

# The Role Of Accounting Information Systems On Financial Performance Using The Enterprise Resource Planning System (An Applied Study In The Southern Port Of Umm Qasr, Basra, Iraq)

Assistant Professor Dr. **abdulkareem Abdulghani Oudah**<sup>1</sup>, Res. **Ranya Riyadh Radhi**<sup>2</sup>

<sup>1</sup> *Shatt Al-Arab University College, Basra, Iraq.*

<sup>2</sup> *College of Graduate Studies, Southern Technical University, Basra, Iraq.*  
[dr.abdulkareem@sa-uc.edu.iq](mailto:dr.abdulkareem@sa-uc.edu.iq), [ranyariy67@gmail.com](mailto:ranyariy67@gmail.com)

## Abstract

The Enterprise Resource Planning system (ERP) appeared to address the limitations and challenges of legacy systems. It is one of the latest developments in information technology as it helps to strengthen the strategic position of the organization due to its highlighting of all the activities of the organization in addition to the information provides that helps managers make decisions in a right time.

Therefore, the study aimed to show the role of modern automated accounting systems represented by the ERP system and its contribution to the efficiency and effectiveness of financial performance in the southern port of Umm Qasr, Where ERP has been partially implemented in the port. An analytical study of the financial statements was conducted through horizontal financial analysis and financial analysis in financial ratios by comparing the performance before and after the application of the system to indicate the role of ERP enterprise resource planning system and its contribution to the financial performance of the port for the period from 2014 to 2018. The most important findings of the study are ERP's contribution to improving the financial performance of the port, maximizing profitability and increasing revenues by providing efficient and high-quality services to customers, as well as reducing the effort and reducing the stay time of ships and cargo in berths and container terminals. The most important recommendations are to link all departments, departments and ports in the General Organization for Iraqi ports within the system so that the comprehensive system is applied, as well as directing institutions to pay attention to information technology, especially accounting information systems, because of their role in supporting accounting and administrative reports.

**Keyword:** Accounting Information Systems, Enterprise Resource Planning, Financial performance.

## Introduction

In the past decades, the world has undergone major transformations at all levels (economic, political, social, cultural and technological). So, the economy has moved from a market economy based on capital to a knowledge economy based on the principle of information is the essential and important resource, which can make the enterprise a leader in its field of work, especially in light of the intensification of competition.

Accordingly, there is a need for integrated accounting and administrative information

systems that deal with all financial and administrative functions of the organization. Through a single database through which all applications share the data that is stored through this database, and extract reports that provide information to all administrative levels. These systems are characterized by the flexibility that makes them commensurate with the size of the organization (large, medium, small) and compatible with the administrative and financial functions performed by the organization.

In order to control and make the best use of such a large flow of information, as well as the significant role of information in communication and decision-making, the need was for an integrated information system that would help an organization meet the challenges in an era of constant change, where it would facilitate and ensure that information was communicated to users in general and decision-makers in particular, and across all enterprise activities such as the enterprise resource planning system (ERP).

## **I Research Methodology**

### **I.1 Problem Statement**

Organizations suffer from a lack of data integration and speed in information processing, due to their use of traditional systems and simple traditional software that lack better auditing features and systems that enhance interaction between the organization, clients and customers on a larger scale of the database and provide better information for decision makers where organizations can provide their products or services at a higher level Quality grades at the lowest cost, and the vital and strategic importance of Umm Qasr Port because of its key role in supporting country revenues, and the necessity of attracting customers from competing regional ports. The organization's resources, as it links the financial and operational activities with the rest of the port's activities (accounts, unloading, shipping, warehousing ....) so, the problem of the study can be clarified through the following questions:

- 1- Does the enterprise resource planning system contribute to improving the financial performance in the southern port of Umm Qasr?

### **I.2 Research Objective**

- 1- Shedding light on the current situation of Umm Qasr Port, identifying the basic lines of the ERP framework and clarifying them as an effective and good tool for

commercial movement, and the focus will be on the factors necessary for the success of the ERP system, the implementation steps and the resulting effects stakeholders and businesses as a result of this implementation.

- 2- Enhancing the concept of the enterprise resource planning (ERP) system for the company and its importance in maximizing revenues and reducing bottlenecks.
- 3- Knowing the importance of the Enterprise Resource Planning (ERP) system in terms of reducing time, effort and cost in the southern port of Umm Qasr.
- 4- Demonstrating the importance of information systems in achieving excellence in organizational performance and in the decision-making process through the application of the Enterprise Resource Planning (ERP) system, as it is assumed that there is a positive relationship between this system, improving performance, increasing competitiveness with other ports and increasing efficiency.

### **I.3 Research Importance**

1. The importance of the study stems from the fact that it is related to the shipping and port industry in Iraq, which has great economic importance as it is one of the most important industries, and ERP system will have a great role as one of the tools for facilitating trade business, which will reflect positively on the national interest and national income in the country.
2. The need to develop the performance of financial accounting by providing accurate accounting information, multi-dimensional and timely reports, and accelerating the decision-making process provided by the enterprise resource planning (ERP) system.
3. The Enterprise Resource Planning (ERP) system is considered an advanced stage of the development of information technology, as this system is an effective means that enables the company to be more efficient in managing its business. In

addition, ERP systems have assisted in the use of financial and non-financial data in reporting as quickly and accurately as required, therefore, companies have used ERP as a tool to improve their performance.

#### 1.4 Research Hypothesis

To address the research problem, a hypothesis was formulated:

**(there is no impact of accounting information systems (enterprise resource planning system) (ERP) on financial performance)**

#### 1.5 Research Method:

The inductive and deductive approach was relied on, as it relied on the inductive approach in extrapolating previous studies, and the deductive approach was relied on in the field study to test the research hypotheses, analyze the data we obtained from the relevant authorities of the General Company for Ports of Iraq and draw conclusions to verify the hypotheses.

#### 1.5 Research limits:

**A- Spatial limits:** The General Company for Iraqi Ports / Umm Qasr Southern Port was chosen because the ERP system was not used in any other Iraqi company except for Umm Qasr Port, which partially implemented the electronic ERP system, i.e. a small part of the comprehensive ERP system.

**B- Time limits:** The time period was set from 2014-2018, because before 2014 is not taken into account due to the difficulty of data availability, but after 2018 was the reason for not choosing 2019 due to the Corona pandemic.

#### 1.7 Review of literature:

The researcher deals with a brief presentation of some of the previous foreign studies that have been collected, as follows:

##### 1- Study (KANGOGO, 2018)

#### **(EFFECTS OF ENTERPRISE RESOURCE PLANNING ON FINANCIAL PERFORMANCE FINANCIAL INSTITUTIONS IN KENYA).**

This study investigated the effects of enterprise resource planning on the financial performance of Kenyan financial organizations. Descriptive research was used in this study. A case study of a group of 43 licensed banks and 13 financial organizations in Kenya was studied. The primary and secondary data were used in this study to obtain the specific objective of the study. The statistical package for the social sciences (SPSS) was used to evaluate the quantitative data obtained. The study found that the ERP system plays an essential supporting role in companies and industries, it is responsible for optimal performance in many organizations and supports a range of activities in modern organizations. The study also found that the adoption of enterprise resource planning leads to improving the performance of financial organizations, and therefore enterprise resource planning has an important and positive impact on the financial performance of financial organizations.

##### 2- Study (Epskamp, 2014)

#### **(Enterprise Resource Planning System Implementation and Firm Performance Comparing North American versus Latin American firms)**

This study investigated the impact of implementing enterprise resource planning systems (ERP) on corporate performance. The results showed that the implementation of the ERP system by itself does not increase the financial performance of the company. The operational performance of the ERP adopter is increased through stronger corporate governance compliance and improved management control systems that lead to increased efficiency and improved decision-making by managers. Comparing North and South American companies, it was concluded that North American companies generally outperform South American companies due to

the availability of superior resources and a stronger corporate governance network.

### 3- Study (Hussein, Ammar Mohammed, 2011)

**(Use Accounting Information System as Strategic Tool to Improve SMEs' performance In Iraq Manufacturing Firms).**

This study focused on examining the impact of accounting information systems on medium and small-sized companies operating in Iraq and using it as a tool to improve the work of companies. The study relied on the technique of collecting primary data, samples were taken on 118 owners and managers of a company in the industrial zone of Baghdad. The results of the study showed that there is a positive relationship between the use of accounting information systems and improving performance in Iraqi small and medium companies.

#### 1.8 Rationale and Contributions Study

1. After reviewing the previous studies, we note increased interest in the study of ERP systems. This interest is not specific to a specific type of organization, but includes all organizations, regardless of their production and service sectors
2. Previous studies have focused on demonstrating the importance of ERP systems in terms of its impact on improving enterprise performance by ensuring enterprise-wide integration.
3. The previous studies were limited to statistical analysis and the questionnaire method used in the practical aspect.
4. The researcher benefited from previous studies in enhancing knowledge of the ERP system and in the theoretical aspect.

**The current study is distinct from previous studies:**

1. The study was distinguished from previous studies by its reliance on actual data in practice. A balance sheet analysis was used to demonstrate the role of the ERP system in the financial performance of the port in the search sample.

## 2-Theoretical Background

### 2.1 Accounting Information Systems

Separately, the term AIS refers to accounting, which is a business language that tracks all financial and monetary transactions, the information that is stored from all financial transactions, and the system is an interconnected structure focused on a series of priorities (Yixuan & Arumugam, 2021, 18). In contrast to the traditional accounting activities that depend only on the collection, recording and dissemination of data related to the financial transactions of the organization, the accounting information system works as a complete component that converts primary data into constructive financial information that helps policy makers in making their decisions efficiently (ALmubaideen, 2021, 1). (Wilkinson et al. , 2000) notes AIS not only processes financial reporting and accounting information, but also translates non-financial data into accounting data.

### 2.2 Enterprise Resource Planning System

The ERP system is an evolution of the Material Requirements Planning (MRP) systems that appeared in the seventies of the twentieth century and the Manufacturing Requirements Planning (MRPII) system that spread in the eighties (Aslaf, 2020, 9). The term ERP was first coined by (Gartner Group corporation) in the nineties of the twentieth century and became widely used in the next years (Hall, 2011, 490) At the beginning of the twenty-first century it developed to the Expanded Enterprise Resource Planning (ERP II) system. The ERP system is the most advanced software solution for companies (Madapusi and

D'Souza, 2012). The ERP is an integrated information system at the enterprise level that contributes to the management and coordination of all resources, information and functions in the enterprise through a central database (Cuppen, 2016, 6). ERP systems provide the integration of many key business processes of an organization such as order processing and fulfillment, manufacturing, purchasing, human resources, all of which provide data to each other (Bagranoff et. al, 2010, 287).

### 2.3 Financial performance

Performance is an organization's ability to acquire and manage resources in many different ways to develop a competitive advantage. There are two types of performance, financial performance and non-financial performance. Financial performance focuses on variables directly related to financial reports (Tapang & Aznbike, 2018, 48). Financial performance is one of the elements that can indicate that an organization is managed efficiently and effectively in achieving its goals (Lukman & Helvenni, 2020, 355). Specific tools are used to evaluate financial performance, including horizontal financial analysis, by comparing changes in certain items of financial statements over a series of reporting periods. Horizontal analysis examines absolute and relative changes in financial accounts reported over time (Kaldybekova, 2018, 15). Also, performance is evaluated using financial ratios. Ratios are used as a complementary tool for horizontal analysis in order to measure and evaluate the facility's liquidity, operational efficiency and profitability (IASCA, 11). Ratios are a comparison of two measures of a business with each other. The two measurements were expressed in terms of the ratio of one number to another. Measurements can also be expressed in terms of the percentage that one represents to the other. Financial ratio data comes from the balance sheet, cash flow

statement, and income statement (Reid & Herble, 2017, 1).

### 3.1 Data analysis

Testing the first hypothesis which states that (there is no positive impact of the enterprise resource planning system on improving the financial performance and maximizing profits for the southern port of Umm Qasr). The following indicators were used: Horizontal financial analysis and ratio financial analysis. These indicators are considered important measures referred to by the accounting literature, as they are good indicators for evaluating the financial performance of the unit. Horizontal financial analysis means comparing the items of the financial statements from one accounting period to another in order to know the change in this item from one period to another. This type of analysis is done in two ways. determining the base year, the base year is often the first year, and here the base year is 2014 and the following years are measured against it to see the change taking place. Or by using the change of a year to a previous year, and through this analysis we can know the direction and condition of the item if it is stable or volatile or in a state of increasing or decreasing. financial analysis using ratios, it is a set of financial measures that measure the company's success in managing its assets and liabilities, as well as diagnosing the company's financial position and evaluating performance.

### 3.2 Horizontal Financial Analysis of Cost Item:

The horizontal financial analysis was carried out in two ways, the first by finding the relative difference and comparing with the previous year, the second method by comparing with the base year, and as shown below Table No. (1), which includes the relative change in the costs of services provided in the southern port of Umm Qasr for the years before Apply the system and compare it with years after implementing the system.

**Table (1) shows the relative annual development in service costs**

Year	2014	2015	2016	2017	2018
<b>Service costs compared to the previous year</b>		0.332338563	-0.341528248	0.16085977	-0.005895722
<b>Service costs compared to the base year</b>		0.332338563	-0.122692692	0.018430151	0.01242577

**Source: prepared by the researcher based on the port's cost records.**

Table No. (1) reflects the change that occurred in the costs of services. We find that there is a change in the costs of services, an increase, the most prominent of which was in (2015), for the year (2016), we note the decrease in costs, whether in the case of financial analysis through the base year or analysis according to the previous year. Costs of services provided for the year (2016), for years (2017 and 2018), we find that the costs of services provided are in good condition, as in (2018) it was (0.005) compared to the previous year (- 0.012) for the base year, and this is a positive percentage relative to the services provided to containers that were (100.237) in (2018). Table No. (1) also shows that the rate of increase in costs of services provided for 2017 and 2018 compared to 2016 was small for all years. The results of Table (1) are positive, which indicates a decrease in costs with an increase in the port's

annual revenues. And as shown below through the ratio of the cost of services provided to know the amount of costs of services in relation to revenues.

### **3.3 The percentage of the cost of the services provided.**

The ratio of the cost of the services provided to the revenue is the arithmetic complement of the ratio of the gross profit, and the company's management should monitor these two ratios, the ratio of the cost of services provided and the ratio of the gross profit so that it can control its performance, as the lower the ratio of the cost of services provided, it is a positive indicator of increasing the efficiency of the administration and this ratio is calculated According to the following formula:

$$\text{Cost Ratio} = \text{Cost of Services Provided} / \text{Revenue}$$

**Table (2) shows the percentage of costs of services provided**

year	cost ratio
<b>2014</b>	0.3727
<b>2015</b>	0.3745
<b>2016</b>	0.3206
<b>2017</b>	0.3034
<b>2018</b>	0.2562

**Source: prepared by the researcher based on the port's cost records.**

The ratio of the costs of services provided to revenues was (2014) (0.3727) before the implementation of the ERP system, and it decreased significantly to (0.2562) in (2018) after the implementation of the ERP system, and this is a positive indicator that indicates that the organization was able to rationalize the processes of providing services with lower

costs. However, it was able to achieve (revenues) at a good level, or it may be that the cost increase was less than the increase in revenues, which is a positive indicator that indicates the efficiency of the administration in putting pressure on the elements of the costs of the services provided. This shows that the management has been able to control its

performance, as the cost has been well managed, which in turn has a significant impact on total profits as well as reducing costs, as a result of reducing delays in the waiting area, and reducing manual handling and optimal use of space, while the high costs resulting from delayed receipt of goods on time and delays in the waiting area have a negative impact on commercial circulation and thus adversely affect the economic potential of the country, as provided by the ERP system.

### 3.4 Horizontal financial analysis of the revenue.

One of the main objectives of the organization is to increase sales / services. To achieve this, the organization must enter the competition market and attract the customer. In order to achieve distinction, value must be created for customers. Information technology (electronic systems) contribute to creating value for the customer, which can be measured through the following equation:

Added value to the customer = low price + reduced manufacturing cycle time + the company's relationship with its customers.

The time of the manufacturing cycle is reduced by working to reduce the waiting time for ships and the time for paying wages in addition to

reducing the time for unloading, and this leads to a decrease in the costs incurred by the customer when he stays for a longer period of time in the port with the cost of administrative services, And in order to provide services with a competitive advantage, services are provided with high quality and less cost, implementation of ERP system works to automate the operations and then conduct work at the docks and the container terminal and the ships are not delayed at the waiting point, which led to attracting customers and marine agencies and gaining customer satisfaction through Providing services as quickly and regularly as possible, thus achieving an increase in the port's revenues, Just as the low wages (tariffs) that are imposed by the company adds value to customers, as well as building good customer relations with the port administration and its operations department, the ease of communication and other facilities provided to the customer by the port gives the customer confidence and satisfaction, and this is what the ERP system provides and as shown through the table No. (3) shows the annual relative change of the revenue item for years before the implementation of the electronic system and after the implementation of the electronic system.

**Table (3) shows the percentage of annual development of the port's revenues.**

Years	2014	2015	2016	2017	2018
Revenue development compared to the previous year		0.325908139	0.231011884-	0.226919486	0.17712859
Revenue development compared to the base year		0.325908139	0.019607602	0.250976434	0.472560126

**Source: Prepared by the researcher based on company data.**

Table No. (3) indicates that the revenues at the port have clearly changed between the year (2014) and the year (2018), as indicated by the ratios in Table No. (3), whether through the

revenue relationship for each year in relation to the previous year or through the revenue relationship For each year with the revenues of the base year (2014) and with the exception of

the year (2016), which indicated a decrease in the volume of revenues compared to the previous year, all other years were moving towards the development of revenues, the highest level was in the year (2018), which indicated revenues exceeded (83) billion Iraqi dinars, achieving a rate of (47%) an increase over the base year, and the year (2016) indicated a decrease in the level of revenues, and it achieved the lowest return within the five-year series, and the plans are shown Subsequent to the schedule mentioned changes in revenue. the data of Table No. (3) for clarifying the annual development of the port's revenues and Table No. (1) for clarifying the costs of the services provided clearly indicate the development and increase in revenues and decreases in costs compared to the base year (2014). However, observing both types of development shows that the rates of

development in revenues are higher than the rates of development in costs, which is a condition that represents efficiency in performance because it leads, as a result, to higher rates of total profit.

### 3.5 Horizontal analysis of gross profit.

The gross profit item is analyzed using the comparison with the previous year and using the base year and the base year (2014), with the aim of knowing the extent of the impact on the profitability of sales / services and thus knowing the impact on the revenue power of the invested funds, as shown below in Table No. (4) which It shows the relative annual change of the gross profit item for the years before the application of the electronic system and after the application of the electronic system.

**Table (4) shows the annual relative change of gross profit.**

Years	2014	2015	2016	2017	2018
<b>Total profits compared to the previous year</b>		0.322087575	-0.164840705	0.25810489	0.256851208
<b>Total profit compared to the base year</b>		0.322087575	0.104153727	0.389141203	0.745943798

**Source: Prepared by the researcher based on company data.**

A review of Table No. (4) and the rates of change for the five years, compared to each of them in the previous year and the base year, indicates that the growth rates in 2015 were (32%) compared to the base year (2014), as well as the year (2016), where the development was ( 10%) compared to the base year and (38%) for the year (2017). As for the year (2018), we notice a significant increase, where it achieved a percentage of (74%), meaning that the increase is in years after the implementation of the ERP system. This increase indicates the significant increase in annual revenues compared to the percentage increase in costs referred to in the above table. However, we note that for the year (2016), the gross profit

decreased compared to the previous year, which is the same phenomenon that we observed in the development of revenues for the year (2016), where we noticed that this year witnessed a noticeable decrease compared to the percentages of gross profit.

### 3.6 Gross Profit Ratio.

This ratio shows the amount of one dinar of sales to generate the total profit, the higher this ratio is considered a positive indicator for the organization. This ratio is considered more indicative for evaluating performance, especially when comparing organizations or comparing several periods for the same organization, and this ratio expresses the result



of the basic operational activity of the organization.

This percentage is calculated according to the following formula:

$$\text{Gross Profit Ratio} = \text{Gross Profit} / \text{Revenue}$$

Table No. (5) shows the change in the ratio of gross profit to revenue over five years, years before the implementation of the electronic system and years after the implementation of the electronic system.

**Table (5) shows the change in the gross profit percentage.**

years	Gross Profit Ratio
2014	0.6272
2015	0.6254
2016	0.6793
2017	0.6965
2018	0.7437

**Source: Prepared by the researcher based on company data.**

The ratio of the cost of services to revenue and the decrease that occurred in it, and this is a positive indicator that is fully consistent with the movement of the ratio of gross profit to net sales. This ratio increased from (0.62) in (2014) before the application of the electronic system to (0.74) in (2018) after The application of the electronic system, as it is clear that the decrease in cost came in the cost of services provided with the net sales remaining the same or increasing, and therefore it was directly reflected on the ratio of gross profit to revenue, as this ratio improved in a way that parallels the improvement in the indicator of service cost to revenue and that the increase This ratio is a good indicator, as the higher this ratio, the more the management is in a good position, which enhances an improvement in the dinar

profitability ratio for sales and this is what the management seeks. Facing difficult circumstances, for example, a decline in the volume of sales (services).

### **3.7 Financial analysis of the Cost of administrative services item**

We analyze the item of Cost of administrative services and other income in order to reach the analysis of the net profit in the best way, and as mentioned below the financial analysis of the item of Cost of administrative services. Table No. (6) presents the relative annual change for the item of Cost of administrative services so that the comparison is made between the years before the application of the electronic system and after the application of the electronic system, as follows.

**Table (6) shows the relative annual change in Cost of administrative services.**

Years	2014	2015	2016	2017	2018
Cost of administrative services compared to the previous year		0.353388373	-0.128655755	0.214417107	0.423541959
Cost of administrative services compared to the base year		0.353388373	0.17926717	0.432122226	1.038686079

**Source: Prepared by the researcher, based on the organization's data.**

According to Table No. (6), which shows the percentages of Cost of administrative services of the port, we find that these percentages have

increased significantly more than the increase in the percentages of production costs, and even more than the increase in the percentages of

revenues over the five years, and it may significantly affect the benefit of the total profit, which was achieved well as a result of the decrease. The percentage of increases in production costs is close to the percentage of increases in revenues. Reviewing the percentage of increases in Cost of administrative services for the year (2015) compared to the base year, indicates an increase of (35%), and in (2017) the increase was (43%). In (2018), the increase in Cost of administrative services amounted to about (100%). In (2016), the increase was less than the rest of the years, as I indicated (17%) compared to the base year. However, if Cost of administrative services were measured for the year (2016) compared to the previous year (2015), then they decreased by (12%), which is the same context in which the year (2016) appeared in all previous

activities, where there was a noticeable decrease in all years, not only in expenses but in revenue. We note in Table No. (6) cases of clear increases for all years with respect to Cost of administrative services except for the year (2016).

### 3.8 Financial analysis of other income item.

The financial analysis of the other income item is done by comparing the other revenues for the year to be measured and analyzed with the years of the previous year and also by comparing the year to be analyzed with the base year (2014) to find the relative variable, and Table No. (7) shows the annual relative change of other revenues for years before implementing The electronic system and years after the application of the electronic system.

**Table (7) shows the relative annual change in other revenues.**

Years	2014	2015	2016	2017	2018
<b>Evolution of other revenues compared to the previous year</b>		2.499831792	0.656949237	-0.76963671	1.624082973
<b>Evolution of other revenues compared to the base year</b>		2.499831792	4.799043616	0.335886725	2.505477608

**Source: Prepared by the researcher based on company data.**

We note the change that occurred in the port's other revenues through Table No. (7), as it reflects a certain difference from the rest of the activities, which is a significant increase in other revenues that occurred in (2016) and exceptionally from the rest of the years, so the decrease in the percentage occurred in (2017) compared to the previous year (2016), in contrast to the rest of the activities, all of which were higher than the previous year. Also, this increase in other revenues in (2016) was clear compared to the base year, which amounted to about (4.7%) compared to the base year (2014), where revenues in (2016) were about (943) million dinars compared to (2014), when It was (162) million dinars. Also, this significant development in other revenues in (2016) was evident in Table (7), which indicates a

significant increase in other revenues for the year (2016) compared to other years.

### 3.9 Horizontal financial analysis of the net profit item.

The net profit component is one of the important elements that occupies a large degree of interest of managers, as the departments seek to achieve a net profit in the best way in line with the desired planned goals. The increase in net profits is an important goal that organizations seek to achieve, and the net profit is a measure of profitability. The port shows profit the actual port and according to Table No. (8), it shows the annual relative change before the application of the electronic system and after the application of the electronic system.

**Table (8) Relative change in net profit.**

Year	2014	2015	2016	2017	2018
Net profit compared to the previous year		0.302398198	-0.192925997	0.264372298	0.022963228
Net profit compared to the base year		0.302398198	0.051131727	0.329021838	0.359540469

**Source: Prepared by the researcher based on company data.**

Reviewing the data of Table No. (8) related to the annual net profits of Umm Qasr port indicates that the increase in net profits was consistent in its increase except for the year (2016) if we take the measure of the relationship with the base year (2014), where the percentage of increase was in (2015). ) is (30%), in the year (2017) it is (32%) and in the year (2018) it is about (36%). Although the increases in other revenues were good so that they could lead to a larger increase in net profits, but the increase that Publish it in Table (6) about Cost of administrative services that led to the reduction of increases in net profits. The same observation can be made with regard to the year (2016), which faced a decrease in net profits in (2016) compared to the year (2015). However, the year (2016) maintained a slight increase in net profit compared to the base year, which was represented by (5%). We note that

the year (2018) achieved the highest net profit compared to other years. Net profit percentage. This ratio is a measure of the amount of net profit achieved after interest and taxes for each dinar of net sales or revenue, as a higher ratio indicates a more profitable company and has a better control over costs. It is necessary to compare the results of this ratio with those of previous or subsequent years, as the increase in profits does not mean that the profit margin of the enterprise has improved. Need to improve its control over costs.

This percentage is calculated according to the following formula:

$$\text{Net Profit Ratio} = \text{Net Profit} / \text{Net Sales}$$

Table No. (9) shows the change in the percentage of net profits for five years, two years before the application of the electronic system and two years after the application of the electronic system, in addition to the year (2016), the year of implementing the system.

**Table (9) shows the percentage of net profit.**

year	net profit ratio
2014	0.2641
2015	0.2595
2016	0.2723
2017	0.2806
2018	0.2439

**Source: Prepared by the researcher based on company data.**

The positive impact on the gross profit through the decrease in the cost of the services provided was not adequately reflected on the ratio of net profit to revenue, as it was clearly shown that this ratio was unstable (volatile) instead of improving, as is the case with the ratio of gross

profit, which rose positively And this ratio was (0.26) in (2014) and became (0.24) in (2018). This case is a clear indication that the ratio of the cost of services provided to revenues was good, but on the other hand, there was a significant increase in administrative and

financing expenses, which by their nature affect the percentage of net profit. This indicator gives a clear picture of the efficiency of the departments due to the significant decrease in the cost caused by a significant increase in the ratio of gross profit to revenue, while there was a reluctance to rationalize decisions related to Cost of administrative services. This led to a decrease in the ratio of net profit to revenues for the year (2018), if we compare the net profit before the application of the ERP system and after the application of the ERP system, we note that it is in a positive state.

### 3.10 Horizontal financial analysis of the fixed assets item.

**Table (10) shows the relative annual development of fixed assets.**

Year	2014	2015	2016	2017	2018
Fixed assets compared to the previous year		0.212390626	-0.108011623	-0.134506885	0.069408884
Fixed assets compared to the base year		0.212390626	0.081438347	0.064022556-	0.128987706

**Source: Prepared by the researcher based on company data.**

There is no doubt that any increase in revenues reflects a change and an increase in production capacity, and that the increase in production capacity is directly reflected on the assets that generate energy and represent the source of revenue, and that their expenditures are directly reflected in the expenditures incurred by the project, which is reflected in the data of the previous table. However, we notice a kind of inconsistency here, as the percentages of increase in fixed assets reflect. By reviewing the percentages in these assets, we find that a decrease occurred in the percentages for the years (2016 and 2017) compared to the previous year. We also note a decrease in the percentages for the years (2017 and 2018) if we use the comparison percentage with the base year (2014). It is noted that the year (2015) increased the value of assets, the decrease became evident in the subsequent years (2016,

Fixed assets are one of the most important components of the balance sheet, and in the case of the work of the General Company for Iraqi Ports / Umm Qasr Port, the fixed assets are an important component on which the port services are based. The horizontal financial analysis of the fixed assets item was done based on the comparison with the previous year on the one hand and the comparison with the base year (2014) On the other hand, Table No. (10) presents the relative annual change in the fixed assets of Umm Qasr Port for five years before and after the application of the electronic system and my agencies.

2017 and 2018). This case shows that the General Company for Ports of Iraq / Umm Qasr Port was not interested in developing and improving its fixed assets and energy source and was satisfied with development in (2015), which means that the increase it achieved in revenues and net profits was dependent on increasing the services it provided more than it was Based on the process of development and improvement of fixed assets. From the above table, it was noted a decrease in assets for the years following the year (2014) in addition to a decrease in the cost of production (cost of services), and an increase in gross profit, and this is a good indication that management is using its resources optimally to create sales in a good way. To further clarify the company's productivity, we show below the productivity percentage.

### 3.11 Productivity ratio.

This metric reflects energy used. Fixed asset turnover shows how well the company uses equipment, machinery, systems, technology, docks and yards, ie how long-term investments are managed. Therefore, the increase or increase in turnover reflects the efficiency of the use of fixed assets, and this ratio is calculated according to the following formula:

Productivity Ratio = Revenue / Fixed Assets  
Table No. (11) shows the change in the productivity rate of Umm Qasr Port for five years, two years before the application of the electronic system and two years after the application of the electronic system and the year of implementation of the system.

**Table (11) shows the change in productivity ratio.**

year	productivity ratio
2014	0.7928
2015	0.8670
2016	0.7475
2017	1.0596
2018	1.3404

**Source: Prepared by the researcher based on company data.**

But if we look at the productivity rate, we find it in a state of continuous improvement, and it is clear from Table No. (11) that the productivity rate has tended to rise after the application of the electronic system, compared to the period before the application of the electronic system, and it is in line with the ratio of services costs to revenues that It improved due to the decrease in cost. The productivity ratio, which is the result of dividing revenues into fixed assets, was (0.79) in (2014) and increased to (1.34) in (2018), which is a clear improvement, which indicates the increase in this percentage on the extent of the efficiency that The administration enjoys through the distinguished performance that was used in the operation through the effective utilization and optimization of its fixed assets in creating (services), which affects its strategic position positively. We will discuss below the capital intensity ratio in order to know the extent to

which sales / services can grow at a rapid rate without the need for additional external financing, as shown below.

### 3.12 Capital Intensity Ratio.

The increase in the capital intensity ratio is considered a bad indicator and vice versa. This percentage often increases in industrial companies and companies that need larger amounts of capital for the purpose of increasing production and increasing services.

This percentage is calculated according to the following formula:

$$\text{Capital Intensity Ratio} = \text{Fixed Assets} / \text{Revenue}$$

Table No. (12) shows the results of the capital density ratio for the port of Umm Qasr, for the period before the application of the electronic system and after the application of the electronic system, in addition to the year of implementation of the system.

**Table (12) shows the percentage of capital intensity ratio.**

year	Capital Intensity Ratio
2014	1.2612
2015	1.1532
2016	1.3377
2017	0.9436

2018	0.7460
------	--------

Source: Prepared by the researcher, based on the organization's data.

It seems that many changes have taken place in the organization during the study period for the years (2014-2018), as the ratio of capital intensity, which is measured by dividing assets to revenues, shows a significant decrease in asset values compared to sales, as this ratio was (1.26) in the year 2014) before the application of the electronic system and decreased to (0.74) in the year (2018) after the application of the electronic system as indicated by the above table, that the decrease in the percentage, whether due to a decrease in assets or an increase in revenues, this is a good indicator that indicates that revenues can grow (Services) with a rapid growth rate without the need for additional external financing, and this indicates the extent to which the port administration is able to optimally control its assets and resources.

Based on the foregoing, all the results of the financial indicators indicate that the application of the ERP system positively affects the financial performance, and this was done by providing efficient and high-quality services to customers, as costs were reduced, the effort expended and the time for ships and goods to stay. In berths and container terminals, this in turn contributes to reducing costs, and it takes into account the available resources of equipment, machinery, storage yards and manpower. The system archives documents, reduces manual handling of transactions, reduces paperwork, and helps reduce waiting time by receiving the main list of ships before they reach the waiting yard, and also facilitating the operations of loading, unloading and clearing goods, and this in turn reduces costs and other wages, which has improved The financial performance of the port, and this means rejecting the hypothesis that **(The application of accounting information systems (enterprise resource planning system) in the southern port of Umm Qasr does not contribute to improving financial performance and maximizing profits),.**

which proves the role of the ERP system and its positive impact on the financial performance of the port.

## Conclusions

1. The Enterprise Resource Planning (ERP) system is one of the latest developments in information technology that helps in enhancing the strategic position of the organization because it sheds light on all the activities of the organization in addition to the information it provides that helps managers to take decisions in a timely manner.
2. The enterprise resource planning system is a set of software that implements various functions of the enterprise, which depends on the use of the electronic computer and achieves integration between the departments and departments of the enterprise through a central database.
3. When the enterprise resource planning system is applied, it results in many benefits, including strategic benefits represented in achieving business growth plans, and operational benefits related to reducing costs and improving the quality of products and services, infrastructure benefits as a result of relying on the enterprise resource planning system and dispensing with traditional systems. Improving employee satisfaction.
4. There is a positive impact of the ERP system on the financial performance of the port, and this has been proven through the use of horizontal financial analysis and financial analysis using ratios, as all indicators and all ratios that were used prove that there is a noticeable impact on both costs and revenues and the optimal use of resources (assets). ) This in turn affects the financial performance of the organization.

5. The presence of a central database that contributes to benefiting from improving the efficiency of the various functions in the organization.
6. The Enterprise Resource Planning (ERP) system has been implemented comprehensively, with a focus on the success factors of the Enterprise Resource Planning (ERP) system, which greatly affects the changes in the strategic performance of the organization.

### Recommendations

- 1- The necessity of linking the other departments in the General Organization for Ports of Iraq within the system so that the system is run in the best way in order to take full advantage of the application of the system and achieve the strategic objectives of the Organization.
- 2- Other departments and agencies supporting the completion of the port's work must approve the connection to the system for the purpose of conducting business and facilitating transactions within the port's papers.
- 3- Concentration of managers by conducting several training courses for employees on the electronic system, which contribute to the development of the capabilities of employees on the electronic system in the Organization, to increase the experience of workers in the field of information technology systems, and this in turn contributes to improving the efficiency of employees and increasing the efficiency of the system.
- 4- Directing the port of Umm Qasr to install cardboard gates for each berth and all storage yards in addition to the main gate and linking them with the system.

### Sources

- 1- Yixuan & arumugam, wu, dhamayanthi, " the impact of accounting information system on organisational performance in

china", *electronic journal of business and management*, vol.6 issue 4, 2021 pp. 18-33, e-issn:2550-1380-issn.

- 2- Almubaideen, haitham i.m, " the effectiveness of accounting information system on open budgeting in industrial sector in jordan ", *academy of accounting and financial studies journal* volume 25, issue 4, 2021.
- 3- Wilkinson, j. w., cerullo, m. j., raval, v. and wong-on-wing, b. (2000). *accounting information systems: essential concepts and applications*. new york: john wiley and sons.
- 4- Asalf, yordanos, " enterprise resource planning implementations in moha soft drinks industry s.c: challenges and prospects", master thesis , st.mary's university, addis ababa, ethiopia, june, 2020.
- 5- Hall, james a., "accounting information system", seventh edition, 2011.
- 6- Madapusi, arunkumar, " post-implementation evaluation of enterprise resource planning (erp) systems", doctoral thesis, university of north texas, may-2008.
- 7- Cuppen, jurre, " enterprise resource planning systems and the effects on management control", master's thesis, radboud university, nijmegen – netherland, 2016.
- 8- Bagranoff ,nancy a., mark g. simkin, carolyn strand norman, " core concepts of accounting information systems", eleventh edition, john wiley & sons, isbn 978-0-470-50702-5 (pbk.).
- 9- Tapang, arzizeh t. & azubike, joseph u. b., " effect of enterprise resource planning implementation on financial performance of commercial banks in nigeria", *journal of accounting and financial management* issn 2504-8856 vol. 4 no. 6 2018.
- 10- Lukman, hendro, tanuwijaya helvenni, " the effect of financial performance and intellectual capital on firm value with csr as a mediating variable in banking industry", *advances in economics, business and*

management research, volume 174, (icebm 2020).

- 11-** Kaldybekova, sabina, " evaluation of the company's financial performance through financial analysis methods", master's thesis, masaryk university, 2018.
- 12-** Reid, robin, herbel, kevin, "financial ratios used in financial management", research. kansas state university agricultural experiment station and cooperative extension service, 2017.