Business Intelligence: The key to Strategic Success a Study on Real Estate Tax Authority in Central Delta

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Abstract

The objective of the research is to examine the influence of Business Intelligence (BI) on Strategic Success (SS). The research population consists of all employees at Real Estate Tax Authority in Central Delta. The researcher adopted a sampling method to collect data for the study. The appropriate statistical methods such as Alpha Correlation Coefficient (ACC), Confirmatory Factor Analysis (CFA), Multiple Regression Analysis (MRA), were used to analyze the data and test the hypotheses.

The research has reached a number of results, the most important of which are (1) organizations do not rely on BI applications and technologies as a repository of data and immediate analytical processing, (2) the organizations operate in a competitive framework, represented by other organizations operating in the Egyptian environment, which makes the organization's environment suitable for using BI and competitive intelligence applications, (3) the low level of the organizations 'infrastructure to deal with the field of software that supports BI . Perhaps this is due to the organizations' tendency to deal with technologies that work to accomplish the traditional activities of the organization, (4) the interest in BI was limited to certain aspects, the most important of which is the use of BI in reviewing and completing operations within the organization, while the lesser concerns were related to various aspects, the most important of which is cooperation with individuals inside and outside the organization, and the search for new knowledge, and allowing individuals to learn in multiple locations, (5) attention has been focused on the practice of BI in specific aspects, the most important of which is the focus on ensuring that workers in the organization understand the importance of BI for the success of the organization and considering this concept as part of the organization's culture.

The study referred to a number of recommendations, the most important of which are (1) the necessity of attracting workers with experience and skill in dealing with BI techniques, as well as the possibility of developing workers in the technical field by directing them to participate in training courses in this field, (2) the use of the data warehouse as the most prominent techniques that provide analytical information through which administrative decisions are made, in addition to the analytical and immediate processing of the data and presenting it in an appropriate manner, (3) the necessity of integrating BI techniques in a manner that achieves the highest level of efficiency in exploiting and analyzing data, in order to achieve the highest level of decisions in light of the use of cost-benefit analysis, (4) identify the applications of BI in organizations operating in the same field in order to benefit from them and achieve the highest levels of benefit in this field, (5) the need to pay attention to amending the services provided by banks to their customers, with the aim of making use of BI systems in developing the performance of employees, which leads to the survival, growth, and distinction of the banking sector while it is in the process of providing services to its customers, (6) the necessity to invest in all available resources in a manner that meets the needs and desires of customers on a daily basis, and to work on increasing and diversifying the services provided.

Keywords: Business Intelligence, Strategic Success

1. Introduction

The term BI appeared in 1958 when Hans Peter adopted the idea of building an automated system for disseminating information at the level of the organization (Luhn, 1958). However, the real interest in BI began in the late 1980s, as it was the beginning of the shift from focusing on reporting and information to managers to focusing more on situational analysis about how the organization has performed in the past, current performance, and future performance (Ionescu & Podaru, 2014).

Howard Dresner, Chief Executive Officer at Hyperion, is consider the father of the term BI in 1989, which he described as the concepts and methods that are used in the process of improving decision-making at work through the use of supportive systems based on facts (Evans, 2010).

The term BI has been used instead of decision support systems, executive information systems, and management information systems, and in some literature the term BI and analytics (Abai et al., 2016).

Reports indicate that investments in BI tools are expected to double at the service level (Tabbitt, 2013).

In the context of the decision support environment, BI systems have improved the effectiveness of decision-making at different levels in various areas, including the industrial sector in airlines, banking, insurance, finance, securities, manufacturing, and communications (Propovic et al., 2012, Ramakrishnan et al., 2012).

Although many organizations have successfully implemented BI systems in organizational decision-making, decision-making and performance, some organizations have not achieved this (Henshen, 2008).

Researchers have viewed BI from different perspectives, with some researchers studying BI as a tool from a technical perspective (Elbashir, et al., 2008), while others have viewed BI as an approach or a means to support decision-making (Moss & Atre, 2007).

The effectiveness of BI lies in its ability to support the decision-making process within the organization and to provide decision-makers with appropriate and timely information (Massa & Testa, 2005).

Most organizations are striving to understand the increasing diversity, speed, and volume of data that is being produced from internal and external sources. The importance and role of BI in understanding the huge volume of data and helping organizations improve their performance appears (Isik et al., 2013).

A critical component of an organization's success is its ability to make use of all available information (Cody et al., 2002). The ability to collect and analyze data and turn it into information that can be used in a timely manner is not only a necessity for success, but also a necessity for survival (Pirttimaki et al., 2006).

Investing in BI has a high priority in all organizations worldwide (Gartner, 2016), and its global market is expected to reach 22.8 billion dollars in 2020 (Ghosh, 2018).

The concept of Strategic Success (SS) is a modern term within the literature of management thought, where the literature of organizational theory focused on one of the concepts of efficiency and effectiveness, and with the passage of time and with the development of management thought literature no longer focus on the efficiency of the organization alone to judge its success, as organizations began to realize the importance of success strategic (Simon et al., 2011).

Today's organizations are often forced to change their strategic direction quickly to remain competitive. Fast technological developments, volatile consumer demand, and unpredictable market forces are catalysts for organizations wishing to be more successful (Eisenberg et al., 2015).

SS needs a leadership role with a pioneering and strategic mindset to uncover future opportunities and how to invest them in order to achieve growth and distinction compared to competitors (Pen-Rodriguez, 2013).

SS is linked to the organization's vision, strategic direction, and the business strategies and objectives of the organization (Rainey, 2010).

The success factors of the organization are represented in all the activities it undertakes to achieve its mission, and it is the responsibility of all the different groups in the organization (Meibodi & Monavvarian, 2010).

The success of the organization is achieved through its ability to fulfill the needs and desires of its customers, in the long term, and in a balanced manner (Sangathan & Nehru, 2009) and that the growth of the organization is a good indicator of achieving the SS of the organization (Fleck, 2009).

SS is a central issue in organizational studies (Fleck, 2009). In spite of that, it is still in the area of controversy and debate between writers and researchers in the social sciences in general, and organizational studies in particular (Molitor, 2007).

The success of any organization depends on its ability to develop a strategy that helps it achieve its goals in the long term, and that strategy must fit the mission and vision of the organization with the effective and good implementation of the strategy (David, 2009).

The success of any organization depends to a large extent on the extent to which mental capacity is exploited and invested in the transfer, learning, application and implementation of new knowledge (Dzinkowski, 2000).

2. Literature Review

2.1. Business Intelligence

2.1.1. Business Intelligence Concept

The concepts presented by researchers regarding the term BI have varied and varied, depending on the scientific background or the viewpoint through which this concept is viewed.

Intelligence is the mental energy that we apply to our prior knowledge in order to generate ideas, discover relationships between things, draw conclusions, and solve problems. Intelligence has transferred to organizations and their actions, and organizations have turned to BI or the use of information systems to collect and analyze information from internal and external sources in order to make efficient and effective decisions (Chen, 2016).

BI is the leveraging of software and services to transform data into actionable vision and support strategic and tactical business decisions of the organization (Pratt & Fruhlinger, 2019).

BI is a term that encompasses analytical applications and infrastructure, as well as best practices in creating benefit (Gartner, 2019).

BI is the technologies, applications, and practices for collecting, integrating, analyzing and presenting business information to support better and faster decision-making (Balachandran & Prasad, 2017)

BI is an umbrella term that includes a variety of information technology applications that are used in analyzing the organization's data and communicating it to users (Maheshwari, 2015).

BI is the use of analytical methods with the purpose of using them both now and in the past to predict the future (Alawin & Mayteh, 2014).

BI is a set of technological tools and processes that help convert data into information, information into knowledge, and knowledge transfer to help the organization's strategy for planning and facing competitors (Loshin, 2013).

BI is a set of technologies that help to discover the best data from the huge amount of data to improve the production process (Naraina, 2013).

BI is the process of transforming raw data into useful information in order to create strategic and operational vision on the one hand, and decision-making on the other hand, with the aim of achieving real business benefits (Duan & Xu, 2012).

BI is a set of tools and techniques that help convert a large amount of data from different sources into meaningful information to support decision-making and improve organizational performance (Ramakrishnan et al., 2012).

BI is the computer-based technologies used in identifying, extracting and analyzing business data and using it in making various decisions in an organization with the aim of improving its performance (Kumar, 2012).

BI is the use of technology in the process of retrieving, extracting and analyzing the organization's data in order to produce concise and meaningful information to support decision-making, and this type of intelligence is usually presented in the form of a written report, summary or presentation with diagrams (Barbieri, 2012).

BI is the core of the organization's system, which is based on a series of strategic and tactical steps implemented by technology in terms of providing data and producing analytical results to generate an efficient and effective decision-making process in the business sector, at a time when many organizations seek to explore the vast amount of data. (Karim, 2011).

BI is a term that includes tools, databases, data warehouses, and performance management, all of which are combined into a unified software package (Turban & Volonino, 2011).

BI is a set of processes, tools, and technologies that deal with data and turn it into information, and information into knowledge, and this accumulated experience, as well as the accumulated knowledge, are transformed into sections that are managed intelligently and used in decision-making, building appropriate strategies and tactics (Turban et al., 2011).

BI is a process that focuses on supporting a variety of business functions, and using advanced analytics to create real benefit (Glancy & Yadav, 2011).

BI is a group of programs that collect and analyze data in order to assist workers in the field of making decisions efficiently and effectively (Chaudhuri et al., 2011).

BI is the approach followed by the management of an organization that allows identifying useful information relevant to its decisions (Lioyd, 2011).

BI is a set of tools and practices that help managers and users control business activities, improve organization performance and maintain competitiveness (Matei, 2010).

BI is the use of technologies, applications, and processes to collect, store and analyze data with the purpose of helping its users reach appropriate decisions (Wixom & Watson, 2010)

The steps in analyzing BI systems are to process data with the aim of producing the necessary information for its users. These steps are data collection, data storage, information dissemination and use of information (Kaplan & Norton, 2010).

BI is a set of perceptions, methods, and processes to improve managerial decisions, use information from multiple sources, and apply experiences to develop a correct understanding of business dynamics (Tabatabaei, 2010).

BI is an integrated set of tools, technologies and software used to discover, simplify and analyze information from various sources (Yeoh & Koronios, 2009).

BI is a large group of application programs that are used in data collection, analysis, and storage with the purpose of assisting business practitioners in making better decisions (Watson, 2009).

BI is a set of data repositories related to customers, competitors, the competitive environment and internal processes of the organization, which gives the organization the ability to make decisions efficiently and effectively (Dayal et al., 2009).

BI is a technological method that is used in business management to manage data in order to make better decisions (Rubio et al., 2008).

BI is a description of the applications that are used to collect, analyze and provide data and information in the organization for the purpose of making business decisions in the best possible way (Wu et al., 2007).

BI is the process of properly collecting the right information in the right way and at the right time and delivering the right results to the right people for the purpose of making appropriate decisions (Xu & Kaycl, 2007).

BI is a package of new technologies such as data warehouse, real-time analytical processor, and data search that are used in structured data processing and analysis (Haag et al., 2007).

BI is the umbrella that brings together the architecture, tools, database, analytical tools, applications, and methodologies (Turban et al., 2007).

BI is a set of tools and methods that improve executive decision-making, business activities, and increase value in an organization (Zeng et al., 2006).

BI is all that is related to obtaining, accessing, understanding, analyzing and converting one of the basic and valuable assets of the organization, which is raw data into effective information for the improvement of business and decision-making process in the organization (Azvine et al., 2006).

BI is a management philosophy and an essential tool that helps organizations manage and improve information in order to make more effective decisions (Lonnqvist & Pirttimaki, 2006).

BI is a set of approaches and processes by which raw information is converted into final information that is used in support of strategic, tactical and operational plans in a manner that leads to improved decision-making (Kimball et al., 2005).

BI is a set of software used to rationalize decisions within an organization and increase its effectiveness. This is in addition to providing the latest information on the various commercial actors (Pirttimaki, 2004).

BI is a set of analytical tools used to understand the capabilities available to the organization, trends in the market, technology used in the environment and the work of competitors, with the aim of providing the necessary information to planners and decision-makers within the organization, with the aim of converting information into a competitive advantage for the organization (Negash, 2004).

BI is a group of processes that convert data into information, as well as convert information into knowledge (Golfarelli et al., 2004).

BI is an information system that allows users to look at data in databases easily and quickly (Turban, 2002).

BI is a purposeful analytical process to collect and accurately analyze information about competitors, markets, and customers to support business decisions or convert data, information and knowledge into actionable value (Kalakota & Robinson, 2000).

2.1.2. Business Intelligence Importance

BI analyzes help to discover important trends, identify the opportunities that can be exploited, as well as the threats that must be faced, and BI helps shape SI analyzes (Fleisher & Bensoussan, 2007).

The tangible benefits of BI are to reduce the overall infrastructure costs in the organization by eliminating the data extraction processes that are widespread in the organization that may contain duplicate data. Accessing data from multiple sources in a centralized, single format (Watson & Wixom, 2007).

The benefits of BI are tangible and intangible, and that is why companies invest in it in the hope of a quantum leap in the future (Negash, 2004).

BI plays an important role in improving organizational performance (Trieu, 2018). It also contributes to improving the operational efficiency of operations, raising the dynamic capabilities necessary to innovate new products or services, enhancing organizational intelligence, and the dynamic organizational structure (Moreno et al., 2018).

BI also helps in making appropriate strategic and operational decisions since it eliminates the method of guessing, in addition to that BI provides more accurate data on various business aspects such as financial data, production, and customers, which helps management in making decisions that are based on reality. It is not just a guess (Moreno et al., 2018).

2.1.3. Business Intelligence Dimensions

There are three dimensions of BI. They are technology, people, and strategic alignment (Torres et al., 2018; Knabke & Olbrich, 2017; Yeoh & Popovič, 2015; Sangari & Razmi 2015; Cosic et al., 2012).

2.1.3.1. Technology

Technology refers to the technological components of a BI system, and includes extracting accurate data from various process systems to be integrated into the data ware house, and using interactive reporting technology to address structural problems.

In addition to that, the use of data mining technology to deal with non-structural problems, and display information according to the user's request for the system, in addition to the necessity of integrating the BI system with other information systems.

BI technology includes data quality from its sources, information query, report generation, data visualization functions, and knowledge discovery by extracting variable information from data in databases (Yeoh & Koronios, 2010). A set of basic elements of technology must be taken into account in the sense that it is one of the basic dimensions of BI and these elements are data quality, reporting and visualization technology, discovery baseness analytic technology, user access, integration with other systems, Systems Integration (Torres et al., 2018).

2.1.3.2. People

The management role is concerned with the necessary support, the skills of the BI team, and the skills of the system user. Individuals include everything related to those related to BI systems, such as senior management, its team, and its users in terms of their predominant technical, managerial and cultural capacity that governs their actions and decisions (Mungree et el., 2013).

There is a set of basic elements for individuals in the sense that it is one of the basic dimensions of BI. These elements are to support the upper management, the team and its skills, the system user and the skills of (Yeoh, & Koronios, 2010).

2.1.3.3. Strategic Alignment

Strategic alignment means undertaking the necessary restructuring to align applications and uses of BI with the objectives of strategic operations in order to support and enhance the operational processes (Watson & Wixom, 2007).

Strategic alignment is the foundation in the governance of information systems, which requires alignment of BI, and business strategy must be aligned with strategies and plans of information technology with strategic business objectives so that information technology provides the ability to provide business value and create a clear vision of BI (Wilkin & Chenhall, 2010).

Strategic alignment means that BI strategies and plans are aligned with the objectives of operations management (Luftman, 2000).

2.2. Strategic Success

2.2.1. Strategic Success Concept

There are several definitions of SS where the success of an organization depends to a large extent on its investment of mental capacity in terms of transferring, learning and implementing new knowledge (Dzinkowski, 2000).

SS is the ability of the organization to formulate a good strategy that allows to achieve its long-term goals that are consistent with the mission and vision of the organization, as well as an effective implementation of that strategy (David, 2009).

SS is the ability of the organization to create value for its shareholders both within and outside the organization (Waldron & Antonio, 2008).

SS is the organization's ability to understand what is happening in the business environment, anticipate events, and face reality with a long-term view that focuses on critical success factors, competitiveness, and the fulfillment of customer desires and needs, and the ability to communicate the organization's vision and purpose, the goals it seeks, and measurable goals, and work to develop the capabilities and skills of workers, motivate them, and work to achieve job satisfaction in the organization (Tanner, 2005).

SS is achieving the desired result in the organization efficiently and effectively (Maltz et al., 2003).

SS is the achievement of success in strategy formulation, implementation and follow-up (Jonsen & Scholes, 2002). SS is the success in the strategic formulation of the organization and work to implement and follow-up (Johnson & Scholes, 2002).

SS is the successful implementation of the strategic plan of the organization (Maller, 2002).

SS is determined by activity outcomes for clients, employees, owners and all stakeholders (Kenny, 2001).

2.2.2. Strategic Success Dimensions

The dimensions of SS are limited strategy, effective implementation, motivational culture, horizontal organization, transformational leadership, and continuous innovation (Simon et al.. 2011; Joyce et al., 2004).

The first to point to the need to rely on a balanced scorecard to measure the organization is SS (Kaplan & Norton, 2005).

There are four key criteria for SS. They are learning and growth, internal processes, stakeholders and financial performance. There are several other dimensions that can be relied upon to measure the SS of the organization (Simon, 2011).

There is a study aimed at identifying the dimensions of SS are (1) survival is what organizations seek to achieve. Companies will end when they are incompatible with changes in their surroundings, (2) adaptation is the organization able to adapt quickly to the work environment and events that are supposed to be able to manage change and deal with and adapt to it and improve its ability to survive and grow in the surrounding environment, and (3) growth: it is the aspects that the company needs to take to help it develop, grow and thrive though changes are increasingly taking place in the organization environment (Ghurchiau et al., 2010):

There are six dimensions of SS. They are as follows (Simon et al.. 2011; Joyce et al., 2004).

1. *Limited Strategy:* successful organizations are interested in formulating clear, specific strategies, while companies that are unable to survive and face challenges are failing to formulate a strategy to scale up.
2. *Effective Implementation***:** the organization is concerned with the effective implementation of its strategy. The organization is keen to satisfy its customers, while we find failed companies unable to implement its strategy.

3. *Motivational Culture:* successful companies are characterized by a positive culture that motivates work and development, while failed companies do not have a direction through which to build a culture of motivation, through which can activate the work and workers.

4. *Horizontal Organization:* decentralization is the secret of the success of organizations to enable their managers to make decisions and participate in shaping the future of the organization, while insisting organizations failing to take central management system, which impedes their progress and the effectiveness of their employees.

5. *Transformational Leadership:* the ability of the leader to communicate the mission and vision of the future clearly to the followers and motivate them through the practice of high ethical behaviors to build trust and respect between the parties to achieve the goals of the organization.

6. *Continuous Innovations:* the ability to compete and reach products and customers and new markets faster and better than its competitors as it is a factor of continuity and survival of enterprises.

3. Research Model

Figure (1) Proposed Comprehensive Conceptual Model
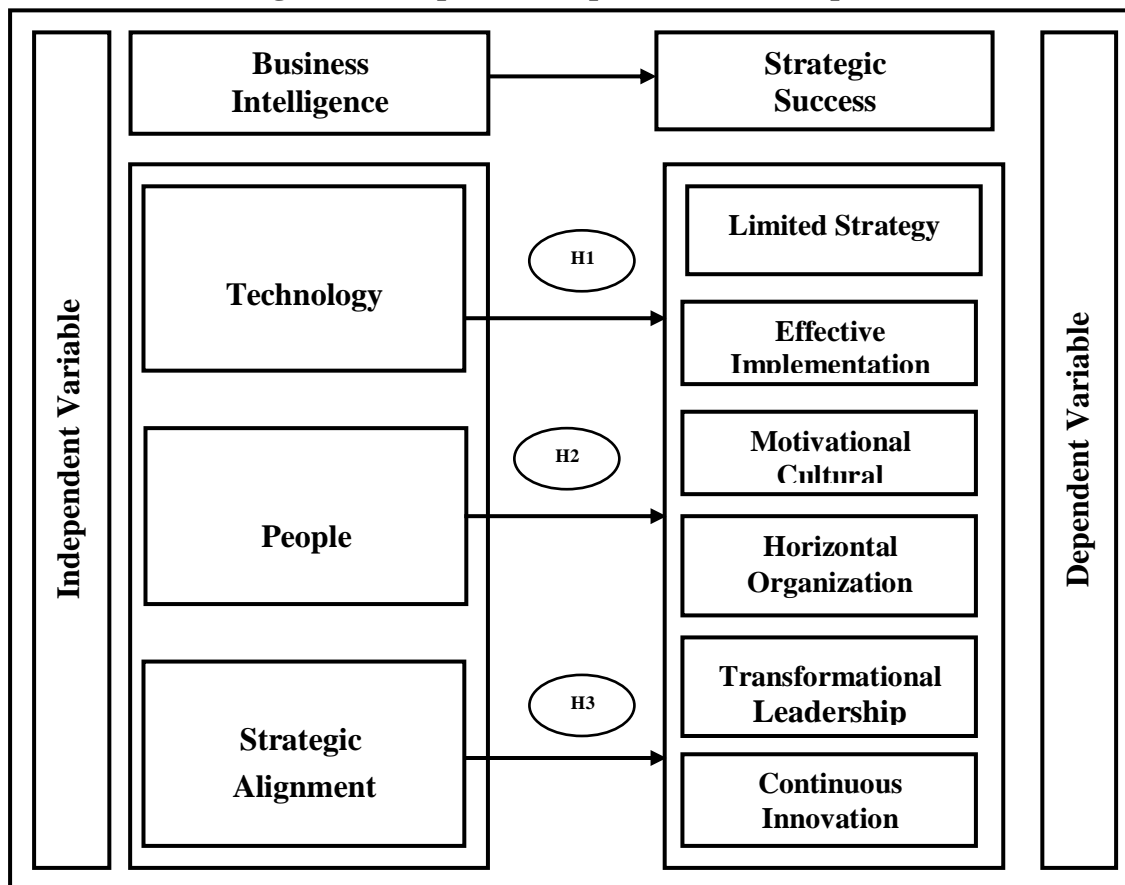
The figure shows that there is one independent variable of BI. There is one dependent variable of SI. The research suggests that BI have an impact on SS.

BI is measured in terms of technology, people, and strategic alignment (Torres et al., 2018; Knabke & Olbrich, 2017; Yeoh & Popovič, 2015; Sangari & Razmi 2015; Cosic et al., 2012).

SS is measured in terms of limited strategy, effective implementation, motivational culture, horizontal organization, transformational leadership, and continuous innovation (Simon et al.. 2011; Joyce et al., 2004).

4. Research Questions

The research problem has two sources. The first source is to be found in previous studies. There is a lack in the number of literature review that dealt with the analysis of the relationship between BI and SI. This called for the researcher to test this relationship in the Egyptian environment.

In light of the review of previous studies, there is a study aimed at identifying the effect of BI on BI capabilities. The study found that there is a significant relationship between the experience of BI employees and the capabilities of BI. The study also indicated that BI can be considered a strategic investment in improving the performance of the organization (Torres et al, 2018).

There is a study that aimed to implement the service oriented BI (SOBI) to integrate academic and financial data in the data warehouse, and to develop the data warehouse using the Galaxy system and implement it using the structural query language server. The study found that when implementing the BI-oriented service (SOBI), therefore, Dashboard applications that work to manage the data integration process must be performed, and data integration is usually done on the BI-oriented service with the help of the Web Service by building a provider. The service at the data source site and the service applicant on the Dashboard applications so that the service provider can be called by the dashboard application to perform the data retrieval process and transfer it to the data warehouse (Somya, 2018).

There is also another study aimed at identifying the effect of BI on artistic creativity. The study found a relationship between the BI dimensions represented in data storage, data mining, and immediate analytical processing on technical creativity in the organization (Irtaimeh et al, 2016).

There is a study aimed at identifying the impact of BI on managing organizational performance. The study concluded that BI is considered a basic necessity to assist decision makers in a way that leads to improving organizational performance.

The study also indicated that designing a good BI system is useful to ensure that the organization's performance management is done effectively and more dynamically (Yahaya et al, 2016).

There is a study aimed at identifying the way in which BI can help in knowledge management for employees. The study indicated that BI systems play an important role in achieving a competitive advantage for employees if they are able to employ and exploit BI tools such as data warehouse, data search, data analytical processing, and the process of reading, converting and writing data (Muhamnad et al., 2014).

There is another study aimed at developing a framework of critical success factors in BI. The study found all the factors that are strongly and successfully linked to the application of BI, with the exception of the technological framework, and they classified these factors from most to least important which are senior management support, the executive sponsor, the clear vision, Managing change, user engagement, aligning BI strategy with business goals, team skills, adequate resources, all of these factors lead to BI success (Mungree et al., 2013).

There is a study aimed at identifying the processes that underlie business administration and the relationship between it and BI. The study found that managing and improving work performance is a prerequisite not only for increasing commercial profitability but also for staying in a competitive and fast-moving business environment (Yan & Xiangjun, 2010).

To achieve SS, we find that it is linked to a distinct kind of mental capabilities needed by the manager or strategic leader that allows him to think comprehensively about the future of the organization and the scarcity of information. This is in addition to the need to meet many requirements of customer satisfaction, maintaining market share and the possibility of increasing employee satisfaction (Madsen & Desai, 2010).

SS is a system that helps decision-making by observing and analyzing the practical environment and technological technology. In addition to tracking current and future economic impacts to capture opportunities and threats based on strategic information. It is defined as the ability of the organization to achieve long-term success associated with achieving strategic objectives and achieving higher performance levels than competitors (McDowell, 2010).

The second source is the pilot study, which was conducted an interview with (30) employees at Real Estate Tax Authority in Central Delta. The researcher found through the pilot study several indicators notably the important role that could be played by BI in affecting SS at Real Estate Tax Authority in Central Delta. The research questions are as follows:

Q1: What is the relationship between BI (Technology) and SS at Real Estate Tax Authority in Central Delta?

Q2: What is the nature of the relationship between BI (People) and SS at Real Estate Tax Authority in Central Delta?

Q3: What is the extent of the relationship between BI (Strategic Alignment) and SS at Real Estate Tax Authority in Central Delta?

5. Research Hypotheses

In the light of a review of previous studies, there is a study aimed at identifying the effect of BI on the quality of decision-making. The study found that the existence of BI management has direct and indirect positive effects on data quality and information quality, and that all these factors affect the quality of managerial decision-making (Wieder & Ossimitz, 2015).

There is also another study aimed at identifying the effect of BI on the agile performance of the supply chain. The study concluded that there is a significant relationship between the different dimensions of BI in administrative efficiency, technical competence, cultural competence and the lean performance of the supply chain which is represented in customer satisfaction, productivity, Sales, delivery, cost, quality, and product development capability (Sangari & Razmi, 2015).

There is a study aimed at identifying the nature of the relationship between BI and knowledge management. The study concluded that BI systems play an important role as a tool for knowledge management for workers in the financial sector, and this is in addition to providing benefit to this sector, which is always characterized by the speed of change, as well as the huge size of Data used (Muhammed & et al., 2014).

There is also a study concerned with identifying the potential for BI to reduce the time allocated to decision-making in the organization. The study has found that the decision-making process necessarily leads to changes in the organizational behavior of all individuals working in the organization in a manner that leads to enhancing the quality of business decisions and their approach (Bara & Knezevic, 2013).

There is a study interested in learning about the role of BI in knowledge exchange. The study found that there is a significant impact of real-time analytical processing, data mining, and data warehouse on knowledge sharing. The results also indicated that BI tools had the greatest impact on sharing knowledge, and these tools are represented in the analytical processing of data, searching for it, and extracting it from all sources available to it (Barakat et al., 2013).

There is a study concerned with choosing the relationship between BI and information quality. The study found that the implementation of BI systems positively affects the quality of information, and the maturity of the BI system also affects the quality of the information content and the quality of the methods used (Popovic et al., 2009).

The following hypotheses were developed to decide if there is a significant correlation between BI and SS.

H1: There is no statistically significant relationship between BI (Technology) and SS at Real Estate Tax Authority in Central Delta.

H2: BI (People) has no statistically significant effect on SS at Real Estate Tax Authority in Central Delta.

H3: There is no relationship between BI (Strategic Alignment) and SS at Real Estate Tax Authority in Central Delta.

6. Research Population and Sample

The population of the study included all employees at Real Estate Tax Authority in Central Delta. The total population is 6208 employees. Determination of respondent sample size was calculated using the formula (Daniel, 1999) as follows:

$$ n = \frac{N \times (Z)^2 \times P(1-P)}{d^2(N-1) + (Z)^2 \times P(1-P)} $$

A number of samples, obtained by 362 employees at Commercial banks   in Egypt, are shown in Table (1).

Table (1) Distribution of the Sample Size

Real Estate Tax Authority in Central Delta	Number of Population	Percentage	Sample Size

1. Menoufia	1603	26%	362X 26% = 94
2. Tanta	2021	33%	362X 22% = 120
3. Dakahlia	2078	33%	362 X 33% = 120
4. Demietta	506	8%	362 X 8% = 28
Total	**6208**	**100%**	**362 X 100% = 362**

Source: Personnel Department at Real Estate Tax Authority in Egypt, 2020

Table (2) Characteristics of Items of the Sample

Demographic Variables		Frequency	Percentage
1. Gender	Male	220	73%
	Female	80	27%
	Total	**300**	**100%**
2. Marital Status	Single	110	37%
	Married	190	63%
	Total	**300**	**100%**
3. Age	From 30 to 45	200	67%
	Above 45	100	33%
	Total	**300**	**100%**
4. Educational Level	University	230	77%
	Post Graduate	70	23%
	Total	**300**	**100%**
5. Period of Experience	From 5 to 10	170	57%
	More than 10	130	43%
	Total	**300**	**100%**

7. Procedure

The goal of this study was to identify the role of BI in affecting SS. A survey research method was used to collect data. The questionnaire included three questions, relating to BI, SS, and biographical information of employees at Real Estate Tax Authority in Central Delta. About 362 survey questionnaires were distributed. Multiple follow-ups yielded 300 statistically usable questionnaires. Survey responses were 82%.

8. Research Variables and Methods of Measuring

The 15-item scale BI section is based on Torres et al., 2018; Knabke & Olbrich, 2017; Yeoh & Popovič, 2015; Sangari & Razmi 2015; Cosic et al., 2012. There were five items measuring technology, five items measuring people, and five items measuring strategic alignment.

The 28-item scale SS section is based on Simon et al.. 2011; Joyce et al., 2004. There were six items measuring limited strategy, four items measuring effective implementation, four items measuring motivational culture, six items measuring horizontal organization, four items measuring transformational leadership, and four items measuring continuous innovation.

Responses to all items scales were anchored on a five (5) point Likert scale for each statement which ranges from (5) "full agreement," (4) for "agree," (3) for "neutral," (2) for "disagree," and (1) for "full disagreement".

9. Data Analysis and Hypotheses Testing

9.1. Coding of Variables

The research consists of three variables. The first is BI (independent variable). The second is SS (dependent variable). Description and measuring of the research variables is presented in the following table:

Table (3) Description and Measuring of the Research Variables

| Main Variables	Sub-Variables	Number of Statement	Methods of Measuring Variables

Independent Variable	Business Intelligence	Technology	5	Torres et al., 2018; Knabke & Olbrich, 2017; Yeoh & Popovič, 2015; Sangari & Razmi 2015; Cosic et al., 2012
		People	5	
		Strategic Alignment	5	
Total BI			**15**	
Dependent Variable	Strategic Success	Limited Strategy	6	Simon et al.. 2011; Joyce et al., 2004
		Effective Implementation	4	
		Motivational Culture	4	
		Horizontal Organization	6	
		Transformational Leadership	4	
		Continuos Innovation	4	
Total BD			**28**	

9.2. Construct Validity

9.2.1. Business Intelligence

The researcher used Confirmatory Factor Analysis (CFA) for BI. This can be illustrated by the following figure:

Figure (2) CFA For BI
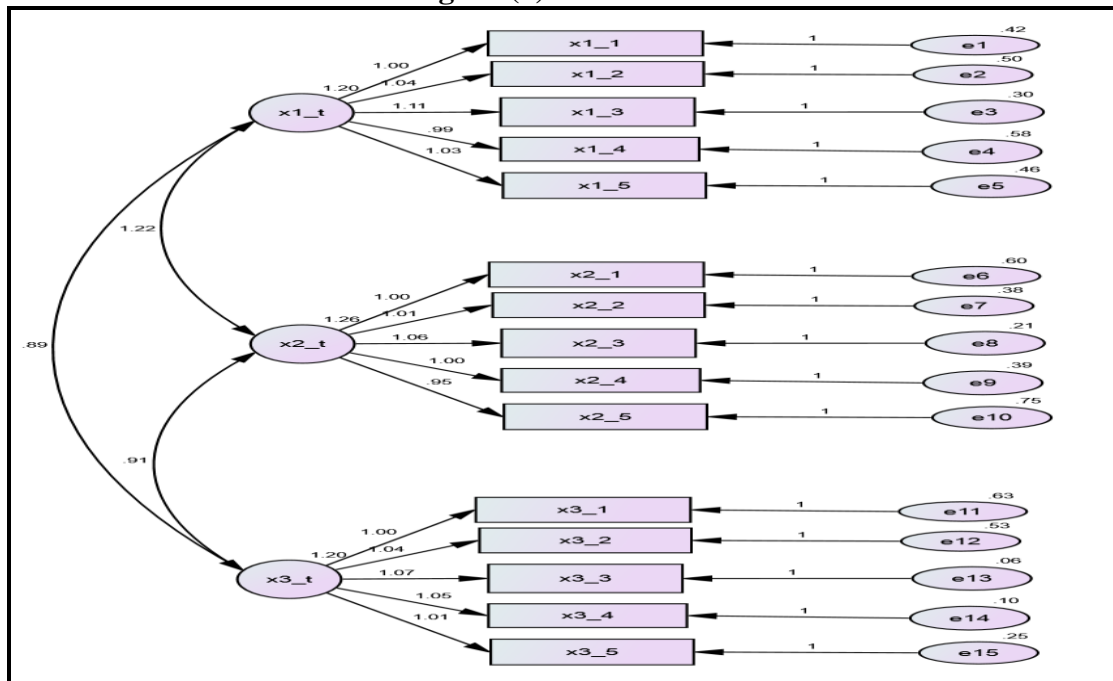
From the previous figure, it is clear that all the statement of BI are greater than 0.50, which corresponds to GFI. This is a good indicator of all other statistical analysis. The quality indicators for BI can be illustrated in the following table:

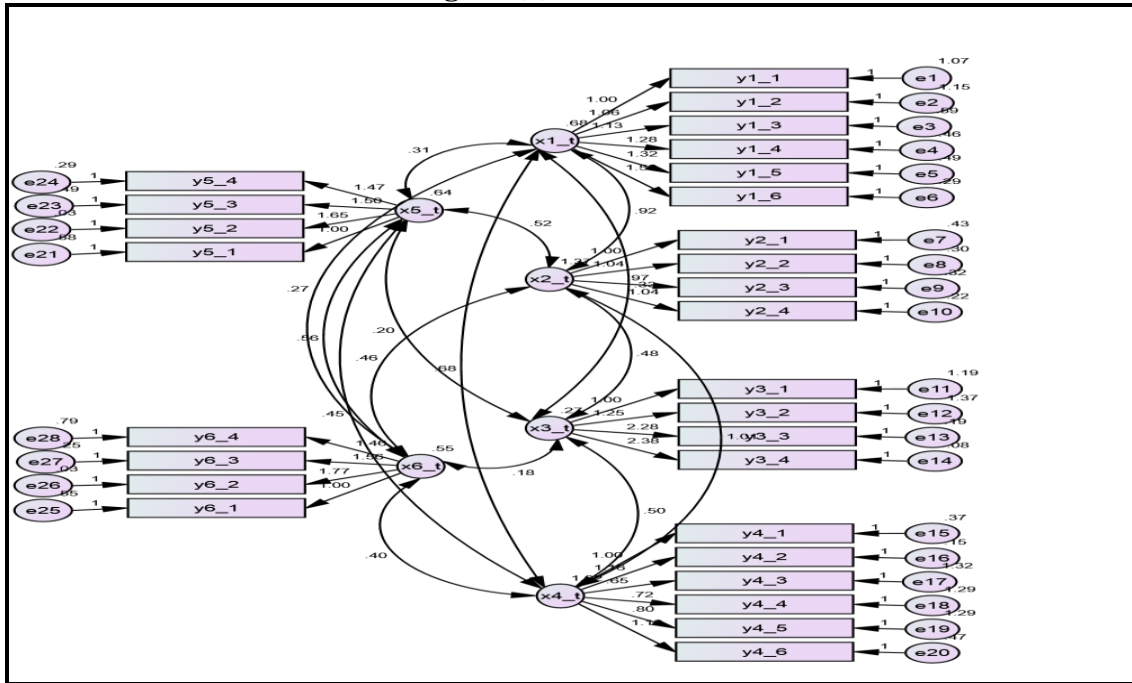### Table (4) Quality Indicators for BI Using AMOS Analysis

Test the Quality of the Model Acceptance Condition (Daire et al., 2008)	Test Value
X^2 / Degree of freedom >5	1265.455
P. value > 0.5	0.000
Goodness of fit Index (GFI) > 0.90	0.658
Tuker-Lewis Index (TLI) > 0.95	0.772
Comparative Fit Index (CFI) > 0.90	0.811
Normed Fit Index (NFI) > 0.90	0.801
Incremental Fit Index (IFI) > 0.95	0.812
Relative Fit Index (RFI) > 0.90	0.759
Root Mean Square Residual (RMR) < 0.5	0.109
Root Mean Square Error of Approximation (RMSEA) < 0.5	0.213

In light of the above-mentioned indicators, it is clear that the previous indicators are good for making all other statistical analysis.

9.2.2. Strategic Success

The researcher used CFA for SS. This can be illustrated by the following figure:

Figure (3) CFA For SS

According to Figure (2), it is clear that all the statement of SS are greater than 0.50. This is a good indicator of all other statistical analysis. The quality indicators for SS can be illustrated in the following table:

Table (5) Quality Indicators for SS Using AMOS Analysis

Test the Quality of the Model Acceptance Condition (Daire et al., 2008)	Test Value
X^2 / Degree of freedom < 5	3546.177
P. value > 0.5	0.000
Goodness of fit Index (GFI) > 0.90	0.570
Tuker-Lewis Index (TLI) > 0.95	0.676
Comparative Fit Index (CFI) > 0.95	0.713
Normed Fit Index (NFI) > 0.90	0.693
Incremental Fit Index (IFI) > 0.95	0.714
Relative Fit Index (RFI) > 0.90	0.654
Root Mean Square Residual (RMR) < 0.5	0.148
Root Mean Square Error of Approximation (RMSEA) < 0.5	0.179

In light of the above-mentioned indicators, it is clear that the previous indicators are good for making all other statistical analysis.

9.3. Descriptive Analysis

Table (6) shows the mean and standard deviations of BI and SS

Variables	The Dimension	Mean	Standard Deviation
Biasness Intelligence	Technology	3.54	1.17
	People	3.52	1.17
	Strategic Alignment	3.73	1.17
	Total Measurement	**3.60**	**1.09**
	Limited Strategy	3.74	1.07
	Effective Implementation	3.62	1.21

Strategic Success	Motivational Culture	3.49	0.997
	Horizontal Organization	3.32	1.02
	Transformational Leadership	3.71	1.15
	Continuous Innovation	3.76	1.11
	Total Measurement	**3.60**	**0.888**

According to Table (6), most of the respondents identified technology (M=3.54, SD=1.17), people (M=3.52, SD=1.17), strategic alignment (M=3.73, SD=1.17), and total BI (M=3.60, SD=1.09).

Regarding to SS, most of the respondents identified the limited strategy (M=3.74, SD=1.07), effective implementation (M=3.62, SD=1.21), motivational culture (M=3.49, SD=0.997), horizontal organization (M=3.32, SD=1.02), transformational leadership (M=3.71, SD=1.15), continuous innovation (M=3.76, SD=1.11) and total SS (M=3.60, SD=0.888).

9.4. Evaluating Reliability

Table (7) Reliability of BI and SS

Variables	Dimension	Number of Statement	ACC
Business Intelligence	Technology	5	0.935
	People	5	0.931
	Strategic Alignment	5	0.958
	Total Measurement	**15**	**0.970**
Strategic Success	Limited Strategy	6	0.907
	Effective Implementation	4	0.945
	Motivational Culture	4	0.797
	Horizontal Organization	6	0.876
	Transformational Leadership	4	0.919
	Continuous Innovation	4	0.899
	Total Measurement	**28**	**0.959**

Table (7) presents the reliability of BI. The 15 items of BI are reliable because the ACC is 0.970. Technology, which consists of 5 items, is reliable because the ACC is 0.935. The 5 items related to people are reliable because the ACC is 0.931. The 5 items related to strategic alignment are reliable because the ACC is 0.959. Thus, the internal consistency of BI can be acceptable.

The 28 items of SS are reliable because the ACC is 0.959. Limited strategy, which consists of 6 items, is reliable because the ACC is 0.907. The 4 items related to effective implementation are reliable because the ACC is 0.945 while the 4 items of motivational culture are reliable because the ACC is 0.797. The 6 items related to horizontal organization are reliable because the ACC is 0.876 while the 4 items of transformational leadership are reliable because the ACC is 0.919. The 4 items related to continuous innovation are reliable because the ACC is 0.899 Thus, the internal consistency of SS can be acceptable.

9.5. The Means, St. Deviations and Correlation among Variables

Table (8) Means, Standard Deviations and Intercorrelations among Variables

Variables	Mean	Std. Deviation	BI	SS
Business Intelligence	3.60	1.09	1	
Strategic Success	3.60	0.886	0.796**	1

Table (8) shows correlation coefficients between BI and SS. BI is (Mean=3.60; SD=1.09), while SS is (Mean=3.60; SD= 0.886). Also, the correlation between BI and SS is (R=0.796; P <0.01).

9.6. The Correlation between BI and SS

Table (9) Correlation Matrix between BI and SS

Research Variables	1	2	3	4
Technology	1			
People	0.927**	1		
Strategic Alignment	0.747**	0.736**	1	
Strategic Success	0.665**	0.683**	0.878**	1

Based on Table (9), correlation between BI (Technology) and SS is 0.665 whereas BI (people) and SS shows correlation value of 0.683. Also, BI (strategic alignment) and SS is 0.878. The overall correlation between BI and SS is 0.796.

9.6.1. Business Intelligence (Technology) and SS

Table (10) MRA Results for Business Intelligence (Technology) and SS

Business Intelligence (Technology)	Beta	R	R^2
1. BI system in the organization uses accurate, error-free data.	0.363^{**}	0.644	0.414
2. BI system provides reports for taking quick action to tackle everyday problems.	0.066	0.568	0.432
3. BI system analyzes historical data to identify trends and detect problems.	0.221^{*}	0.641	0.410
4. BI system has the ability to display information as requested by the system user.	0.077	0.545	0.297
5. BI system has the ability to integrate with other information systems.	0.156	0.564	0.318
▪ MCC	0.684		
▪ DC	0.468		
▪ Calculated F	51.714		
▪ Degree of Freedom	5, 294		
▪ Indexed F	3.01		
▪ Level of Significance	0.000		

As Table (10) proves, the MRA resulted in the R of 0.684 demonstrating that the 5 independent variables of BI (Technology) construe SS significantly. Furthermore, the value of R^2, 5 independent variables of BI (Technology) can explain 0.46% of the total factors in SS level. Hence, 54% are explained by the other factors. Therefore, there is enough empirical evidence to reject the null hypothesis that it said there is no relationship between BI (Technology) and SS.

9.6.2. Business Intelligence (People) and SS

Table (11) MRA Results for Business Intelligence (People) and SS

Business Intelligence (People)	Beta	R	R^2
1. The management of the organization encourages the use of the BI system by the various administrative levels.	0.228^{**}	0.581	0.337
2. The management of the organization is interested in making operational improvements through the use of the BI system.	0.307^{**}	0.558	0.311
3. The employees in the BI system have the appropriate technical skills.	0.704^{**}	0.697	0.485
4. The BI system workers have the ability to provide appropriate solutions.	0.065^{**}	0.624	0.389
5. The organization provides appropriate training programs for users of the BI system in a timely manner.	0.057^{**}	0.569	0.323
▪ MCC	0.725		
▪ DC	0.526		
▪ Calculated F	65.181		
▪ Degree of Freedom	5, 294		
▪ Indexed F	3.01		
▪ Level of Significance	0.000		

As Table (11) proves, the MRA resulted in the R of 0.725. This means that SS has been significantly explained by the 5 independent variables of BI (people). As a result of the value of R^2, the five independent variables of BI (people) justified 52% of the total factors in SS level. So, there is enough empirical evidence to reject the null hypothesis that it said there is no relationship between BI (people) and SS.

9.6.3. Business Intelligence (Strategic Alignment) and SS

Table (12) MRA Results for Big Data (Strategic Alignment) and SS

Business Intelligence (Strategic Alignment)	Beta	R	R^2
1. The organization takes into account the restructuring of BI processes to adapt to the available opportunities.	0.212^{**}	0.809	0.654
2. The organization takes into account restructuring the operations of the operational divisions in order to cope with the available	0.499^{**}	0.869	0.755

opportunities.			
3. The organization takes into account that BI applications are compatible with the needs of operational management.	0.061	0.802	0.643
4. The organization takes into account that BI applications are compatible with the objectives of the operational management.	0.348**	0.801	0.641
5. The organization is keen that BI is concerned with generating information from it.	0.042	0.780	0.608
▪ MCC	0.896		
▪ DC	0.803		
▪ Calculated F	239.732		
▪ Degree of Freedom	5, 294		
▪ Indexed F	3.01		
▪ Level of Significance	0.000		

As Table (12) proves, the MRA resulted in the R of 0.896 demonstrating that the 5 independent variables of BI (strategic alignment) construe SS significantly. Furthermore, the value of R^2, 5 independent variables of BI (strategic alignment) can explain 0.80% of the total factors in SS level. Hence, 20% are explained by the other factors. Therefore, there is enough empirical evidence to reject the null hypothesis that it said there is no relationship between BI (strategic alignment) and SS.

10. Research Results

1. Real Estate Tax Authority in Central Delta do not rely on BI applications and technologies as a repository of data and immediate analytical processing. Perhaps this is due to the low knowledge of workers about these applications as one of the directions that beneficiaries must deal with.

2. Real Estate Tax Authority in Central Delta operate in a competitive framework, represented by other organizations operating in the Egyptian environment, which makes the Real Estate Tax Authority in Central Delta environment suitable for using BI and competitive intelligence applications.

3. The low level of the Real Estate Tax Authority in Central Delta infrastructure to deal with the field of software that supports BI. Perhaps this is due to the organization tendency to deal with technologies that work to accomplish the traditional activities of the Real Estate Tax Authority in Central Delta.

4. The interest in BI was limited to certain aspects, the most important of which is the use of BI in reviewing and completing operations within the Real Estate Tax Authority in Central Delta, while the lesser concerns were related to various aspects, the most important of which is cooperation with individuals inside and outside the Real Estate Tax Authority in Central Delta, and the search for new knowledge, and allowing individuals to learn in multiple locations. Perhaps this is due to the leaders 'lack of interest in adopting BI in the completion of activities and processes within the Real Estate Tax Authority in Central Delta, in addition to the lack of technical personnel necessary to manage and operate BI systems in the Real Estate Tax Authority in Central Delta.

5. Attention has been focused on the practice of BI in specific aspects, the most important of which is the focus on ensuring that workers in the Real Estate Tax Authority in Central Delta understand the importance of BI for the success of the Real Estate Tax Authority in Central Delta and considering this concept as part of the Real Estate Tax Authority in Central Delta culture. Therefore, the Real Estate Tax Authority in Central Delta focused on the need to support the top management in achieving the role of BI in the success of the Real Estate Tax Authority in Central Delta. As for the aspects that received a lesser level of attention, they were represented in the management expecting a high level of participation in the development and exchange of experiences in the field of BI.

6. The interest of Real Estate Tax Authority in Central Delta in the vital role played by BD technology and BI in transforming data into information, which is the first step in knowledge management, as well as the extent of Real Estate Tax Authority in Central Delta interest in all methods and procedures related to improving performance in the Real Estate Tax Authority in Central Delta.

7. Real Estate Tax Authority in Central Delta use data from a variety of sources, and that is why organizations are keen to use BD technology to link their various data sources, store them, and facilitate the speed of their analysis, with the aim of studying them and making use of them in all the different work in the Real Estate Tax Authority in Central Delta.

8. Real Estate Tax Authority in Central Delta adopt many data analyzes that help them in analyzing what happened in the past regarding customers in terms of their desires and needs, and predicting what will happen in the future.

9. The operational management in Real Estate Tax Authority in Central Delta seeks to improve the quality of the services they provide as a major factor in achieving customer satisfaction, as well as the desire to increase the size of their customers, which leads to a reduction in the cost of producing their services on the one hand, and the speed in delivering the service with the required specifications on the other hand.

10. There is a conviction from the operational management that BI plays an important role in improving and developing the operational performance in the Real Estate Tax Authority in Central Delta, in addition to the interest of the operational management in the necessity and importance of effective use of BI in order to make the appropriate decision at the appropriate time.

11. Recommendations

In the light of the previous results, the researcher concluded with a set of recommendations summarized as follows:

1. The necessity of attracting workers at Real Estate Tax Authority in Central Delta with experience and skill in dealing with BI techniques, as well as the possibility of developing workers in the technical field by directing them to participate in training courses in this field.

2. The use of the data warehouse as the most prominent techniques that provide analytical information through which administrative decisions are made, in addition to the analytical and immediate processing of the data and presenting it in an appropriate manner.

3. The necessity of integrating BI techniques in a manner that achieves the highest level of efficiency in exploiting and analyzing data, in order to achieve the highest level of decisions in light of the use of cost-benefit analysis.

4. Identify the applications of BI in Real Estate Tax Authority in Central Delta operating in the same field in order to benefit from them and achieve the highest levels of benefit in this field.

5. The need to pay attention to amending the services provided by banks to their customers, with the aim of making use of BI systems in developing the performance of employees, which leads to the survival, growth, and distinction of the banking sector while it is in the process of providing services to its customers.

6. The necessity to invest in all available resources in a manner that meets the needs and desires of customers on a daily basis, and to work on increasing and diversifying the services provided.

7. Interest in designing flexible organizational structures with which the organization's management can respond to the increasing changes in the market on the one hand, and strengthening its position in the application of BI systems on the other hand.

8. Work to form communication networks with academic institutions, whether universities, research centers or others, with the aim of getting acquainted with what is new in the field of BI systems and benefiting from them.

9. Conducting more studies and research in the field of BI at Real Estate Tax Authority in Central Delta and making use of it in developing, improving and diversifying the services provided by the Real Estate Tax Authority in Central Delta.

10. The need for Real Estate Tax Authority in Central Delta to pay attention to employing BI tools in building strategic information systems and activating their role in all different areas in the Real Estate Tax Authority in Central Delta.

11. Benefiting from the experiences of developed Real Estate Tax Authority in Central Delta and countries in building and employing BI tools and making use of available technologies, developing them and supporting them in a manner that leads to efficient and effective use of them.

12. The need for higher management in the Real Estate Tax Authority in Central Delta to pay attention to the mechanism of obtaining information from the various parties, so that this information is stored in the Real Estate Tax Authority in Central Delta storage warehouses after verification, collection and transfer so that the Real Estate Tax Authority in Central Delta can use it well in all its decisions.

13. Increasing the interest of senior management in generating knowledge from employees and converting it into tacit knowledge, through which it is possible to achieve competitive excellence and excellence for the Real Estate Tax Authority in Central Delta.

14. The need to pay attention to the causes of the decline in interest in the BI system by strengthening the relationships between all existing information systems in the Real Estate Tax Authority in Central Delta, and choosing modern technology in collecting information, in addition to working to exploit the implicit knowledge possessed by workers in the Real Estate Tax Authority in Central Delta, which leads to building learning Real Estate Tax Authority in Central Delta.

15. The necessity of investing the progress made between the BI system in enhancing knowledge transfer processes on the basis that it is the main gateway to achieving the learning Real Estate Tax Authority in Central Delta, by identifying the necessary resources for the development of the Real Estate Tax Authority in Central Delta, and the optimal investment for the BI system in knowledge acquisition and sharing among users in a manner that allows the Real Estate Tax Authority in Central Delta to diversify Its informational resources.

16. Increasing attention to the need to build the technical capabilities of individuals working in the field of information technology, through specialized training courses that increase their capabilities and skills in the field of BI technology.

17. The necessity and importance of spreading a culture of reliance on data among the Real Estate Tax Authority in Central Delta personnel in a manner that leads to the exploitation of the capabilities provided by both BD and BI in improving the performance of all different operations of the Real Estate Tax Authority in Central Delta.

18. The necessity of holding training courses and workshops at the level of the operational departments in the Real Estate Tax Authority in Central Delta in order to identify the importance of data and BI and their role in improving the operational performance of the Real Estate Tax Authority in Central Delta.

12. Future Studies

The present study attempts to reveal the dimensions of BD and its impact on the dimensions of the BI, but the scope of this study, the methods used and its findings indicate that there are areas for other future studies.

Among these research areas are (1) the impact of BD on BI in different sectors, (2) the effect of BI on SI, (3) the impact of BI on Strategic Success, (4) the impact of BI on strategic success, (5) the impact of BI on organizational prowess, (6) the role of BD and BI in improving operational performance, (7) the role of SI in facing crises, (8) The role of SI in human capital management, (9) the relationship between SI and some other concepts such as strategic thinking, strategic management, (4) the reality of SI in the banking sector (10) the impact of SI in achieving institutional excellence, (11) The role of strategic knowledge in enhancing SI.

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