enjoy more and better diversity of products as the result of a competitive market and producers and service providers have a higher success chance (Bryan, 2017). However, there are several competitors in this pattern based on production or provided services. In this way, it is required that one's business profit and success be maintained in a high level by maintaining and acquiring a competitive advantage. One of the major and basic factors of success in international trade refers to the product quality. Product quality is the most important reason for formation of purchase behavior by customers though quality perception differs among people based on age, education and income (Kofi Agyekum et al., 2015). Moreover, it is quite important to use the innovation and technology related to producing diverse products which encompass the needs of consumers (Al-Kwafi, 2016) resulting in sale and improvement of sale and service provision based on a technical marketing according to the conditions. In other words, marketing is an element serving as the sale key based on a high-quality production (Belz, 2010) and on this basis, sales success will be achieved. According to the remarks referred to herein, identification of effective elements in international trade is of a high important considering the role they play in profitability. On this basis, this research aims and evaluates the respective elements in the field of grain as one of the products with several business competitors throughout the world as well as with numerous audience and consumers.

2. Research background

Table 1: Research background

Background of foreign researches			
No.	Researchers	Year	Subject of research and the findings
1	Helvesen et al.	2018	In the formation of purchase behaviors among the aged, the most important form of review is the review of negative features in purchase inhibition. This is while young people emphasize on positive features of a product; however, the most important reason of purchase behavior for both classes is the quality of product.
2	Lee and Chen yu	2018	Management method and guidance structure in international trade are of high importance either. For example, this can be observed that consumers generally think of the items with higher discounts as the items with less value and inferior quality. Therefore, formulation of a policy based on the correct management pattern is of a high importance.
3	Hirshleifet al.	2018	Organizational innovation – Utilization of innovative structures based on material creativity and resources is a basic factor in achieving more profitability and he regards innovative plan as a basic factor in the organization survival.
4	Lin et al.	2017	The reason for purchasing from the websites offering international and general products in addition to the need to trust in that shop; they stated that the value perceived from supplied products and their quality was the most purchase factor for customers.

5	Gomez- Suarez et al.	2017	Optimal marketing in the international trade requires purchase motivation, attachment and trust in the brand and these will be achieved by using psychological policies and the corresponding pattern. In this field, he regards marketing as a basic and significant factor in achieving the sales market and business success.
6	Al-Haddad and Katnor et al.	2016	Business success and credibility increase by using innovative ideas and modern technologies.
7	Zhang et al.	2008	They showed that marketing and its pattern are specifically associated with business success based on e-marketing.

3. Research method

Considering its nature, this research is among mixed researches. On the one hand, it deals with making means and descriptive, correlative and inferential survey of research variables.

3.1 Statistical population and sampling method

Statistical population of this research includes all knowledgeable and expert individuals in trade, export and the associated structure who were elected through available method of targeted type and completed the research questionnaire. In order to determine sample size:

$$n = \frac{(1.96)^2(0.5)(1-0.5)}{(0.5)(1-0.5)} \sim 385 \quad (1)$$

Cochran formula was used to determine sample size. The point which should be mentioned in relation to this formula is that if *p* value is not available, it can be regarded as 0.5. In this mode, this formula will give the largest and most conservative possible number. By placing the information obtained from sample members and other indexes under review, number of sample members was considered at 385 people.

Effective factors in international trading of grains were identified and reviewed based on theoretical study, analytical interview and other relevant items. Content reliability of this questionnaire was proved by authorities and internal equality of test materials was assessed by Cronbach's alpha. Table 2 shows the psychometric features of the researcher-made questionnaire.

Table 2: psychometric features of the researcher-made questionnaire

Element	Validity	Cronbach's Alpha	Combined Reliability
Specialized marketing	0.715	0.817	0.859
Services and facilities	0.718	0.802	0.840
Innovation and diversity	0.589	0.769	0.801
Identification of type and need of consumer	0.603	0.732	0.768
Production quality	0.618	0.815	0.851

As the amount of AVE index is larger than 0.50 for all concepts and dimensions and since convergent validity is confirmed once the amount of average index of explained extraction is larger than 0.50, it can be said that convergent validity is confirmed for all concepts and dimensions of the research. Moreover, validity of each of the elements which indicates the internal fitness of test materials is over 0.7 in all elements which indicates the sufficiency of means.

4. Findings

Review of descriptive features of research subjects indicates that the age range of all research members is between 27 and 55 out of which 81% of the research participants were male, over 93% were married and more than 75% had a record of working in the field subject of the research.

4.1 Inferential findings

Based on the results obtained from qualitative section of research, 35 indexes for the variable showed decreased risk in internal investment. Then, exploratory factor analysis of these factors was dealt with. Fundamental structure of variables and their factors were tested by conducting exploratory factor analysis. KMO index and Bartlett's test are used in conducting factor analysis to ensure that the available data can be used for analysis. KMO index is reviewed for sampling adequacy through evaluation of smallness of partial correlation among variables. Based on the obtained results, KMO index shows the figures which are nearly close to 1 which indicates the adequacy of data pertaining to the effective factors identified for factor analysis. The significance level of 0.001 for Bartlett's test indicates the fitness of research variable for factor analysis.

Analysis process begins after ensuring the ability to conduct exploratory analysis. Exploratory factor analysis was conducted by analyzing main elements and varimax rotation. Based on the results obtained from qualitative section, exploratory factor analysis was conducted on 38 identified indexes. For this purpose and by using varimax rotation, the factors whose extracted common figures were larger than 0.5 were placed in one group based on the research materials and comments of experts. Those variables whose extracted common figures were smaller than 0.5 were omitted. Of course, this is done on a step to step basis and it begins from variables with lower extracted common figures. Then, exploratory factor analysis stages are shown for each structure. According to the analysis conducted, 4 indexes had a size less than 0.5 and were omitted. Finally, exploratory factor analysis was conducted on 34 identified indexes over 0.05 in the effective factors of international trade of grains based on the results obtained from qualitative section. The results are provided in the table 3.

Table 3: Common points of indexes

Questions	Initial common points	Extracted common points	Questions	Initial common points	Extracted common points
1	1.000	0.911	2	1.000	0.792
3	1.000	0.918	4	1.000	0.846
5	1.000	0.905	6	1.000	0.911
7	1.000	0.938	8	1.000	0.889
9	1.000	0.889	10	1.000	0.901
11	1.000	0.856	12	1.000	0.877
13	1.000	0.779	14	1.000	0.842
15	1.000	0.823	16	1.000	0.859
17	1.000	0.879	18	1.000	0.816
19	1.000	0.838	20	1.000	0.820
21	1.000	0.903	22	1.000	0.907
23	1.000	0.814	24	1.000	0.816
25	1.000	0.913	26	1.000	0.844
27	1.000	0.860	28	1.000	0.936
29	1.000	0.922	30	1.000	0.829
31	1.000	0.908	32	1.000	0.779
33	1.000	0.827	34	1.000	0.871

In the table 4, main elements are identified based on the existing indexes.

Table 4. Explained variance of items by factors

	Total	Percentage of variance	Cumulative percentage of variance
1 st	3.229	27.491	27.491
2 nd	2.448	19.118	46.609
3 rd	2.211	12.421	59.03
4 th	1.889	10.115	69.145
5 th	1.715	10.011	79.156

In the table 4, we used the extraction of main elements based on Kaiser's Criterion, in the manner that each of them with Eigen Values larger than 1 will be selected as the main element. As it can be seen, 5 factors have Eigen Values larger than 1. These 5 factors totally explain about 80% of the variance of existing indexes of the variable. On this basis, the results obtained from exploratory factor analysis indicate that 5 main factors may be identified from among 34 existing indexes. Based on the comments of experts and analysis of the contents of concepts, these factors were named as specialized marketing, services and facilities, innovation and diversity, identification of type and needs of consumers based on efficient management and product quality.

Next, Structural Equation Model [SEM] was used to review the effectiveness of identified variables and the effects of each.

Table5. Results of implementation of Structural Equation Model [SEM]

NO.	Origin of relation: Independent latent variables (or ζ variable)	Destination of relation: Dependent latent variable (or η variable)	Standard coefficient (β)	Significance coefficient (t-value)	Determination coefficient R-Square
1	Effective elements in international trade of grains	International trade of grains	0.86	18.11	0.76

Considering the significance coefficient ($t = 17.84$), it can be concluded that the identified models have a significant effect on international trade of grains.

4.2 Review of model fitness

The following table shows the results of indexes obtained from implementation of the model.

Table 6. Fitness indexes of Structural Equation Model [SEM]

Figures	Statistical indexes	χ^2	AGFI	GFI	CFI	RMSEA
	Fitness figure	615.21	0.94	0.93	0.92	0.031

Considering the fitness indexes in the above table, the amount of relatively calculated Chi-2 is 1.815. Existence of a relative Chi-2 smaller than 3 is preferable. Moreover, the Root Mean Square Error of Approximation (RMSEA) should be less than 0.08. This figure is 0.031 in the presented model. Goodness of fits for AGFI, GFI and CFI should be greater than 0.90 which are 0.94, 0.93 and 0.92 in the studied model, respectively. Considering the fitness indexes, it can be said that the collected data support the conceptual model quite well. In other words, it can be said that research model enjoys a proper fitness. Due to the significance of indexing of the existing elements, the effective factors in international trade of grains were then ranked. The following results are shown in table 7.

Table 7. Results of Friedman Test for ranking the 5 effective factors in international trade of grains

Dimensions	Mean rank	Rank
Product quality	3	1
Specialized marketing	2.81	2
Services and facilities	2.61	3
Innovation and diversity	2.54	4
Identification of type and need of consumer based on management	2.11	5
$X^2=781.943$		df=4
Sig=0.001		

Friedman test was used to rank the factors. Considering the findings in the table 7, among the 5 evaluated factors, quality, specialized marketing, services and facilities, innovation and diversity, identification of type and need of consumer based on management have the highest effect on the international trade of grains, respectively. Moreover, considering the results of Friedman test that shows a significance level less than 0.01, ranking of the 5 factors is significant in a confidence level of 0.99.

5. Conclusion

Increase of profitability as compared to cost in different sectors of production and services that improves the competitive and cost structure of a company to a positive and increasing structure is the most important goal of an organization (Babu, 2016). In the meantime, a low percentage will successful in their business and economic sectors achieving increased profit and economic growth. However, a considerable part will face economic problems and unsuccessful business in this field (Mačiulytė et al., 2018). In other words, achievement of a favorable financial and business structure is an important goal in achieving business objectives (Mitra, 2016) which may be attained by few organizations and companies. In the recent years and upon development of production and service companies in different sectors, we observe decreased target market and business field in the internal market of each community. For this reason, it is quite important to have a due regard to expertise and diversity of international market and exports in this field and for this reason, it is also important to identify international target market and to be in accordance with that in this regard. Effective factors in this sector are among major dimensions in this field. On this basis, this research set its goal on identification and ranking of effective elements in the international trade of grains. Based on exploratory factor analysis and the comments of authorities sought in this regard, the results showed that five marketing factors, namely specialized marketing, product quality, services and facilities, innovation and diversity and finally, identification of type and need of consumer are the most effective factors in the structure and effective elements of international trade of grains, respectively. Total identified elements can explain about 80% of effective elements in this regard. These results align with other research findings which were analytically and descriptively studied in this research indicating that there is a multi-element pattern in international trade that requires the use of high quality, innovation, diversity of services and facilities in terms of a specialized marketing and identification of consumer's need.

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