

The Role of Strategic Management and Modern Agricultural Technology in Developing Field Crops Cultivation

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ABSTRACT

The research aims to determine the role of agricultural system managers in Iraq in the field of strategic management and agricultural technology in developing field crops cultivation, and to achieve the objectives of the research, the researcher prepared A five-Axis questionnaire, which included 40 paragraphs for middle and executive directors, divided into five Axis, and dealt with [content, a questionnaire that included message scale, strategic analysis, vision formulation, characteristics of importance, objectives, types of strategies, strategy levels, strategy characteristics, strategy implementation, strategy evaluation.

The research was carried out as a random sampling from agricultural departments from the governorate of Baghdad. After the questionnaire was done in the Google Documents program, the questionnaire was published on the social media sites of those involved in the agricultural sector and sent by e-mail to some managers and their assistants as it was not possible to provide them with the questionnaire on paper due to the Corona pandemic. A random sample was withdrawn by 55% of each category of the research community. Thus, the total sample size is 100. The weighted average, F-test, and LSD were used to analyze the data and obtain results using the SPSS program. One of the results of the research was that the general character of the level of experience in strategic management of agricultural system managers at the administrative levels [middle, executive] in the field of strategic management, general, was medium, The managers of the agricultural system need to be developed, and this is reflected in their knowledge capabilities in the field of strategic management to improve the level of performance of the units responsible for them. The researcher recommends the need to qualify the managers of the upper and middle departments and send them outside the country to acquire new concepts in strategic management and the need to increase their knowledge and skill capabilities in developing the strategy at the middle and executive levels] through specialized training programs in the field mentioned above.

Keywords-- Strategic Management, Strategic Planning, External Environment, Mission

I. INTRODUCTION

Administrative organizations in the public and private sectors, both productive and service, face great challenges as a result of rapid and continuous changes, and that these challenges have created many difficulties for all organizations to face these rapid changes, and in the face of these challenges, the traditional management, with its operations and means, has become incapable of making the organization capable of achieving its goals.[14] This imposes on organizations to use modern administrative methods to help them reach the goals they seek and seek. Researchers have found their way in the strategic management method. It represents an intellectual approach characterized by modernity and pioneering and is characterized by its operations and means by increasing its ability to face challenges. And providing the best services and developing their performance.[20]

Strategic management is a modern way to manage the organization towards success in light of the rapid changes in the environment in which it operates, as it gives the organization the ability to anticipate environmental changes and mobilize its resources, which enables it to transform threats into opportunities and provide the best services.[24] as the strategic management seeks to transform a vision. The organization and its mission and general goals refer to specific strategies that each activity unit within the organization seeks to apply to improve the competitive position of the products and services it provides at the business unit level.[13] This allows the organization to be more effective and dynamic in shaping its future by developing the best strategies to deal with the challenges it encounters in the future.[22] Organizations that seek to achieve their goals of survival, stability, and progress despite the difference in their goals, sizes, and activities cannot be achieved without strategic management.[21] because of their ability to define and formulate the organization's vision, mission, and goals as well as diagnosing the strengths and weaknesses of the organization, whether in its environment. In its internal or

external environment, all global organizations have agreed that all have used strategic management.[9]

The agricultural sector in Iraq is one of the development organizations that aims to alleviate poverty in the countryside and enhance food security. It is not immune to the various developments around it.[11], The agricultural system's reality is described as weak [below what it should be] in an interview.

The desired goals may be attributed to several reasons, the most important of which is its weak management and poor performance.[2] There are tendencies to modernize administrative systems in the world's agricultural system in general and Iraq. One of its modernization areas is the openness to strategic management, which can be the agricultural extension organization. A field for its application can make a qualitative leap in improving the agricultural system's performance. With its operations and means, the traditional management has become incapable of making the agricultural organization capable of achieving its goals. The application of strategic management gives the organization the ability to provide services sustainably and achieve better results. It goes beyond the planning process to become this. The process is part of it and complements several concepts included in strategic planning.[18] Strategic planning focuses on predicting future changes in the work environment and then developing plans to utilize its resources optimally.[23] to improve the quality of services and achieve the organization's strategic objectives.[10]

II. THE STUDY PROBLEM

In a world where changes are intertwined, and changes lead to an accelerated spread of information rapidly. Procedures and procedures are intertwined. To create new data that form the denominators of new procedures and procedures, our institutions and economic institutions must be managed in a meaningful way. And a conscious management method so that they can move in an informed context. Murad overcame his current reality, which is burdened with many difficulties and obstacles, and moved to place them in an innovative stage that enables them to achieve the goals and tasks they were established. This referred administrative method is what is called strategic management. Accordingly, the study problem will be mainly focused, highlighting the circumstances that Strategic management makes a very important management practice in business organizations and how similar it is to the two organizations involved, In addition to clarifying the concept, importance, and steps of strategic management, making a realistic diagnosis of the actual practice of strategic management in those organizations and proving the effect of applying this

process on its performance, by responding to the following inquiries.

1. Do the circumstances surrounding the business organizations concerned need to be used for strategic management?
2. Do managers of the concerned organizations have a good knowledge of the concept of strategic management in addition to its components?
3. Are business organizations seriously involved in agricultural technology?
4. The work of the concerned organizations performs well, and does the application of their strategic management style have a significant positive impact on them?
5. Will the application of agricultural technology increase field crops' production and be a great positive factor in applying strategic management side by side?

III. STUDY HYPOTHESES

1. The managers of agricultural system units' weakness in implementing strategic management in managing administrative and extension units and managing their agricultural programs and activities.
2. Weak implementation of agricultural system unit directors of strategic management in managing administrative and extension units and managing their agricultural programs and activities.
3. Managers of agricultural system units face obstacles in applying agricultural technology to develop crop cultivation and manage their programs and agricultural activities.
4. The agricultural system in Iraq faces various problems in all its components in developing field crop cultivation.

IV. METHODOLOGY

The current research comes within the framework of survey research that falls within the descriptive approach, as this approach is used in data collection and analysis to obtain information from large numbers of respondents who form a specific community, as it is an appropriate method for collecting detailed data and information on strategic management and the obstacles to its application in a specified period.

V. THE CONCEPT OF STRATEGIC MANAGEMENT

The searcher on strategic management mentions some definitions of the idea of strategic management in its writings and literature, the most important of which can be offered as follows.

Strategic management denotes a set of decisions and activities that regulate the long-term performance of organizations. It is also well-defined as a set of decisions and actions related to the formation and operation of strategies to reach its goals.[26]

"Strategic management is the procedure that contains a sequence of steps through which senior management analyzes the opportunities and limitations of the external environment, as well as the strengths and weaknesses of the organization, then defines the mission and aims to establish strategies at the organizational level and in units firmly. business and career level correspond to the organization's strengths and weaknesses, the opportunities, and threats of the external environment, and applying these strategies and strategic control exercise.[27] Strategic management is defined as the process that ensures the design, implementation, and evaluation of long-term impact decisions aimed at increasing the organization's value from the perspective of customers, shareholders, and society as a whole.[25]

Strategic management has also been defined as defining the organization's mission and trying to accomplish it by matching the capabilities of the internal organization with the requirements of the external environment.[28]

Strategic management is defined as the process of making and implementing strategic decisions.[29] This definition focuses on strategic decisions that result in a material change in the organization and is not considered a strategic decision unless there is a fundamental change in the organization that significantly affects its ability to achieve its goals.

VI. LEVELS OF STRATEGIC MANAGEMENT

Strategic management can be formulated at three levels, namely, Corporate level, business level, and the functional Level. At the Corporate Level, strategy is formulated for the organization as a entire. Corporate strategy deals with decisions concerning the different business areas in which the Corporate operates and competes in. At the Business Unit Level, a strategy is formulated to turn the company's vision into a reality. At the Functional Level, the strategy is formulated to achieve the goals and objectives at the business unit level using the strengths and weaknesses of the organization. There is a clear hierarchy in the strategy levels, through the company level strategy at the highest, the business level strategy derived from the Corporate level, and the functional level strategy being formulated from the business level strategy.

1. Corporate Strategic Management Level
2. Strategic Management at The Business Unit Level
3. Strategic Management at The Functional Level

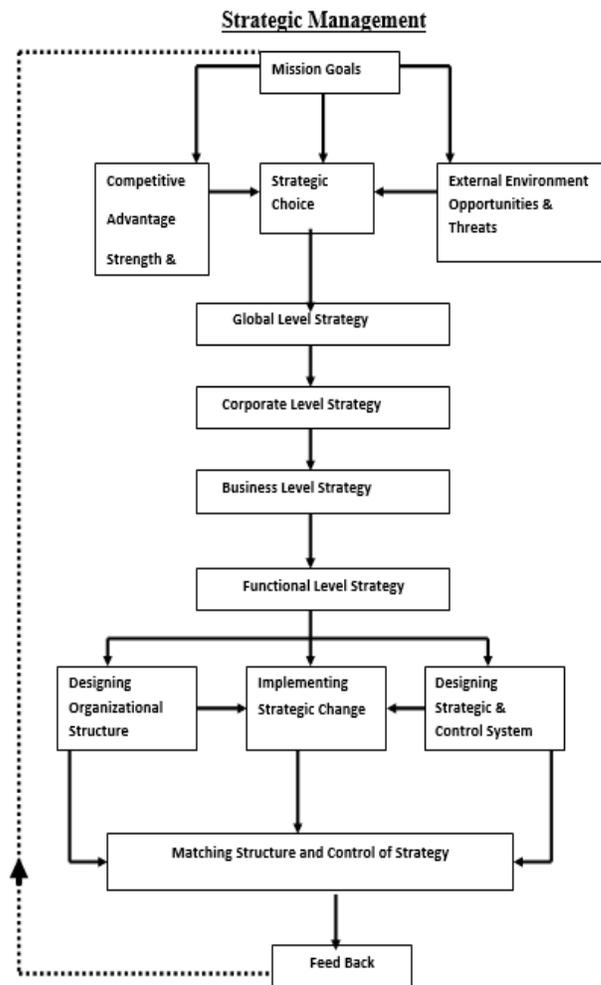


Figure 1: Functional level strategy

VII. BASIC STEPS OF STRATEGIC MANAGEMENT

Strategic management consists of three basic stages [25]

1. Information Collection and Design
2. Application
3. Evaluation

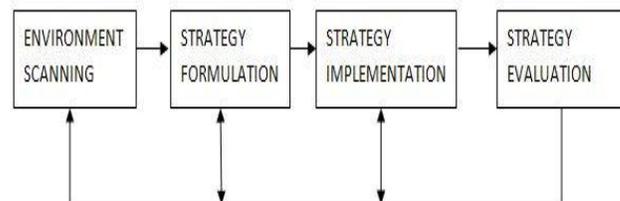


Figure 2: Basic Elements of the Strategic Management Process

1. Design Phase: also called the strategic planning or drafting phase, the design phase is concerned with developing the vision and mission, evaluating the analysis of the internal and external environment, identifying the strategic gap, setting long-term goals, and selecting the best overall strategies, strategic unit strategies and functional strategies. The identification of Strengths, Weaknesses, Opportunities, and threats through the process of change can change the organization's message. The design process requires the compilation and analysis of information and decisions to choose the best alternatives at each step. It should be exercised with the highest efficiency since its results have a long-term impact that determines for a long time the type of activity the organization focuses on, the services and goods it provides, the markets it serves, the technology used, the research to be conducted and the resources to be used.

2. Implementation Phase: this phase is aimed at implementing strategies and involves setting short-term goals, formulating policies, allocating material and human resources, and distributing them among the expenditure alternatives. It also requires the organization to be prepared from within, as may be required, by adjusting the organizational structure, redistributing powers and responsibilities, developing various systems, such as information systems, defining procedures, changing the concept and interests of activities, and defining the characteristics, distribution and development of the workforce to help implement strategies. While the design phase needs a philosophical view, it needs a practical view and the ability to move human and non-human resources in an orderly manner

The organization is working to implement the strategies developed in the previous phase. Perhaps the most important basis for this phase's success is the integration and cooperation between the organization's different activities and administrative units to implement strategies efficiently and effectively.

3. Evaluation Phase: all strategies undergo an evaluation process to determine their relevance to changes in the internal and external environment, and to assess the accuracy of the forecasts contained in the plans, it is necessary to compare the actual results with the objectives expected from the implementation of the strategy and to detect deviations. You may be in the design phase of the strategy or the implementation phase of the strategy, and the organization needs to compile data from the internal environment and the external environment

so that it can judge how well the strategies are achieving their goals, and this is followed by taking corrective steps in the strategies or changing certain systems and

The strategic planning for the agricultural system's systems and programs helps the agricultural organization develop a vision. Future systems and programs for the agricultural sector for what you want to reach in the future and define the organization's mission and goals by conducting a four-dimensional environmental analysis [SWOT Analysis] to determine the following:

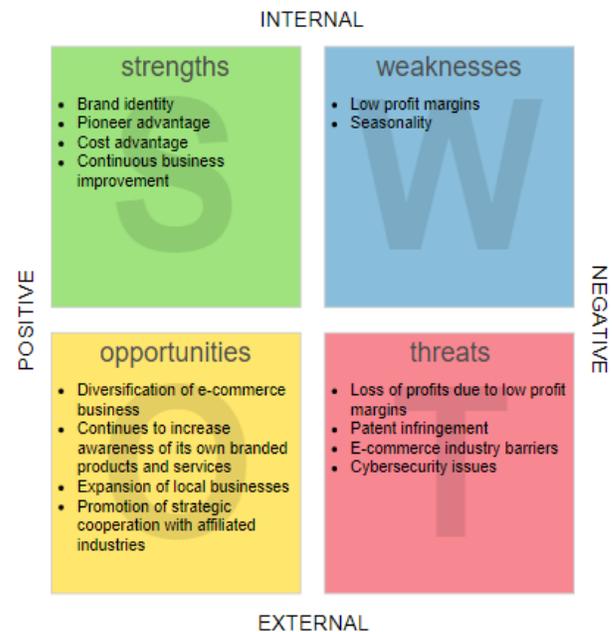


Figure 3: Dimensional Environmental Analysis

First: Elements of the internal environment of the agricultural system, which include.[17]

1. Strengths: These are the characteristics, advantages, and capabilities that are available to the organization and help in achieving the goals and objectives and how to support them and make the most of them.

2. Weaknesses: They are represented in the characteristics, limitations, or obstacles that the organization suffers from, which impede the achievement of goals and objectives and how to reduce their negative effects.

Second: Elements of the external environment for agricultural extension systems, which include:

3. Opportunities: they are conditions, situations, factors, and forces outside the organization's control and can contribute positively to the achievement of goals and objectives and how to make the most of them.

4. Threats: It is the conditions, factors, and forces outside the control of the organization that can contribute negatively to achieving the goals and objectives, and how to reduce or limit their negative effects, as well as determine the general picture of the reality of agriculture and the quality of life in the rural community and the

VIII. SWOT ANALYSIS

changes that can be achieved in the future. The executive director is one of the basic pillars of the organization and an important factor affecting its success or failure because it occupies the fore in it, as he is the head and direct supervisor of its management and the leader whose functions are focused first and foremost in drawing the organization's strategy. An ideology that is broader and has holistic dimensions determines the direction of activities in the organization to confront current and potential problems.[5] as he is the person who carries out the strategic management process which is supposed to have full knowledge of its principles and principles of application, as his mission is to define the organization's vision, mission and analysis of its environment Internal and external to identify their strengths and weaknesses as well as opportunities and threats in their environment and then formulate the appropriate strategic plan. The latter needs intellectual and analytical skills because it is the stage in which long-term plans are developed.[1] Based on the importance mentioned above, the trend was towards developing managers' capabilities towards a new and sophisticated method, as building the core capabilities of the organization starts from building the knowledge and skill capacities of managers. [15] They are the most prominent and most important tools in the guidance system with their various categories and administrative, functional, and organizational levels. They implement all programs and activities to achieve the goals and objectives set.[7] knowledge of the work, its principles, and steps are the basis for its proper performance.[19] allows the agricultural system to positively impact the target entities by improving the quality of their services—the research aimed at the role of strategic management and modern agricultural technology in developing agriculture in Iraq.

IX. PREVIOUS STUDIES

After reviewing the previous studies that dealt with the issue of strategic management in different countries

Some studies have indicated the necessity to adopt the application and practice of strategic management in business organizations, as it has become one of the most important principles for building successful organizations and emphasizing the need to pay attention to training and qualification in strategic management. On the other hand, some of these studies' results differed on senior management's knowledge of the importance of applying and practicing strategic management. Some studies indicated a modest level of knowledge of the importance and benefits of implementing strategic management. In contrast, other studies indicated that most workers have knowledge and conviction about the importance of

applying and practicing strategic management in their organizations.

It is very useful to summarize these studies on the matter to clarify the most important findings and references that these studies have reached:

- 1- All studies differ in methodology and method in determining the conditions for strategic management, resulting from the great difference between developed and emerging countries.
- 2- Most previous studies agreed that there is a lack of senior management knowledge regarding concepts and methods of strategic management in business organizations, whether agricultural or non-agricultural.
- 3- Emphasizing the weak application and practice of strategic management in agricultural organizations and other sectors.
- 4- Poor implementation of strategic management is one of the most important determinants of the deterioration of these organizations' performance. The leadership [management] style used in these organizations is still traditionally,
- 5- Several obstacles and limitations may affect business enterprises' strategic management in general and the public and private sectors.

Studies are Recommended

The previous necessity to adopt the application and practice of strategic management in business organizations has become one of the most important principles for building successful organizations and emphasizing the need to pay attention to training and qualification in strategic management. On the other hand, some of these studies' results differed on senior management's knowledge of the importance of applying and practicing strategic management. Some studies indicated a modest level of knowledge of the importance and benefits of implementing strategic management. Others indicated that most workers have knowledge and conviction in implementing and practicing strategic management in their organizations.

X. FIELD STUDY

Research Area: A random sample was drawn from all managers of the upper and middle management category and their assistants from those questionnaires, which amounted to 100 employees, and the researcher used the electronic questionnaire as a means to collect data related to the research topic, as the questionnaire is an appropriate tool to collect data, facts and detailed information from the respondents to achieve the research objectives [8] The process of building the knowledge scale in strategic management and its application has passed through five phases, namely:

The First Stage: Preparing the questionnaire in its initial form and light of previous literature and studies related to the topic of research and opinions of experts and specialists in this field, a knowledge questionnaire of strategic management was prepared.

The Second Stage: The questionnaire development stage: Presenting the Axis and paragraphs of the knowledge scale in its initial form to a group of experts and specialists in the fields of the agricultural system and administration, totaling five experts, to determine the degree of their agreement with each of the Axis and paragraphs of the questionnaire in light of a scale consisting of three levels: Agree, Agree With the amendment and disagree.

The Third Stage: The stage of calculating averages for the experts' degrees of approval on the questionnaire's components. Determine the weight [numeric cap] for each statement in the scale of the experts' approval of the Axis and paragraphs of the components of the knowledge scale of strategic management, which were mentioned in the previous phase as follows: Two degrees for the statement of agreement. One score for agree with Modification, Zero for Disagree.

The Fourth Stage: The stage of determining the cut threshold. A cut-off threshold of [80%] was set to verify the questionnaire's validity and its validity for collecting the research data.

The Five-Stage: The stage of checking the validity and reliability of the questionnaire.

The Validity of the Scale: The validity means the tool's validity to measure the goal for which it was set, and this is known as the apparent validity.[3] To verify the apparent validity, the scale was presented in its initial form to a group of experts in the agricultural field to indicate the degree of their agreement with the Axis and paragraphs of the scale. As for the validity of the content, it is the extent to which the components of the scale represent the various objectives and aspects of the subject of research [12], and to verify the validity of the content, the scale was presented in its initial form to a group of experts in the field of administration to indicate the degree of their agreement with the Axis and periods of the scale

Stability of Scale: Stability means that the test gives close results if the selection is repeated more than once under similar conditions. Measuring search variables:

Data Collection: Data were collected from agricultural system managers during the period from 01.08.2020 to 01.02.2021

Processing the Research Data: The researcher used statistical methods in analyzing the data and also used the [SBSS] program, and used seminal ratios, arithmetic averages, weighted average, weight percentile, as well as the Cronbach-Alpha equation in the analysis of the research data.[4]

XI. RESULTS AND DISCUSSION

The research aimed at the role of strategic management and agricultural technology facing the agricultural system in developing field crop cultivation and developing solutions to solve these problems. To achieve the research goal, a plan was prepared consisting of 5 Axis divided into three Axis for the strategic management system: General experience of administrative workers at the upper, middle, and executive levels. Among the experts and researchers are the obstacles facing their application and the solutions to be taken to implement the strategic management?

Two Axis in agricultural technology are the importance of agricultural technology in developing field crops and the obstacles and solutions required in the agricultural system, human and material capacities, programs, the technical field and organization, policies and support, and agriculture. Services, monitoring and evaluation, financial allocations, and measuring the importance of problems and solutions against a scale of five points for each issue and proposed solutions.

Her statements [strongly disagree, disagree, neutral, agree, strongly agree] numeric values ranged between 1-5 degrees. Table 1

Five-Pointed Likert Scale

If the answer is one of five options, it is used as the following table:

Table 1: Five-Pointed Likert Scale

| | Value | Range |
|-------------------|-------|-----------|
| Strongly disagree | 1 | 1.00-1.80 |
| Disagree | 2 | 1.81-2.60 |
| Natural | 3 | 2.61-3.40 |
| Agree | 4 | 3.41-4.20 |
| Strongly agree | 5 | 4.21-5.00 |

Research data was collected from a sample of 100 respondents divided into five job categories: [senior management, middle management, executive departments, researchers, experts] distributed over the research community represented by all agricultural system departments in cultivating field crops. They are [Agricultural Research Department in the Ministry of Agriculture, Agricultural Research Department in the Ministry of Science and Technology, and its research centers and stations, College of Agriculture, University of Baghdad [Department of Field Crops], Seed Examination and Approval Department, Agricultural Extension and Training Department, Plant Protection Department, General Supplies Company Agricultural, Baghdad Agriculture Directorate, Al-Karkh, and Al-Rusafa]. Data were collected using the questionnaire as well as the interviews.

The research results concluded that the problems facing the agricultural system in strategic management, from the respondents' viewpoint, amounted to 20 topics distributed among research fields.

Research AXES

The research was divided into five Axis based on the objectives of the research, and each axis deals with a set of questions (paragraphs) related to the content of the research objective that Axis while asking the questionnaire to the research sample.

1- The First Axis

The following is an analysis of the opinions of the study members about the first axis of the study, which was about determining the level of experience of employees of the agricultural system units in the strategic management of developing field crops cultivation, managing administrative units, and managing their agricultural programs and activities.

On the first Axis, the meanings of their significance ranged between 3.00-4.60 degrees and an average of 3.52 degrees. 55% of the problems ranged from 3.00 - 3.40 with an average score of 3.22 and fell within a neutral to agree to a level according to the five-point significance scale. It is reasonable to conclude that most of the problems from workers in the agricultural system are related to their insufficient knowledge of strategic planning principles and their lack of understanding of what they should be doing lack of practical application at all administrative levels. Also, the agricultural system workers do not have sufficient knowledge to complete the environmental analysis to assess the factors that affect the efficiency of the organizational unit. However, the skill in terms of follow-up and follow-up were crucial factors. The obstacles facing farmers in the agricultural sector are among the biggest administrative challenges. The components of the agricultural system, the weakness of the mechanisms of interaction, coordination, and teamwork, and that 45% of the problems ranged between 3.50 - 4.60 degrees with an average of 4.36 degrees falling within the level of agreement strongly agreed upon, including insufficient ability and skill to implement the strategy of organizational units, low level of functionality and lack of

Qualification of managers in the field of managing organizational units in the agricultural system, lack of interest in developing the capabilities of managers of organizational units in the field of strategic management, and lack of training opportunities for managers of organizations. units at the [upper, middle, and executive levels] to raise their level of knowledge and skills in the field of strategic management and a clear mechanism for developing their expertise

Table 2: Analyzing the opinions of the responses on the paragraphs of Axis 1

| Numeric limits of average importance | Number of paragraphs | Percentage % | The level of importance | Average |
|--------------------------------------|----------------------|--------------|-------------------------|---------|
| 3.00-3.40 | 5 | 55 | Neutral towards agree | 3.22 |
| 3.50-4.60 | 7 | 45 | Agree to agree strongly | 4.36 |

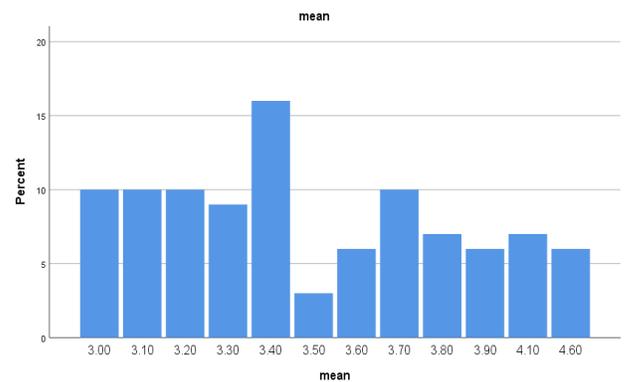


Figure 3: Analyzing the opinions of the responses on the paragraphs of Axis 1

2- The Second Axis

The results of the research sample dealt with the questions of the second axis, which focused on the problems that the agricultural system faces in implementing strategic management in administrative and extension units. The results showed that they ranged between (2.55-4.82), with an average score of (3.68), and that 26% of the problems ranged between (2.55-3.36) with a score of (2.99). foremost of the lack of strategic management and integrated programs to develop strategic field crops and the lack of interest in developing field crop cultivation in the five-year agricultural plans. The development of strategic field crop cultivation is not among the priorities of the strategic management in the Ministry of Agriculture for the coming years. Price policies discourage the development of strategic field crop cultivation by farmers. The lack of an approved strategic plan to multiply the seeds of higher varieties of field crops. the absence of strategic management plans to support the cultivation of strategic field crops. And the obstacles whose implications ranged from 3.45-4.82 and their

percentage was 74%, with an average of 3.70 foremost of which was the lack of policies for agricultural equipment needed for strategic field crops abolishing the previously existing strategic field crops cultivation programs. And the failure to include the field and strategic crops with support similar to the wheat crop with agricultural equipment and the weakness of government support and lending policies for developing strategic field crops cultivation due to their absence from the strategic management plans. The failure to develop strategic management plans to manage the water shortage file and to develop an effective strategy to solve the water problem with neighboring countries

Table 3: Analyzing the opinions of the responses on the paragraphs of Axis2

| Numeric limits of average importance | Number of paragraphs | Percentage % | The level of importance | Average |
|--------------------------------------|----------------------|--------------|-------------------------|---------|
| 2.55-3.36 | 6 | 26 | Neutral | 2.99 |
| 3.45-4.82 | 7 | 74 | Agree to strongly agree | 3.70 |

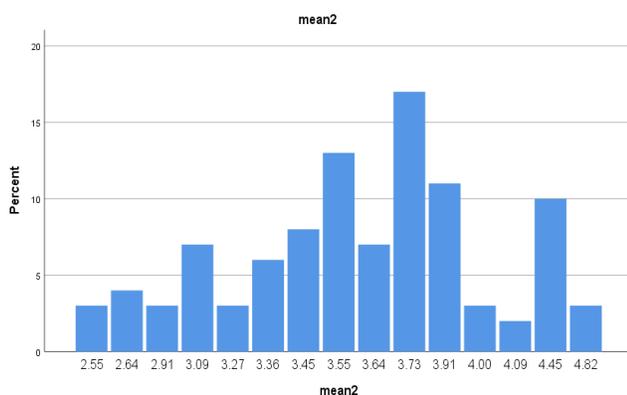


Figure 4: Analyzing the opinions of the responses on the paragraphs of Axis 2

3- The Third Axis

The data showed the most important elements that must be provided in the development and development of workers in the agricultural system in implementing strategic management in the administrative units in the agricultural system amounted to 15 paragraphs. The mean of its significance ranged between 3.00-5.00 with an average of 3.68 scores. And 26% of them ranged in average importance between 3.00-3.40 degrees and an average of 3.19 degrees. Within the neutral and at the forefront of these solutions is the participation of managers in seminars and conferences to improve their knowledge capabilities, develop relationships with experts and

specialists in the field of strategic management, and join teams that adopt a strategic approach to work and are charged with solving strategic problems in developing field crops cultivation and providing opportunities And the necessary facilities to encourage managers to develop their administrative capabilities, especially in the field of strategic management, and to hold training courses to develop the knowledge and skills of managers in the field of strategic management and to urge the higher management, represented by the Ministry of Agriculture, the Ministry of Science and Technology, and the Agricultural Extension and Training Department, Urging and encouraging and managers to think about long-term strategic development proposals And to submit development proposals.

The results also showed that 50% of those agreed upon by the sample members and with a degree of agreement, and their rates are between 3.47-4.00 with an average of 3.23. One of the most important solutions is to follow the brainstorming method for managers in the agricultural system by posing hypothetical problems by senior management and urging them to research. The administration is built on the principle of strategic planning and the rejection of randomness. The necessity of having higher directive ministerial departments is represented by the Agricultural Training Department and developing strategic management plans to develop field crop cultivation.

The results showed that 24%, with an average ranging between 4.33 –5.00 with average averages of 4.73, that one of the solutions that must be followed to develop the capabilities of workers in the agricultural system is to support experts and specialists in the field of strategic management at the Level of the Ministry of Agriculture and its extension departments in the field of field crop cultivation management. Urging the application of the strategic management approach in the organizational unit of the agricultural system and the participation of extension departments at the middle and executive levels in developing the strategic plan and - the need to possess sufficient skills to evaluate and follow up the organizational unit strategy

Table 4: Analyzing the opinions of the responses on the paragraphs of Axis 3

| Numeric limits of average importance | Number of paragraphs | Percentage % | The level of importance | Average |
|--------------------------------------|----------------------|--------------|-------------------------|---------|
| 3.00-3.40 | 6 | 26 | Neutral | 3.19 |
| 3.47-4.00 | 7 | 50 | Agree | 3.23 |
| 4.33-5.00 | 4 | 24 | strongly agree | 4.73 |

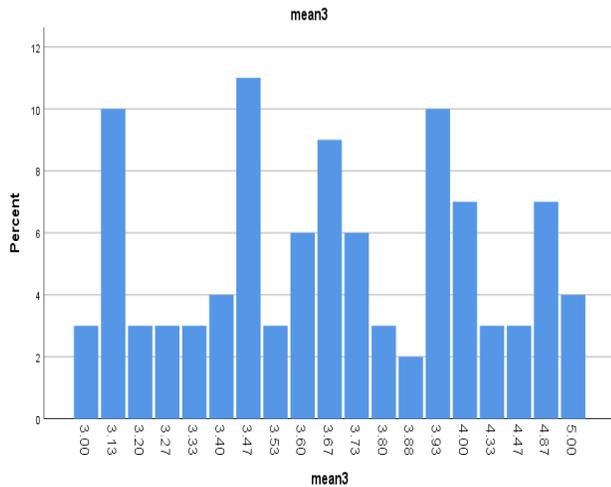


Figure 4: Analyzing Means the Opinions of the Responses on The Paragraphs of Axis 3

4- The Fourth Axis

Dealt with in this Axis the problems facing the agricultural technology and innovation system in developing field cultivation and strategy. The results showed that the problems facing the agricultural system in agricultural technology and their use in developing field crops cultivation from the respondents' viewpoint reached 11 problems, and their average importance ranged between [270-460] degrees with an average of 3.60 degrees. 42% of the problems ranged from 2.70-3.40 degrees, with an average of 3.10. Among the most important problems is the lack of a national program to use modern technology to develop field crop cultivation, whether at the state level or in some regions. Weak interest in developing field crops cultivation in the five-year agricultural plans and developing strategic field crops cultivation is not among the priorities of the Ministry of Agriculture's strategic policy for the coming years, as well as the lack of a general framework for the technology system and agricultural innovations in the field of developing field crops cultivation as there is no formal identification of the institutions of the agricultural technology and innovation system or the integrated institutional network for this system in the field of developing field crops cultivation.

The results showed that 58% of the problems ranged from averages of importance between 2.50-4.60 with an average of 3.91 and they fall within a level that is in agreement to agree strongly and among these problems. Lack of an institutional organization an integrated team. Specializations that deal with the development of field crop cultivation and the weakness of interaction between the system's institutions in exchanging information about developing field agriculture and strategic crops and their solutions. And the lack of coordination between agricultural technology institutions, innovation systems,

and business integration in developing strategic and field crop cultivation. The weakness of the partnership of some institutions in the agricultural technology and innovation system and the lack of financial allocations necessary to develop the cultivation of these field crops within the national development program

Table 5: Analyzing the Opinions of the Responses on The Paragraphs of Axis 4

| Numeric limits of average importance | Number of paragraphs | Percentage % | The level of importance | Average |
|--------------------------------------|----------------------|--------------|-------------------------|---------|
| 2.70-3.40 | 5 | 42 | Neutral | 3.10 |
| 3.50-4.60 | 6 | 58 | Agree | 3.91 |

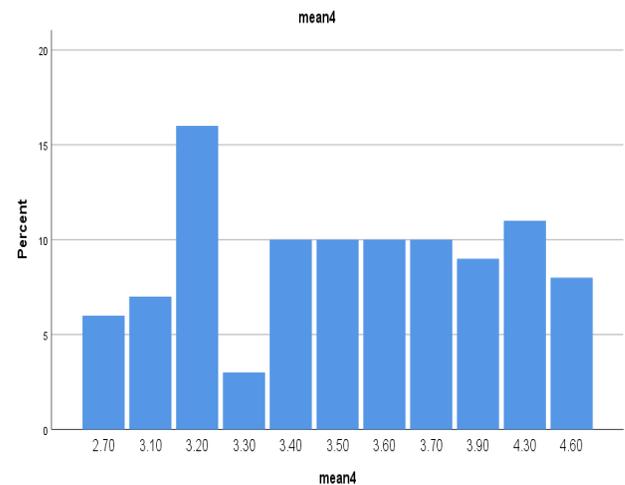


Figure 5: Analyzing Means the Opinions of the Responses on the Paragraphs of Axis 4

5- The Fifth Axis

The field of proposed solutions to address the problems facing the agricultural system in the field of agricultural technology and its role in developing field crops cultivation, the results of the research showed that the proposed solutions to address the obstacles facing the agricultural system in using agricultural technology from the point of view of the respondents reached 15 paragraphs, and they ranged from Its average importance ranges between 3.11– 480 with an average of 3.76 degrees. The results also showed that 20% of the proposed solutions ranged between 3.11-3.39 degrees with an average of 3.10, and the most important of them are:

- 1- Establishing a general framework for the agricultural innovation system at the country level as a guide for policy-makers and decision-makers in the agricultural sector

2- Achieving a broad partnership between the agricultural departments in the agricultural system in modern agricultural technology.

3- Naming the departments, companies, and individuals that make up the agricultural innovation system in the field of developing field crops cultivation

4- Achieving and developing interaction between all actors and stakeholders in developing crop cultivation using modern technology to achieve knowledge and information exchange and achieve learning. This Axis study also showed that 69% of the proposed solutions ranged between 3.44-4.06 degrees with an average of 378. Degree and within it:

1- Achieving and developing coordination between research institutions to achieve optimal use of available resources in the field of agricultural technology

2 - Achievement and development of teamwork to achieve the multidisciplinary integrated team's work and achieve the integration of various activities and events in this regard. a

3- Development of a mechanism [mechanisms of interaction and coordination of collective action] between all parties in the agricultural system or outside, such as the Ministry of Science and Technology and the Ministry of Planning

4- Forming a unit or assigning the Agricultural Research Department or others to achieve interaction, coordination, and teamwork processes.

5- The need to achieve the private sector's participation as an active partner in the system's network and to develop a mechanism for achieving this partnership

6- The increase in the number of researchers and the diversity of their specializations in the field of field crops

7- Sustaining the capacity development of researchers through organizing seminars, workshops, and scientific conferences and interacting with specialized research centers and colleges of agriculture

8- Providing necessary training for researchers from within the country and research programs abroad.

The results also showed that 11% of the proposed solutions ranged from an average of 3.40-3.80 with an average of 430 degrees:

1- Meet the needs of research departments in terms of technical capabilities and develop their capabilities and technical skills

2- Using modern means of communication [internet and mobile networks] as well as other extension method

Table 6: Paragraphs for the Problems Facing the Agricultural Technology and Innovation System

| Numeric limits of average importance | Number of paragraphs | % | The level of importance | Average |
|--------------------------------------|----------------------|----|-------------------------|---------|
| 3.11-3.39 | 4 | 20 | Neutral | 3.24 |
| 3.44-4.06 | 10 | 69 | Agree | 3.78 |
| 4.30-4.80 | 3 | 11 | strongly agree | 4.30 |

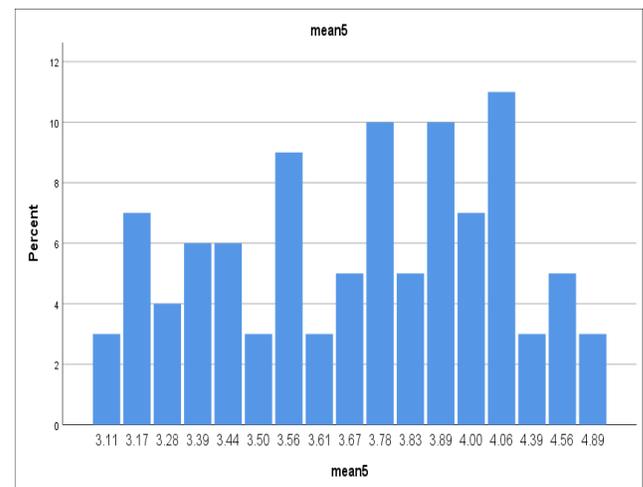


Figure 6: Analyzing Means the Opinions of the Responses on the Paragraphs of the Five-Axis

XII. CONCLUSION

The results of the research showed that the general nature of the knowledge level of the agricultural system managers and the administrative levels in the field of strategic management in general was moderate.

Therefore, agricultural systems managers need to be developed and improved in all areas of strategic management, which will be reflected in their cognitive abilities in strategic management and improving the level of performance of the units that fall under their responsibility.

The study also resulted in a series of recommendations, the most important of which is the need to pay attention to the knowledge of strategic management in all its stages. Because of its direct impact on improving the level of institutional performance in government institutions and the need for institutions to seek the assistance of consultants in analyzing and evaluating environmental variables, investing in the capabilities available in the institution, and ensuring improved institutional performance.

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