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EXAMINING THE EFFECT OF ERP SYSTEM ON FINANCIAL MANAGEMENT SYSTEM AT A PUBLIC SECTOR: CASE IN STATE SUPPLY OFFICE (DMO) BETWEEN 2012-2022

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Abstract:
ERP systems integrate business processes and enable more efficient use of resources. This leads to reduced costs and increased efficiency, increasing the long-term profitability of the business and positively affecting equity. Thus, the financial performance of businesses improves. The success of financial management is evaluated by its contribution to financial performance. The purpose of this research is to examine the effects of the ERP system on the financial management of the State Supply Office. In the research, the impact of the ERP system on financial performance was evaluated through the effects of current assets, equity, short-term liabilities and long-term liabilities on the net profit of the period within the scope of regression analysis method. The research findings show that especially equity and long-term debts are important factors affecting financial performance. In this context, it was concluded that DMO can increase its financial performance if it optimizes equity management and debt structure.

Keywords:
Enterprise Resource Planning, Government Supply Office, Financial Management

1. Introduction

The global competitive environment makes it difficult for businesses to sustain their existence. Small and medium-sized enterprises (SMEs) can compete with large enterprises by reducing costs, making flexible production and benefiting from economies of scale. However, adapting to changing technologies and adapting quickly is of critical importance in this process (Çubukcu, 2018). For this reason, businesses tend to adopt enterprise resource planning (ERP) systems to increase their management capacity and improve their competitiveness (Yong, 2016).

The implementation of ERP systems has brought about significant changes in the organizational structure of businesses and initiated a transformation process in financial management. These systems provide more effective control of accounting transactions through integrated financial management. Otherwise, businesses may have difficulty in quickly adapting to technological developments with traditional financial management (Yong, 2016). Traditional business solutions may not always be sufficient in terms of development and adaptation of applications (Bartolome, 2022). This situation can negatively affect the financial performance and risk level of the enterprise due to ineffective implementation of financial management and decreased efficiency. The use of ERP systems increases the overall management efficiency of the enterprise while reducing risks and error rates in decision-making processes (Zhang, 2022). For this reason, enterprises generally prefer to implement the ERP financial management system first (Chen and Kang, 2022).

The State Supply Office (DMO), one of the main actors of the public procurement system, plays an important role in both the national economy and the local economy. Having great experience and potential in central procurement, DMO also affects the development and growth of sectors (Aktaş, 2023). DMO gains various advantages by using ERP system. These advantages include providing faster and easier access to the organization's planning and management information, providing better service to central and provincial units, customers, suppliers and

personnel, reducing risks related to purchasing and financial transactions, increasing the organization's efficiency and reducing costs (DMO Activity Report, 2012). The integration of various functions of the DMO increases efficiency and makes processes more effective. Thanks to this integration, human resources applications are integrated with the accounting information system, thus accelerating information flow and increasing data consistency. In addition, the ERP system offers more effective budget control and financial planning opportunities by integrating the purchasing function with financial processes. In this way, data inconsistencies between central and provincial units are reduced (DMO Activity Report, 2015), instant access to data is provided and daily, weekly, monthly or annual financial reports can be prepared quickly (Kurnaz and Kestane, 2019).

In this study, the effects of the ERP system on the financial management of the State Supply Office (DMO) were examined within the scope of financial statement elements (assets, liabilities, equity, income and expenses) (KGK, 2018). The study consists of two main sections. In the first section, a comprehensive literature review was conducted on the definition, advantages and disadvantages, history, functions and database systems of ERP. In the second section, accounting and financial management, the impact of ERP on financial management and the benefits it provides were discussed. In addition, a multiple linear regression model was created between the current assets, equity, short-term liabilities, long-term liabilities and net profit in the DMO Enterprise Balance Sheet and the analysis of this model was performed.

2. Definition and Features of Enterprise Resource Planning (ERP)

ERP systems are considered one of the most important innovations in the field of information technology (IT) (Aloini, 2019). These systems integrate various areas of businesses such as sales, marketing, finance and human resources, allowing for more efficient and planned operation. The main purpose of ERP is to facilitate the flow of information within the business and to provide effective communication with external stakeholders (Serhan and Hajj, 2019). In this way, business processes are optimized and corporate efficiency, competitiveness and customer satisfaction are increased (Huckabee, 2013).

ERP systems can be defined in different ways; some definitions are complex and detailed, while others contain simpler and more understandable explanations (Kitsenko, 2020). Davenport (1998) defines ERP as software modules that integrate business management applications (Kuo, 2014). Daoud and Triki (2013) state that ERP is applications developed to integrate all business processes (Topçu, 2019). Hall (2016) states that ERP is an information system that automates business processes (Rahman and Ratnawat, 2021). Phaphoom et al. (2018) emphasize that ERP plays a role in increasing competitiveness and cost efficiency (Estebanez, 2024). Heena and Oza (2019) define ERP as a system designed to increase the efficiency and profitability of organizations (Bartolome, 2022). Jayakrishnan (2019) states that ERP is important in automation and data collection in the healthcare, banking and public sectors (Strayer, 2020).

ERP systems are not just about integrating business processes. In order for an ERP system to be successful, it must have some basic features. Markus and Tanis (2000) list these features as integration, standard software packages, application software, restructuring and flexibility. Integration combines all business processes of the enterprise. Enterprise systems are usually purchased or rented as standard software packages. Application software is specially designed to meet the needs of the enterprise. Restructuring enables integration with old systems in cases where updates are insufficient. Like other information technologies, ERP systems have the flexibility to adapt quickly to change (Aloini, 2009).

2.1. Advantages and Disadvantages of Enterprise Resource Planning

Supramaniam and Kuppusamy (2010) state that ERP systems have three main advantages. These advantages are listed as operational efficiency (cost reduction), operational effectiveness (value creation ability) and operational flexibility (quick adaptation to changing business conditions) (Watania, 2013). Saudi (2016) lists the advantages of ERP as optimizing business processes, fast access to reliable information, increasing information sharing, preventing data redundancy, improving business performance, saving time, reducing costs and strengthening customer relations (Mikugi and Muhammadhamisu, 2020).

Although ERP systems provide significant advantages, their high purchase and installation costs and the fact that they often require radical organizational changes are a major obstacle (Aloini, 2009). In addition, privacy concerns and lack of adequately trained personnel can negatively affect the efficiency of the system. Since ERP systems are

complex to implement and costly to customize, there is also a risk that the implementation process will take longer than expected. Data, function and output incompatibilities may occur between corporate requirements and ERP packages; this is because ERP business models are often based on European or US industry practices (Shehab vd., 2004).

2.2. Historical Development of ERP Systems

The basis of ERP systems is based on Material Requirements Planning (MRP) systems developed in the 1960s (Arı and Diri, 2019). The purpose of MRP is to organize product or part demands according to the master production program. Manufacturing Resource Planning (MRP II) systems, introduced in the 1970s, cover areas such as production and distribution management, project management, finance, human resources and engineering (Salur and Kattar, 2021). In the late 1980s, IBM introduced the concept of computer-integrated manufacturing (CIM). The main purpose of CIM is to ensure consistent and efficient integration of information across the enterprise (Aloini, 2009).

Developed by the Gartner Group in the 1990s, ERP emerged as a more advanced version of MRP II by integrating different departments of businesses. While MRP II focused on a single business, ERP provides the integration of multiple businesses. In the 2000s, ERP was expanded with functions such as advanced planning and scheduling (APS), customer relationship management (CRM), and supply chain management (SCM) (Erkan, 2018). With technological developments, ERP systems have shifted from client/server architecture to web application servers, allowing users to perform faster installation and customization (Shehab vd., 2004).

2.3. Functions of Enterprise Resource Planning

Businesses need automated systems consisting of various modules to effectively manage their administrative and operational activities. ERP provides businesses with great flexibility by integrating modules such as inventory management, sales and distribution, human resources management and financial management (Arnedo, 2022). Thanks to the modular structure of ERP, each module can be used independently (Kurnaz and Kestane, 2019).

Inventory management provides support for the transportation of finished products coming out of production, transportation, logistics, invoicing and ordering processes (Rono, 2020). Sales and distribution management undertakes the tasks that manage the sales and distribution chain and ensure that the product reaches the customer (Sonwalkar, 2020). Financial management includes receivables and payables, general ledger, fixed assets and cost management (Ömürbek, 2003). Human resources management regularly monitors leave tracking, payroll, recruitment and personnel information (Mikugi and Muhammadhamisu, 2020).

2.4. Enterprise Resource Planning Database Systems

ERP software such as SAP, Oracle and PeopleSoft are used to make data management of businesses easier and more effective (Topçu, 2019). These applications are based on a central database, work in client/server architecture and consist of various functional modules (Shehab vd., 2004).

Founded in Germany in 1972, SAP supports businesses in supply chain optimization, developing customer relationships, and making the right decisions (Gencel, 2003). Preferred by international companies and large-scale enterprises, SAP includes modules such as finance, material management, sales, production planning, and quality management. It is also the world's largest software company in the fields of customer relationship management (CRM), enterprise resource planning (ERP), and supply chain management (SCM) (Arnedo, 2022).

Oracle was founded in 1977 as Software Development Laboratories and later changed its name to Oracle Systems Corporation. It provides services in the fields of database development, hardware, ERP, CRM, SCM and human resources management (Gencel, 2003). In 2004, Oracle acquired the PeopleSoft software company, which provides services in the fields of human resources management, financial management, customer relationship management (CRM) and supply chain management (SCM) (Arnedo, 2022). Founded in 1987, PeopleSoft initially started operating in the field of human resources and financial management (Aloini, 2009) and over time developed solutions covering all business processes (Paşaoğlu, 2018).

2.5. Literature Research

In the literature, the impact of ERP systems on financial performance has been addressed in the context of reducing operating costs and increasing profitability. In the studies conducted, it has been determined that ERP systems have positive effects on financial performance, operating costs, organizational performance and accounting information systems. Some studies on this subject are summarized below.

Table 1: Amounts of Dependent and Independent Variables for the Period 2012-2022

Year	Authors	About the Work
2005	**Gök**	It investigated the effects of ERP implementation success on firm performances (innovation, marketing, production, financial and organizational). According to the regression analysis results, it was determined that ERP implementation success has a positive effect on firm performances.
2009	**Özdemir**	The effect of ERP systems on the perceived performance of SMEs in Kayseri in terms of criteria related to product, process, cost, financial indicators, delivery, supply and customer service was examined. The regression analysis results show that ERP systems positively affect the perceived performance of the enterprise in terms of the mentioned criteria.
2014	**Ruhiu**	It investigated the effect of ERP application on organizational performance. According to the regression analysis, it was concluded that ERP application has a positive effect on organizational performance.
2019	**Duman**	The effects of the ERP system on organizational innovation have been examined. According to the regression analysis results, it is seen that ERP has a positive effect on the innovation, production, financial and marketing performance of the enterprises and their innovation capabilities.
2019	**Serhan and El Hajj**	It investigated the effects of ERP system on financial performance and auditing of companies in Lebanon. The regression analysis results show that there is a significant relationship between ERP applications and company performance. This supports previous studies that showed that ERP has a significant impact on the financial performance of companies.
2020	**Enoch Rono**	It has been studied the effects of ERP system on the performance of hypermarket stores in Nairobi. According to the regression analysis results, it has been determined that ERP increases business revenues and profitability, reduces costs, expands market share, improves financial performance by increasing business efficiency and customer loyalty. It also increases the competencies and communication skills of business personnel through training and development activities.
2021	**Lata and Lata**	The effects of ERP systems on accounting information systems applications and successful decision-making processes were examined. According to the regression analysis results, it was determined that ERP had a positive effect on accounting information systems applications and successful decision-making.
2022	**Andrieș and Ungureanu**	The impact of the implementation of ERP systems on the profitability and productivity of companies was examined. According to the regression analysis results, it was determined that the implementation of ERP systems had a limited impact on profitability and productivity.

2022	**Vesna Pavkovic, Drazena Gaspar and Dominik Jukic**	The effect of information quality obtained from ERP system on business performance of medium and large scale enterprises in Bosnia and Herzegovina was investigated. According to the regression analysis results, it was determined that there is a positive relationship between information quality from ERP system and business performance.
2023	**Karunarathna and Rajapaksha**	The effects of ERP accounting benefits perceived by accountants and internal auditors in Sri Lanka on ERP user satisfaction were investigated. The regression analysis results show that the benefits provided by corporate accounting, management accounting, IT accounting and operational accounting in terms of time have a positive impact on ERP user satisfaction. However, it was concluded that the benefits provided by operational accounting in terms of cost do not significantly affect ERP user satisfaction.
2024	**Güzel ve Günler**	This study examined the impact of ERP systems on the performance of businesses operating in Erzurum in terms of organizational factors and ERP factors. According to the regression analysis results, it was determined that ERP systems have a positive impact on business performance and that organizational and ERP factors positively affect the ERP system.

3. Accounting and Financial Management

Financial management is the process of planning, organizing, directing and controlling financial activities related to the provision and use of assets of an enterprise (Grozdanovska vd., 2017). Therefore, financial management plays an important role in ensuring the sustainability of enterprises, supporting their growth and increasing their competitiveness (Nkwinika and Akinola, 2023).

There are various financial management functions for businesses to use their financial resources more efficiently. These functions include financial analysis, financial planning, working capital management, fixed asset management, financing decisions and financial risk management (Tekbaş vd., 2024).

Financial analysis is used to evaluate the current situation and offer improvement suggestions by examining the financial data of a business. Financial reporting includes the compilation and presentation of financial data in accordance with generally accepted accounting principles and legal regulations. Budgeting, forecasting and cash flow management should be carried out in line with the objectives of the organization. Credit, market and operational risks should be identified, analyzed and managed as part of risk management (Sitinjak vd., 2023). Working capital management aims to effectively manage current assets and short-term liabilities so that a business can continue its daily operations. This is extremely important in terms of ensuring liquidity balance and increasing efficiency. Effective management of fixed assets reduces the need for working capital (Varcı and Abdioğlu, 2010).

3.1. Accounting Information Systems

Accounting information systems allow businesses to analyze sales, purchases, assets and liabilities by recording and classifying them in a specific format and measure their financial performance. These systems help businesses evaluate their past performance and determine their future expectations (Rahman and Ratnawat, 2021). Accounting information systems make it faster and easier to collect, store and process financial data, while also eliminating erroneous and unnecessary data (Büyükarıkan, 2021). This allows businesses to control and optimize their costs (Gökdeniz, 2005).

The main operating cycles of a business consist of the financial accounting cycle, sales and collection cycle, and purchase and payment cycle (Hamisu, 2022). The financial accounting cycle includes recording, classifying, analyzing, and interpreting the financial transactions of a business (Kaygusuz, 2018). This cycle also includes the preparation of basic financial statements (balance sheet, income statement, cash flow statement, and equity change statement) that measure financial performance (Tetik, 2018). The sales and collection cycle includes the stages of customer ordering, delivery of the product, preparation of the invoice and collection of the price (Sarin, 2021). The purchasing and

payment cycle includes the processes of creating the purchase request, its approval, supplying the goods or services and making the payment (Fındık, 2016).

3.2. Impact of Enterprise Resource Planning on Financial Management

ERP systems help the finance department make faster and more accurate decisions by providing data and information integration in all business processes (Mikugi and Muhammadhamisu, 2020). Thanks to these systems, recording data and preparing financial reports have become much easier. Financial reports have a significant impact on the decisions that business managers will make. In addition, standardization of data allows the business to compare information between the current period and past periods (Kurnaz and Kestane, 2019).

ERP systems provide a more effective and efficient working environment by increasing the performance of the accounting information system. Therefore, it is extremely important for businesses to have an ERP system that is suitable for their infrastructure, works on a relational database and provides fast and accurate information flow to all stakeholders (Sevim and Bülbül, 2016). ERP systems accelerate data collection processes, shorten the publication time of financial statements, facilitate information flow, improve report quality, help control working capital and increase the efficiency of accounting systems by reducing costs (Gilliam, 2022).

3.3. Impact of ERP on State Supply Office Financial Management

The State Supply Office (DMO) is an organization affiliated with the Ministry of Treasury and Finance, and is an economic state enterprise that operates autonomously in the economic field and whose capital is entirely owned by the state. DMO procures the goods and services needed by public institutions and organizations from a single source, by purchasing in bulk and by providing price advantage. The goods and services falling within the scope of DMO's activities are determined by the Main Statute of the General Directorate of State Supply Office (DMO Anastatüsü, 2019). Purchasing operations carried out on behalf of public institutions and organizations are carried out within the framework of Article 3/e of the Kamu İhale Kanunu and in accordance with the legislation of DMO (DMO Satınalma Yönetmeliği, 2008).

The State Supply Office started using the ERP system in July 2007 in order to increase corporate efficiency by integrating all business processes, manage supplier relations, improve customer relations and make financial management processes more transparent and harmonious (DMO Faaliyet Raporları, 2011). With the commissioning of the ERP system, processes such as purchasing, order management, pricing, balance sheet and income statement preparation were transferred to the electronic environment. In this way, a significant increase was achieved in functionality, measurability, speed and operational efficiency (DMO Faaliyet Raporları, 2012).

3.4. Advantages of ERP in Financial Management

The use of ERP systems in large and strategic institutions such as DMOs helps improve operations by simplifying, improving and controlling financial management processes. The advantages of the ERP system in the field of financial management include automation and efficiency, data monitoring and reporting, integrated financial management, ease of legal compliance and auditing, and effective management of resources (Ayogeboh, 2021).

3.4.1. Automation and Efficiency

ERP provides automation of all business processes. In this way, financial management processes (accounting, budgeting, financial reporting, etc.) become automatic. This saves labor and helps increase corporate efficiency by minimizing data entry errors (Gagliordi, 2024). In this way, DMO manages its financial processes more effectively and efficiently.

3.4.2. Data Tracking and Reporting

ERP systems monitor financial data in real time. This facilitates the preparation of financial reports and provides quick access to basic information (Watania, 2013). In this way, DMO's data monitoring and reporting processes become more efficient. This contributes to financial transactions becoming more transparent and secure. It also provides a significant advantage in decision-making processes.

3.4.3. Integrated Financial Management

ERP systems integrate business processes such as financial management, supply chain management, inventory management and purchasing management. This integration facilitates the flow of information between financial management and other business processes, ensuring data consistency (Bayraktar and Efe, 2006). In this way, the DMO's financial transactions become more transparent, accurate and traceable. This facilitates budget management, invoicing transactions and payment tracking, thus accelerating decision-making processes.

3.4.4. Ease of Legal Compliance and Audit

ERP systems make it easier for businesses to comply with the laws of the countries they operate in. In this way, businesses can fulfill their legal obligations without any problems. Since financial transactions are recorded in the database, access to this information also facilitates auditing processes (Ömürbek, 2003). This facilitates DMO's compliance processes with legal regulations and helps prevent errors. In addition, thanks to the recording of financial transactions, the documents required for financial audits can be prepared quickly.

3.4.5. Effective Management of Resources

ERP optimizes all business processes and increases efficiency in areas such as financial management, inventory management and human resources management. In addition, businesses save money and time (Arı and Diri, 2019). In this way, DMO provides cost advantages in a wide range of areas from supplier selection to reducing operational costs. This helps to use resources effectively and increase savings.

3.5. Effects of ERP on Independent Variables

The effects of the ERP system on financial management are of great importance in terms of increasing performance, effective management, reducing costs and reducing risks. The effects of the ERP system on the regression model variables are summarized below.

Current and central data on variables such as current assets and short-term liabilities play an important role in cash flow and liquidity management. In this way, cash and short-term assets are used more efficiently. While liquidity control increases financial strength, improvement in cash flow also leads to an increase in periodic net profit (Baloğlu vd., 2023).

Control of short-term and long-term foreign resources plays a critical role in the management of financial risks (Karagül, 2019). ERP systems facilitate debt management and ensure that payment obligations are met on time. This contributes to the reduction of interest expenses and more effective financial management (Ömürbek, 2003).

ERP systems integrate business processes and enable more efficient use of resources. This leads to reduced costs and increased efficiency, thus increasing the long-term profitability of the business, while also positively affecting equity (Ömürbek, 2003).

4. Analyzing Financial Performance with Multiple Linear Regression Analysis

The success of financial management is evaluated by its contribution to financial performance. Financial statements are used to measure the financial performance of businesses, and these statements have a significant impact on the decisions taken to achieve the goals of businesses (Kaygusuz, 2018). In this context, financial management has an important role in the performance of the State Supply Office. Therefore, the effectiveness of financial management can be evaluated through the effects of current assets, equity, short-term liabilities and long-term liabilities on the net profit for the period. Since ERP systems lead to improvements in financial indicators such as net sales, net profit for the period, return on assets and return on investment, the net profit for the period was determined as the dependent variable (Ogedengbe and Idolor, 2023).

ERP systems improve the financial performance of businesses by reducing costs, increasing efficiency, and providing transparency in financial reporting (Laura vd., 2021). Performance measurement is the evaluation of business activities in terms of effectiveness, efficiency, and profitability (Samancı and Yılmaz, 2023). Commonly used methods to measure financial performance include financial ratio analysis, regression analysis and data envelopment analysis (Yıldız, 2013). In this study, multiple regression analysis method was used. Regression analysis provides more realistic

and evaluable results compared to financial ratio analysis. Thanks to this method, performance evaluation can be made by examining the effects of inputs on outputs (Irmak, 2014).

4.1. Research Model and Hypotheses

The linear regression model created to determine the impact of enterprise resource planning on financial management;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

In this model, current assets (X_1), equity (X_2), short-term liabilities (X_3) and long-term liabilities (X_4) are included as independent variables. The dependent variable is defined as net profit for the period (Y). The error term is shown with the symbol ϵ. While β_0 represents the constant coefficient, β represents the regression coefficient. Since there is more than one independent variable, the least squares method was used to estimate the regression coefficients. This method is based on estimating the coefficients that minimize the sum of the squares of the error terms (Kılıç, 2013).

The hypotheses tested in the study are:
H1: Current assets have a statistically significant effect on net profit for the period.
H2: Equities have a statistically significant effect on net profit for the period.
H3: Short-term debt has a statistically significant effect on net profit for the period.
H4: Long-term debt has a statistically significant effect on net income for the period.

Figure 1: Research Model

Figure 1 shows that ERP affects net profit for the period through independent variables. Changes in net profit for the period directly reflect the financial performance of the company. A positive net profit for the period indicates a strong financial performance, while a negative net profit for the period indicates a weak financial performance.

4.2. Data Collection Method Used in the Research

In this study, document analysis method, which is one of the qualitative research methods, was used. In this direction, data on current assets, equity, short-term debts, long-term debts and net profit for the period were collected from the State Supply Office's establishment balance sheet for the period 2012-2022.

Table 2: Amounts of Dependent and Independent Variables for the Period 2012-2022

	Current Assets	Equities	Short-Term Liabilities	Long-Term Liabilities	Net Profit
GENERAL DIRECTORATE OF STATE SUPPLIES OFFICE					
2012	862.484.772,98	343.276.076,47	608.658.938,94	11.607.064,92	74.055.917,36
2013	1.036.828.621,28	387.304.970,39	741.230.075,33	12.264.098,46	88.405.741,08
2014	1.407.462.804,09	431.417.521,90	1.069.193.640,87	12.829.634,12	109.485.916,45

2015	1.564.722.595,05	506.448.452,11	1.044.934.003,36	13.340.139,58	162.619.663,37
2016	1.839.240.465,61	528.939.362,56	1.296.457.644,83	13.843.458,22	168.708.310,59
2017	1.543.611.095,44	568.141.587,14	1.040.137.546,18	14.202.661,03	191.039.704,11
2018	1.297.945.944,45	484.650.863,06	875.435.070,37	14.471.043,29	88.445.009,62
2019	1.650.315.047,57	488.528.938,99	1.220.051.899,57	14.742.630,24	83.478.584,59
2020	3.915.578.792,78	664.922.854,65	3.318.272.418,33	15.000.047,84	251.524.641,79
2021	24.262.650.367,64	1.197.020.949,61	23.131.684.784,41	15.295.457,81	758.470.272,57
2022	13.307.946.568,07	1.561.884.168,85	11.838.069.289,72	17.132.991,11	1.047.486.464,55

Source: DMO Activity Reports (2012, 2014, 2016, 2018, 2020 ve 2022)

4.3. Analysis and Evaluation of Findings

The data obtained from the establishment balance sheet of the State Supply Office was transferred to the EViews 12 Student Version program and then regression analysis was performed.

As a result of multiple linear regression analysis, it was determined that the VIF (Variance Inflation Factor) values of current assets, equity and short-term liabilities, which are independent variables in the model, were high. This situation indicates a multicollinearity problem in the model. In order to eliminate this problem, it was aimed to reduce the multicollinearity by removing the variables with high correlation, current assets and short-term liabilities, from the model. In the new model, VIF values were calculated as 3.43 for both equity and long-term debt, and it was seen that multicollinearity was significantly reduced. These values are within acceptable limits.

Table 3: VIF Values

Independent Variables	Old Centered VIF	New Centered VIF
Current Assets	40509.45	-
Equities	100.01	3.426
Short-Term Liabilities	37240.99	-
Long-Term Liabilities	4.19	3.426

Before the regression analysis, the basic assumptions of the model were tested. The evaluation results show that the data are normally distributed and there are no autocorrelation and heteroscedasticity problems.

4.3.1. Summary of the Model

In regression analysis, the coefficient of determination (R2) is used to measure the strength of the relationship between the regression model and the dependent variable (Ömüral, 2022). According to the data in Table 4, the R2 value was determined as 0.999 and the adjusted R2 value was determined as 0.999. The independent variables explain 99.9% of the dependent variable. This shows that the explanatory power of the model is quite high.

Table 4: Summary of the Model for the Period 2012-2022

R^2	Corrected-R^2	Standard Error	F-statistic	P-Value
0.999	0.999	3515166	41920.87	0.0000

t and F tests are generally used to measure the statistical reliability of the estimates. In this context, the "t" test is used to determine the significance of individual coefficients. The F test determines whether the model is generally significant. R^2 shows the explanatory power of the model in regression analysis. R^2 takes a value between 0 and 1. If this value is close to 1, it indicates that the model has a high explanatory power; if it is close to 0, it indicates that the model is inadequate (Yıldız, 2020). The F-test results show that the model is generally significant.
Table 4 below shows the coefficients, standard errors and p values of the independent variables. In this table, it is seen that there is a positive and statistically significant relationship between equity and net profit for the period. On the other hand, the effect of long-term debts on net profit is negative and statistically significant. In this case, H2 and H4 hypotheses are accepted. In addition, H1 and H3 hypotheses are not evaluated because they are removed from the model.

Table 5: Coefficients of Independent Variables

	Beta	Standard Error	t statistic	P
Equities	0.987507	0.005428	181.9372	0.0000
Long-Term Liabilities	-41.87995	1.332983	-31.41821	0.0000
C	2.21E+08	15926412	13.87472	0.0000

Taking into account the coefficients of the independent variables in Table 5, the model can be created as follows:

Net Profit: $2.21x10^8$ +(0.987507 X **Equities**) + (-41.87995 X **Long-Term Liabilities**)

Table 6: Estimated Net Profit Values for the Years 2012-2022

	Net Profit	Constant Coefficient	Equities	Long-Term Liabilities
2012	73.884.229,95	221.000.000,00	338.987.528,45	-486.103.298,50
2013	89.846.539,10	221.000.000,00	382.466.369,39	-513.619.830,30
2014	109.723.387,34	221.000.000,00	426.027.822,80	-537.304.435,46
2015	162.437.012,99	221.000.000,00	500.121.391,60	-558.684.378,60
2016	163.567.985,02	221.000.000,00	522.331.323,10	-579.763.338,08
2017	187.237.060,49	221.000.000,00	561.043.794,29	-594.806.733,80
2018	93.549.550,39	221.000.000,00	478.596.119,83	-606.046.569,43
2019	86.005.129,64	221.000.000,00	482.425.746,96	-617.420.617,32
2020	249.414.719,89	221.000.000,00	656.615.973,43	-628.201.253,54
2021	762.493.558,58	221.000.000,00	1.182.066.566,89	-640.573.008,31
2022	1.045.842.738,89	221.000.000,00	1.542.371.549,93	-717.528.811,04

The agreement between the estimated values and the actual values in Table 6 indicates that the model performs well. Although there are differences between the actual and estimated values in some years, these differences are generally very small. These results show that the model is reliable in predicting the net profit for the period.

4.3.2. Evaluating Financial Performance with Regression Model

Due to the unavailability of pre-ERP financial data, the impact of ERP on financial performance was evaluated by taking into account the independent variables in the model and the assumptions of the regression model.

4.3.2.1. Impact of Independent Variables on Performance

According to the regression analysis results, equity capital has a positive and significant effect on the net profit of the period. Since equity capital represents the DMO's own capital, it plays an important role in long-term profitability. This shows that it is possible to achieve higher financial performance if equity capital is used effectively.

According to the analysis results, long-term debt has a negative and significant effect on the net profit for the period. This situation shows that long-term debt can negatively affect the financial performance of DMO. Therefore, DMO should increase its net profit for the period by reducing its financial risks, improving cash flow and reducing its costs. In this context, it is extremely important for DMO to carefully manage its borrowing costs and optimize its use of long-term debt. Thus, it will be possible to ensure financial stability and use resources effectively.
The high R-squared value in the model indicates that the dependent variable is largely explained by the independent variables. This reveals that the financial performance of the DMO largely depends on these two variables.

4.3.2.2. Effect of Regression Assumptions on Performance Results

The relationship between net profit for the period and equity and long-term debts has been analyzed with a linear model. The positive effect of equity and the negative effect of long-term debts have been explained within the framework of a linear approach. This shows that the model is in line with the linearity assumption and that it is possible to estimate financial performance with linear relationships.
The removal of current assets and short-term liabilities from the model due to high correlation has increased the reliability of the model by reducing the multicollinearity problem. This situation shows how important it is to make an evaluation based on the most effective and meaningful variables in the analysis. Thus, it has become possible to evaluate financial performance accurately.
It was determined that the error terms were normally distributed. This shows that the financial performance analysis was done correctly and there was no systematic deviation caused by the error terms. In addition, the assumption of constant variance of the error terms reveals that the financial performance analysis is reliable. The independence of error terms was evaluated with the Breusch-Godfrey LM test. The results of the LM test show that the error terms are independent. This shows that financial performance can be estimated independently of past periods.
Fulfilling the assumptions of regression analysis allows for accurate assessment of financial performance. The analysis clearly shows that equity and long-term debt are the main factors affecting financial performance. Accordingly, it is concluded that DMO can improve its financial performance by optimizing its equity management and debt structure.

5. Conclusion and Evaluation

ERP systems are extremely important in terms of strengthening financial management, increasing financial performance and reducing risks. These systems enable the automatic creation of financial statements, rapid and timely access to financial data and the reduction of errors in accounting transactions, thus increasing financial performance. In this way, financial management can be carried out more effectively and successfully.
One of the most widely used methods to measure the effectiveness and efficiency of ERP systems on business functions is regression analysis. In this study, regression analysis was conducted within the scope of financial statement elements in order to determine the impact of ERP systems on financial management and therefore corporate performance. The analysis results show that equity has a positive effect on net profit for the period, while long-term debt has a negative effect. ERP systems allow the DMO to use its resources more efficiently by allowing these variables to be managed effectively.
The high R-squared value obtained as a result of the analysis shows that the model successfully predicts financial performance. This situation reveals that the analytical tools provided by ERP systems help the DMO to make more effective decisions in profitability and debt management.
It has been determined that there are multiple linear relationships between some variables in the model. ERP systems provide data consistency through data management and financial integration. This allows for a harmonious data flow between different financial indicators and increases the reliability of financial analyses.
The regression analysis results reveal that enterprise resource planning has a positive impact on financial performance. This shows that financial management plays an important role in effectively managing DMO activities.

As a result, the data management and integration advantages provided by ERP systems contribute to the State Supply Office's financial stability, reducing risks and creating a more solid financial structure by increasing profitability.

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