



**Impact of strategic information systems  
To achieve the agility of administrative processes  
(An applied study on government institutions in the Emirate  
of Fujairah)**

**أثر نظم المعلومات الإستراتيجية  
على تحقيق رقابة العمليات الإدارية  
(دراسة تطبيقية على المؤسسات الحكومية بإمارة الفجيرة)**

**By**

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To the spirit of (my mother), may God forgive her, to those with whom I will most burden and share my affairs with them (My dear family).

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Sincerely,

Aishah Al Dhanhani

## English Abstract

In light of the current situation in years 2020-2021 for the threat of the COVID-19 pandemic. The government organizations, see the importance of creating policies is to ensure the continuity of their work. The study will discuss the vision of the role played by strategic information systems (SIS) in enhancing the agility of administrative processes in government institutions in the Emirate of Fujairah. The study set three hypothesis to prove the SIS role and effect on the administrative processes according to different dimensions. Quantitative methods is used and the questionnaire tool is used to analyze the data. The results of the study can be summarized to, the study sample is aware of the SIS from its effects and not by its definition. Second result is the high positive relationship of the SIS characteristics to the agility of administrative processes. Third, the level of understanding the terms of SIS and agility in Fujairah government organizations is varies for variable (gender, years of experience, job position and academic qualification). The study finally presents recommendations for the results to improve Fujairah government organization.

**Keywords:** Strategic information systems (SIS), agility, administrative processes, Fujairah government

## Arabic Abstract

في ضوء الوضع الحالي في السنوات 2020-2021 لخطر وباء COVID-19 المنظمات الحكومية ، ونرى أهمية وضع السياسات هو ضمان استمرارية عملها. وستناقش الدراسة رؤية الدور الذي تلعبه نظم المعلومات الاستراتيجية في تعزيز سرعة العمليات الإدارية في المؤسسات الحكومية في إمارة الفجيرة. وضعت الدراسة ثلاث فرضيات لإثبات دور نظم المعلومات الاستراتيجية وتأثيرها على العمليات الإدارية وفقا لأبعاد مختلفة. يتم استخدام الأساليب الكمية وتستخدم أداة الاستبيان لتحليل البيانات. ويمكن تلخيص نتائج الدراسة إلى أن، عينة الدراسة على بيئة من نظم المعلومات الاستراتيجية من آثاره على المؤسسة وليس بحكم تعريفها. والنتيجة الثانية هي العلاقة الإيجابية العالية لخصائص نظام المعلومات الإدارية بمرونة العمليات الإدارية. ثالثا، يختلف مستوى فهم شروط نظام المعلومات الاستراتيجية ورشاقة العمليات الإدارية في مؤسسات حكومة الفجيرة باختلاف المتغير (نوع الجنس وسنوات الخبرة والوظيفة والتأهيل الأكاديمي). وأخيرا تقدم الدراسة توصيات بشأن النتائج لتحسين تنظيم حكومة الفجيرة.

الكلمات الدالة:

نظم المعلومات الاستراتيجية، الرشاقة، العمليات الإدارية، حكومة الفجيرة

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## List of Acronyms and Abbreviations

SIS	-	Strategic information Systems
IS	-	Information Systems
GEM	-	Government Excellence Model
UAE	-	United Arab Emirates
SRS	-	Stratified random sampling
SPSS	-	Statistical Package for the Social Sciences
ANOVA	-	Analysis of variance
IIA	-	Institute of Internal Auditors

## 1. Chapter 1:

### 1.1. Introduction:

Al-Shibawi (2019) believes that the concept of strategic information systems (SIS) is one of the contemporary concepts demonstrated by the historical evolution of information systems (IS) applications in different fields. The concept of SIS has been associated with facilitating the management's mission to carry out strategic planning that enables the organization to achieve its objectives in perception of variables in the internal and external environments. Strategic planning contribute to the creation of real threats and opportunities that contribute to the formulation of its strategic objectives by providing appropriate data and information. (Alshubaily 2017) The strategic information systems have deep consequences for organizations that adopt them; managers could achieve great and sustainable competitive advantages from such systems if carefully considered and developed.

Al-Mansouri (2018) notes that the emergence of SIS was due to data that business organizations are working in the third millennium in an era of complexity, mobility and phenomena. SIS is particularly related to the continuing change in the environment surrounding the organization's work, the change in the provision of services with the required quality and accuracy, and the tremendous advances in the means and systems of technology used such as: smart applications, expert systems and artificial intelligence systems, as well as the scarcity of resources available to organizations.

Al-Taie (2015) believes that the emergence of SIS was due to the widespread awareness of organizations and their depth of awareness of the importance of these systems in their success and superiority. SIS provide leaders and planners with the opportunity to learn about the strengths,

weaknesses and nature of opportunities and threats facing the organization, which affect their continuity in the business environment, based on the validity of the strategic information they create, i.e. SIS have arisen because business organizations need to have a comprehensive information system that includes integrated information about their various activities in mind. Environmental changes surrounding the organization, as it is one of the latest IS applications supporting strategic planning and decision-making.

Yusef (2019) emphasizes that in order for the organization's capabilities to grow, the organization's IS and knowledge must be used effectively and efficiently. SIS requires organizations to manage their knowledge content from a strategic perspective to help database, information and knowledge management systems manage personal experience, lessons learned, and then discover the best applications, resulting in the redesign of processes in order to acquire new knowledge. The new knowledge can be identified through reverse nutrition, and to benefit from knowledge systems in changing behaviors through ability to solve problems and make decisions, generate positive directions of action and always strive for quality and excellence in performance.

## 1.2. The research problem and questions:

In light of the current situation in years 2020-2021 in the countries of the world from taking preventive and precautionary measures to address the threat of the COVID-19 pandemic. The pandemic events have made it necessary for all organizations, especially government ones, to keep up with technological and information developments, and to impose a review of policies and strategies Related to the capabilities of its technological systems. The creation of such policies is to ensure the continuity of their work. However, the vision of the role played by SIS in their dimensions (reliability - efficiency and efficiency - complementary - risk assessment) in enhancing the agility of administrative processes is not clear in government institutions in the Emirate of Fujairah. Therefore,



it was necessary to see the readiness of government institutions in Fujairah in the future to respond quickly to changes and to reveal entrances to anticipate unexpected emergency events, contributing to the achievement of agility in their work and providing their services with the required speed and accuracy, reflecting on quality and excellence in performance. The problem of the study can therefore be identified in answering the following key question: How integrated are the current SIS in government institutions in Fujairah and their role in achieving the agility of administrative processes?

This key question arises from several sub-questions:

1. What is SIS and agility in administrative processes?
2. What is the level of agility of administrative processes in government institutions from the point of view of the study sample?
3. What does the characteristics of SIS (reliability, efficiency, integrative, risk assessment) relate to the agility of administrative processes in government institutions in Fujairah?
4. Do employees of government institutions in Fujairah have a vision of the role of SIS in achieving agility in administrative processes?

### 1.3. The importance of the study (outputs, value and contribution of research):

The importance of the study is that SIS play a major role in activating the organization's operations and guiding them in the right direction and thus achieving their objectives effectively and efficiently. SIS is giving the organization the ability to achieve agility in its implementation of its tasks and actions as quickly and efficiently as required.

The results, value and contributions of the study are:

1. Value and scientific contribution: theoretical rooting of the concept of SIS and identification of their characteristics and dimensions, as well as mechanisms for strategic planning of information systems, and demonstrating their relationship to achieving agility in administrative processes, this study will contribute to bridging the research gap in theoretical

reviews and literature and previous studies that have been subjected to this type of research, as it will clarify the relationship between SIS and the achievement of agility in administrative processes, and the study seeks to achieve the ninth criterion (data management) within the Government Excellence Model (GEM 2.0). The researcher hopes that this study will be a new scientific addition to the administrative library in the UAE.

2. Value and practical contribution: The conclusions and results of the study will contribute to guide the attention of leaders and officials of government institutions in the Emirate of Fujairah to take care of SIS as a supporting tool for achieving agility in administrative processes, and to ensure the sustainability of achieving quality and excellence in institutional performance. Additional benefit from the results of this study in its dissemination to other government institutions in the country, as the SIS shall provide decision makers the possibility of detecting strategic inputs to anticipate unexpected emergency events.

#### 1.4. Study objectives:

The main objective of this study is to identify the role of SIS in achieving the agility of administrative processes from the point of view of employees in government institutions in Fujairah.

This main objective has several sub-objectives:

1. Determining what SIS are meant and agility in administrative processes.
2. Identify the relationship of SIS characteristics (reliability, efficiency, efficiency, integration, risk assessment) to agility in administrative processes in government institutions in Fujairah.
3. To determine the level of agility of administrative processes in government institutions in Fujairah from the point of view of the study sample.

4. To reveal the extent to which employees of government institutions in Fujairah have perceptions of the role of SIS and their role in achieving agility in administrative processes.

### 1.5. Study concepts:

Strategic Information Systems: Al-Shibawi (2019) defines them as computerized systems that bring about fundamental changes in objectives, processes, production and services, as well as in the organization's environmental relationships. IS vary by strategic nature and IS that serve only senior departments and focus on long-term decision-making problems for this management segment only, while SIS cover all levels of management, address deeper topics, and have a broader dimension, as they radically change the organization's processes.

Agility is defined by Al Hawamdeh (2020) as the organization's ability to achieve the desired results it aspires to achieve by developing its services and increasing knowledge of its material and human resources. Agility in turn reflects on the organization's movement and make it flexible in a turbulent and rapidly changing environment. Abdel-Al (2019) defines the agility of management processes as a proactive management strategy intended by the organization to help it meet the demands and needs of customers with the necessary speed and flexibility.

### 1.6. Study strategy and methodology:

This part of the study deals with clarifying the model on which the study will depend according to its independent and dependent variables, to demonstrate its methodology, to identify the community and sample and study, as well as the tools for collecting data and research information, and to design the study tool, as follows:

#### 1.6.1. Study variables:

Depending on the theoretical literature and previous studies that dealt with the subject of the study, a model for the study has been developed that shows its variables (independent and dependent) to

reflect the content of both theoretical and applied study, and the contents of the model can be seen through the following figure:

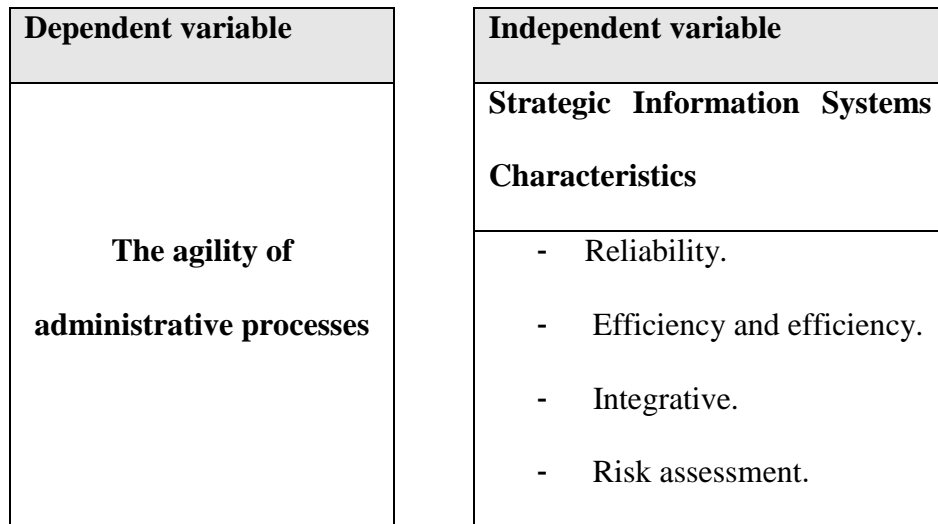


Figure 1: Study Figure

#### 1.6.2. Study hypotheses

Through the study model, the hypotheses can be formulated as follows:

- The first hypothesis: There is a correlation relationship at a level of significance (0.05) between the characteristics of SIS (reliability - effectiveness and efficiency - Integrity - risk assessment) and achieving the agility of administrative processes in government institutions in the Emirate of Fujairah.
- The second hypothesis: There are statistically significant differences at the level of (0.05) in the responses of employees in government institutions in the Emirate of Fujairah towards the level of agility of administrative operations.
- The third hypothesis: There are statistically significant differences at the level of (0.05) in the responses of employees of government institutions in the Emirate of Fujairah towards SIS and their role in achieving the agility of administrative processes due to the following demographic variables (gender, years of experience, job position, academic qualification).

#### 1.6.3. Research methodology

To answer the research questions. The researcher has built a strategy to identify SIS and their role in achieving the agility of administrative processes in government institutions in the Emirate of Fujairah. The methodology used to support the research strategy is the quantitative approach by designing a questionnaire for workers in government institutions in the Emirate of Fujairah and analyzing their data. As this approach provides the practical framework for conducting research with several specific steps for collecting and analyzing data. The method also provides the researcher with practical steps to plan, experiment and evaluate solutions (Creswell, 2018), where the questionnaire will be designed according to the variables of the study and in accordance with the scientific foundations by reviewing the theoretical literature and previous studies related to the subject of the study to its final version for distribution to the target sample.

#### 1.6.4. Research community and sample

The total study population will include all workers in government institutions in the following emirate of Fujairah (Dibba Al Fujairah Municipality) and their number (860) employees of various job levels according to the statistics of the Fujairah Statistics Center for the year 2021. The study sample will consist of (86) male and female employees working in the departments of (Information Technology – Customer Services - Administration), which is 10% of the total community of the study, and they will be chosen by the stratified random method, because this method is trustworthy to obtain information. (Statistical Survey Manual, Statistics Center Abu Dhabi, 2018).

#### 1.6.5. Research data and information collection tools:

Research will rely on preliminary sources, which are field information collected by the study tool (questionnaire) to determine the relationship of the characteristics of SIS (reliability,

effectiveness and efficiency - integrative - risk assessment) to achieve the agility of administrative processes in government institutions in Fujairah, as well as identifying the level of agility of administrative processes from the point of view of the study sample. The questionnaire is one of the most widely used tools of scientific research, and is considered one of the best means of collecting information about the study community. In addition, the research will rely on secondary sources that will be collected from theoretical literature and previous studies related to the subject of research in order to reach innovative recommendations that contribute to strengthening the role of strategic information systems in achieving the agility of administrative processes in the government institutions under study.

#### 1.7. Study boundaries (scope of the study) :

Human boundaries: These limits will be represented by employees in government institutions in the Emirate of Fujairah (Fujairah Municipality - Dibba Al Fujairah Municipality) to identify the level of their awareness of the role of SIS in achieving the agility of administrative processes.

Time limits: This study will be conducted during the commissioning period to prepare this research within the specified period of The British University in Dubai for the year 2021 AD.

Spatial boundaries: The Emirate of Fujairah - United Arab Emirates

#### 1.8. Plan and organization of the study:

Chapter I: General Framework of the Study

Chapter II: Review of Theoretical Literature

- Concept of SIS
- The Importance of SIS in Government Work
- Characteristics of SIS in Government Work
- Mechanisms for Strategic Planning of IS in Government Work

- Concept of Agility and Importance to Government Institutions
- Requirements and Elements of Applying Agility in Government Institutions
- Previous Studies

#### Chapter III: The research strategy and methodology:

This chapter will include the research strategy, methodology, study community, study sample, study tools, statistical methods used in data and information analysis, the mechanism for applying the study tool to the target sample, and the way to ensure its sincerity and stability by statistical means.

#### Chapter IV: The results of the study

This chapter will include a presentation of the processing and analysis of data collected through the questionnaire, in order to reach the results, answer the study's questions, and test the validity of the study's hypotheses.

#### Chapter V: Conclusions and recommendations

This chapter will include discussion of findings and recommendations, in addition to presenting a set of proposals that will undoubtedly contribute to bridging the research gap in scientific studies that are exposed to this type of research. This chapter also contains the most important studies and future scientific research proposed in this aspect by the researcher.

## 2. Chapter 2 : Literature Review

### 2.1. Introduction

The study seeks to identify the role of SIS with their characteristics (reliability- efficiency, efficiency- integrative - risk assessment) in achieving the agility of administrative processes from the point of view of employees government institutions in the Emirate of Fujairah, and standing on the level of agility of administrative processes in government institutions in the Emirate of Fujairah from the

point of view of the study sample. Looking at the study sample, the aim is to reveal the extent to which employees in government institutions in the Emirate of Fujairah possess perceptions about the role of SIS and their role in achieving agility in administrative processes. Accordingly, the problem of the study has been crystallized in answering the following key question: How integrated are the current SIS in government institutions in the Emirate of Fujairah in the United Arab Emirates and their role in achieving the agility of administrative processes?

As (Al-Shaibawi, 2019) believes that SIS have an effective and essential role in supporting various business organizations. In particular, government organizations, for the purpose of achieving competitive advantage and carrying out their core functions effectively and efficiently, in a changing and unstable and challenging environment that has forced them to have a strategic approach to their work in order to achieve their goals.

(Al-Taie, 2015) indicates that planning for SIS contributes to achieving added value, providing information that helps organizations achieve excellence, enhancing their leadership, survive and continue under challenges. SIS play an important role at all stages of strategic management, especially when setting strategic objectives, as they are linked to the results of internal environment analysis and identifying the weaknesses and strengths of the organization, as well as knowing the results of threats and opportunities available to the organization in its external environment. SIS thus supports the development of goals and strategies for the organization.

(Al-Taweel, 2018) stresses that contemporary organizations that strive to achieve sustainability in success depend on their agility and awareness of leadership and excellence in their field of work. As agility is one of the relatively modern management concepts that have emerged strongly in the



specialized theoretical literature over the past few years. Agility also expresses the organization's ability to adapt, flexibility, creativity and see changes or unexpected changes inside and outside the business environment in which the organization operates, and responding to them quickly and effectively.

The leading government entity monitors, analyzes and manages all institutional data related to its functions, programs, operations, activities and services, and ensures its suitability, reliability, quality, availability within the specified time from its internal and external sources (including big data and open data) and works to employ it to support decision-making processes at all levels. The leading government entity enhances its capabilities to build, manage and share outstanding knowledge, experiences and distinguished practices with its partners within the integrated work system to achieve outstanding results and added value (UAE Government Excellence System, 2020).

**Accordingly, this chapter will discuss literature and theoretical reviews and previous studies related to SIS and the agility of processes, as follows:**

## 2.2. The concept of strategic information systems (SIS)

(Al-Mansouri, 2018) indicates that SIS are among the modern concepts dating back to the second half of the twentieth century, and there have been many points of view in the literature of contemporary administrative thought in defining a unified concept of the term SIS as a result of the conceptual interference between it and other types of systems of applications. Contemporary that enables organizations to change the nature of their business to keep pace with the changes of the times, as he defined them as systems to support the competitive strategy of business units. (Al-Shibawi, 2019) believes that the strategic information system is a strategic offensive weapon for the organization, helping it to continue and compete with other organizations, as well as a strategic resource in the face of competition. (Al-Taie, 2015) believes computer-based IS as a tool to implement the organization's

strategy that depends on the use of information, operation and communication of information. This type of strategic information usually exceeds the organization's boundaries to include dealers, consumers, suppliers and competitors. Communication networks are considered the core of the application of SIS. (Al-Taweel, 2018) defines SIS as support systems for the activities of the organization, by providing senior management with sufficient strategic information for the purposes of analysis and computer-based strategic planning processes, and for the organization to achieve this, organization must rely on the outputs of SIS in its decisions. (Abdel-Al, 2019) defined them as information systems that meet the strategic management needs of the information necessary for unstructured decision-making purposes and require special analyzes and capabilities to take them, as they are related to the future of the organization and bear a degree of uncertainty and risk. Therefore information is required mostly from the external environment. In brief, in-depth and comprehensive reports on the organization and its internal activities, enabling it to explore opportunities and analyze the competitiveness of the organization on which the innovation and creativity strategy is based.

Through previous definitions of SIS, it is clear to the researcher:

- SIS are computerized systems that are used at any level of the organization for the purpose of supporting the organization's strategy.
- The goal of SIS is to use information technology by introducing advanced communication tools and networks for the purpose of achieving competitive advantage.
- The SIS help the organization in introducing new behaviors in perpetuating the relationship with customers, consumers, suppliers and competitors.
- IS meet the strategic management needs of the necessary information in order to make unstructured decisions.
- There is a key role for strategic information in setting goals and formulating a strategy for the internal environment to identify strengths and weaknesses, as well as information on the

results of analysis of external environmental factors with the aim of identifying opportunities, risks or threats.

### 2.3. The importance of SIS in government work

Based on the organization's strategic directions, strategic information plays an important role at all stages of strategic management, especially when setting strategic objectives, as it relates to the results of internal environment analysis and identifying the organization's weaknesses and strengths, as well as knowing the consequences of threats and opportunities for the organization in its external environment, and therefore supports the development of the organization's objectives and strategies. (Al-Shibawi, 2019) sees that the strategic role of IS is to improve and develop services through the best use of information technology, which leads to achieving a competitive and entrepreneurial advantage for the organization. (Al-Taie, 2015) believes that the strategic role of information systems imposes on senior management in government organizations the need to take these systems as a competitive weapon for the purpose of obtaining competitive advantages that achieve excellence and leadership in the provision of government services, as they contribute to the achievement of the following:

- Raising the quality of the services carried out by the organization by adopting a strategy of excellence.
- Raising the level of creativity to help bring forward ideas that lead to innovative new ways.
- Building a strategic database on the organization's operations and activities, as well as on customers, suppliers and partners, contributing to the improvement and development of services.

(Al-Taweel, 2018) adds other tasks to strategic information systems, which are represented in the following:

- The SIS provides through its outputs the strategic information necessary for the organization's senior management in making strategic decisions.
- Providing a database through (collection, classification, processing, storage, and reuse of data) to provide the organization with strategic data on vulnerabilities and strengths of the environment, opportunities and threats.
- The information system helps decision makers at various administrative levels.

It is clear from the above that SIS in government work contribute to encouraging innovative investment in information technology and providing new innovative government services, as well as helping to improve the operational efficiency of the government organization, reducing costs radically, improving the quality of services and delivering them to customers in the least possible time.

#### 2.4. Characteristics of strategic information systems in government work

In line with the main objective of strategic information systems represented in providing data and information to the beneficiaries with the required characteristics, (Al-Mansouri, 2018) emphasizes the need to design these systems according to their characteristics, and to ensure the availability of these characteristics, the beneficiaries must participate in the various stages of analysis and design to meet their expected information needs, but identifying these characteristics is not easy, but is one of the most complex problems facing information systems designers in general, and strategic information systems in particular. To that end, (Al-Shaibawi, 2019) sees the necessity to develop a general rule consistent with the goal of the strategic information system in the organization, by linking the characteristics of information to decision-making types, as these characteristics vary depending on the types of decisions, and in any case the appropriateness of the characteristics of the types of decisions and their compatibility with the decision-making model adopted and verified by decision makers. (Al-Tai, 2015) indicates that most of the strategic information is characterized by a

descriptive, non-programmed nature that depends on opinions, experiences and personal observations, as it relies on a set of characteristics to make it useful in supporting the higher management of the organization from making strategic decisions and strategic planning, and this can be summarized. The characteristics are as follows:

- Comprehensiveness: The comprehensiveness of information to cover all aspects of the problem under study.
- Accuracy: The information provided is free from any errors.
- Time: Providing information at the right time when needed and utilized.
- Realism: Represents the reality of work in the organization, to be of benefit in dealing with the problem under study.
- Cost: The cost of information is less than the intended benefit.
- Information systems have a relationship with the aspect to be analyzed of the problem in question.

Other characteristics of SIS according to the opinions of many researchers can be classified as follows through the perspective of government work:

- The type of information: (Al-Taweel, 2018) believes that the type property is one of the most important characteristics of the information as an indicator to measure the effectiveness of the information system, because information is one of the important and critical organizational resources. Thus, the process of controlling and guaranteeing the type of information is a crucial issue for achieving success and excellence in work. Therefore, the type of information should be specified within the framework of a specific content, when it comes to the relevance of the information to the decision, the clarity of the information, its seriousness, the degree of confidentiality, and its form, and we will explain that as follows:

- The relevance of the information to the decision, that is, the information helps the decision-maker in identifying alternatives to the situation or the problem and evaluating the outputs of each alternative proposed, as it is assumed that the SIS provides information relevant to strategic decisions. (Al Shaibawi, 2019)
- The degree of clarity of the information: means the degree of clarity that the information can be easily understood and in a way that enables leaders and officials in the organization to realize its importance, as the information is unclear when its meaning is not ascertained, that is, when it is not possible to classify it appropriately by officials, as well as it is unclear when it becomes possible to interpret it in different ways due to the difficulty of identifying the types of events, situations, or problems to which the strategic information is attributed. (Al-Taie, 2015)
- The recent information: the information is of no value unless it is surprising to the decision makers, and it is assumed that this property will not be compromised in such a way that the information may be neglected, as it will appear inappropriate or not relevant to the current concerns of decision makers. (Al Taweel, 2018)
- Confidentiality of information: The property of the type of information necessitates the achievement of the principle of confidentiality, and the confidentiality of information means securing the flow of information in the channels designated for it, and preventing its leakage outside those channels in a manner that may negatively affect the effectiveness of the information system. As the issue of achieving confidentiality of information is one of the tasks that are very sensitive and disturbing and disturbing. At the same time, the administrations of governmental organizations, given the damages that could be caused to them, especially when information of strategic importance leak. (Al Shaibawi, 2019)

- The form of information: the information should be presented to its beneficiaries in a manner that achieves its objective, to facilitate the decision-maker's mission, where many forms of information are used for the purpose of its use, such as tables, reports, charts. Tables may be the appropriate form for decision makers, while the charts are the form required for other decision makers.
- Appropriateness of information: by this means that the strategic information meets the needs of the decision-maker, and that it fits with the needs and content of the decision, and in order for the information to be appropriate, it must have some characteristics, namely (Abdel-Al, 2019):
  - The appropriate timing: Strategic information is to be available to the decision maker at the right time, not too late for it to lose its value.
  - Predictive value: Strategic information has predictive value that helps the decision maker to predict future business related events.
  - Return value: This means the ability of strategic information to assist decision-makers in correcting previous forecasts.
- Objectivity of the information: This characteristic is intended to characterize strategic information by moving away from personal assessments partly. Rather, reliable evidence must be relied upon, and in order for the information to be objective, it must have some characteristics and it is (Youssef, 2019):
  - - Achievement: There is a high degree of agreement between the independent opinions of the leaders and concerned officials on the results of measuring the attitudes and problems facing the organization or how to disclose those problems using similar methods and reach the same conclusions.

- Impartiality The strategic information should be prepared in an impartial and unbiased manner in its use by one party rather than the others.
- Presentation secretariat: that the information honestly reflects the nature of the problems in the organization.
- The amount of information available: is linked to the quantity and degree of integration of information, as the information and its outputs have a significant impact on the guidance of the decision, and the decision-maker's awareness of the organization's problems is influenced by the amount of information available on these problems, so the organization must have sufficient information without diminishing and without disturbing its necessary details. (Al-Shibawi, 2019)
- Reliability of information: This characteristic indicates the ability to rely confidently on strategic information by the beneficiaries of it, that is, the possibility of reliance on it by the decision-maker.
- The timing of the information: (Al-Taie, 2015) believes that the timing characteristic is one of the basic characteristics of strategic information, and the need to provide it at the right time, which leads to reducing errors, and preparing predictions for the future of the organization correctly, as wrong timing leads to negative results, and the main reasons for this are:
  - Organizational isolation of the strategic information management from the rest of the departments.
  - The length of the cycle of generating or generating strategic information.
  - Weakness of information-benefiting departments.
  - Good strategic information reduces uncertainty and the element of surprise when making the right decisions and predicting the future of the organization.



- Integration of the information system: (Al-Taweel, 2018) believes that the information system management in the organization provides the necessary basis for the integration of information in terms of its preparation, organization, use, and storage. As the information system often contains many applications and programs for individuals who work in various and varied fields within the organization, If the integration element of these IS is not available, they are likely to be inconsistent or compatible with each other, and there is a possibility of repetition and duplication in some programs that can be included in a single program in order to serve many users of the IS. (Al-Shibawi, 2019) emphasizes that database integration is the most important and prominent component of government organizations to ensure the best results when managing emergency and unexpected conditions, and one of the advantages of database and information integration.

It is clear from the foregoing that the characteristic of the type of strategic information helps the decision-maker in identifying alternatives to different processes and administrative problems, or evaluating the outcomes of each alternative, while the feature of the appropriateness of the information contributes to determining the information needs of the decision maker, in a manner that fits with the needs and content of the decision in a timely manner and correct predictions. This leads to reducing errors and preparing predictions for the future of the organization in the correct manner, as wrong timing leads to negative results. As for the objectivity of the information, it makes the information far from personal estimates and reliance on reliable evidence. The strategic information sincerely reflects the nature of the attitudes and problems it expresses.

**2.5. Mechanisms of strategic planning for information systems in government work**  
(Al-Taie, 2015) indicates that planning for strategic information systems is planning that revolves in the mind of the top management of the organization in order to ensure the formation of an emerging

strategy alongside the planned strategies. Proper planning of SIS helps in obtaining the necessary information for various environmental analysis processes, and forming a basis for appropriate decision-making when differentiating in improving institutional performance.

(Al-Mansouri, 2018) believes that the importance of planning for SIS for any organization, especially the governmental ones, is reflected in its being a tool in the hands of the organization's senior management that enables it to face the challenges and developments that arise in its environment and its ability to achieve its goals, in addition to that planning constitutes the basic approach that The senior management of the organization pursues it in its dealings with the distant future, and takes it as a base in making decisions related to institutional performance. (Al-Taweel, 2018), emphasizes the importance of planning the SIS in government organizations by adopting it as a tool to provide information for strategic planning, as well as its role in achieving added value, and its contribution to providing information that helps government organizations achieve creativity and excellence, strengthen their leading and competitive position, survive and continue with contemporary challenges.

Strategic information systems planning objectives are reflected in (Al-Shibawi, 2019):

- Attempting to align investment in information systems with business objectives.
- Utilizing information technology to achieve competitive advantage and leadership.
- Efficient direction and effective management of information systems resources.
- Developing information technology policies and infrastructure.

Strategic information systems planning seeks to achieve the following goals (Abdel-Al, 2019):

- Increased communication and interaction between the organization and the local community, which helps to increase social awareness among community members of the role and importance of the organization.

- Improving government decision-making, leading to the development of the work climate and the creation of an accurate database to facilitate decision-making that is in the interest of society.
- Increased growth and interest in ongoing practices and monitoring of ongoing operations.
- The ability of the governmental organization to adapt to an unstable environment, develop a strategic vision, and priority tasks in the future, review progress and development, and solve problems.
- Putting strategic problems in the priority of senior management's attention, providing a frame of reference for budgets and short-term procedural plans, and developing future goals and plans.

(Al-Ghamdi, 2017) pointed out the importance of planning for strategic information systems and its benefits, represented by:

- Planning SIS is one of the most important administrative functions in the organization. Without planning SIS, you will not be able to practice other management functions such as organization, planning, guidance, oversight and follow-up.
- Planning SIS is an important process for all organizations to identify their different activities and trends, and despite the complex nature of the strategic planning process, the benefits from it outweigh the difficulties resulting from them.
- Planning for SIS is concerned with the changes that occur, especially technological changes in capabilities and strategic tasks.
- Planning for SIS helps in developing a clear concept of the organization, and the possibility of formulating plans and activities that bring the organization closer to its goals.
- Planning for SIS enables managers to face and address the rapidly changing environmental changes in which different organizations operate.

- The benefits of planning SIS are to help make the right decisions that link short-term and long-term objectives.

(Al-Taie, 2015) believes that all administrative levels in government organizations need to plan and develop a strategic plan for strategic information systems, for the following reasons:

- Providing the core capabilities and strategic direction supported by the information systems in the higher departments of the governmental organization.
- Providing the necessary technological tools and information necessary for decision-making by senior and central administrations.
- Empowering customer relations management in the follow-up of services and achieving their happiness.
- Enabling the IS department to meet the officials' expectations about technology and information systems needed in decision-making at the various administrative levels in the organization.

Despite the importance and benefits of planning SIS in developing a clear concept of the organization and formulating plans and activities that bring it closer to achieving its goals, as well as being concerned with technological changes that may affect strategic capabilities and tasks. There are many challenges facing planning for SIS in government organizations, of which are the following (Al-Mansouri, 2018):

- The inability of some departments to set goals and build a clear and specific strategic plan with specific goals and indicators. Therefore, leaders must have complete certainty about the importance of planning for SIS and its necessity in order to possess the ingredients and capabilities to develop and implement the strategic plan.
- Resistance of some individuals in the organization to the methodology of change, as one of the tasks of planning for SIS is to make changes in the work of the organization for the better

and to adopt policies, programs and procedures for that. Some actors in the organization who are entrusted with those policies may work to reject them and stick to their current reality.

- The organization may face the financial resources obstacle that the strategic planner has to consider from the outset because this could lead to the failure of information systems planning efforts.
- The lack of clarity of responsibilities within the organization and the weakness of its organizational structure, as the lack of distribution of responsibilities and powers at different levels, with an organizational structure that meets the needs of the strategic work, is considered the most important obstacles facing the implementation of the strategic plan.
- The preoccupation of the upper administrative levels with the daily routine problems, and the indifference to the strategic problems that advance the organization and its development prevents them from proceeding to develop a strategic information plan that will lead them to progress.

## 2.6. The concept of agility and its importance for government institutions

Business dictionary defines agility as the ability of organizations to remain competitive in their businesses by adapting and adapting to new innovative ideas and using these ideas to create new products and services as well as new business models (Al-Shanti, 2019).

(Al-Shammari, 2018) defines agility as a type of organizational flexibility, which is the ability to undertake unplanned business and new activities that contribute to responding to unexpected shifts in market demands or unique customer demands. (Al-Khashali, 2020) defines agility as the ability to respond to sudden changes and meet the requirements of dealers in various ways and on a wide scale in terms of price, quality, features, quantity and delivery. (Diab, 2017) believes that agility is the ability of the organization to continue to perceive, explore and respond using the appropriate

capabilities for the purposes of exploiting opportunities in the market situation by adopting speed, surprise and competitive success. (Al-Damour, 2017) affirms that agility gives the organization a flexible work environment that enables it to succeed, excel, and achieve leadership, through the enjoyment of work teams with broad powers, and decision-making with a high degree of independence and objectivity. While (Abdul Razzaq, 2018) stresses that agility is described as the process of adapting the strategic direction of the organization and responding to changing environmental conditions, i.e. focusing on practicing change processes, and he believes that the organization becomes agile when it is able to continuously maximize the value of its basic strengths, and the greater the agility is greater The organization's options in developing services have increased what is considered necessary in time and within appropriate limits for customers.

The researcher believes that agility is the hallmark of contemporary organizations in how to perform their work quickly, accurately, effectively and efficiently, and enables them to outperform their competitors in the changing business environment.

Previous studies and literature confirm that agility is one of the essential requirements for the success of organizations and ensuring their survival and growth. The reasons for the organizations' need for agility are due to the importance of organizations' response to change in the work environment. (Al-Hawamdeh, 2020) believes that government organizations need agility, and the increasing administrative and organizational problems within government organizations impose change and development, which in turn requires agility in bringing about it, and it shows that the increasing intensity of competition imposed the need for agility to increase the competitiveness of the organization.

(Salim, 2019) indicates that organizations achieve effectiveness and efficiency at a certain stage, and may outperform others, and to maintain this pioneering distinction, agility should be adopted as an effective way to enter the world of the future. On the contrary, the organization may reach inflexibility and rigidity over time, if the organization is not alert to the changes that surround it, and seizes opportunities that sustain its agility.

(Amr, 2017), believes that an organization that does not maintain agility will over time become a rigid organization that is unable to face challenges and problems, and the following form illustrates the objectives that organizations seek to achieve in order to reach agility:

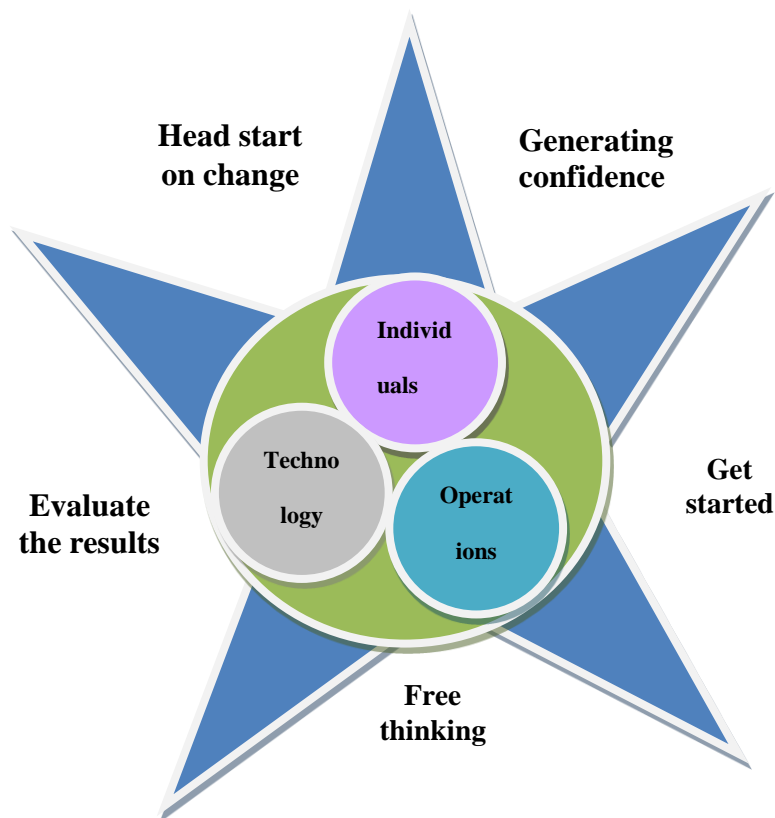


Figure 2: Agility goals for government organizations

It is evident from the above figure that the application of agility requires the government organization to possess a set of organizational capabilities (including technological capabilities or strategic

information systems), as there is an integral relationship between the dimensions or elements of agility, and the organizational capabilities represented by (individuals, technology, operational processes). The state of integration between them through the following table (Amr, 2017):

Table 1: The relationship of integration between organizational capabilities and agility  
(Al Hawamdeh, 2020)

Elements of agility	Organizational capabilities
A head start on change	<ul style="list-style-type: none"> <li>• A good understanding of the forces that cause change</li> <li>• Key measurements to follow the basic business trends</li> <li>• Strong awareness and awareness of the business environment</li> </ul>
Generate confidence	<ul style="list-style-type: none"> <li>• Effectiveness of leadership practices</li> <li>• Compatibility between resources and priorities as tools for achieving competitive advantage</li> <li>• Commitment to building the right team and skills to achieve excellence</li> </ul>
Get started already	<ul style="list-style-type: none"> <li>• An effective system to keep pace with focus and priorities in the business.</li> <li>• Effective capabilities for decision-making at lower levels.</li> <li>• Culture that encourages business bias.</li> </ul>
Thought liberation	<ul style="list-style-type: none"> <li>• The organizational climate encourages creativity.</li> <li>• Processes and services are improved more than expected.</li> <li>• Encourage participation and generate ideas at all levels.</li> </ul>
Evaluate the results	<ul style="list-style-type: none"> <li>• Develop the organization's scorecard in a way that balances key metrics.</li> <li>• Evaluate results by compatible key metrics.</li> <li>• Improve learning and knowledge. Provides results to provide feedback.</li> </ul>

## 2.7. Requirements and elements for implementing agility in government institutions:

There are requirements for the successful application of agility in government institutions, namely (Al-Khashali, 2020):

- **Modern technology:** represents the applied aspects of assistive technologies that need to be used to coordinate activities, processes and procedures in the government institution.



- **Harmony:** that is, coherence and interdependence between workers in the various fields of work.

(Abdul-Razzaq, 2018) identified the main elements to achieve agility, namely:

- Rapid response to unexpected changes.
- High quality products.
- Internal institutional integration and communication effectiveness.
- Exploiting technological capabilities to improve the quality of services.
- Responding to changes in the external work environment.
- The ability to exploit opportunities.
- Speed and flexibility in procedures and operations.

(Salim, 2019) explains that there are (3) requirements for agility that organizations need in order to grow, excel, and continue presenting their business, namely:

1. **Strategic Sensitivity:** Strategic sensitivity refers to the extent of the organization's ability to identify variables and understand them in its work environment. Build a vision for the future, with the ability to exploit it in a way that serves the organization's interest, and distinguishes itself from competitors, as strategic sensitivity depends entirely on advanced tactical planning.
2. **Collective commitment:** it means making decisions by integrating with the entire management team, so that all team members lead to collective success rather than promoting personal business. Agility needs quick decisions, so executives find it difficult to make decisions, because time is not likely to look for alternatives. Here requires quick solutions from all levels of management, and participation in decision-making, so that the organization can achieve its agility.
3. **Liquidity of resources:** The strategic sensitivity and collective commitment remain useless without the liquidity of resources, which means that organizations are able to move their

resources flexibly from one place to another as needed. What is required to achieve this is a diversified portfolio of independent units and a cadre of general managers that can be transferred. To monitor and supervise the progress of work, for permanent and continuous supervision of work and to provide a clear vision of the potential for individual professional development in the professional milieu.

In order to achieve agility, institutions must ask the question: How can agility be achieved? How can an organization be agile? To answer these questions, the theoretical literature has clarified many of the determinants that enable an institution to achieve agility, and these dimensions are (planning, organization, people, technology, creativity, ability to exploit opportunities, flexibility), and below we explain the most important of those dimensions:

- Technology: represents an important element in organizations, as technology has become a strategic resource that depends on it in the face of competition conditions, especially in light of what the world is witnessing today in terms of continuous and rapid changes, as organizations are dealing with a huge amount of information in an attempt to store and apply it for the purpose of easy use, and this is through the use of technology, which has become one of the pillars of the organization, as it uses it in most of its functions and activities. This led to the achievement of many goals, as well as reducing costs and improving the level of service provided to customers. Technology expresses a general framework represented by the technical or knowledge aspect of the organization. The organization must clarify the foundations for adopting technology and making use of it. (Gibson, C. B., 2017)
- Creativity: Creativity has become a distinctive feature in contemporary organizations, as it offers them optimal solutions in a world full of challenges imposed by the new globalization system, intense competition between organizations, and technical change in addition to the information revolution and the elimination of trade barriers, which required the provision of

creative capabilities capable of Facing these accelerating changes, and in this case creativity has become an essential function in modern organizations (Diab, 2017). (Al-Shammari, 2018) believes that creativity and orientation are the ideas and practices presented by managers and employees, which lead to the creation of administrative processes, methods and methods that are more efficient and effective in achieving the goals of the institutions.

- Exploiting opportunities: The strategic analysis of the environment is based on analyzing the internal and external components of the organization's environment, in order to reach the strengths and weaknesses in its internal environment, and to discover opportunities that can be invested and threats that hinder the organization's work in its external environment (Al-Shanti, 2019). External analysis reveals opportunities and threats that affect the organization, which managers adopt in formulating strategies in order to exploit opportunities, reduce the impact of threats and try to avoid them, and the aim of the analysis is the ability to exploit the largest possible number of opportunities and avoid threats (Al-Khashali, 2020). (Birkinshaw & Gibson 2004) believes that the available opportunities are the ability to employ what the external environment and society offers and invest it from all sides in a manner that achieves organizational goals in a way that contributes to the agility of its operations, as agility expresses the institution's ability to adapt, flexibility, creativity and see changes or unexpected changes inside and outside Business environment.
- Flexibility: The flexibility catalyst within the UAE Government Excellence System 2020 (GEM 2.0) enables the government agency to lead the management of change and continuous transformation with high flexibility, and makes renewal and innovation a permanent work method that is managed smoothly without any obstacles that may prevent the government entity's ability to provide Distinctive value, flexibility also ensures that the entity is ready for change and has the ability to adapt its activities and services to the environmental changes

around it. A flexible organization is one that anticipates the surrounding variables and exploits opportunities, reduces the negative effects of challenges and turns them into opportunities for growth and progress. It is also an organization that focuses on learning, improvement and creating a work environment that supports facing risks and overcoming challenges with impressive successes (Government Excellence System Guide GEM2, 2020).

There are many models of agility, the most important of which is the model (1999, SharifiZhang) shown in Figure (3). The first part of agility is related to operating programs that include pressures exerted changes in the business environment in them, and the organization is looking for new strategies to move the work in order to maintain competitive advantage. Part Two on Agility Capabilities. As for the third part, it is related to the factors that help to achieve agility that are as means, methods and tools, and thus capabilities can be achieved. These factors should be considered in four main areas of the environment for any organization, people, technology, innovation and innovation. The model (SharifiZhang, 1999) consists of three main steps (Teece, Peteraf & Leih 2016) which are:

1. Determine the organization agility requirements and the current agility level.
2. Learn about the agility capabilities required for the organization to become agile.
3. Define work procedures and tools that enable the organization to achieve the identified capabilities.

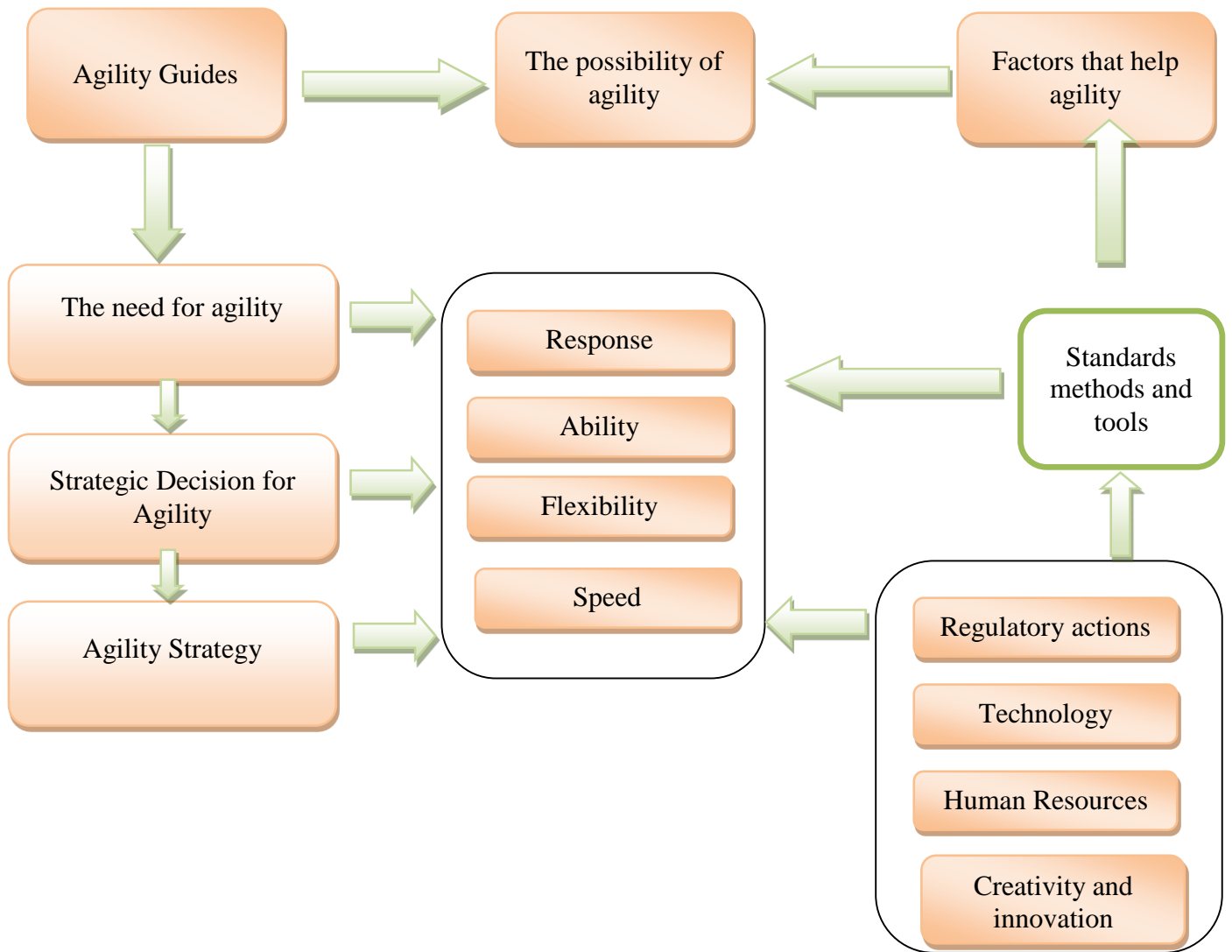


Figure 3: A conceptual model for implementing agility in organizations

It is clear from the foregoing that agility is the key to success for government organizations in a rapidly changing business environment, as it makes the organization able to adapt, lead sudden changes and take advantage of opportunities, and adopt unconventional strategies to face challenges and anticipate rapid developments. In light of the availability of accurate information on the needs and aspirations of customers as well as on the competing environment, forecasting environmental changes, and exploring new and innovative services, which contribute to the development of services efficiency.

## 2.8. Previous studies:

#### 2.8.1. (Al-Hawamdeh, 2020) Study:

This study aimed to identify the impact of the agility of the workforce on the effectiveness of the organization, and in order to achieve this goal a questionnaire was developed and distributed to a sample consisting of (106) from the higher administrative levels in the Arab Potash Company in Amman, and the study used methods The appropriate statistic for the purpose of analyzing the data, and concluded that the level of application of manpower agility in the company under study was of a high degree from the point of view of the study sample. There is a statistically significant effect of the agility of the workforce represented in its dimensions (professional flexibility, personal relationships, enduring work pressures, working new skills and procedures) on the effectiveness of the organization as a whole and its dimensions individually separately (achieving goals, self-development, employing resources, employee satisfaction) The study recommended increasing the empowerment of the company's employees in order to enhance their agility, such as facing unexpected situations, encouraging teamwork and building work teams to contribute to enhancing the agility of the workforce.

#### 2.8.2. (António, Ferreira & Coelho 2019) Study:

The study title is 'The mediating effect of strategic orientation, innovation capabilities and managerial capabilities among exploration and exploitation, competitive advantage and firm's performance'. This study aimed to know the relationship between the innovation capacity of the organization and achieving agility by using the effect of strategic direction as a mediating variable to improve institutional performance. The study relied on the quantitative approach through a questionnaire to collect and analyze data on a sample of (387) workers in (12) Portuguese small and medium companies. The results showed that the strategic orientation as an intermediate variable positively affects the relationship between innovation capabilities and the achievement of agility in the companies researched in the variables (exploitation and exploration). The study has also been shown

that innovative capabilities have an indirect effect on performance and competitiveness through the mediating variable represented in strategic orientation, and agility capabilities help companies to be more competitive and perform better, and it has been shown that strategic orientation exerts a strong and important influence on both ability, competitiveness and performance, while there was a positive correlation between agility and innovation capabilities.

#### 2.8.3. (Abdel-Al, 2019) Study:

This study aimed at identifying the determinants of strategic agility in Egyptian universities, identifying the basic requirements of information technology that contribute to the achievement of strategic agility, and the study found that information technology is an effective role in activating the agility of redesigning administrative processes and achieving competitive advantages in universities and through which the method of competition pursued by the university can be modified and changed and make profound changes to the success of the work. The study recommended the necessity to provide the necessary infrastructure requirements for information technology to activate the strategic agility of the universities under study, and to define the required information technology priorities.

#### 2.8.4. (Al-Shanti, 2019) Study:

The study sought to identify the role of knowledge management processes in improving strategic agility, and to achieve the objectives of the study, the research questionnaire was developed as a main tool to collect data and apply it to a sample of (3167) employees from all workers in NGOs in the Gaza Strip, where the sample method was used. Stratified randomness, and the study found that the level of knowledge management operations practice in general was significantly (69.9%), and the strategic agility rate reached (70.9%). As knowledge management processes have a fundamental impact on strategic agility, the study recommended that the organizations under study should adopt the concept of knowledge management as an entry point to improve their overall performance and

increase their capabilities to adapt to what is happening in their surroundings in terms of changes to increase strategic agility.

#### 2.8.5. (Al-Shammari, 2018) Study:

The study aimed to define the relationship between organizational agility and strategic renewal through the mediating role of organizational intelligence by applying to Cork Telecom Mobile Communications Company in Iraq, and in order to achieve this, the dimensions of organizational agility (responsiveness, capabilities, flexibility, speed) were adopted and one-dimensional organizational intelligence was adopted. The dimensions of the strategic renewal have been defined (content, context, process). The study found that organizational intelligence has an active intermediary role in the relationship between organizational agility and strategic innovation in a competitively raging environment, and recommended that the middle relationship of organizational intelligence be used in the relationship between organizational agility and strategic innovation and use it in developing and implementing the company's strategic objectives.

#### 2.8.6. (Abdul Razzaq, 2018) Study:

This study aimed to identify the extent of the influence of leadership styles in achieving strategic agility and the extent of agility being practiced by leaders, by applying to a group of employees at Al-Mamoun University College in Iraq, whose number reached (100) employees, and the study found a positive correlation between leadership styles and strategic agility, and the presence of a moral effect of leadership styles on strategic agility. The study sample indicated that leadership has a clear vision of its activities and how to face challenges. The study recommended the need to strengthen the relationship between leaders and employees intellectually and financially to achieve strategic agility. Also, to strive for managers to possess leadership skills and urge their development to meet the challenges facing the organization.

#### 2.8.7. (Damour, 2017) Study:



This study aimed to investigate the relationship between strategic agility among academic leaders and organizational excellence in Jordanian universities from the point of view of faculty members, and to achieve the objectives of the study, the relational descriptive approach was used, and the study concluded that the degree of strategic agility practice among leaders in universities came to an average degree for all dimensions ( Clarity of vision and goals, basic and technological capabilities, partnership in responsibility and action, organization and implementation of work, strategic planning). While their degree of organizational excellence was low in all dimensions (excellence of leaders and subordinates, organizational structure, organizational culture). The study recommended the need for university leaders to pay attention to the dimensions of strategic agility for their effective role in achieving organizational excellence.

#### 2.8.8. (Dhiab, 2017) Study:

The study sought to identify organizational agility as a strategic approach in the process of enhancing employee engagement, by conducting an experimental study for a sample of the industrial sector companies in the Ministry of Industry and Minerals, and the study identified the types of organizational agility (sensor agility, decision-making agility, and practice agility. In organizations operating in the industrial sector, and in light of the changing and dynamic work environment, the need for agile organizations that have the role of enhancing employee engagement in employees has arisen. Through the role dimensions, cognitive absorption, emotional absorption, and physical absorption. The study data was collected from 100 employees in 5 companies affiliated with the Ministry of Industry and Minerals, through a questionnaire to measure organizational agility and employee turnover, and the study found that organizational agility directly affects the dimensions of engagement, and enhances the employees' absorption process.

#### 2.8.9. (Amr, 2017) Study:

This study aimed at identifying the relationship between strategic agility in its dimensions (planning, organization, individuals, technology, creativity, ability to exploit opportunities) with the competitive advantage of telecommunications and information companies operating in Palestine. The study reached a range of results, the most important of which is the existence of a positive correlation between strategic agility in its dimensions and achieving competitive advantage. The results showed that strategic agility has a significant positive impact in highlighting the competitive advantage of these companies. The study concluded with a number of recommendations, the most prominent of which was the need for companies to adopt the strategic agility approach to maintain their competitive advantage, and the need to enhance adaptation to external environment variables.

#### 2.8.10. (Žitkienė & Deksnys 2018) Study:

The study which titled ‘Organizational Agility Conceptual Model’ aimed to identify the conceptual framework for organizational agility, as it helps organizations to successfully implement competition rules and reshape better (such as speed, flexibility, innovation, and quality) through means of integration between resources and practices in a rich knowledge environment in order to provide service and products that lead the customer in a fast environment. Change, and organizations must have agility capabilities that help them adapt to that changing environment. The study identified a concept of agility and building a model based on the characteristics and capabilities of organizational agility in the face of variables such as globalization, rapid technological advances, emerging new markets and the constant development of consumer preferences, and recommended that decision makers must respond to internal and external environment engines by taking advantage of enablers and capabilities, so that response is represented by a resulting action or practice, such as the development of a new product or a change in procedures, As adaptation to these environmental changes increases the organization and gives more agility to the organization.

#### 2.8.11. (Wageeh 2016) Study:

The study titled ‘Organizational Agility: The Key to Organizational Success’ aimed to identify the role of organizational agility in its dimensions (sensing, response to changes, competitiveness, agility in making decisions) on enhancing organizational success. This study relied on the descriptive and analytical approach by designing a questionnaire tool that was distributed to a sample consisting of (338) of the employees working in Menoufia University Hospitals in Egypt, and the results of the study found that there is a strong and positive correlation between the dimensions of organizational agility and enhancing organizational success. The study sample agrees that organizational agility affects the success of the organization, and the study recommended strengthening the dimensions of organizational agility because of their clear impact on operating systems and thus achieving organizational success, enhancing the organization's ability and capabilities to respond to changing needs and desires of dealers, and revealing their preferences and interest in the capabilities of the organization.

2.8.12. (Mohammadi, Nikpour & Chamanifard 2015)Study:

The study titled as ‘The Relationship between Organizational Agility and Employee’s Productivity, Case Study: Ministry of Youth Affairs and Sports, Iran’ sought to investigate the relationship between organizational agility and employee productivity in the Ministry of Youth and Sports Affairs, and this study relied on the methodology of a social survey, and the study sample consisted of (261) employees working in the Ministry of Youth and Sports Affairs who were selected by the stratified method, and in order to analyze data Descriptive and inferential statistics were used, and organizational agility and employee productivity questionnaires were to collect the required data. The results indicated that there is a positive and important relationship between organizational agility and its sub-variables such as (responsiveness, efficiency, flexibility and speed) with employee productivity, and the study recommended strengthening the dimensions of organizational agility due to its importance in pushing

employees to creativity, innovation and service development, which contributes to achieving excellence and leadership at work.

## 2.9. Commentary on previous studies

Through the theoretical analysis of previous studies, we find that they did not directly address the subject of the study, but these studies helped to formulate the theoretical framework for the current study, as well as defined the challenges facing the study process in this topic, and it was reached through the theoretical analysis of previous studies and their results and it became clear Information technology has an effective role in activating the agility of redesigning administrative processes. Organizational knowledge management processes have a fundamental impact on strategic agility, and it has been evident that organizational agility has a role in enhancing the relationship between business intelligence and organizational performance. In light of this comment, we find that what distinguishes the subject of the current study is dealing with all the previous aspects by explaining the role of strategic information systems in achieving agility by applying it to one of the vital and necessary bodies in society in the Emirate of Fujairah. They are the service entities (Fujairah Municipality - Dibba Municipality), as there is increasing awareness of the importance of strategic information systems in raising the level of the quality of services provided by the organization by adopting a strategy of excellence and raising the level of creativity in a way that helps to put forward ideas that lead to innovative new methods. In addition the creativity assists to building a strategic database on the organization's operations, activities and services, as well as about dealers, suppliers and strategic partners, which contributes to improving and developing services.

### 3. Chapter 3: Research Methodology

#### 3.1. Introduction

This chapter includes the research strategy and methodology, the study community, the study sample, the study tools and the statistical methods used in analyzing data and information, the mechanism of applying the study tool to the intended sample, and the method of ensuring its validity and reliability by statistical methods.

#### 3.2. Research Strategy and methodology

In order to answer the study questions and test its hypotheses, the researcher devised a strategy for this study based on the quantitative research methodology, and the application of the questionnaire as a tool to collect data and information in order to identify SIS and their role in achieving the agility of administrative processes in government institutions in the Emirate of Fujairah in (Fujairah Municipality – Dibba Municipality). To clarify the methodological procedures of the study, where the methodology and procedures of the study are a key focus through which the applied aspect of the study is accomplished, and through it the data required to conduct the statistical analysis is obtained to reach the results that are interpreted in light of the theoretical literature and previous studies.

#### 3.3. Study community

The total study population will include all workers in government institutions in the following emirate of Fujairah (Fujairah Municipality - Dibba Al Fujairah Municipality) and their number is (860) employees of various job levels according to the statistics of the Fujairah Statistics Center for the year 2021. The study sample will consist of (86) male and female employees working in the departments of (Information Technology – Customer Services - Administration), which is 10% of the total community of the study, and they will be chosen by the simple random method. The community include employees of different levels and titles starting from the level of Administrative / Technical officer, the level of department head and the director of the department who are responsible of

creating knowledge within the organization and apply it as organization's procedures. The reason for choosing these government departments is that they bear the greatest burden in the region to serve the population of Fujairah and providing municipal services them. The load the departments facing required the organization to set and apply SIS in improving the administrative processes of the organization to serve better services. The departments also are entrusted with working to modernize and develop government services in line with international best practices in which the SIS role will proved to achieve the agility of administrative processes and reach the highest level of service to their customers.

Here is a brief of Dibba Municipality:

The municipality of Dibba Fujairah was established on the fourth of March 1981 AD according to the Emiri Decree No. (5) for the year 1981 AD issued by His Highness the Ruler of Fujairah, may God preserve and protect him. His Highness the Ruler on the proper performance of its duties The municipality of Dibba Al Fujairah is considered one of the pioneering development institutions in Dibba City, due to its tasks and responsibilities, as the municipality's tasks are mainly related to urban planning Urban planning, providing advanced infrastructure, supervising residential buildings, upgrading public health and environment services, and organizing economic activities and licenses. Since its establishment, Dibba municipality has gone through multiple phases, during which it has witnessed a growing development in terms of its functional structure, headquarters, financial budgets and specializations. The following figure illustrates the organizational structure of Dibba Municipality:

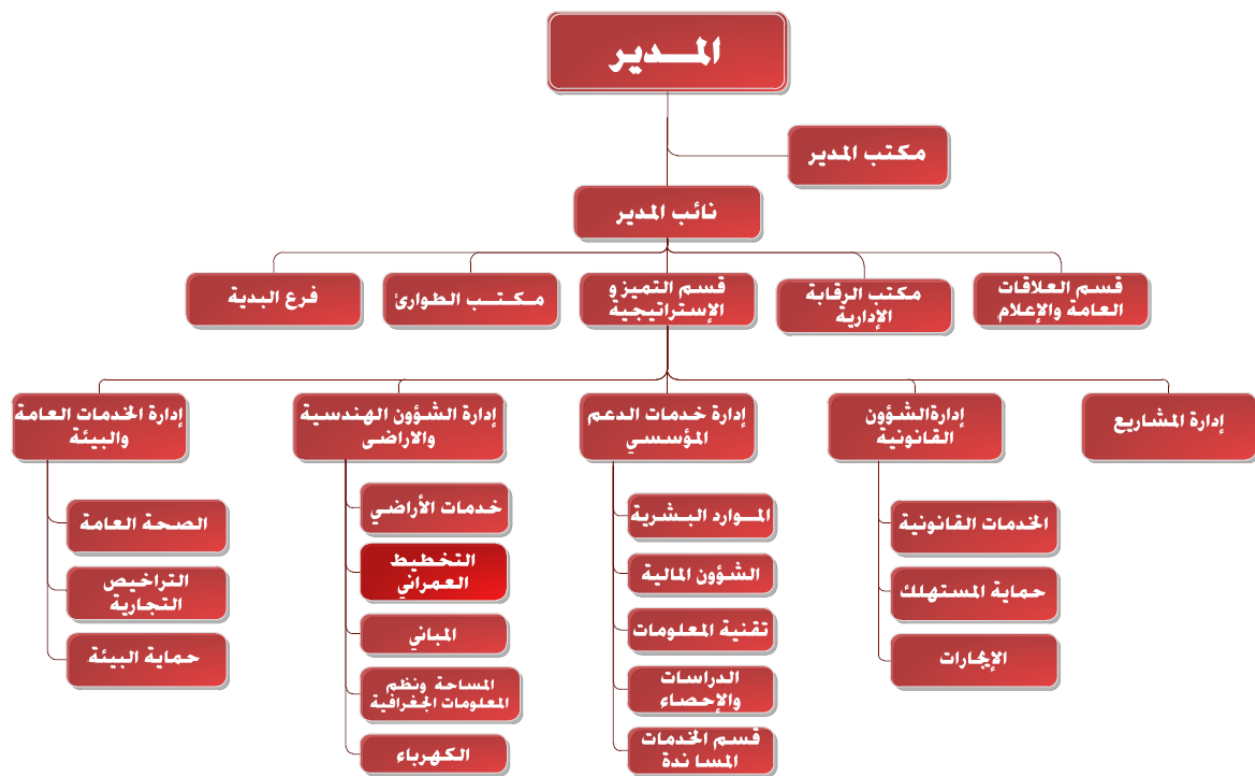


Figure 4: The organizational structure of Dibba Municipality

### 3.4. Study Sample:

The study sample consisted of (86) male and female employees of the local government departments in the Emirate of Fujairah in the United Arab Emirates, that is, 10% of the total study population, which chosen by the stratified random method. As (Nguyen et al. 2020) explained, the Stratified random sampling (SRS) is a widely used sampling technique for approximate query processing. The power of random sampling lies in its generality. For many important classes of queries, an approximate answer whose error is small in a statistical sense can be efficiently obtained through executing the query over an appropriately derived random sample. The SRS technique will target our community randomly to lessen the error percentage as the sample for this study are heterogeneous. The heterogeneous statistical community, some of which have special significance in terms of type, qualification, experience, and rank, and through it, we can obtain an estimate of averages that are not

biased to a class of the study sample, and the use of the stratified sample method enables us to obtain good results effectively and are more accurate. As the participation in the questionnaire was optional, the response rate of the questionnaire was 61 response out of 86 distributed questionnaires which means 70.9% of the study sample. The analysis and results of the study will depend on the responded only as a study sample.

Table No. (2) Shows the distribution of the study sample according to the demographic variables of the study:

Table 2: Distribution of the study sample according to the demographic variables of the study

<b>Variable Type</b>	<b>Levels</b>	<b>Frequency</b>	<b>Percentage</b>
Gender	Male	23	62.3%
	Female	38	37.7%
	Total	61	100%
Job Title	Administrative / Technical officer	41	67.2%
	Department Head	17	27.9%
	Director of the Department	3	4.9%
	Total	61	100%
Academic qualification	Bachelor	49	80.3%
	Master	12	19.7%
	Total	61	100%
Year of Experience	Less than Ten years	31	50.8%
	Ten years or more	30	49.2%
	Total	61	100%

### 3.5. Correction of the study tool and its components

The researcher prepared a questionnaire to reveal the impact of strategic information systems on achieving the agility of administrative processes on government institutions in the Emirate of Fujairah in the United Arab Emirates. The questionnaire was designed according to the Likert scale. (Youn et al. 2017) One of the most popular response scales used in survey design is the Likert scale. In the 1930s, Rensis Likert, an American social psychologist, first introduced a five-point psychometric



scale for measuring a series of attitude related propositions (Likert, 1932). The wording used in the initial Likert scale was: Strongly Approve, Approve, Undecided, Disapprove, and Strongly Disapprove. Over time, the wording changed from Approve to Agree, which resulted in the Likert scale we know today: Strongly Agree and Agree on one side, and Disagree and Strongly Disagree on the other side, with a midpoint in the middle. Axes of the resolution paragraphs were given weights described in the following table in parallel with the levels of impact of SIS on the organization, where the answers are given digital weights representing the degree of answer to the paragraph, as explained in the following table:

Table 3: The degrees of the five Likert scale

<b>Answer</b>	<b>Strongly agree (optimal)</b>	<b>Agree (the master)</b>	<b>Not sure (selected)</b>	<b>Disagree (recurring)</b>	<b>Strongly disagree (principle)</b>
Degree / level	5	4	3	2	1

The study tool (questionnaire) consisted of three parts:

1. The first section is the personal data of the respondents (gender, years of experience, job position, and academic qualification).
2. The second section, which is the characteristics of SIS including four dimensions are:
  - 1.1 Reliability.
  - 1.2 Efficiency and efficiency
  - 1.3 Integrative
  - 1.4 Risk assessment.

The second section include twelve questions to summarize the characteristics of SIS in the Emirate of Fujairah in UAE.

3. The third section, which is about the level of agility of administrative processes in the local government organization in the Emirate of Fujairah in UAE and will include eight questions.

### 3.6. The reliability and stability of the tool

#### 3.6.1. Theoretical validity

The sincerity of the study tool has been verified by presenting it to a number of experienced and competent arbitrators in the field of SIS in the Government of Fujairah in the United Arab Emirates, in order to measure the sincerity of the vocabulary of the questionnaire and its ability to measure the goal for which it was set with the aim of judging the clarity of each of its terms in terms of the accuracy of its language formulation, and the extent to which it relates to the scale under which it falls, and therefore the phrases unanimously adopted were chosen with the consideration of not taking into account not to violate or deviate from the general framework for measuring the impact of the strategic information systems, and the phrases that they proposed to amend, reformulate or delete were amended, and after making the proposed amendments, they were taken out to get its final form. (Appendix A)

#### 3.6.2. Internal consistency

To extract the construct validity indications for the two-scale tool, first: Characteristics of SIS and include twelve questions. Second: the level of agility of administrative processes and include eight questions. The researcher extracted the Cronbach Alpha value on the scale of all variable at once, from an exploratory sample responses from outside the study sample consisting of (30) individuals working in local government departments in the Emirate of Fujairah in UAE. The value is shown in Table 4 below:

Table 4: Reliability Statistics result

Cronbach's Alpha	N of Items
<b>.959</b>	20

As the Cronbach's Alpha value is .959 which is more than .8, we can consider the consistency as above very good. Accordingly, as is a high value in stability, and an indicator of the internal consistency of the scale paragraphs. Therefore, the researcher has adopted all the paragraphs of the scale tool to measure the impact of SIS on the study sample.

### 3.6.3. Study procedures

- 3.6.3.1. Knowledge and reading in previous theoretical studies and literature that dealt with corporate governance and its role in the level of institutional leadership.
- 3.6.3.2. Preparing a tool by referring to the educational literature and previous studies in the field.
- 3.6.3.3. Ensure the validity of the study tool by presenting it to a group of specialists in the field of SIS, in order to express the scientific opinion regarding the measures, dimensions and paragraphs contained in the questionnaire, and work to amend it in light of their observations and directions.
- 3.6.3.4. Obtaining a written permission from the municipality of Dibba, Government of Fujairah, to apply the study to the selected sample in the local government departments (Appendix B).
- 3.6.3.5. Applying the study tool to the study sample through the researcher submitting the questionnaire to the study sample by sending it and sharing it via the official e-mail to the employees and receiving it online.
- 3.6.3.6. Dumping the obtained data, processing it statistically, and extracting its results through the Statistical Package for the Social Sciences program (SPSS).

### 3.6.4. Study Variables:

- 3.6.4.1. Independent variables:

3.6.4.1.1. Gender: Have two levels (Male, Female)

3.6.4.1.2. Years of experience: Have two levels (less than ten years, ten or more years)

3.6.4.1.3. Job Position: Have three levels: (Administrative / Technical officer, Head of a department, Director of a department)

3.6.4.1.4. Academic qualification: Have two levels (Bachelor and Master)

3.6.4.2. Dependent variables: The agility of administrative processes

### 3.7. Statistical data processing

The researcher used the appropriate statistical, descriptive and analytical treatments in extracting the results for each question and hypothesis from the study questions and hypotheses using the (SPSS) program, as follows:

Alpha Cronbach correlation coefficient were used. To ensure the validity and reliability of the study tool, as it is one of the most important and most widely used measures in measuring (tendencies, desires and ideas), and it is used in questionnaires, and it depends on responses that indicate the degree of approval or objection to the paragraphs of the questionnaire.

- ANOVA was used to prove the first hypothesis and study the effect of only one dimension of geographic information systems, which is (reliability - effectiveness and efficiency - Integrity - risk assessment) and its effect, any of them, on the dependent variable (The agility of administrative processes).
- Multiple Linear Regression analysis was used. To prove the validity of the second hypothesis, as this analysis is used to improve the results of the research by optimizing the use of data in finding causal relationships between the phenomena of the subject of research, and it is a mathematical equation that expresses the relationship between the two variables, i.e.

knowledge of the causal relationship between the understanding of employees in government institutions in the Emirate of Fujairah of the level of agility of administrative operations.

- T-Test used to prove the validity of the third hypothesis, where the T-Test is used to test the differences between the averages of the research sample (gender, years of experience, job position, and academic qualification) and access to statistical function differences to identify the best method from the other.

### 3.8. Study tools

#### 3.8.1. Google forms

Google forms is the tool used to create and share the questionnaire to the participants.

#### 3.8.2. SPSS

SPSS is the program used to statistically analyze the data and check its reliability.

## 4. Chapter 4: Study results

### 4.1. Introduction

This chapter includes a presentation of the treatment and analysis of the data collected through the study tool (questionnaire) in order to arrive at results and to ensure the validity of the hypotheses as this study aimed to know the impact of strategic information systems on the agility of administrative processes in the local government in the Emirate of Fujairah, and the following is a presentation of the results of the study arranged according to the sequence of its questions and hypotheses.

### 4.2. Research results

#### 4.2.1. Results related to the first, second and fourth Questions:

The first question was: What is SIS and agility in administrative processes?

The second question was: What is the level of agility of administrative processes in government institutions from the point of view of the study sample?

The fourth question was: Do employees of government institutions in Fujairah have a vision of the role of SIS in achieving agility in administrative processes?

To answer the three questions, arithmetic averages and standard deviations were extracted for the estimates of the study sample about the level of knowledge of the meaning of strategic information systems and the level of agility in administrative processes in local government departments in the Emirate of Fujairah in UAE from the point of view of its employees according to the dimensions of the scale of the level of the meaning of strategic information systems and to clarify the results of the answer to this question, the researcher adopted the following judgment criterion according to standards of the Institute of Internal Auditors (IIA):

Table 5: judgment criterion according to standards of the Institute of Internal Auditors (IIA)

Mean	Degree Level	Level of agility in administrative process
From 1 to 1.79	Very Low	First (initial)
From 1.80 to 2.59	Low	Second (iterative)
From 2.60 to 3.39	Average	Third (determinant)
From 3.40 to 4.19	High	Fourth (mastered)
From 4.20 to 5	Very High	Fifth (optimal)

The following table will present the results:

Table 6: Calculation averages and standard deviations of the study sample estimates on level of agility of administrative processes in government departments in the Emirate of Fujairah, ranked downward by calculation averages

Rank	Q Number	Paragraphs\ Questions	Mean	Standard Deviation	Degree Level
1.	14	The Organization is keen to constantly amend the processes and procedures related to providing services to customers	4.2	0.77	Very High

2.	17	The Organization has the ability to provide its services to customers via electronic platforms and various smart applications	4.2	0.73	Very High
3.	19	The Organization seeks to develop its information systems that contribute to improving the quality of the services it provides	4	0.58	High
4.	20	The organization uses the analysis of its environment to explore opportunities to develop new services	4	0.77	High
5.	15	The organization reviews all processes related to the performance of work during crises and emergencies to adapt to it	3.95	0.9	High
6.	16	The organization is constantly re-engineering its processes and procedures in line with the changes in the surrounding environment	3.93	0.85	High
7.	18	The organization reviews its business environment to identify the potential impact of changes on customer behavior and aspirations	3.8	0.7	High
8.	13	There is a clear working guide for all the operations that the organization undertakes	3.54	0.96	High
Total of the level of agility of administrative processes			<b>3.95</b>	<b>0.78</b>	<b>High</b>

Table (6) shows the general arithmetic mean and general standard deviation of the study sample estimates about the level of agility in administrative operations in the local government departments in the Emirate of Fujairah in the United Arab Emirates from the point of view of their employees according to the paragraphs of the scale of agility level in administrative operations, as the general average of the scale reached ( 3.95) with a general standard deviation (0.78), and with a high degree of appreciation. The first and second ranking is for the paragraphs (14 and 17). As the paragraph number (14) which states that The Organization is keen to constantly amend the processes and procedures related to providing services to customer and paragraph number (17) stating that The Organization has the ability to provide its services to customers via electronic platforms and various smart applications are having the highest ranking with the highest mean reached (4.2). Then followed by the third and fourth ranking paragraphs (19 and 20) in which the paragraph (19) that states that the Organization seeks to develop its information systems that contribute to improving the quality of the services it provides and its mean is (4). The paragraph (20) that states that the organization uses

the analysis of its environment to explore opportunities to develop new services also got mean (4). In last ranking, which had the least mean (3.54) is for the paragraph number (13) which states that there is a clear working guide for all the operations that the organization undertakes.

The researcher attributes this result to the fact that local government departments in the Emirate of Fujairah seek to achieve agility in administrative processes. The organization and employees are having high knowledge of the SIS and its role in controlling positive administrative process.

#### 4.2.2. Results related to the third question of the study:

The third question is: What does the characteristics of SIS (reliability, efficiency, integrative, risk assessment) relate to the agility of administrative processes in government institutions in Fujairah?

To answer the question, arithmetic averages and standard deviations were extracted for the estimates of the study sample about how the characteristics of SIS (reliability, efficiency, integrative, risk assessment) relate to the agility of administrative processes in government institutions in Fujairah in local government departments in the Emirate of Fujairah in UAE from the point of view of its employees according to the dimensions of the scale of the level of the meaning of strategic information systems and to clarify the results of the answer to this question, the researcher adopted the following judgment criterion (IIA) shown in table 5.

The following table will present the results:

Table 7: The arithmetic means and standard deviations of sample estimates on scale dimensions of the characteristics of SIS (reliability, efficiency, integrative, risk assessment) and relate to the agility of administrative processes in government departments in the Emirate of Fujairah, ranked downward by calculation averages



Rank	Number	Dimensions	Mean	Standard Deviation	Degree Level
1	1	Reliability dimension	4.18	0.74	High
2	2	Effectiveness and efficiency dimension	4.1	0.83	High
3	4	Risk assessment dimension	4	0.78	High
4	3	Integrative dimension	3.75	0.84	High
Total of the characteristics of SIS and relation to the agility of administrative processes			<b>4</b>	<b>0.79</b>	<b>High</b>

Table 6 shows The arithmetic means and standard deviations of sample estimates on scale dimensions of the characteristics of SIS (reliability, efficiency, integrative, risk assessment) and relate to the agility of administrative processes from the point of view of employees of the government departments in the Emirate of Fujairah. As we can see, the reliability dimension is ranked first with the highest mean equals (4.18). Then, ranked second the effectiveness and efficiency dimension with a high ranking and a mean equal (4.1). Third, the risk assessment dimension with a mean of (4). In last ranking is the Integrative dimension which mean equals to (3.75) and a standard deviation equal to (0.84). Finally, the total mean of the characteristics of SIS and relation to the agility of administrative processes is equals (4) and a standard deviation equals (0.79).

The following are the results of the study according to the scale dimensions:

#### 4.2.2.1. Reliability dimension

Table 8: The arithmetic means and standard deviations for the paragraphs of the reliability dimension, arranged in descending order by the arithmetic means

Rank	Q Number	Paragraphs\ Questions	Mean	Standard Deviation	Degree Level
1.	3	There are procedures in the organization that determine the individuals allowed to deal	4.37	0.73	Very High

		with information systems according to the permissions granted to them			
2.	1	The organization has clear procedures and policies to protect information systems and update them periodically	4.09	0.78	High
3.	2	The organization determines the procedures to be followed to deal with any breach of its information system	4.08	0.71	High
Total			<b>4.18</b>	<b>0.74</b>	<b>High</b>

Table (8) shows the general arithmetic mean and the general standard deviation for the paragraphs of the reliability dimension, as the overall average for the dimension was (4.18), with a general standard deviation (0.78), and with a high degree of appreciation. The paragraph (3) which states there are procedures in the organization that determine the individuals allowed to deal with information systems according to the permissions granted to them is ranked first with the highest mean (4.37). The second and third ranking accordingly for the first and second paragraph stated in table 8 which got convergent means that is (4.09) and (4.08).

#### 4.2.2.2. Effectiveness and efficiency dimension

Table 9: The arithmetic means and standard deviations for the paragraphs of the Effectiveness and efficiency dimension, arranged in descending order by the arithmetic means

Rank	Q Number	Paragraphs\ Questions	Mean	Standard Deviation	Degree Level
1.	6	Innovative services contribute to reducing the effort of customers to obtain the service	4.19	0.89	High
2.	4	Strategic information systems contribute to implementing innovative services	4.06	0.81	High
3.	5	Strategic information systems contribute to the speed of converting new service ideas into new services	4.06	0.81	High
Total			<b>4.1</b>	<b>0.83</b>	<b>High</b>

Table 9 the general arithmetic mean and the general standard deviation for the paragraphs of the effectiveness and efficiency dimension, as the overall average for the dimension was (4.1), with a general standard deviation (0.83), and with a high degree of appreciation. The paragraph (6) which states Innovative services contribute to reducing the effort of customers to obtain the service is ranked first with the highest mean (4.19). The second and third ranking accordingly for the fourth and fifth paragraphs stated in table 9 which got similar means that is (4.06).

#### 4.2.2.3. Integrative dimension

Table 10: The arithmetic means and standard deviations for the paragraphs of the integrative dimension, arranged in descending order by the arithmetic means

Rank	Q Number	Paragraphs\ Questions	Mean	Standard Deviation	Degree Level
1.	9	Information systems provide feedback to ensure that decisions taken to improve the quality of services are reviewed	3.85	0.81	High
2.	8	The organization has information systems that have the ability to respond in a systematic and organized manner to changes and emergencies	3.7	0.9	High
3.	7	The enterprise has integrated information systems	3.7	0.81	High
Total			<b>3.75</b>	<b>0.84</b>	<b>High</b>

Table 10 shows the general arithmetic mean and the general standard deviation for the paragraphs of the integrative dimension, as the overall average for the dimension was (3.75), with a general standard deviation (0.84), and with a high degree of appreciation. The paragraph (9) which states that information systems provide feedback to ensure that decisions taken to improve the quality of services are reviewed is ranked first with the highest mean (3.85). The second and third ranking accordingly for the eighth and seventh paragraphs stated in table 9 which got similar means that is (3.75).

#### 4.2.2.4. Risk assessment dimension

Table 11: The arithmetic means and standard deviations for the paragraphs of the risk assessment dimension, arranged in descending order by the arithmetic means

Rank	Q Number	Paragraphs\ Questions	Mean	Standard Deviation	Degree Level
1.	12	The information systems risk assessment process contributes to identifying the strengths, weaknesses and opportunities for improvement in information systems	4.2	0.75	High
2.	11	The Organization seeks to establish controls to ensure the operating safety of electronic data and information systems	4.1	0.7	High
3.	10	The organization has a clear plan for assessing and dealing with the risks of information systems	3.7	0.89	High
Total			<b>4</b>	<b>0.78</b>	<b>High</b>

Table 11 shows the general arithmetic mean and the general standard deviation for the paragraphs of the risk assessment dimension, as the overall average for the dimension was (4), with a general standard deviation (0.78), and with a high degree of appreciation. The paragraph (12) which states the information systems risk assessment process contributes to identifying the strengths, weaknesses and opportunities for improvement in information systems is ranked first with the highest mean (4.2). The second ranking for the paragraph (11) stated in table (11) with a mean equal (4.1) while the last ranking is for the paragraph (10) stated in table 11 with the least mean equal (3.7)

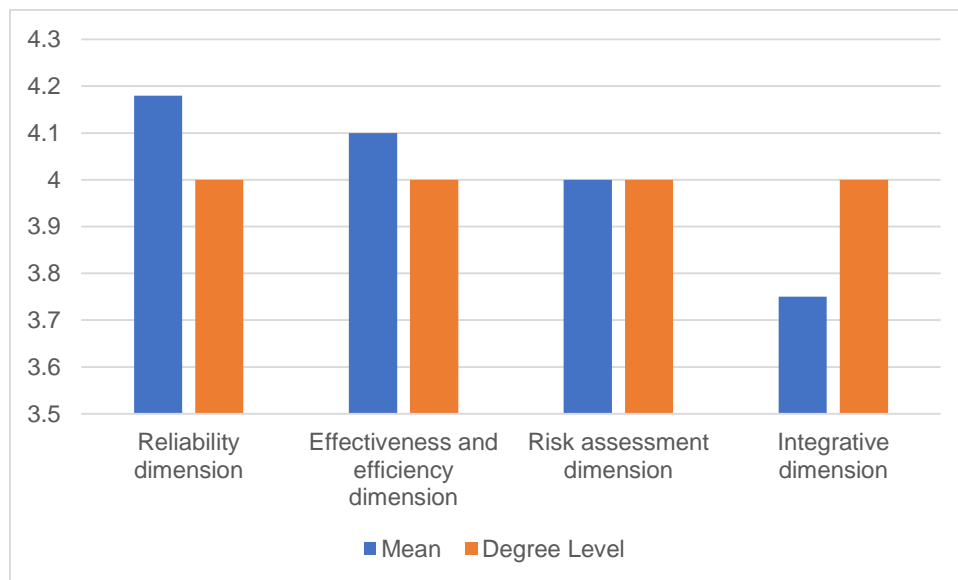
Through the previous results, it is possible to summarize the estimates of the study sample individuals on each of the criteria for measuring the level of the impact of SIS on the agility of administrative processes from the point of view of the study members in the local government departments in the

Emirate of Fujairah, and we set the degree levels to values as shown in table 12 and accordingly the results shows the figure 5:

Table 12: Degree levels conversation to values

Degree Level	Value
<b>Very high</b>	5
<b>High</b>	4
<b>Average</b>	3
<b>Low</b>	2
<b>Very low</b>	1

Figure 5: Arithmetic averages of the estimates of the study sample on each of the criteria for measuring the characteristics of SIS and relation to the agility of administrative processes from the point of view of the study members in government departments in the Emirate of Fujairah



As shown in table 7 and figure 5 that presents its data, we can see that the view of the study sample on the SIS characteristics relation in Fujairah organization had a really high ranking based on Likert scale (table 3) and this means that the SIS characteristics is having a high impact on the agility of the administrative process. The organization is working based on set plans and depend clear procedures to reach ideal services for its customers and best practice for their employees. The results prove the high positive relationship of the SIS characteristics to the agility of administrative processes in government institutions in Fujairah in which answers the third question of the study.

#### 4.2.3. Results related to first hypothesis which states:

There is a correlation relationship at a level of significance (0.05) between the characteristics of SIS (reliability - effectiveness and efficiency - Integrity - risk assessment) and achieving the agility of administrative processes in government institutions in the Emirate of Fujairah

To test the hypothesis, multiple regression analysis was used as shown in below table 13:

#### 4.2.4. Results related to second hypothesis which states:

There are statistically significant differences at the level of (0.05) in the responses of employees in government institutions in the Emirate of Fujairah towards the level of agility of administrative operations.

The community of the study is (860) which the current population of Fujairah organization's employees. The questionnaire is distributed to a study sample of (86) which is 10% of the actual community and answered by 61 which means that the response rate is 70.9%. By calculating the P-value from previous results, we can see that the value of  $p$  is  $< .00001$  and the result is significant at  $p < .05$ .

#### 4.2.5. Results related to third hypothesis which states

There are statistically significant differences at the level of (0.05) in: the responses of employees of government institutions in the Emirate of Fujairah towards SIS and their role in achieving the agility of administrative processes due to the following demographic variables (gender, years of experience, job position, and academic qualification).

To test this hypothesis, the data were analyzed to extract the arithmetic means and standard deviations of the respondents' response to the SIS and their role in achieving the agility of administrative

processes in the local government departments in the Emirate of Fujairah in UAE, and compared these averages using the T-Test and the analysis of unilateral variance (ANOVA). ); To verify the significance of the differences attributed to the following demographic variables (gender, years of experience, job position, and academic qualification), as follows:

#### 4.2.5.1. The variable “Gender”:

The arithmetic means and standard deviations were extracted, and a (T-Test) test for the independent sample to find out the effect of the sex variable (male, female), and the following table shows that:

Table 13: T-Test for the effect of a variable gender on achieving the agility of administrative processes in the local government departments in Fujairah

Dimension	Sex	N	Mean	Std. Deviation	Std. Error Mean	t	Sig. (2-tailed)
<b>Reliability</b>	Male	23	4.3043	.48109	.10031	1.179	0.243
	Female	38	4.1140	.67684	.10980		
<b>Effectiveness and efficiency</b>	Male	23	4.0580	.60010	.12513		
	Female	38	4.1404	.80027	.12982	-0.426	0.672
<b>Integrative</b>	Male	23	3.7971	.72988	.15219	0.176	0.861
	Female	38	3.7632	.73074	.11854		
<b>Risk Assessment</b>	Male	23	4.0870	.69061	.14400	0.540	0.591
	Female	38	3.9912	.65982	.10704		

We can see from table 13 showing effect of a variable gender on achieving the agility of administrative processes in the local government departments in Fujairah that the male gender variable is having more effect than the female gender according to the (t) value except for the second dimension (Effectiveness and efficiency) where the females having more effect.

#### 4.2.5.2. The variable “Years of experience”:

The arithmetic means and standard deviations were extracted to find out the effect of the years of experience variable (less than ten years, ten years or more), and the following table shows that:

Table 14: T-test, mean and standard deviation for the effect of a variable years of experience on achieving the agility of administrative processes in the local government departments in Fujairah

Dimension	Years of experience	N	Mean	Std. Deviation	Std. Error Mean	t	Sig. (2-tailed)
<b>Reliability</b>	Less than ten	31	4.2258	.66325	.11912	0.51	0.6
	Ten and more	30	4.1444	.56517	.10318		
<b>Effectiveness and efficiency</b>	Less than ten	31	3.9247	.67610	.12143		
	Ten or more	30	4.3000	.73942	.13500	-2.07	.043
<b>Integrative</b>	Less than ten	31	3.7849	.71258	.12798	0.098	.92
	Ten or more	30	3.7667	.74869	.13669		
<b>Risk Assessment</b>	Less than ten	31	4.0323	.67415	.12108	.05	0.95
	Ten and more	30	4.0222	.67201	.12269		

Table 14 shows that there is converging representation of the arithmetic averages and standard deviations of the study sample estimates about the effect of a variable years of experience on achieving the agility of administrative processes in the local government departments in Fujairah. We can see, the effect of a variable years of experience on achieving the agility of administrative processes in the local government departments in Fujairah that the “less than ten years” variable is having more effect than the “ten or more” experience years according to the (t) value except for the second dimension (Effectiveness and efficiency) where the ‘ten or more’ having more effect. To confirm the significance of the statistical differences between the arithmetic averages, one-way analysis of variance (ANOVA) was used, and the following table illustrates that:

Table 15: One way ANOVA for the effect of a variable experience on achieving the agility of administrative processes in the local government departments in Fujairah

		Sum of Squares	df	Mean Square	F	Sig.
<b>Reliability</b>	Between Groups	.101	1	.101	.265	.609
	Within Groups	22.460	59	.381		
	Total	22.561	60			
<b>Effectiveness and efficiency</b>	Between Groups	2.147	1	2.147	4.284	.043
	Within Groups	29.569	59	.501		
	Total	31.716	60			
<b>Integrative</b>	Between Groups	.005	1	.005	.010	.923
	Within Groups	31.489	59	.534		
	Total	31.494	60			
<b>Risk Assessment</b>	Between Groups	.002	1	.002	.003	.954
	Within Groups	26.731	59	.453		
	Total	26.732	60			



It is noted from Table (15) that there are statistically significant differences at the level of significance ( $\alpha$  0.05) in the estimates of the study sample on the impact of variable years of experience on achieving the agility of administrative processes in the local government departments in Fujairah due to years of experience in dimension Effectiveness and efficiency only.

#### 4.2.5.3. The variable “Job position”:

The arithmetic means and standard deviations were extracted to find out the effect of the job position variable (administrative / technical officer, department head, director of the department), and the following table shows that:

Table 16: Mean and standard deviation for the effect of a variable job position on achieving the agility of administrative processes in the local government departments in Fujairah

Job Position		Reliability	Effectiveness and efficiency	Integrative	Risk Assessment
Administrative / Technical officer	Mean	4.1138	3.9919	3.7154	3.9593
	N	41	41	41	41
	Std. Deviation	.69765	.75457	.82516	.73860
Department Head	Mean	4.2941	4.3137	3.8824	4.1373
	N	17	17	17	17
	Std. Deviation	.33087	.63978	.37158	.45733
Director of the Department	Mean	4.5556	4.5556	4.0000	4.3333
	N	3	3	3	3
	Std. Deviation	.50918	.50918	.88192	.66667
Total	Mean	4.1858	4.1093	3.7760	4.0273
	N	61	61	61	61
	Std. Deviation	.61320	.72705	.72450	.66749

Table 16 shows us that the effect of the job position is similar for all dimension as the mean difference is not more than 0.5.

#### 4.2.5.4. The variable “Academic qualification”:

The arithmetic means and standard deviations were extracted to find out the effect of the academic variable (bachelor, master), and the following table shows that:

Table 17: T-test, mean and standard deviation for the effect of a variable experience on achieving the agility of administrative processes in the local government departments in Fujairah

	Academic qualification	N	Mean	Std. Deviation	t	Sig. (2-tailed)
Reliability	Bachelor	49	4.2653	.54424	2.1	0.04
	Master	12	3.8611	.78442		
Effectiveness and efficiency	Bachelor	49	4.0884	.65890	-0.45	0.65
	Master	12	4.1944	.98942		
Integrative	Bachelor	49	3.8299	.67400	1.1	0.243
	Master	12	3.5556	.90267		
Risk Assessment	Bachelor	49	4.0476	.63099	0.47	0.635
	Master	12	3.9444	.82674		

We can see from table 17 that all dimensions are affected by the academic qualification where the dimension effectiveness and efficiency is affected more by the Master qualification and the rest affected more by the Bachelor sample group.

According to previous results, we can approve the hypothesis ‘There are statistically significant differences at the level of (0.05) in: the responses of employees of government institutions in the Emirate of Fujairah towards SIS and their role in achieving the agility of administrative processes due to the following demographic variables (gender, years of experience, job position, and academic qualification)’.

## 5. Chapter 5: Conclusion and recommendations

### 5.1. Introduction

This chapter includes a discussion of findings and recommendations, in addition to presenting a set of recommendations and proposals that will undoubtedly contribute to bridging the research gap in scientific studies that are exposed to this type of research, by clarifying the effect of SIS in creating a

work environment in which transparency and justice are achieved, and that help Governmental organizations provide all information accurately and clearly, which contributes to improving the level of performance and services and thus enhancing the agility of administrative processes. This chapter also contains the most important studies and future scientific research proposed in this aspect.

## 5.2. Theoretical conclusions of the study

This part will present conclusions based on the theory of the study:

### 5.2.1. C1:

The study had made it clear that the SIS is known within Fujairah government organization, however it is known by the procedures it affects and not by its definition.

### 5.2.2. C2:

The SIS affect effectively the organization's procedures and administrative processes, however the organizations are not publicly supporting SIS.

### 5.2.3. C3:

The SIS aims for the agility in administrative process, however the agility can't be achieved using SIS only.

### 5.2.4. C4:

The demonstration of SIS in Fujairah government is limited by certain timelines of the organization history, as the sample of more experience are noticing.

### 5.2.5. C5

The role of SIS in the agility of administrative processes should be controlling the rules, instructions and foundations that determine the style and form of decisions within the organization, however some rules are set by personal opinions and are considered final.

### 5.2.6. C6:

The most important challenges of strategic information systems are the insufficiency of institutional accountability methods, impeding employees' participation in decision-making processes that affect their lives, in addition to the failure to activate the role of regulatory agencies in carrying out their expected supervisory role.

#### 5.2.7. C7:

The success factors of SIS are determined in establishing a set of basic values through which the institution operates and that all employees in these institutions accept these basic values, make the enterprise risk management an integral part of the SIS, and periodically measure and evaluate the strategic direction of the institution and follow the procedures that ensure Continued progress, planning and consistency with the desired goals.

### 5.3. Conclusions of the applied study

#### 5.3.1. C8:

The reliability dimension came to the estimates of the study sample with the highest mean (4.18). Then the effectiveness and efficiency dimension with a mean of (4.1) and third dimension risk assessment with a mean equals (4). The last rank was for the integrative dimension. The total mean was (4) with a standard deviation equals (0.79). The results are considered high and the researcher explains this, the organizations in Fujairah already using SIS to determine its processes and improving its procedures. However, the SIS is not applied professionally due to lack of knowledge of its role especially in the core management and high level administration.

#### 5.3.2. C9:

The degree of the reliability dimension was high. The paragraph/question number (3) got a very high degree with a mean of (4.37). The paragraph number (1) and (2) got a high degree with means equal (4.09) and (4.08) respectively.

#### 5.3.3. C10:

The degree of the effectiveness and efficiency dimension was ranked high. The paragraph number (6) was ranked high with a mean equal (4.19). The paragraphs (4) and (5) had ranked a high degree also with a similar mean equals (4.06)

#### 5.3.4. C11:

The integrative dimension was ranked high. The paragraph number (9) had the highest mean equals (3.85) and considered high. The paragraphs (8) and (7) got a high degree with a mean equals (3.75).

#### 5.3.5. C12:

Risk assessment dimension was ranked high with a mean equals (4). The paragraphs related number (12), (11) and (10) all got high ranking with means (4.2), (4.1) and (3.7) respectively.

#### 5.3.6. C13:

The dimensions of the SIS got the high degree in which means the employees of the Fujairah organizations are aware of the relationship between the relation of the characteristics of SIS and the agility of administrative processes.

#### 5.3.7. C14:

The results showed that there are statistically significant differences between the responses of the study sample on the towards SIS and their role in achieving the agility of administrative processes government institutions in the Emirate of Fujairah due to the following demographic variables (gender, years of experience, job position, and academic qualification).

### 5.4. Recommendations

The following table will summarize set of recommendations to the government of Fujairah departments based on previous results:

Table 18: Study recommendations based on study results

Conclusion Number	Recommendations
C1	<ol style="list-style-type: none"> <li>1. The definition of the SIS should be clear to the employees of Fujairah organizations and to the decision makers in particular.</li> <li>2. A set of workshops in important to explain the SIS and its role in improving the organization.</li> </ol>
C2	<ol style="list-style-type: none"> <li>1. The affection of the SIS is important, however efforts should be made from the decision makers to define their decision as a set backed up by SIS affection.</li> <li>2. Publishing the SIS role and giving the authority to the SIS team to set rules and plans for the processes of the organization.</li> <li>3. Creating an SIS team is essential in every organization and choosing a member from each department in order to get all points of view.</li> </ol>
C3	<ol style="list-style-type: none"> <li>1. To achieve agility in organizations in a way other than SIS, we can: <ol style="list-style-type: none"> <li>a. Empower employees to make key decisions on challenging projects</li> <li>b. Respond to ambiguity and uncertainty with flexibility and speed</li> <li>c. Add opportunity for transformation by viewing unanticipated change</li> </ol> </li> </ol>
C4	<ol style="list-style-type: none"> <li>1. The organization can increase improvements of the administrative process if all past, present and future processes are archived and published for all employees.</li> </ol>
C5	<ol style="list-style-type: none"> <li>1. Administrative processes must be set after deep analysis of the situations and applying SIS for future process will decline the C5.</li> </ol>
C7	<ol style="list-style-type: none"> <li>1. The success factors of the SIS should be analyzed with each departments to aim to highly benefit from the effect of the SIS.</li> </ol>

## 5.5. Future Studies

As the study topic is too wide, other topics can be the aim for future studies such as:

- 5.5.1. Impact of SIS on improving services quality in governmental organizations
- 5.5.2. Role of SIS in raising the efficiency of institutional performance
- 5.5.3. The implementation of SIS and the extend it contributes to enhancing productivity indicators in government institutions.
- 5.5.4. Strategic information systems and their impact on administrative flexibility in government institutions
- 5.5.5. Human talent and its role in developing SIS
- 5.5.6. The impact of intellectual capital on developing SIS

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## **Appendices**

### **Appendix A: The Questionnaire**

Questionnaire on the Impact of strategic information systems to achieve the agility of administrative processes in government organizations in the Emirate of Fujairah

Dear Participant,

This is an invitation to participate in the questionnaire of the research about the Impact of strategic information systems to achieve the agility of administrative processes in government organizations in the Emirate of Fujairah

The questionnaire is prepared by the student\ Aishah Al Dhanhani candidate to obtain a master's degree from the British University in Dubai - College of Engineering and Information Technology.

Please note that all data will be under strict confidentiality and will not be circulated except for practical research purposes.

Participation in this questionnaire is optional.

We thank you for your time and good cooperation.

## Section One: General Information

1	Gender	( ) Male ( ) Female
2	Year of Experience	( ) Less than ten years ( ) Ten years or more
3	Job Title	( ) Administrative / Technical officer ( ) Department Head ( ) Director of the Department
4	Academic qualification	( ) Bachelor ( ) Master

## Section Two: Axes and paragraphs of the questionnaire

	Paragraph \ Axis	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
The first axis: the characteristics of strategic information systems						
First: Reliability of strategic information systems						
1	The organization has clear procedures and policies to protect information systems and update them periodically					
2	The organization determines the procedures to be followed to deal with any breach of its information system					
3	There are procedures in the organization that determine the individuals allowed to deal with information systems according to the permissions granted to them					
Second: Effectiveness and efficiency of strategic information systems						
4	Strategic information systems contribute to implementing innovative services					
5	Strategic information systems contribute to the speed of converting new service ideas into new services					
6	Innovative services contribute to reducing the effort of customers to obtain the service					
Third: Integration of strategic information systems						
7	The enterprise has integrated information systems					
8	The organization has information systems that have the ability to respond in a systematic and organized manner to changes and emergencies					

9	Information systems provide feedback to ensure that decisions taken to improve the quality of services are reviewed					
Fourth - assessing the risks of strategic information systems						
10	The organization has a clear plan for assessing and dealing with the risks of information systems					
11	The Organization seeks to establish controls to ensure the operating safety of electronic data and information systems.					
12	The information systems risk assessment process contributes to identifying the strengths, weaknesses and opportunities for improvement in information systems					
The second axis: The level of agility of administrative processes		Strongly agree	Agree	Not sure	Disagree	Strongly disagree
13	There is a clear working guide for all the operations that the organization undertakes					
14	The Organization is keen to constantly amend the processes and procedures related to providing services to customers					
15	The organization reviews all processes related to the performance of work during crises and emergencies to adapt to it					
16	The organization is constantly re-engineering its processes and procedures in line with the changes in the surrounding environment					
17	The Organization has the ability to provide its services to customers via electronic platforms and various smart applications					
18	The organization reviews its business environment to identify the potential impact of changes on customer behavior and aspirations					
19	The Organization seeks to develop its information systems that contribute to improving the quality of the services it provides					
20	The organization uses the analysis of its environment to explore opportunities to develop new services					

**Appendix B: Letter from Fujairah government – Dibba municipality approving researching the study on the municipality employees**

UNITED ARAB EMIRATES  
GOVERNMENT OF FUJAIRAH  
DIBBA MUNICIPALITY



الإمارات العربية المتحدة  
حكومة الفجيرة  
بلدية دبا

Ref.:

الرجع: م / 98 / 2021

Date :

التاريخ: 05/ 05 / 2021

المحترمين،

السادة/ الجامعة البريطانية - دبي  
تحية طيبة وبعد،

الموضوع: تسهيل مهمة

الباحثة: عائشة راشد علي محمد الظنحاني

تهديكم بلدية دبا الفجيرة أطيب التحيات متمنين لكم دوام التوفيق والنجاح ،  
وبالإشارة للموضوع أعلاه، نفيدكم علماً بأنه لا مانع لدينا من تسهيل مهمة الباحثة/ عائشة  
راشد علي محمد الظنحاني لقيامها بإجراء وتنفيذ دراستها في الماجستير التي جاءت بعنوان (أثر  
نظم المعلومات الإستراتيجية على تحقيق رقابة العمليات - دراسة تطبيقية على المؤسسات  
الحكومية بالفجيرة) على موظفي البلدية.

وتفضلوا بقبول وافر التحية والتقدير،

مدير إدارة خدمات الدعم المؤسسي

إبراهيم إبراهيم الخديم



هاتف: ٩٧١ ٩٢٠٤٦٦٦٦ فاكس: ٩٧١ ٩ ٢٤٤٤٧٢٧ ص.ب: ١١٤٦٢ دبا الفجيرة - الإمارات العربية المتحدة  
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