Economic Analysis of the Impact of Applying the Marketing Information System on the Competitive Advantage in Food Industries Companies in Iraq

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ABSTRACT

The contemporary rapid development in marketing information systems has contributed to the process of gaining a competitive advantage for most companies of all kinds in the world, as the process of gaining a competitive advantage is based mainly on the quality of information available and to use in facing problems. The issue of competitive advantage has become one of the topics that companies care about a lot. In light of competition and the speed of change in the desires and needs of customers, companies seek continuous development to achieve excellence, stay in the markets, and gain strong competitive advantages to face the intensity of competition. In this research, the marketing information system (databases, marketing research, marketing intelligence, decisionmaking assistance system) was identified on the competitive advantage of food industry companies in Iraq, where a special questionnaire was distributed to corporate officials and marketing managers in (35) companies from Food industry companies, the analysis was done using regression analysis. The research concluded that there is a positive effect of the components of the marketing information system on the indicators of competitive advantage, namely: market share, business reputation, and customer satisfaction, while it was found that achieving excellence and employing technology does not have a positive effect by the components of the marketing information system in the companies under study. Based on the results of the research, a set of recommendations aimed at enhancing the role of the marketing information system in achieving the competitive advantage of the food industries companies in Iraq was put forward.

Keywords: marketing information, databases, competitive advantage, marketing research.

INTRODUCTION

The information technology revolution that the world is witnessing now has led to a major change in organizational and marketing concepts, and many companies have entered the field of electronic commerce, which requires the existence of effective information systems that meet the information needs of companies [1]. Information systems can be defined as a group of interrelated elements together, which work in an integrated manner with each other for creating information for management in order to complete its work accurately [2] . The emergence of globalization in the global economy emphasized the value of information for companies [3]. Information systems can provide the power of communication and analytical power that companies depend on in managing companies on a global basis [4].

As for marketing information systems, it can be defined as a set of individuals, devices, and procedures necessary to collect, classify, analyze, evaluate, and distribute accurate and simultaneous information needed by decision makers [5]. The development of contemporary marketing information systems has contributed to the process of acquiring the competitive advantage for most companies of all types and objectives. as the process of acquiring the competitive advantage is based mainly on the quality of information available and to be used in facing problems or dealing with development and making changes in the company [6].

There is no single marketing information system that is compatible with all establishments, therefore, all establishments must create a marketing system that is compatible with their information needs and in the best possible way [7]. In recent years, information systems have become one of the most important tools that those in charge of marketing depend on, and it is an effective tool in the field of marketing to help speed up decisionmaking and face marketing problems [8]. Marketing information systems play an important role in providing the necessary information to plan, implement and monitor various marketing strategies and rationalize marketing decisions, in addition to their primary role in achieving interdependence, communication and integration between them and the establishment's sub-information systems [9].

The changes that have taken place in business organizations and companies because of environmental developments full of competitive challenges make it difficult for these organizations and companies to gain their competitive advantage [10]. Where each of them has become aimed at excellence to ensure survival and continuity in the market, which generated several modern concepts. Including globalization, total quality management. And competition on the basis of time that changed the features of competition, so it became necessary to gain a competitive advantage to attract customers and work to maintain and continue it [11]. Where officials realized the importance of marketing information systems in enhancing the competitive advantage of their companies and that, they contribute to strengthening relations with consumers on the one hand and enhancing profitability on the other hand. And also setting obstacles to prevent the entry of new competitors into the market and maintaining the continuity and presence of the company [12].

This study was conducted to investigate the issue of the impact of the marketing information system on the competitive advantage. As companies seek to achieve a competitive advantage in their products by using sufficient and necessary information to design and produce a product that achieves the goal. Which requires these companies to be more aware of all the information that would contribute to Building the competitive advantage of the enterprise [13].

Research Problem
In light of the rapid economic changes and in light of the market economy, companies have become obligated to keep pace with the changes taking place around them, and to interact with them if they want to survive and continue, its competitiveness. This information is the main pillar in making marketing decisions, and since decision makers in companies' need a lot of comprehensive and renewable information about the environment in which the company operates, therefore a marketing information system must be adopted as it provides information continuously to make marketing decisions and enjoy the competitive advantage that it provides this system.

Research Aims

This study aims to:

- Knowing the importance of the marketing information system and its most important elements, through, which institutions can exploit them to achieve competitive advantage.
- Analysis of concepts related to competitive advantage
- Finding and developing a model for linking the elements of marketing information and competitive advantage.

Research Importance

The importance of the study stems from knowing the extent to which the food industry institutions in Iraq are able to link the elements of the marketing information system, which are represented in (databases, marketing research, marketing intelligence, systems to assist in decision-making) with the competitive advantage. as well as knowing how the elements of marketing information can affect the Competitive advantage. Which is represented in (increasing market share. enhancing business reputation, customer satisfaction, employing technology, and achieving excellence in the institutions under study.

Research Hypothesis

The research hypothesis is divided into two main hypotheses, as follows:

- The first main hypothesis: It is assumed that there is a statistically significant correlation between the elements of the marketing information system and the competitive advantage.) and competitive advantage.
- The second main hypothesis: It is assumed that there is a statistically significant effect of the elements of the marketing information system on the competitive advantage. and employing technology).

Community and Research Sample

The research relied on a deliberate random sample from the public and private sectors in the food industry sector in Iraq, which provides actual products, a special questionnaire was designed for the study, containing (41) questions. This questionnaire was designed to identify the concept of marketing information systems in the companies under study, and then to identify the impact of information systems on the components of competitiveness, where (80) questionnaires were distributed to (35) companies from the food industry in Iraq during the year 2022, targeting officials and marketing managers in these companies. (74) forms were received and (6) forms were excluded for not meeting the conditions.

Search Scale

Measurement approved on a five-dimensional (Likert scale), the answers were translated into the following form: Strongly agree (5), Agree (4), Neutral (3), Disagree (2), Strongly disagree (1), table (1) Shows the variables of the study for measurement, as they were included in the questionnaire.

Table 1: Study variables included in the questionnaire.

Parts of the questionnaire	The main variables	Sub variants	Question number	Statistical symbol
First		Databases	1 - 6	Q1 – Q6

	Marketing information system	Marketing Researches	7 - 10	Q 7 – Q 10
		Marketing Intelligence	11 - 15	Q 11 – Q 15
		Marketing information system	16 - 20	Q 16 – Q 20
Second	Competitive advantage	Marketing Share	21 - 24	Q 21 – Q 24
		Commercial Reputation	25 - 28	Q 25 – Q 28
		Satisfy Customers	29 - 32	Q 29 – Q 32
		Achieving Excellence	33 - 37	Q 33 – Q 37
		Technology Employment	38 - 41	Q 38 – Q 41

Source: The table is made by researchers based on the questionnaire.

RESEARCH RESULTS AND DISCUSSION

Using the SPSS statistical program to analyze field information and data for the research, where the (marketing information system) was identified with its four sub-components (databases, shopping research, marketing intelligence, decision-making models) as an independent variable and (competitive advantage) as a dependent variable. The study hypotheses were tested through the correlation coefficient (Spearman), to find out the direction and strength of the relationship between the study variables and the moral scores, as well as the (Anova) regression analysis to show the effect of the independent variable (marketing information system) with its four subcomponents on the dependent variable (competitive advantage). It will depend on the value of the F test extracted from the SPSS program at a certain significant level, which can be explained as follows:

Examining the Relationship of Marketing Information System Elements with Competitive Advantage (The First Main Hypothesis)
Testing the Relationship Between Databases and Competitive Advantage:
Table (2) Shows the results of the analysis of Spearman's correlation coefficients for the relationship between databases and the competitive advantage of the companies in question, as Table No. (2) shows the value of Spearman's correlation coefficient is (0.788) under a significant level of less than 5%. and this means that there is a strong correlation Between databases and competitive advantage at a degree of confidence of 95%, this indicates that the more the companies under study pay attention to their databases. the greater their chances of achieving competitive advantage.

Table 2: The results of the correlation coefficient (Spearman) for the relationship between databases and competitiveness

Statement		Databases	Competitive advantage
Databases	Sig (2-tailed) N	1	0.788 0.000 68
Competitive advantage	Sig (2-tailed) N	0.788 0.000 68	1

Source: The table is made by researchers based on the questionnaire.

Examining the Relationship Between Marketing Research and Competitive Advantage:
Table (3) shows the results of the analysis of Spearman's correlation coefficients for the relationship between marketing research and the competitive advantage of the companies in question, indicating that there is a weak positive relationship with statistical significance at the level ((P ≤ 0.01). Table No. (3) Shows that Spearman's correlation coefficient between marketing research and the advantage Competitiveness was estimated at (0.403), with a confidence level of 0.01, which less than 5%. This indicates that there is a weak correlation with statistical significance between marketing research and competitive advantage at a confidence level of 95%.

Table 3: The results of the correlation coefficient (Spearman) for the relationship between Marketing researches and competitiveness

Statement		Marketing researches	Competitive advantage
Marketing researches	Sig (2-tailed) N	1	0.403 0.01 68
Competitive advantage	Sig (2-tailed) N	0.403 0.01 68	1

Source: The table is made by researchers based on the questionnaire.

Testing the Relationship Between Marketing Intelligence and Competitive Advantage:
Table (4) Shows the results of the analysis of Spearman correlation coefficients for the relationship between marketing intelligence and the competitive advantage of the companies under study. Where the Spearman coefficient was estimated (0.452) with a degree of freedom of (0.00). Which is less than 5%, and this indicates a weak correlation with statistical significance between marketing intelligence and competitive advantage at a level of confidence of 95%.

Table 4: The results of the correlation coefficient (Spearman) for the relationship between marketing intelligence and competitiveness.

Statement		Marketing intelligence	Competitive advantage
Marketing intelligence	Sig (2-tailed) N	1	0.452 0.00 68
Competitive advantage	Sig (2-tailed) N	0.452 0.00 68	1

Source: The table is made by researchers based on the questionnaire

The Relationship Between the Decision-Making Assistance System and the Competitive Advantage:
Table (5) shows the results of the analysis of Spearman correlation coefficients for the relationship between the elements of the marketing information system and the competitive advantage of the companies under study. Statistical significance between the decision-making assistance system and the competitive advantage at a confidence level of 95%.

Table 5: The results of the correlation coefficient (Spearman) for the relationship between the marketing information system on decision-making and competitiveness:

Statement		Marketing information system	Competitive advantage
Marketing information system	Sig (2-tailed) N	1	0.531 0.02 68
Competitive advantage	Sig (2-tailed) N	0.531 0.02 68	1

Source: The table is made by researchers based on the questionnaire.

Through the aforementioned analysis of the correlation (Spearman) between the elements of the marketing information system and the competitive advantage. it was found that there is a relationship between them ranging between strong, medium and weak, where there was a strong correlation between databases and competitive advantage, while it was found that there is a weak correlation between each Marketing research, marketing intelligence, and competitive advantage. While a medium, correlation was found between the decision-making assistance system and competitive advantage.

Testing the Effect of Marketing Information System Elements on Competitive Advantage (The Second Main Hypothesis):
To clarify the impact of the marketing information system on the competitive advantage, the data was analyzed using regression analysis using the (ANOVA) method, and the results were as follows:

Examining the Impact of the Elements of the Marketing Information System on Increasing the Market Share:
Table (6) Shows that there is a significant effect of the marketing information system on the market share of the companies under study. As the results of the regression analysis indicate that, the marketing information system has a significant effect on the market share through the calculated (F) value of (34.079), which is greater than the value of (F). The tabular value of (4.010) at the level of significance (0.05) and with a degree of freedom (99), as it was shown from the value of the coefficient of determination (R^2) that the marketing information system was able to explain what percentage (0.341) of the total variation that occurred in the marketing share. And this It indicates that the marketing information system has a statistically significant effect at the level ($P \leq 0.5$) on the marketing share. And by knowing the value of B, which is equal to (0.584) and the significance of the value of (t) calculated as significant at the level (($P \leq 0.01$ and amounting to (2.257), from these results it was found that there is a statistically significant effect of the marketing information system on the market share.

Table 6: Results of regression analysis using (ANOVA) to show the impact of marketing information system elements on increasing the market share.

Statement	B coefficient	Significance Level	R2	F calculated	F tabular
Marketing information system	0.584 2.572	0.00	0.341	34.079	4.010

Source: The table is made by researchers based on the questionnaire.

Testing the Impact of Marketing Information System Elements on Commercial Reputation:

Table (7) Shows that there is a significant effect of the marketing information system on the commercial reputation of the companies under study. As the results of the regression analysis indicate that, the marketing information system has a significant effect on increasing the commercial reputation, through the calculated (F) value of (29.957). which is Greater than the tabular (F) value of (2.977) at the level of significance (0.05) and with a degree of freedom (96), as it was shown from the value of the coefficient of determination (R2) that the marketing information system was able to explain (12.03) of the total variation occurring in the field of Increasing the commercial reputation. And this indicates that the marketing information system has a statistically significant effect at the level ($P \leq 0.01$) on the commercial reputation.

Table 7: The results of the regression analysis using (ANOVA) to show the effect of the elements of the marketing information system on increasing the business reputation.

Statement	B Coefficient	Significance Level	R2	F calculated	F tabular
Marketing information system	0.559 2.329	0.04	12.03	29.957	2.977

Source: The table is made by researchers based on the questionnaire.

Testing the Impact of Marketing Information System Elements on Customer Satisfaction:

Table (8) Shows that there is a significant effect of the marketing information system on customer satisfaction in the companies under study. The results of the regression analysis indicate that the marketing information system has a significant effect on customer satisfaction through the calculated (F) value of (10.933), which is the largest. From the tabular (F) value of (3.042) at the level of significance (0.05) and with a degree of freedom (97), as it was shown from the value of the coefficient of determination (R2). that the marketing information system was able to explain what percentage (0.142) of the total variation occurring in the field of increase commercial reputation, and this indicates that the marketing information system has a statistically significant effect at the level ($P \leq 0.01$) on customer satisfaction.

Table 8: The results of the regression analysis using (ANOVA) to show the effect of the elements of the marketing information system on customer satisfaction.

Statement	B coefficient	Significance Level	R2	F calculated	F tabular
Marketing information system	0.424 2.321	0.03	0.142	10.933	3.042

Source: The table is made by researchers based on the questionnaire.

Testing the Impact of Marketing Information System Elements on Achieving Discrimination:

Table (9) Shows that there is no significant effect of the marketing information system on achieving discrimination in the companies under study as the results of the regression analysis indicate that the marketing information system does not have a significant effect on discrimination through the calculated (F) value of (2.034). Which is It being smaller than the tabular value of (F) of (3.953) at the level of significance (0.05) and with a degree of freedom (95). as indicated by the value of the coefficient of determination (R2), whose value is (0.142).

Table 9: The results of the regression analysis using (ANOVA) to show the effect of the elements of the marketing information system on discrimination.

Statement	B coefficient	Significance Level	R2	F calculated	F tabular
Marketing information system	0.148 0.918	0.071	0.142	2.034	3.953

Source: The table is made by researchers based on the questionnaire.

Testing the Impact of Marketing Information System Elements on the Use of Technology:
Table (10) Shows that there is no significant effect of the marketing information system on the employment of technology in the companies under study, as the results of the regression analysis indicate that the marketing information system does not have a significant effect on the employment of technology through the calculated (F) value of (2.876). It is smaller than the tabular (F) value of (3.243) at the level of significance (0.05) and with a degree of freedom (95), as indicated by the value of the determination coefficient (R2), whose value is (0.103).

Table 10: The results of the regression analysis using (ANOVA) to show the impact of the elements of the marketing information system on the use of technology.

Statement	B coefficient	Significance Level	R2	F calculated	F tabular
Marketing information system	0.115 0.822	0.078	0.103	2.876	3.243

Source: The table is made by researchers based on the questionnaire.

Through the results of regression analyzes to show the impact of marketing information. it was found that there is a statistically significant effect of the marketing information system on the first three indicators of competitive advantage, which are: market share, business reputation, and customer satisfaction, while it was found that there is no statistically significant effect for each of the indicator achievement. Discrimination and indicator employing technology.

Conclusions
Based on the results reached, we can conclude the following:
1. The marketing information system has an important role in all corporate activities, especially marketing.
2. The marketing information system is the foundation through which companies can face competition.
3. The research showed that the companies under study depend on databases as an important element to provide the necessary and sufficient information that they need.
4. The results showed that there is a statistically significant effect of the marketing information system on increasing the market share of the companies under study.
5. The results showed that there is a statistically significant effect of the marketing information system on increasing the commercial reputation of the companies under study.
6. The results showed that there is a statistically significant effect of the marketing information system on customer satisfaction for the companies under study.
7. The results showed that there was no statistically significant effect of the marketing information system on achieving excellence for the companies under study.

8. The results showed that there was no statistically significant effect of the marketing information system on the employment of technology for the companies under study.

Recommendations

From the foregoing, the following recommendations can be made:

1. The need for companies' departments to pay attention to the information system because of its impact on the competitive advantage.
2. The need to design an integrated marketing information system in order to provide sufficient and necessary information for the decision-making process and to achieve the competitive advantage of companies. 3- Companies must have a continuous and permanent marketing information system based on a scientific approach.
3. The companies' departments should adhere to the comprehensive objective view towards the marketing information system.
4. Although there is supposed to be a statistically significant effect of the marketing information system on each of achieving excellence and employing technology, the results showed the opposite, which indicates that the marketing information system for officials and marketing managers in the companies under study is not well understood. Therefore, we recommend the need to take advantage of modern technology to achieve excellence in the information system in companies.
5. In view of the importance of the subject, more attention should be paid to conducting more studies on the marketing information system.

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