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The Quality as an Approach to the Competitiveness of the Food Industry - Descriptive Study from the Point of View of Companies in Algerian East Zone

الجودة كمقاربة لتنافسية قطاع الصناعات الغذائية – دراسة وصفية من وجهة نظر مسيري وعمال بعض مؤسسات الشرق الجزائري

La qualité en tant qu'approche de la compétitivité de l'industrie - Étude descriptive du point de vue des gestionnaires et du personnel de quelques entreprises de la zone est algérienne

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ملخص :

تهدف هذه الدراسة إلى قياس مدى تأثير جودة الصناعات الغذائية في الجزائر على قدرتها التنافسية من خلال جمع بيانات عينة عن المؤسسات النشطة بالشرف الجزائري، وتحليلها باستخدام أسلوب الانحدار البسيط بين الجودة والتنافسية، وقد تم جمع بيانات الدراسة بالإعتماد على الاستبيان والمقابلة مع مسيري وعمال هذه المؤسسات، ومن ثم تحليلها بإستخدام برنامج SPSS، وقد أجريت الدراسة الميدانية خلال الفترة نوفمبر 2020 وفيفري 2021 ، بالاعتماد على المنهج الوصفي والاستقرائي من خلال إعطاء وصفي إحصائي للعينة المدروسة، ومحاولة تعميم نتائجها في حدود خصائص العينة ، لتتوصل الدراسة في الأخير إلى وجود تأثير قوي لجودة الصناعات الغذائية على القدرة التنافسية للمؤسسات عينة الدراسة في السوق سواء المحلي أو الدولي.

الكلمات المفتاحية : الجودة؛ التنافسية؛ الصناعات الغذائية؛ المؤسسات الجزائرية.

Abstract :

The aim of this paper is to measure the impact of food industry quality on their competitiveness through collecting data from a sample of companies in Algerian east zone and analyze them by the simple regression between the Qualiy and Competitiveness. We will use several means to collect data, the most important which is the questionnaire from employees' answers which treated by SPSS. Also some interviews with Managers. The study was conducted between November 2020 and February 2021. Depending on the descriptive and inductive approaches, by presenting the sample statistical descriptive, and attempt to generalize its results within the sample limits. The main result which states there is a strong effect of the quality of the food industry on the competitiveness of these companies in whether the local or international market.

Keywords : Quality; Competitiveness; Food industry; Algerian companies.

Résumé :

L'objectif de de cette étude est de mesurer l'impact qualitatif de l'industrie agroalimentaire sur leur compétitivité à travers la collecte de données auprès d'un échantillon des entreprises Actives de la zone Est algérienne, et analyser par la régression simple entre la qualité et la compétitivité. Les données de l'étude ont été collectées sur la base d'un questionnaire et d'un entretien avec les dirigeants

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et les travailleurs de ces entreprises, qui ont été traités par SPSS. L'étude a été faite entre la période novembre 2020 et février 2021. En fonction des approches descriptives et inductives, en présentant l'échantillon statistique descriptif, et en tentant de généraliser ses résultats dans les limites de l'échantillon. Le principal résultat qui indique qu'il y a un fort effet de la qualité de l'industrie alimentaire sur la compétitivité de ces entreprises que ce soit sur le marché local ou international.
Mots clés : Qualité; Compétitivité; Agroalimentaire; Entreprises Algériennes.

Introduction :

Economy approaches to assess competitiveness differ greatly, and depend on analyses related to level of companies, sector and overall economy, approaches analyzing the sector level consider competitiveness to be the ability of an industry to maintain market share, and to compete in foreign and domestic markets under free trade conditions. In many more countries, self-regulatory companies began the process of reviewing and developing food codes in accordance with the example set by the Confederation of the Food and Drink Industries of the European Union and the International Chamber of Commerce.

Today's food business arena can be best characterized as a mainly technology driven environment whose survival is constantly challenged by a highly consumer oriented market, demanding the continuous development of evermore innovative products that meet expectation. Food industry is a vital strategic sector at the level of economic, social and human, both were a partnership with foreign companies or small manufacturing industries spread across the country.

The problimatic

The shortening of product's life cycle and increasing consumer demand for more variety and quality have led to pressing need for tools that can help plan, structure and systematize food -quality improvement and new product development, through that we might to ask the main question as following: **To what extent quality of food industry effects on the competitiveness in the Food industries companies in the Algerian east?**

The hypothesis

The hypothesis can be put forward as follows: There is strong effect of the Quality on competitiveness within the food industry in Algerian east zone.

The objective

We seek through this study to: Determine the effect the investment in the Quality within the food industry companies on their competitiveness.

The study importance

The agricultural sector is the primary sector around which human life and all beings are based, because it is the source of life, with all its branches. Food industries have assumed a central position in human life, as they need to convert raw materials into industries that can be consumed in different circumstances. Quality is considered the most important input as it is related to the quality of human life and health, so companies have adopted it as the most important factor in competitiveness.

Methods and approaches

We will mainly rely on two approaches :

- The Library survey method in the theoretical part by trying to surround the main previous literature about the subject;
- The descriptive approach by describing the concepts and variables contained in our study in order to determine their characteristics and features;
- The inductive approach with the purpose of generalizing the results within the limits of the study.

Where we collected data from various primary and secondary sources, especially by the questionnaire and observation, and then analyzed them to come up results that guide the decisions of the specialists, if possible.

Previous studies

- Study of (Brosnan & Sun, 2004)**: Improving quality inspection of food products by computer vision—a review**. This study presents the significant factors of a technologies vision system and prove the interesting aspects of the technique of image processing mated with a the most recent review progressing over the food industry.
- Study of (Trienekens & Zuurbier, 2008)**: Quality and safety standards in the food industry, developments and challenges**. Nowadays, there is proliferation of standards around the world. One impact is that, in particular, companies from developing countries and emerging economies have problems to comply with these standards. Another important impact is increasing marginal costs of certification and accreditation, which also puts pressure on company profits in industrialized countries. The combined effects of these impacts ask for strategies to revalue the cost/effectiveness of the certification and accreditation system.
- Study of (Gomes & Leta , 2012): **Applications of computer vision techniques in the agriculture and food industry: a review.** This study presents the principal publications review in the recent ten years with respect to new technologies and to the large application of systems of visual inspection in the precision farming sectors and in the food industry.
- Study of (Priyanka & Kochhar, 2014): **Active Packaging in Food Industry: A Review**. Recognition of the intelligent packaging technologies and benefits of active by increased consumer acceptance and the food industry and is necessary for business realization of these packaging technologies. Progressed in nanotechnology also enable the development of new active and better and intelligent packaging.
- Study of (Helkar, Sahoo, & Patil, 2016): **Review: Food Industry By-Products used as a Functional Food Ingredients.** Recently foods are not used only to gratification our hunger but to provide principal nutrients for humans having the health benefits, controlling and protecting from the diseases. The functional foods market has observed a tremendous demand in the last years. This review study enlists differ food industries by products that are being business used in functional food ingredients for human consumption.
- Study of (Kotsanopoulos & Arvanitoyannis, 2017)**: The Role of Auditing, Food Safety, and Food Quality Standards in the Food Industry: A Review**. This study have tried to test the role of audits and food safety and quality assessment systems in the food industry, presenting the results of many studies and briefly describing the main food safety and quality standards recently used in Europe (with particular emphasis on the United Kingdom and Greece), the U.S., Australia–New Zealand, and Asia.

The current study

This study is featured by the fact that it deals with quality as an approach to achieving competitiveness in the food industry sector. As qualitative indicators that express the views of decision-makers in business companies, by analyzing the direction of these companies towards competitiveness based on the quality required by all markets in the world. And it is considered as a basic criterion in making the purchasing decision for the industrial and final consumer.

1- LITERATURE REVIEW

1-1. Challenges in the Food Industry

It is generally expected that business companies will increasingly recognize social responsibility (including environmental management) as an important corporate duty (Rojšek, 2001, p. 38). The role of the food industry (retailers, manufacturers and food service) to help consumers eat healthy and sustainable has a great interest in recent years (Buttriss, 2013, p. 61). The shortening of products life cycle and an increasing customer demand for more variety and quality have led to a pressing need for tools that can help plan, structure and systemize food quality improvement and new product development (Costa, Dekker, & Jongen, 2000, p. 306).

The competitiveness of the food industry would therefore be the ability to sell products that meet the requirements of demand (price, quality and quantity) while ensuring profits over time allowing companies to grow well. Economically, grow their business and prosper. The food industry must react accordingly and adapt to these circumstances. Globalization, the liberalization of world trade and agricultural markets, as well as the emergence of new markets from Central and Eastern Europe to India and China, also have an impact on the food sector. However, despite its status as a world leader in manufacturing, value-added and job creation, the competitiveness of this sector is a matter of concern, especially as consumer preferences are changing very rapidly and becoming more and more demanding and sophisticated. Structural adjustment in the food sector is therefore linked to consumer preferences, which are having an increasing impact on the sector as a result of changing incomes, changes in the structure of the population and new ways of life. Finally, major technological changes, including information technology, have led to new products and methods to regulate the supply chain. (Turi, Goncalves, & Mocan, 2014, p. 134)

1-2. Competitiveness indicators

Although the food industry is one of the world's most important industries effects on the global economy, but it is only a little research to cover this subject, but they are not made to address privacy or problems or evaluate its performance (Turi, Goncalves, & Mocan, 2014, p. 133). The assessment of competitiveness depends on the theory of international economics. This is widely used by governments, focuses less on the general position of countries and regions on enterprises strategies. Competitiveness is presented through 5 indicators which is cost, quality, flexibility, time, and innovation. The growth of real value added for a particular industry in the total food industry. The level of export specialization in one category of goods from one country. (Wijnands, Meulen, & Poppe, 2007, p. 10)

1-3. Competitiveness and Agri-Food Trade in the European Union

The crucial issue of competitiveness in the agro-food market of the European Union. In the past fifteen years, the impact of important events on the competitive performance of agriculture and food industry in various EU countries, namely the accession of the European Union to the countries

of Central and Eastern Europe (CEECs) and the global economic crisis in 2008 (Carraresi & Banterle, 2015, p. 38). Cost, Quality, and innovation used to assess the competitive performance in European countries of agri-food trade, can be integrated into the EU market over the past decade, to give an overview of groups of countries. The Netherlands, France, Belgium and Spain were ranked in the first group that is characterized by high levels of environmental management system in agricultural food products, values greater than 100 for Revealed Comparative Advanatage and positive values for market development. In these countries, the food sector seems competitive and export-oriented within the European market, but over the past decade, the growth of the three indicators observed only in Spain, revealing a large competitive performance. In Belgium, an increase was found in Environmental Management System and Market Value Development, but the Revealed Comparative Advanatage index was decreasing. In the Netherlands, environmental management system and Revealed Comparative Advanatage values (except environmental management system in 2003) are declining and Market Value Development values increase slightly. In France, the trend of the three indicators is declining.

The second group shows high levels of Environmental Management System in agricultural food products, but their values are below 100 for Revealed Comparative Advanatage and negative values for Market Value Development. Germany and Italy are classified in this group. Over the past decade, the three indicators of these countries have grown, which determine good competitive performance. The third group is characterized by low levels of environmental management system in agricultural food products, but their values are greater than 100 for Revealed Comparative Advanatage and positive values for Market Value Development. Denmark, Ireland and Greece are classified in this group even if the Market Value Development value is negative in Greece.

Over the past decade, there has been a decline in the three indicators of these countries, indicating a decline in the competitive position. Finally, the fourth group shows low levels of environmental management system in agricultural food products, values below 100 for Revealed Comparative Advanatage and negative values for market development. The UK, Austria, Portugal, Sweden and Finland are ranked here. These countries have a weak competitive position, but in Austria, Portugal and Sweden there is growth in all three indicators (excluding market value development in Portugal), which reveals positive competitive performance. (Banterle, 2005, p. 12).

1-4. Managing Cultural Diversity for Organizational Competitiveness

Globalization, outsourcing abroad, the global value chain and the global division of labor to do businesses today to internationalize their activities and, therefore. Cultural diversity has become important in the management of the contemporary workplace problem all over the world. In fact, it became necessary for managers to meet this challenge by making full use of the potential capabilities of multiple forces working cultures in order to achieve organizational effectiveness (Sultana, Rashid , Mohiuddin , & Mazumder , p. 139). We have identified the steps that companies can take towards achieving this. While this article has reviewed a great deal of relevant research, but it is clear that there is a need to do additional work, particularly with regard to "value in diversity issues." However, should the arguments and data and suggestions here are useful for companies to build and strengthen the commitment to work for the management of diversity efforts in the nineties and beyond. (Taylor & Blake, 1991, p. 46).

1-5. Marketing Strategies in Sustainable Development Age from the Food Industry

A change in marketing points to a redirection of focus from profit to sustainable development. Sustainability marketing can affect sustainable development. Marketing plays an important role in the sustainable development process, because it can influence the behavior of key actors in society - from individuals (as family members, human resources, and consumers), through various companies to governments (Rakic & Rakic, 2015, p. 888). In empirical study of the German food sector, they have identified four types of marketing sustainability with distinctive characteristics (performers, observers, undecided and anonymous). Consumers are one of the main engines for marketing sustainability. Depending on the consumer awareness of social problems - ecological, and the realization of social-ecological characteristics, and net benefits perceived individually, and the availability of sustainable alternatives, we suggest that we can circulate experimental results; that the four sustainable marketing types apply to non-food sectors as well. Incorporating social and ecological aspects into marketing strategies depends not only on industry but also on the market sector in which the company competes. Companies that have been placed in the quality or quality sector are more likely to take an active position on sustainability marketing. There appears to be a "natural consensus" between the identification of the strategic location and the integration of sustainability issues in marketing.

By looking at the social and environmental dimensions and their integration into products, companies add value to their brands, responding to the growing demand by consumer groups who have good quality and open awareness on - environmental and social issues. By comparison, the companies that compete in the price sector is less likely to adopt effective marketing strategies for sustainability. Consumers have high sensitivity to price, and do not particularly care about social and environmental issues, and certainly are not willing to pay the extra cost to them. Thus, the degrees of freedom to pursue active sustainability approach less. Show examples of organic food products (Aldi) and organic cotton clothing (H & M) it may be difficult, but not impossible, to provide sustainable products inexpensive in price sector. It is the difficult task for marketers (sustainability) to solve this puzzle. (Belz & Schmidt-Riediger, 2009, p. 401)

1-6. Quality and safety standards in the food industry

Food safety has become an important feature of food quality over the past decade. In 2002, we conducted a survey of 449 people included a consumer in the agent to determine consumer perceptions of actual food quality and safety. Because of the so-called recent food crises in Europe, food quality and food safety has become a hot topic in the media. Often used the terms "quality food" and "food safety" interchangeably (Röhr, Hoehl, Drusch, Müller, & Alvensleben, 2005, p. 650). Consumer concerns about food safety scandals and the globalization of food production have led to a global and coherent food production and distribution system. In the past decade, he developed many of the public and private standards on food safety and quality as a result of these developments. Currently, there are standards spread all over the world. One effect is in particular, that companies from developing countries and emerging economies face problems in complying with these standards. Another important effect is the increased marginal costs of certification and accreditation, which also puts pressure on corporate profits in industrialized countries. The combined effects require strategies to reassess the cost / effectiveness of the certification and accreditation system. (Trienekens & Zuurbier, 2008, p. 108).

1-7. Improving quality inspection of food products by computer vision

With rising expectations for high quality products and fruit safety standards, the need to continue to determine an accurate, rapid and objective quality of these properties in fruit products. Provides an alternative to computer vision and one for technology and automated non-destructive and cost-effective to meet these requirements (Vilas D. Sadegaonkar, 2015, p. 544).

It is recognized as the core image processing computer vision with the development of more efficient algorithms help in greater implementation of this technology. This review presented recent developments and applications of image analysis in the food industry, and the basic concepts and techniques associated with computer vision. Automated, objective, rapid and hygienic examination of various raw and processed foods can be achieved using computer vision systems.

Computer vision has the potential to become a vital component in the processes of food processing automation, as the growing computer capabilities and greater speed processing algorithms are constantly evolving to meet the speeds necessary online. The continued development of computer vision technologies such as X-ray, 3D vision and color vision will result in further implementation and uptake of this technology to meet the growing needs of the food industry. Help flexibility and non-destructive nature of this technique is also to maintain the attractiveness of the application in the food industry. (Brosnan & Sun, 2004, p. 4)

1-8. Food quality and safety : Consumer perception and demand

Quality and safety are two important elements in consumer food perceptions and decision making associated with food choice (Grunert, 2005, p. 370) ; (Röhr, Hoehl, Drusch, Müller, & Alvensleben, 2005, p. 650). Consumers are believed to generally prefer products of high quality. However, the underlying cognitive determinants of “quality” and “safety” are not sufficiently understood within the area of consumer behaviour.

Quality and safety are important elements in the food and consumer perceptions and decision-making associated with the selection of food (Grunert, 2005, p. 370) ; (Röhr, Hoehl, Drusch, Müller, & Alvensleben, 2005, p. 650). It believes that consumers prefer high-quality products in general. However, the determinants of cognitive underlying "quality" and "safety" is not understandable enough in the field of consumer behavior (Wendy, 2008, p. 1035).

Research on consumer perception of quality is reviewed using the Comprehensive Food Quality Model as a structural device. The concept of quality and safety associated with the selection of food and consumer demand, and deals with the realization price and validity of the measurements to prepare for payment issues. The relationship between food safety and food quality is dealt with in the context of consumer risk awareness research. The food quality and safety issues which are essential in food economics today, although it still needs to be addressed many research questions. (Grunert, 2005, p. 370)

1-9. Consumer co-creation and new product development in the food industry

Today, almost all are created innovations in collaboration with others in a regular world. The role of openness recognized widely, but the dynamics of openness in the innovation process are being studied and discussed less (Mäkimattila, Melkas, & Uotila, 2013, p. 244). A growing number of players in the chain, combined with the challenges of meeting the heterogeneous needs of customers,

end-users and regulators, are pushing the food industry to open up to external sources of knowledge in search of new products and technologies performing. (Sarkar & Costa, 2008, p. 575).

Often it recommended developing a new product (NPD) as a strategy suitable for building a competitive advantage and long-term financial success in the global food markets today. It is said that product innovation helps maintain growth (and thus protect the interests of investors, employees and actors in the food chain), and the dissemination of market risk, and enhance the stock market value of the company's financial and increase competitiveness (Costa & Jongen, 2006, p. 458)

Customers freely provide useful ideas, original, new and effective for promoting the innovation of products and services, but also innovation process. This shows how the company has outsourced its customer steps in the creation of ideas and their examination by the NDP. The case illustrates how Food Company used the ideas collected from customers to develop new products and services. More and more, he also explains how the company has gathered strategic information about the needs and desires of consumers (marketing intelligence). Finally, this idea discusses the importance of knowledge facilitators, informal, peer-to-peer and transparent communication as facilitators for the exchange of consumer ideas. (Raffaele, 2013, p. 41)

1-10. Food Industry Importance in Macro-Economy

Given the importance of the food industry sector, Algeria is seeking to develop its production from this sector to preserve the surplus of agricultural production from the seasons of abundance to the seasons of scarcity in order to sustain the provision of food and give economic value to agricultural products, reducing the value of imports that drain hard currency.

1-10-1. Gross domestic product index

This indicator expresses the sum of the added values of all production units operating in the different branches of production in a particular economy, such as agriculture and industry

Table -1- : **The development of the Gross production of the food industry branch in Algeria during the period 2015-2018**

Unit : million dinars

Years	2015	2016	2017	2018
The gross domestic product of the food industries sector	356 000,00	381 600,00	407 500,00	433 400,00
Gross domestic product raw	16712 700,00	17514 600,00	18575 800,00	20259 000,00
Ratio of food industry GDP to total GDP	2,13%	2,18%	2,19%	2,14%

Source : (ONS, 2015-2018, p. 09)

The statistics in the above table show that the contribution of the food industry sector to the crude product increases over the years, and this increase is due to the contribution of the private sector, where the big difference in the percentage of the contribution between the public and private sector in favor of the private sector appears with a very large difference, as the contribution of the latter ranges between 82 And 84% in industrial crude output outside the hydrocarbon sector. While the public sector’s contribution did not exceed 17.74%, and this was in 2008.

This deterioration is due to the difficulties that this industry faces, especially the public sector, and its inability to adapt to the modern environment, what explains the obsolescence of production means and the need to regenerate them through a rational investment of modern technological and developed means, also the maintenance is not applied according to modern standards, where to make way in several activities to the private sector, which is nascent in most of its companies.

Although the state seeks to remove the obstacles facing the food industry, as it occupies a central position in the national economy and is linked to fluctuations in the prices of raw materials in the global market. For the most important industrial food production activities with wide consumption in the homeland, enabling them to return to growth again in order to enhance the development process and contribute effectively to covering the national demand for food commodities that have severe impacts on foreign trade.

1-10-2. Value-added index

In 2016, the food industries sector had a significant contribution to improving the development of the wealth of industrial activity in general, in terms of contributing to the added value of approximately 3%, as shown in the following table :

Table -2- : **The contribution of food industries to achieving added value in the Algerian economy 2012-2018**

Unit : million dinars

Statement	2012	2013	2014	2015	2016	2017	2018
Total added value	12484	12857	13248.1	12459	13069.9	14073.7	15754.6
Added value of non-hydrocarbon	6947.6	7889.1	8590.3	9324.8	10044.3	10413.7	10505.6
The contribution of the food industry branch to the added value%	2,13	2,22	2,45	2,85	2,99	2.91	2.80
The contribution of the food industry in achieving the added value of the total added value achieved in the industry%	36.4	36.9	38.8	38.7	38.9	39	38.4

Source : (SME, 2012-2018)

The statistics shown in the above table show that the contribution of the food industry sector to the added value increases over the years, and this is due to the increase in the contribution of other sectors, with rapid increases, similar to the industry.

As for the contribution of food industries to the total added value of the industrial sector as a whole, the statistics showed a very weak percentage of the contribution compared to the rest of the industrial sectors, and the contribution rate in the industry did not witness a significant development during the period between 2012 and 2018, as it ranged between 36.4% in 2012 and 38 Only 4% in 2018, which is a very small growth rate.

The population of this study includes all the food industry companies in east of Algeria.

2- METHODOLOGY AND RESULTS

In the following points, we're going to present the methodology of our empirical study from the objective until test the hypothesis.

2-1. Population and Sample

The society of our study is all the companies that work in the food industry sector. The Sample studied is a convenience sample that includes 32 available food industry companies from this zone with 263 questionnaires, 8.21 questionnaires by a company as average.

2-2. Methods

For analyzing the data, we are going to use the correlation coefficient and simple linear regression to test the hypothesis depending on the SPSS to measure the correlation and orientation. Before that, tested the Reliability of tool through the Structure validity.

2-3. Tools & Software

We relied on various methods of data collection, starting with observation and survey through simple interviews with the food industry companies responsible in addition to the questionnaire as a main tool to collect the data from the managers and staff.

2-4. Dimensions of the Study

The study was conducted in the period between October 2019 and January 2020 in some regions of the eastern Algeria (Constantine, Mila, Oum el-Bouaghi, Batna, Skikda, Setif) and focused on describing the opinions of sample of managers and staff of food industry companies on trying to provide quality desired and its impact on competitiveness in the market.

2-5. Structure validity

In this part we're trying to measure the correlations between quality and competitiveness to improve the representation of the quality and competitiveness their indicators.

2-5-1. Cronbach's Alpha Coefficient

The researchers used the Cronbach alpha to measure the reliability of the questionnaire, and the results were as shown in the table below.

Table -3- : **Results of the Cronbach alpha test**

Y	Area		Cronbach's Alpha
	variable	N of Items	Total N=263
X	Quality	6	,821
Y	Competiveness	5	,852
-	**Total**	11	,836

Source: By the researchers depending on the output of SPSS.V20

It is clear from the results shown in the above table that the value of the Cronbach Alpha coefficient is high for each component of the questionnaire. Also, the value of the alpha coefficient for all components of the questionnaire was 0.836, which means that the reliability coefficient is high. Thus, the researcher has emphasized of the validity and reliability of the questionnaire, which makes him confident of its validity and reliability to achieve the results, analyze the data and test the hypotheses.

2-5-2. The quality

Table (4) shows the correlation coefficient between quality and all each its indicators.

Table -4- : **Correlation coefficient between quality dimension and its indicator**

Code	Quality	Pearson Correlation	Sig. (2-tailed)
		N=263	N=263
X_1	Improve the service quality provided to the customer	,860**	,000
X_2	Improve product quality	,803**	,000
X_3	Improve administrative efficiency	,827**	,000
X_4	Improve organizational effectiveness	,821**	,000
X_5	Improve the quality of decision making	,848**	,000
X_6	Improve the organization's vision	,812**	,000
X	**Quality**	1,000	-

**. Correlation is significant at the 0.01 level (1-tailed)

Source : By the researchers depending on the output of SPSS.V20

The indicators in table above show that : The correlation coefficients are significant at $0.05 \geq \alpha$ level. Thus, the field is honest to what position to measure.

2-5-3. Competitiveness

Table (5) shows the correlation coefficient between Competitiveness and all each its indicators.

Table -5- : **The correlation coefficient between the competitiveness dimension and its indicators**

code	Competitiveness	Pearson Correlation	Sig. (2-tailed)
		N=263	N=263
Y_1	Development of methods and systems work	,802**	,000
Y_2	Reduce wasted efforts and summarize operations.	,811**	,000
Y_3	Develop and distinguish products compared to competitors.	,813**	,000
Y_4	Increasing the efficiency of distribution of products, sales and after-sales service	,801**	,000
Y_5	Increasing the Corporation's market share by opening new markets and strengthening existing ones.	,813**	,000
Y	**Competitiveness**	1,000	-

**. Correlation is significant at the 0.01 level (1-tailed)

Source : By the researchers depending on the output of SPSS.V20

The indicators in table above show that : The correlation coefficients are significant at $0.05 \geq \alpha$ level. Thus, the field is honest in any measurable position .

2-6. Descriptive statistics

2-6-1. Quality

Below are descriptive statistics of the quality indicators.

Table -6- : **Descriptive statistics of the quality dimension**

Y	Quality	N	Mean		Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Std. Error	Statistic	Statistic	Std. Error	Statistic	Std. Error
Y_1	Improve the service quality provided to the customer	263	3.60	.107	.582	-.471	.409	-.726	.798
Y_2	Improve product quality	263	3.70	.102	.653	-.388	.409	-.708	.798
Y_3	Improve administrative efficiency	263	3.61	.101	.612	-.178	.409	-.427	.798
Y_4	Improve organizational effectiveness	263	3.51	.103	.590	-.099	.409	-.284	.798
Y_5	Improve the quality of decision making	263	3.58	.111	.631	-.263	.409	-1.153	.798
Y_6	Improve the organization's vision	263	3.61	.111	.700	-.230	.409	-.924	.798
Y	**Quality**	**263**	**3.51**	**.100**	**.600**	**-.296**	**.409**	**-.683**	**.798**

Source : By the researchers depending on the output of SPSS.V20

Through the table above : the description of the quality indicators, we can relatively observe the importance of the quality indicators. From above data we can see the indicators that illustrate the availability of the quality in food industry companies through all its relatively high components compared to what is expected that indicate the food industry companies find mechanisms that enable them to improve the quality, which is relatively high means that express the views of the members of the sample studied with standard deviations not exceeding 1 with a coefficient of variation in the range of 4% for all indicators. This indicates the homogeneity of the answers and opinions about the availability the quality improvement, with normal distribution through the both skewness and kurtosis indicators, which mean the sample respondents, were able to improve the quality by using different methods and techniques to create excellence through quality. Since the Algerian market still suffers from scarcity in many food commodities, we cannot talk about quality in the absence of price as it remains the main driver of purchasing behavior.

2-6-2. Competitiveness

Following are descriptive statistics of the competitiveness.

Table -7- : **Descriptive statistics of the quality dimension Descriptive statistics of the competitiveness dimension**

Y	Competitiveness	N	Mean		Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Std. Error	Statistic	Statistic	Std. Error	Statistic	Std. Error
Y_1	Development of methods and systems work	263	3.61	.120	.732	-.630	.409	-.847	.798
Y_2	Reduce wasted efforts and summarize operations.	263	3.70	.104	.608	-.262	.409	-.524	.798
Y_3	Develop and distinguish products compared to competitors.	263	3.62	.111	.681	-.244	.409	-.750	.798
Y_4	Increasing the efficiency of distribution of products, sales and after-sales service	263	3.51	.114	.639	-.111	.409	-.696	.798
Y_5	Increasing the Corporation's market share by opening new markets and strengthening existing ones.	263	3.37	.135	.740	.220	.409	-1.296	.798
Y	**Competitiveness**	**263**	**3.52**	**.110**	**.622**	**-.096**	**.409**	**-.970**	**.798**

Source : By the researchers depending on the output of SPSS.V20

Through the table above about the description of the indicators of the competitiveness, we can observe the importance of the indicators and statistical characteristics. From above data we can see the indicators that illustrate the availability of competitiveness through all its relatively high indicators compared to what is expected that indicate the food industry companies find mechanisms that enable them to improve the competitiveness, which is relatively high means that express the views of the sample studied with standard deviations not exceeding 1 with a coefficient of variation in the range of 4% for all indicators. This indicates the homogeneity of the answers and opinions about the availability the competitiveness indicators, with normal distribution through the both skewness and kurtosis indicators that mean: the food industry companies have been able to improve their competitiveness by using different methods, techniques and tools to adapt to the circumstances and developments. Being food industry companies of various branches, including strong or subsidized by the state or small ones which produce luxury food commodities.

2-7. Test hypothesis

- **H_0 :** food industry companies in Algeria cannot achieve the competitiveness depending on the quality
- **H_1** : food industry companies in Algeria can achieve competitiveness based on the quality.

In order to test the above hypothesis, we're going to use the simple linear regression model, competitiveness as a dependent variable and quality as an independent variable as follows.

Table -8- : **Descriptive statistics of the quality dimension Descriptive statistics of the competitiveness dimension Pearson correlation coefficient between quality and competitiveness**

		Quality
Pearson Correlation	Competitiveness	.943
Sig. (1-tailed)	Competitiveness	.000
N	Competitiveness	263

Source : By the researchers depending on the output of SPSS.V20

It is clear from the results of table above, that the correlation between quality and competitiveness is significant because the values of (Sig less than α), which indicates a strong positive correlation significant at the α level between quality and achieve competitiveness.

Table -9- : **Descriptive statistics of the quality dimension Descriptive statistics of the competitiveness dimension Model Summary for quality and competitiveness**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.943[a]	.889	.887	.11691	.889	819.775	1	105	.000

a. Predictors : (Constant), QUALITY

b. Dependent Variable : competitiveness

Source : By the researchers depending on the output of SPSS.V20

The table shows both the Pearson R correlation coefficient between the independent variable "Quality" and the dependent variable "Competitiveness" .that shows the strong positive correlation between the independent and dependent variables as well as the high coefficient of R Square which indicates the suitability of the model to estimate the direction of the relationship between the variables. Also the adjusted coefficient of error resulting from the estimation error is 11691 as a standard error of estimation showing the quality of representing the regression trend in estimating the relationship between Quality and Competitiveness.

Table -10- : **ANOVAa Quality and competitiveness**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	**Regression**	11.205	1	11.205	819.775	.000[b]
	Residual	.424	105	.014		
	Total	11.628	106			

a. Dependent Variable : competitiveness

b. Predictors : (Constant), QUALITY

Source : By the researchers depending on the output of SPSS.V20.

From the ANOVA table, we find that : the value of Sig = 000 "is less than the level of significance 0.05 "so the regression is significant .Thus, there is a linear relationship between the variables predictable towards competitiveness in terms of quality.

Table -11- : **Coefficients : Quality and competitiveness**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.281-	.159		-1.765-	.087
	QUALITY	1.056	.037	.982	28.632	.000

a. Dependent Variable : competitiveness

Source : By the researchers depending on the output of SPSS.V20

From the table above, the simple linear regression model between quality and competitiveness can be written as follows :

COMPETITIVENESS = -.281 + 1.056 QUALITY

From the sig value in the table we find that, the independent variable X that expresses the "Quality" is significant in the equation (sig less than 0.05), while we find that the constant coefficient is not significant "sig value greater than 0.05", which indicates that Quality is the cause of significance the analysis of variance of the regression towards achieving Competitiveness, which explains the importance of Quality and its contribution to achieving Competitiveness.

CONCLUSION

Quality is one of the approaches adopted by companies for excellence despite their requirements such as knowledge of the market and the needs of customers and their desires and the capabilities of the companies in the same time. In the pursuit of companies to achieve sector competitiveness, it is always looking to develop innovative methods and techniques and provide special offers that can only be achieved by relying on their resources especially intangible and developed it as perceived quality and knowledge and technology and its uses and human capabilities. The food industry, like other sectors, seeks to achieve a special position in the marketplace and its continued positioning in the customers mind by relying on various approaches, the most important of which is quality, as it is one of the factors that underpin the purchasing decision. Algeria seeks to develop this sector within the challenges of facing direct competition, which depends mainly on quality. Therefore, it is the bet of Algerian food companies to face competition challenges, especially in the local markets. Although they do not cover the needs of some kind, but the quality remains a key requirement for positioning in the market.

From foregoing we can present the following results:

- In order to ensure their survival in the market, food industry organizations must adopt their own competitiveness in the sense of continuing to create superior levels of value;
- Food industry organizations must rely on many resources and capabilities "intangible resources, tangible resources, competencies". This makes it difficult to know the reasons for this competitiveness and the inability to imitate it;
- Focusing on identifying the strategy pursued by one of the three major strategies "cost less, excellence, focus" As a general trend so that it can exploit the resources and capacity to achieving it;

- Intangible resources have a role for food industry organizations in increasing competitiveness through the growth of the Corporation's revenues, in addition to tangible resources and competencies;
- Knowledge continuously nurtures and enriches creative abilities as this creates significant competitiveness. Hence, the companies must form a knowledge base and develop it permanently.
- Quality is of great importance to food industry organizations as it is a strategic weapon to acquire competitiveness based on the concept of total quality. From security arrangements to customer needs and after-sales services;
- Quality contributes to competitiveness, in terms of establishing an excellence culture within the company, and reinforces the confidence of customers;
- The ability of food industry organizations lies not only in producing products in an efficient manner according to international standards, but also in achieving a greater competitiveness affecting all their activities, through technological, marketing and management knowledge;
- Food industry companies should implement a differentiation strategy at technical excellence level, quality, or provide excellent services It enables a competitive strategy that competitors cannot easily imitate.

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