

The Effect of Strategic Information System in Global Marketing Channel: A Case Study

Sarmad Hamza Jassim

Department of Business Administration, Faculty of Administration and Economics, Mustansiriyah University, Baghdad, Iraq.

E-mail: dr.sarmad08@uomustansiriyah.edu.iq

Basheer Ismail Mahmoud

Department of Business Administration, College of Business Administration, Al-Bayan University, Baghdad, Iraq.

E-mail: basheer.ismail@albayan.edu.iq

Received September 16, 2021; Accepted December 15, 2021

ISSN: 1735-188X

DOI: 10.14704/WEB/V19I1/WEB19208

Abstract

The research dealt with the issue of strategic information systems and its impact on the global marketing channel. As the research aims to know the strategic information systems used in the cement company. Which support the senior management in supporting decisions taken in the process of global orientation and moving to foreign markets by choosing the marketing channel that will suit the company. Product and competition with it. With other companies' products. The problem of the study focused on how to move to global markets, and any marketing channel that can be followed to move the cement product globally, what are the strategic information systems used in the company and how will it contribute to supporting senior management decisions directed for this purpose?

The study was conducted in the General Company for Iraqi Cement for a sample that included the company's advanced owners, and the answers received amounted to (126) answers.

The researcher used the software (SPSS V.26), in analyzing the results obtained from the research sample. And the research reached a set of conclusions, the most important of which is the weakness of the process of applying some strategic information systems within the company. The research reached a set of recommendations, the most important of which is that the Iraqi Cement Company should work on using strategic information systems. Including (GAS, NNS) systems to help other systems support the company's future decisions.

Keywords

Strategic Information Systems, Global Marketing Channel, Expert Systems, Executive Support System, Decision Support System.

Introduction

The cement industry is one of the most important sectors of construction work in all countries of the world and this industry includes a number of large and small companies that specialize in this industry. Strategic information that contributes to providing support and backing to the senior management to take the right decisions, as it plays an important and essential role in supporting the strategic management of the company to carry out its basic functions with the highest level of efficiency and effectiveness, whether these functions consist in carrying out the strategic planning process or making decisions in particular, as well as These systems are concerned with introducing many technological improvements to many products, services and capabilities that give the organization a strategic and competitive experience, whether at the local or international level. Hence, the strategic role of information systems is the availability of appropriate data on the various dimensions and environmental conditions that surround the organization as well. Use of information technology in product development and Services that give the organization a strategic experience that outweighs the competitive forces it faces in different markets, and that most companies are trying to excel locally through all aspects that meet the needs and desires of local customers to go to foreign markets and start with how to move internationally and what are the mechanisms that will follow and what are the global marketing channels Which will be determined by the flow of its products to those markets, and will these channels need intermediaries, or will they work directly without the need for intermediaries, or will they work in the form of direct investment by owning sites in the targeted international markets, and the study aims to move the Iraqi cement product to the global markets within a distribution channel that ensures its transmission In a proper manner, which reaches the target markets, through the use of strategic information systems to assist the senior management of the General Company for Iraqi Cement to support the decision of the global transition.

The importance of the study lies in launching the Iraqi cement product to global markets, and this will lead to achieving material revenues for the company by finding new markets and encouraging the national industry to advance the rest of the products of our Iraqi industry and move them globally.

Methodology

Research Problem

The problem of the research is represented in several aspects, including the lack of information among managers in the General Company for Iraqi Cement about the main

and sub-researched variables in terms of details, contents and application requirements; the task of the research is to answer the following questions:

- The company owns strategic information systems and sub-systems that make up this system and it consists of (ES - ESS-NNS -GAS - DSS)?
- The company is constantly developing and updating strategic information systems to serve the company's need within the external developments and changes?
- Does the company have qualified staff to work on strategic information systems?
- The company has the necessary equipment to qualify the work of information systems in the correct manner.
- Does the cement product have the specifications and quality to move it to foreign markets?
- Does the company have the ability to cover the needs of global markets?
- Is there an impact of the strategic information systems variable in the global marketing channel?

The Importance of Research

The importance of the research can be clarified through the following:

- The importance of strategic information systems in supporting the decisions of senior management managers to move the company's product to global markets.
- The launch of the Iraqi cement product to the international markets.
- Achieving material revenues for the company by finding new global markets.
- Encouraging the national industry to promote the rest of the products of our Iraqi industry and move them globally.
- Informing customers in international markets about the quality of Iraq's industry products.

Objectives of the Study

The objectives of the research can be clarified through the following:

- Assessing the marketing capabilities of the company in terms of its production capacity and local delivery methods to promote the launch of global markets.
- Knowing the quality of the cement product compared to the imported products in order to contribute to its transfer globally.

- Using strategic information systems to assist the senior management of the Iraqi General Cement Company to support the global transition decision.
- Diagnosing the appropriate marketing channel for the cement company in the field of transporting the local cement product through it to regional and international markets, in a manner that provides the lowest costs and the largest possible marketing space.
- Determining the nature of the correlational and influencing relationships between the main and sub-variables of the study.

Research Model

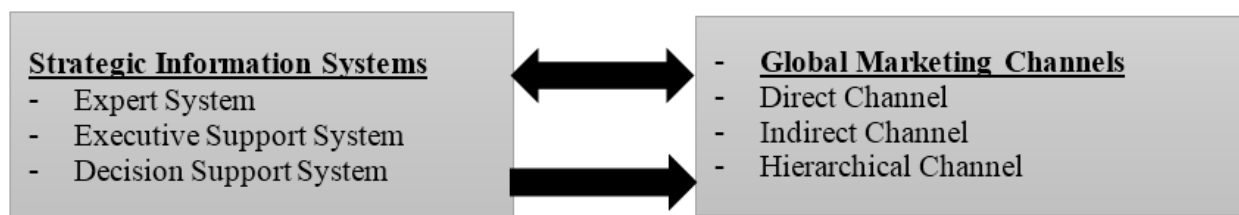


Figure 1 Research Model

Research hypotheses

- The first main hypothesis: (Strategic information systems are significantly related to the global marketing channel).
- The second main hypothesis: (there is a significant effect of the dimensions of strategic information systems combined "expert system, executive support system, decision support system" in the global marketing channel and its dimensions "direct channel, indirect channel, hierarchical channel").

Research Limits

The study was conducted in the General Company for Iraqi Cement, one of the formations of the Ministry of Industry and Minerals, and its location in Baghdad. The research was conducted during the year (2021), which included the period of distributing the questionnaire and personal interviews conducted by the researcher at the General Company for the Iraqi Cement Industry.

Community and Sample Research

One of the industry sectors in Iraq, represented by the General Company for Iraqi Cement, one of the formations of the Iraqi Ministry of Industry and Minerals, was chosen as an application field for the study. in the company and laboratories), Their number was

estimated at (168) in the company's headquarters and the Southern and Northern Associate and its laboratories, and one of the reasons for choosing this sample is their accurate knowledge of the nature of the study and that the global launch is among their proposals as a result of the detailed study of the reality of the company, its laboratories and its products.

Metrics and Statistical Tools Used

The research adopted a set of statistical methods for the purpose of data analysis, achieving the objectives of the study and testing its hypotheses using the (SPSS V.26) program (Excel).

Literature Review

Strategic Information Systems

The concept of strategic information systems is one of the contemporary concepts with a future orientation in thought and application. The concept is associated with modern management that is characterized by new global changes in the light of the internal and external environment in light of the vocabulary of strategic management. strategic thinking and strategic planning using strategic thought that works in light of the inclusion of current and future knowledge within New resources called strategic information to build decisions with a strategic horizon to achieve what is required for the modern company and control the new digital-oriented world in order to achieve sustainable competitive advantages (Kandjani, et al., 2016). Strategic information systems are considered as a type of information system that aligns with the organization's strategy, hierarchy and levels in a way that increases the organization's readiness for rapid response to environmental change and contributes to achieving strategic and competitive advantages (Akhgar, et al., 2015), indicates (Kamariotou and Kitsios, 2019) indicates that the concept of strategic information systems was launched through the intellectual and applied philosophy and the administrative vision of higher administrations, which specialists in this field see as a computerized system that takes into account the organizational and functional levels and brings about fundamental changes in goals, operations, production, services or relationships The organization's environmental profile to gain a new competitive position and focus on long-term decision-making problems by searching for information about a specific market and customers by analyzing their trends, tastes and preferences.

The strategic information systems consist of a number of sub-systems that will contribute to the support of senior management, which are as follows:

- **Expert systems**: The beginnings of the emergence of expert systems go back to 1965 when the first expert system appeared at a university in the United States of America, with the efforts of computer specialist Edward and Professor of Genetics Ledberg, a system specialized in the field of chemistry. The field of medicine is one of the most famous system of expertise in our time, but the real development in the field of expertise system was with the beginning of the eighties of the current century 1981 when the fifth generation of computer generations appeared in Japan capable of doing some work that simulates the work of humans. and this prompted the states The United States of America has led to an increase in interest in artificial intelligence in general and the experience system in particular (Mueller and Massaron, 2018). and said (Pannu and Student, 2015) said that Expert Systems is a type of computer program that can guide, analyze, communicate, design, examine, explain, predict, visualize, define, interpret, learn, delete and save. It is used to solve problems that need experts to solve. And works in its simplest forms By interacting with the user by asking him several questions about the problem based on his knowledge bases, then the expert system adds these facts to his work memory and the experience system derives conclusions through the inference engine that relies on the facts in the working memory and knowledge bases.
- **Executive Support System**: The Executive Support System is one of the tools needed to prepare reports from the existing data, so that executives can then use these reports to access the reports received from all other departments at the various levels of the company. The Executive Support System tools provide many analysis tools that It helps to make the necessary decisions (Wang and Zhuo, 2020). and It is mentioned (Thakor, 2016) The Executive Support System prepares programs that allow the company to be converted into accessible reports at the executive level, which in turn help in making non-routine decisions and identifying long-term trends in strategic planning, as well as contributing to clarifying market trends and preferences. and performance appraisal through the use of analysis and performance evaluation tools, ESS helps senior management in making decisions, as it addresses non-routine decisions that require judgment, evaluation and insight, ESS provides charts and data from many sources through an interface that is easy for senior managers their use. And the information is often delivered to senior executives through a portal that uses an interface to deliver integrated personal business content (Akhgar, et al, 2015). and argues (Kamariotou and Kitsios, 2019) that ESS is

designed to include data about external events such as new tax laws or competitors, but it also extracts summary information from Management Information Systems and Decision Support Systems. Filtering and tracking critical data and displaying data of interest for senior managers, these systems include business intelligence analytics to analyze trends and forecast. Indicates (Shore, 2014) that it is an information system designed for the strategic level in the company to help senior management in making unstructured decisions through advanced designs and communications. And explains (Glikson and Woolley, 2020) that (ESS) provides managers in senior management with information, helps monitor company performance, track competitor activities, identify opportunities, and support and solve unstructured problems. And (Aversa, et al., 2019) states that (ESS) are computer-based information systems designed to meet the special information needs of senior management managers or executive managers. In order to help them make decisions during their administrative practice related in particular to strategic planning and administrative control. Focusing on the external environment and adapting to technological, administrative and economic changes.

- **Genetic Algorithms System**: The genetic algorithm is one of the important artificial intelligence methods, the importance of which has emerged in solving complex problems within an appropriate time. And it is one of the search algorithms that depends on the ideas of genetic engineering. And solving complex problems using these genetic algorithms begins with a random community that represents a set of solutions Each solution has a specific validity. And then this community is modified and a new one is generated through the application of a set of genetic and genetic factors including selection, crossover, mutation and other factors repeatedly and sequentially on the generations of this community until the condition of stopping is achieved (Kai, et al, 2013). And Genetic Algorithm (GA) is a heuristic optimization method that works like the evolution of biological processes and aims to discover global optimization in the solution space. Best (Filho and Barco, 2016) and indicates (Sharma, 2013) that genetic algorithms are part of evolutionary computing and are the rapid field in the growth of artificial intelligence. and believes (Kai, et al, 2013) that one of the most important goals of the genetic algorithm is to determine the best possible solution from a set of fixed and limited size in the least possible time, and it works in two stages. To create a new generation, one notable advantage of these algorithms is that they perform a purely non-indicative search throughout the solution space, so no specific knowledge of the problem space is required in advance. He adds (Kumar, et al., 2017) that genetic algorithms aim to search for a

- better solution from a number of available solutions. Adequately represent each solution to a problem by coding it to use it.
- **Neural network system**: It is related to computer science and is a type of artificial intelligence. It is also called Artificial Neural Networks (ANN) and it is called by this name as it is a network of internal communication units. As these units are taken from the study of biological nervous systems and it is one of the applications of intelligence The idea of artificial neural networks (ANN) is the process of simulating data to reach a model for this data for the purpose of analysis, classification, prediction or any other processing without the need for a proposed model for this data. Therefore, artificial neural networks have attracted the attention of many researchers and scientists. It has great flexibility compared to the mathematical methods used in the process of learning to model data and store and transmit information in an artificial neural network (Valenzuela, et al., 2021) and (Subba, et al., 2015) pointed out that artificial neural networks are a computer system that consists of a number of interconnected processing units and is characterized by its dynamic and parallel nature in processing the data entering it. (Cao and Zhang, 2021) deals with the neural network information system as a system capable of building a thinking model based on the representation of the structure and function of the human mind as a complex dynamic information system with feedback. that is, a thinking model based on the representation of the structure and function of the human mind Specifically, the brain which is a complex dynamic information system with continuous feedback that works on the basis of dense parallel processing and within a non-linear but structural and networked processing at the same time. And (Krundyshev, 2019) explains that the artificial neuron consists of four sections: first, the input channels, as the neuron receives from these channels the signals coming from the cells associated with it, and the incoming signals are called inputs, and secondly, the summation function and its task is to collect and unify the signals entering into one signal. And third, the activation function, and this function is tasked with spreading the input value to it according to the type of function used according to the scale of the limits of the outgoing value, and fourthly the output channel and this channel works to send the output signal to other neurons and represents an input signal for those cells and the output signal is called output.
 - **Decision Support System**: The beginnings of (DSS) go back to 1967 when the birth phase of Management Information Systems began, which followed the emergence of large computer companies, and the traditional MIS at that time was limited to providing managers with periodic and programmed information reports that derive their data from systems Processing transactions in the fields of accounting and

finance in particular. and with the beginning of the seventies (MIS) evolved to be more linked with decision-making processes and more close to direct support for managers and decision-makers, and this type of information systems was called management decision systems indicated (Aversa, et al., 2019) that companies used the decision support system to analyze company data and support their decision-making, and employees at the managerial level often used (DSS) to help them solve problems such as sales forecasting or resource optimization. Using DSS to support decisions at almost all levels of the organization. And (Kitsios and Kamariotou, 2018) dealt with that (DSS) was designed to be a (interactive) decision aid tool that uses models to process data, as an example, if we have some historical sales data we can use many different types of models to create forecasts for future sales, One technique is to take the average of past sales and adjust it for seasonal changes. The formula we will use to calculate and adjust the average is the model. A more complex forecasting model may use time series analysis or linear regression. By using such models, DSS can increase decision-making and problem-solving performance. By enabling managers to perform analyzes to examine alternative solutions to a problem, (Kitsios and Kamariotou, 2018) shows that the decision support system is an information system that aims to support unstructured decision-making, strategic planning, and administrative and operational controls. and touched (Yuna and Mab, 2020) on (DSS) that it is a flexible and interactive system through the use of information technology, and is designed to support the decision-making process when the problem is not organized and referred (Mana, et al., 2021) to (DSS) as an interactive computer-based system that helps decision makers to use data and models for decision-making purposes that can be partially programmed. and adds (Stavropoulosa, et al, 2021) that Decision Support Systems provides managers with tools to help them solve semi-structured and unstructured problems. but in the manner of these managers and their personal approach to solving problems.

Global Marketing Channels

Addressed (Hoffman, 2016) that there are direct and indirect channels related to the idea of short and long channels as (Neves and Campomar, 2015) pointed out that short channels are those channels that do not contain an intermediary or perhaps only one intermediary. and this was what was It refers to somewhat direct channels, but without even referring to the presence of an intermediary, as direct refers to moving the product from the producer to the buyer or user directly and this is what was referred to (Al Bakri, 2020) by calling it the outlet or the zero channel, while long channels refer to the presence

of a number of intermediaries and according to the choice of the channel to deliver the product to the end user, and this is also what the indirect channels were referring to. Which stipulates the presence of intermediaries without specifying their number, but it depends on the requirements of the product and markets, and the researcher extracts from the opinions of researchers and relying on their books and research and what they dealt with that the types of global marketing channels can be defined into three channels. As (Pegan, et al., 2020) addresses the addition of hierarchical channels represented by companies, subsidiary and marketed which are as follows:

- **Direct channel**: Many companies rely on building their own internal distribution system, which is the best way for them and according to their capabilities to reach foreign markets. Companies that want to design a special distribution system without the presence or dealing with intermediaries aim to sell their products to foreign markets through the shortest and least expensive path. And (Green and Keegan, 2020) indicates in the same context that companies that follow direct channels aim to link directly with foreign markets. as well as increase market share, and that companies that adopt these decisions must provide a set of capabilities as the company's ability to distribute its experience in foreign markets and the volume of its activity in the foreign market. which plays a role in carrying out the management and organization of external marketing, and adds (Bertoli and Resciniti, 2012) that companies that choose export as an entry method in the early stages of their internationalization strategy because it is the least an investment. Less costly and less demanding because it prefers caution when entering abroad, and the company can carry out the export process in two ways: direct export, which involves under the name of direct channels to His dependence on intermediaries or indirect export, which falls under the umbrella of indirect channels because he needs intermediaries.
- **Indirect channel**: channels that rely on intermediaries in the process of moving products from the producer to the industrial buyer or the end user, and in this channel the producer does not distribute his products directly to the consumer. and in this channel the intermediary bears the responsibility for transporting products to foreign markets and this will provide the company with ease Dealing through these channels and (Rajagopal, S., 2016) adds that the most challenging aspect of this channel is that intermediaries will be assigned or included within the distribution channel to transport products to foreign markets. So the manufacturer will face the challenge of choosing the intermediaries who will represent The company carefully and carefully because they will be the face of the company in the international markets and deals with (Pegan) in his book a number of operations which represent

the indirect channels of its need and its dependence on intermediaries to move internationally and deal with foreign markets through those business.

- **The hierarchical channel**: The hierarchical channel of entry is a form of foreign direct investment where the company owns facilities in the foreign market. and the hierarchical channel is followed by companies that want to ensure control of their activities abroad and investment to achieve significant sales penetration in the target market and this channel is the most dangerous A way to enter. In fact, even if a company acquires greater knowledge of the market and competitive environment and exercises a high degree of control over the activities developed in the foreign market, the business risks associated with investment remain high, and much depends on the type of direct investment.

Search Results Analysis

1. **Examination of the main and sub-variables in the application site of strategic information systems**: The researcher dealt with an examination form to accurately detect the presence of variables within the company and distribute them to those concerned with the subject, i.e. an intentional sample was chosen. The sample included (the general manager and his assistants and directors of marketing departments, information systems and production) in the company and its affiliated laboratories through making an electronic questionnaire and sending it and (48) answers were received from an approximate total of an estimated target sample of (66) managers. the answers of the sample members were to detect the strategic information systems variable and its sub-variables as shown in the following table (1):

Table 1 The answers of the sample members to reveal the variable of strategic information systems and its variables

Strategic Information Systems							
NS	sub-variables	Available		Somewhat		no available	
1	Expert System	15	%31	26	%54	7	%15
2	Executive Support System	38	%79	7	%15	3	%6
3	Genetic Algorithms System	0	%0	0	%0	48	%100
4	Neural Network System	0	%0	0	%0	48	%100
5	Decision Support System	41	%85	7	%15	0	%0

After the statistical analysis of the above paragraphs related to strategic information systems, the researcher clarifies that the sub-variables of this system, including those that are applied and implemented in the company very well, such as the (DSS) and (ESS)

systems. where the percentage of agreement on its presence and work is (85%) and (79%) respectively have an actual presence in the company. and 15% and (15%) somewhat, respectively. and this indicates that the company is working with this system well. and some systems are well present. and like that (ES) system, as it reached The percentage of actual presence (31%), and the percentage of presence to some extent (54%), which is a good percentage for the work of such a system within the company and to benefit from it. and the company is working on developing it to compete with the expert systems in advanced companies.

As for the other systems, namely (GAS) and (NNS), the percentage of agreement was completely that there are no such systems in the company. But it seeks to implement such systems in the future and it sets plans for that and seeks to develop its systems and expresses its willingness to cooperate with the relevant authorities and jurisdiction within its possibilities to work on it.

Therefore, we, as a researcher, had to work within the existing systems in force within the company and continue to work based on the existing systems (ES - ESS - DSS) and structuring the questionnaire in light of this, despite the researcher's theoretical aspect of the above-mentioned five systems.

Statistical Analysis of Hypotheses

- **Presentation, analysis and diagnosis of the second independent variable, strategic information systems:** The independent variable was measured in the marketing information system through three dimensions (experience system, executive support system, decision support system) through (12) paragraphs and through answers (126) observations in the Iraqi Cement Company. As The independent variable strategic information systems in general obtained a calculated average of (3.35) at a moderate level. Indicating that the Iraqi Cement Company possesses a technical information system that helps it change its strategies, plans and structure, and thus contributes to accelerating the reaction time and responding with high flexibility to environmental changes, as well as helping it to Achieving a competitive advantage that gives it a wider area than its nearest competitors. as the variable in general obtained a standard deviation (0.271), relative interest (67%). and a relative coefficient of variation (8.8%) indicating the homogeneity and convergence of opinions about its availability and practice in an average way in the General Cement Company As shown in the results of Table (2).

Table 2 Presentation and Analysis of Strategic Information Systems Data (n=126)

NS	Questions	Arithmetic mean	standard deviation	Relative importance	Variation coefficient
1		4.34	0.570	86.8	13.13
2		4.02	0.843	80.4	20.97
3		3.66	1.003	73.2	27.40
4		4.08	0.601	81.6	14.73
5		3.69	0.958	73.8	25.96
6		4.35	0.570	87	13.10
7		3.88	0.825	77.6	21.26
	Expert systems	4.00	0.456	80	11.40
8		3.92	0.650	78.4	16.58
9		2.21	1.056	44.2	47.78
10		3.49	0.703	69.8	20.14
11		2.52	0.591	50.4	23.45
12		2.68	0.854	53.6	31.86
13		3.07	0.789	61.4	25.70
14		3.17	1.022	63.4	32.23
	Executive Support System	3.00	0.470	60	15.66
15	Decision support systems display data in a variety of formats at the request of the user.	4.00	0.552	80	13.8
16	The senior management can easily access the descriptive and quantitative information stored on the databases of the decision support system more easily compared to other systems.	2.28	0.854	45.6	37.45
17	Decision support systems contribute to the possibility of easy interaction with the elements of these systems using command language that allows access to the system and its question.	4.04	0.571	80.8	14.13
18	Decision support systems have the ability to easily retrieve information if it is lost.	2.26	0.599	45.2	26.50
19	The speed of computers is proportional to the decision support systems and the volume of work to be accomplished.	2.18	1.134	43.6	52.01
20	The communication network used and associated with decision support systems connects all the different departments and sections in the company and its laboratories.	3.63	0.906	72.6	24.95
21	The decision support system is exposed to breaches that disrupt the decision-making process, which can cause system disruption or file corruption.	2.88	1.062	57.6	36.87
	Decision support system	3.04	0.519	60.8	17.07
	Strategic Information Systems	3.35	0.271	67	8.08

- **Presentation, analysis and diagnosis of the dependent variable, the global marketing channel**: The dependent variable was measured according to the title and the procedural scheme of the research. The selection of the global marketing channel through three dimensions (direct channel, indirect channel, hierarchical channel) through (32) paragraphs and through answers (126) views in a company Iraqi Cement. as the variable chosen for the global marketing channel overall got a calculated average of (3.33) at a moderate level, to indicate that the Iraqi Cement Company owns an integrated chain of operations through which products pass until they reach the final consumer or industrial buyer and it includes the absence of intermediaries It is called zero or direct, or when there are intermediaries, it is called indirect or binary, and it may be hierarchical through the establishment of specialized companies in a concerned country. and the variable in total has a standard deviation (0.445), relative interest (66.6%). and a relative coefficient of variation (13.36). %) refers to the homogeneity and convergence of opinions about

its availability and average practice in the General Cement Company, as shown by the results of Table (3).

Table 3 Presentation and analysis of global marketing channel selection data (n=126)

NS	Questions	Arithmetic mean	standard deviation	Relative importance	Variation coefficient
1	The direct channel is the best way for the company to reach foreign markets.	3.65	1.097	73	30.05
2	The company plans to sell its products to foreign markets through the shortest and fastest way.	4.03	0.574	80.6	14.24
3	The company seeks to follow this channel to reduce the cost of moving to foreign markets.	4.02	0.950	80.4	23.63
4	The company works to provide the company's internal capabilities of marketing information systems and product quality for direct transfer to foreign markets.	4.06	0.487	81.2	11.99
5	The company uses the direct channel to enter the foreign market when the company is wary and apprehensive about the transition.	2.67	0.631	53.4	23.63
6	The company distributes its product to foreign markets without the presence of any intermediary.	3.30	0.531	66	16.09
7	The company needs to know the foreign markets accurately and clearly when adopting the direct channel.	2.58	1.012	51.6	39.22
8	The company makes high profits through this channel because there are no intermediaries.	3.05	1.017	61	33.34
	direct channel	3.42	0.548	68.4	16.02
9	The company relies on intermediaries in the process of moving products from the producer to the industrial buyer.	3.88	0.689	77.6	17.75
10	The company uses high quality and experienced intermediaries to sell the company's products in foreign markets.	1.98	0.526	39.6	26.56
11	The process of selecting the international intermediaries responsible for transporting the product to foreign markets is easy.	3.29	1.003	65.8	30.48
12	The company owns intermediaries in foreign markets who work on selling the company's products.	2.80	1.052	56	37.57
13	The company owns intermediaries in the local markets who work on exporting the company's products abroad.	3.97	0.633	79.4	15.94
14	The profits of the company fall due to the presence of a number of intermediaries in this channel.	3.80	0.941	76	24.76
15	The company bears the time, effort and cost when following the indirect channel.	2.31	1.041	46.2	45.06
16	The company does not need to study foreign markets and bear the risks and costs of searching for customers, because the broker is the one who will adopt this issue.	3.97	0.627	79.4	15.79
	indirect channel	3.25	0.654	65	20.12
17	The company owns a facility (company) in the foreign market that is fully responsible for the product.	3.26	1.037	65.2	31.80
18	This channel is considered the most expensive channel for the company because it requires high investments.	4.03	0.649	80.6	16.10
19	These channels represent the most dangerous way to enter foreign markets because they represent a long-term way and require careful strategic planning.	3.52	1.007	70.4	28.60
20	The hierarchical channel is suitable for large corporations and government corporations that have the ability to bear the risks and costs.	2.39	1.042	47.8	43.59
21	The company is considering opening subsidiary companies in foreign markets that are administratively and legally independent in their work while preserving the product brand.	3.24	0.555	64.8	17.12
22	The company is thinking of establishing marketing companies in foreign markets whose work is only marketing for the company's products.	2.86	1.142	57.2	39.93
23	The firm selects foreign markets, which are economically stable and have flexibility in the restrictions imposed when following the hierarchical channel.	3.92	0.627	78.4	15.99
	hierarchical channel	3.32	0.617	66.4	18.58
	Global Marketing Channel	3.33	0.445	66.6	13.36

- Verification of the first main hypothesis: It is clear to the researcher from the results of Table (4) that the strategic information systems in total, have achieved four relationships out of four, and with a percentage of (100%) of the relationships, all of which are under a morale level less than (5%) and it was as follows:

Strategic information systems achieved a strong direct correlation (0.688**) with the global marketing channel at the significance level (0.000), to indicate any increase in interest by the General Cement Company in strategic information systems for one unit, this increase will lead to its additional interest in the global marketing channel. As far as the value of the correlation coefficient between them and vice versa, as for the dimensions of the global marketing channel selection. The strategic information systems were able to find a strong direct correlation (0.879**) with the hierarchical channel dimension and with the direct channel a significant direct correlation (0.424**) Medium strength and with the indirect channel a direct correlation relationship (0.232**) is weak, and from all of the above, the second main hypothesis is accepted (strategic information systems are positively associated with the selection of the global marketing channel and its dimensions).

Table 4 The matrix of the relationship of strategic information systems with the selection of the global marketing channel and its dimensions

relationship strength	correlation	Global Marketing Channel	hierarchical channel	indirect channel	direct channel		
weak	my expulsion	0.261**	0.196*	0.143	0.267**	r	expert system
		0.003	0.028	0.110	0.002	Sig	
		126	126	126	126	n	
powerful	my expulsion	0.487**	0.200*	0.068	0.179*	r	Executive Support System
		0.000	0.025	0.452	0.045	Sig	
		126	126	126	126	n	
From medium to strong	my expulsion	0.790**	0.795**	0.420**	0.593**	r	decision support system
		0.000	0.000	0.000	0.000	Sig	
		126	126	126	126	n	
From weak to strong	my expulsion	0.688**	0.879**	0.232**	0.424**	r	Strategic Information Systems
		0.000	0.000	0.009	0.000	Sig	
		126	126	126	126	n	

- The results of Table (5) showed that there is an interpretation coefficient (0.626) at the significance level (0.000). And with a modified interpretation coefficient (0.617). The dimensions of strategic information systems combined (experience system,

executive support system, decision support system) were able to explain (61.7%) of the changes that occur in the global marketing channel. The remaining percentage (38.3%) is attributed to other variables that were not included in the tested model. It was found that the calculated (F) value of the model (68.191) at the significance level (0.000) is significant in the model; while it was found that, there was a direct positive effect of the decision support system (0.771) at the significance level (0.000) and the calculated (T) value (8.655). Meanwhile, the Iraqi General Cement Company was unable to employ the experience system and the executive support system. From all the results reviewed, the fourth main hypothesis is accepted (strategic information systems have a significant impact on the global marketing channel), according to the following predictive equation:

$$\text{Global Marketing Channel} = (2.758) + 0.771 * (\text{decision support system})$$

Table 5 The impact of strategic information systems with its dimensions on the global marketing channel (n = 126)

Global Marketing Channel							independent variable
F	T	Sig	AR ²	R ²	β	α	
68.191	0.696	0.370	0.617	0.626	0.062	2.758	expert system
	0.270	0.714			0.024		Executive Support System
	8.655	0.000			0.771		decision support system

Conclusions and Recommendations

Conclusions

- The company owns strategic information systems, but it is not up to the required level compared to the strategic information systems found in other competing companies, especially at the international level.
- The study concluded that the company owns only a limited number of sub-systems that constitute strategic information systems, as the genetic algorithms system (GAS) and the neural network system (NNS), which are considered advanced systems that constitute an essential part of the formation of strategic information systems are not applied. Definitely in the Iraqi Cement Company, and this in turn weakens the strategic information systems and does not meet the ambition to support the company in moving to international markets.
- In the field of strategic information systems, the company relied on three types of systems (ES, ESS, DSS), and their relative importance indicated the interest in the experience system first, then the executive support system, and finally the decision support systems.

- The study showed the company's great interest in the experience system, although it does not use it ideally, but rather to a limited degree, and that the programmers working on the system are not at the level required to work on international strategic information systems for the company's transition to global markets.
- The decision support system in the company suffers from the problem of obsolescence of its data and its inconsistency with the work methods and techniques used in marketing the product. Therefore, the marketing manager and the rest of the managers in the company do not trust this system and may often ignore its existence.
- The company's experience system lacks accurate data on international aspects, especially what is related to distribution channels, and the company conducts operations to provide this system with local data only, and this system is not linked with any other local or global information system that can update it automatically.

Recommendations

- The development of the company's strategic information systems and its number as part of its vital operations, which contributes to investing past data and information in order to present future scenarios for the marketing process that are related to the company's products at the local and international levels and to be a competitor to the systems in other companies especially at the international level.
- Providing all advanced sub-systems that, with its multiple branches, constitute a strong competitive strategic information system, and working to implement the (GAS) and (NNS) systems in the General Company for Iraqi Cement to be, along with the other sub-systems, a strategic information system that contributes to supporting the senior management in making its decisions accurately.
- The General Company for Cement must rely on all systems in a balanced manner, and that these systems work in concert with each other, and that the problem is who will determine the amount of information required from each system, each according to what it provides.
- Not relying on the experience system to a high degree while neglecting the rest of the systems, just to store a large amount of previous information and previous experiences, the process of solving a previous problem at an earlier time does not necessarily solve a current problem based on the data of the previous problem and this is what happened in one of the factories' investments, our emphasis on Balance working with systems and continuous updating of its data.
- The company's senior management is supposed to provide material facilities towards improving its decision support system and formally obligate all managers to

- use it and rely on it in making their decisions because of the many advantages it offers, most notably reducing the possibilities of wrong decisions and the accuracy and objectivity of the administrative decision in particular marketing decisions for the company's products.
- Linking the company's experience system with the experience system in global industry leaders after concluding joint cooperation agreements in the fields of training and development because this provides the company with the ability to identify attractive market segments on the world level and may provide the company with a global competitive advantage represented in the speed of access to the global customer by choosing appropriate distributor.

References

- Akhgar, B., Parvin, E. S., & Sherkat, M. H. (2014). Axiomatic agent based architecture for agile decision making in strategic information systems. *Journal of ambient intelligence and humanized computing*, 5(1), 93-104.
- Al-Bakri, T. (2020). *Marketing Management*, Sixth Edition, Amman - Jordan.
- Aversa, P., Cabantous, L., & Haefliger, S. (2018). When decision support systems fail: Insights for strategic information systems from Formula 1. *The Journal of Strategic Information Systems*, 27(3), 221-236.
- Bertoli, G., & Resciniti, R. (2012). *International marketing and the country of origin effect: the global impact of 'made in Italy'*. Edward Elgar Publishing.
- Cao, W., & Zhang, C. (2021). An effective Parallel Integrated Neural Network System for industrial data prediction. *Applied Soft Computing*, 107(34).
- Filho, M., & Barco, C. (2016). Using Genetic Algorithms to solve scheduling problems on flexible manufacturing systems-a literature survey, classification and analysis, *Springer Science and Business Media*, 26(9).
- Glikson, E., & Woolley, A.W. (2020). Human trust in artificial intelligence: Review of empirical research. *Academy of Management Annals*, 14(2), 627-660.
- Green, M.C., & Keegan, W.J. (2020). *Global marketing*. Pearson Education Limited.
- Hoffman, R.C., Watson, S., & Preble, J.F. (2016). International expansion of United States franchisors: A status report and propositions for future research. *Journal of Marketing Channels*, 23(4), 180-195.
- Kai, S., Lim, A., & Rodrigues, B., (2013), Sexual Selection for Genetic Algorithm. *Artificial Intelligence Review*, 19(6).
- Kandjani, H., Mohtarami, A., Taghva, M.R., & Andargoli, A.E. (2014). Classification and comparison of strategic information systems planning methodologies: a conceptual framework. *International Journal of Enterprise Information Systems (IJEIS)*, 10(1), 1-10.
- Kitsios, F., Kamariotou, M., (2018), Decision Support Systems and Strategic Information Systems Planning for Strategy Implementation, *Springer International Publishing*, 9(41).

- Kitsios, F., & Kamariotou, M. (2017). Decision support systems and strategic information systems planning for strategy implementation. In *Strategic Innovative Marketing*, 327-332.
- Krundyshv, V.M. (2019). Preparing datasets for training in a neural network system of intrusion detection in industrial systems. *Automatic Control and Computer Sciences*, 53(8), 1012-1016.
- Kumar, C., Singh, R., & Verma, S., (2017), the use of genetic algorithms in flexible manufacturing systems. *International Journal of Computer Theory and Engineering*, 33(14).
- Man, T., Zhukova, N. A., Thaw, A. M., & Abbas, S. A. (2021). A decision support system for DM algorithm selection based on module extraction. *Procedia Computer Science*, 186, 529-537.
- Mueller, J., & Massaron, L., (2018). *Artificial Intelligence*, Hoboken, New Jersey.
- Neves, M.F., Zuurbier, P., & Campomar, M.C. (2001). A model for the distribution channels planning process. *Journal of Business & Industrial Marketing*, 16(4).
- Pannu, A. (2015). Artificial intelligence and its application in different areas. *International Journal of Engineering and Innovative Technology*, 4(10), 79-84.
- Pegan, G., Vianelli, D., & Luca, P.D. (2020). International Marketing Strategy. *International Series in Advanced Management Studies*, Springer Nature Switzerland.
- Rajagopal, S. (2016). *Sustainable Growth in Global Markets: Strategic Choices and Managerial Implications*, Business School.
- Sharma, M. (2013). Role and Working of Genetic Algorithm in Computer Science. *International Journal of Computer Applications and Information Technology (IJCAIT)*, 2(1), 27-32.
- Shore, B. (2014). Using Information Technology to Achieve Competitive-A Study of Current and Future Trends. *Journal of Computer Information Systems*, 25(5).
- Stavropoulos, P., Papacharalampopoulos, A., Michail, C., Vassilopoulos, V., Alexopoulos, K., & Perlo, P. (2021). A two-stage decision support system for manufacturing processes integration in microfactories for electric vehicles. *Procedia Manufacturing*, 54, 106-111.
- Subba, G., Biswas, F., & Karmakar, M., (2015), A neural network based system for intrusion detection and attack classification, *International Journal of Information Management*, 36(18).
- Thakor, A., (2016). Strategic information disclosure when there is fundamental disagreement, *Journal of Financial Intermediation*, 9(4).
- Valenzuela, O., Rojas, F., & Rojas, I., (2021). advanced neural network systems for solving complex real problems. *International Journal of Information Management*, 36(12).
- Wang, J., & Zhuo, W., (2020). Strategic information sharing in a supply chain under potential supplier encroachment. *Computers and Industrial Engineering*, 43(21).
- Yuna, Y., & Mab, D., (2020). Human-computer interaction-based Decision Support System with Applications in Data Mining. *Journal Pre-proof*, 17(22).