

# The Effect of the use of Information Technologies in Businesses on Cost and Financial Performance

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**Abstract** – Rapid development in computer and communication technologies and increasing competition conditions in the globalizing world is required to companies using information technologies more intensively. We can define that information technologies as technologies that enable the data to be compiled, stored, processed and transformed to information by various techniques, obtained the information opened to access, stored and transferred efficiently and productively. The companies in order to subsist in intensive competition conditions will be possible by updating themselves, adapting to new methods and information technologies rapidly. Information technology used in companies can be summarized as computers, communication technologies, internet, robots, office automation systems, management information systems, expert systems, decision support systems, electronic data interchange systems. It has been known that the use of information technologies on business performance provide significant contributors. The main objective of this research is to determine that which technologies and performance criteria can be provided to what extent contribution. In this study, the relations of cost and financial performance of information technologies used in business were discussed. Data of the research about businesses within the scope of ISO 1000 in Turkey was taken as basis in our study.

**Keywords** – Cost, Financial Performance, Information Technology, Statistical Analysis, Business

## I. INTRODUCTION

Business models go through rapid changes along with the fact that the conditions of competition increase gradually and there are more technological developments. None of the institutions in the world can consider themselves independent of information technologies.

Advanced information technologies are handled with priority for businesses in today's dynamic and competitive business environment and the studies conducted in this field develop rapidly. Recently, the effect of technology changes with a continuously increasing acceleration. Both human life and business world are directly affected by this situation. Traditional business structures and working methods change with the effect of technology. Especially from the 1980s to present, information technologies are the most important development experienced primarily in computers and communication technologies resulting from this. Thanks to this development, information flow became faster, and information sharing and control became easier. Thus, the most important flow that should be discussed in businesses after product and service flow is information flow. This flow has a directive effect on physical product

and service flow and product and service flow arise from the channels determined by information flow [22].

In this study, the relationships of information technologies used in businesses with cost and financial performance will be discussed. It is known that the use of information technologies causes significant contributions to the performance of the business. The main aim of the study is to investigate which technologies contribute to which performance criteria to what extent and in which direction. In our study, the data of the study conducted on the businesses in the context of ISO 1000 in Turkey were taken as a basis and the effect of information technologies on cost and financial performance was analyzed statistically.

## II. THE RELATIONSHIP OF INFORMATION TECHNOLOGIES AND PERFORMANCE IN BUSINESSES

The decisions made by managers have a significant role in the success of businesses. The most important duty of managers is to take the most correct decision for the business within the shortest time. A good decision is related to producing correct and up-to-date information on time. This information in the process of making decisions is produced with the help of information systems. Nowadays, it is inevitable to use information technologies in the production of this information. Today's businesses have become a market in which competition is experienced every moment due to the rapid developments experienced in especially information technologies. Information in this structure appears as a significant value and directly affects the competitive power of businesses [16].

Information technologies are generally known as technologies related to storing and transmitting information for use. All technologies used in collecting, processing, storing, and transmitting information from one place to the other by means of networks and presenting information to the service of users and including communication and computer technologies are defined as "information technology" [11]. Information technologies can be expressed as the whole of tools, applications, and services developing rapidly and used to provide information to institutions [39]. One of the definitions of information technologies is processes such as acquiring, producing, using and storing information to be reused through computers to increase the performance of the business, to provide and support effectiveness [20]. Another definition can be expressed as the whole of

technologies automatically enabling to collect, process, store and transmit information to anywhere or access this information from anywhere when required with techniques such as electronics, optics, etc. for today [34]. It can be simply described as the application of technology to business processes to collect data and create valuable information. Information technologies generally consist of equipment, software, communication instruments and sources and personnel supporting these [6]. Sanders (2007) defined information technologies as acquiring and transmitting information to make decisions more efficiently and technological capacity used in this process [27].

The business world is the sector affected by information technologies the most especially in the last decade. Software and equipment technologies developed rapidly to meet the demands resulting from the increasing competition and globalization in the business world, while technological developments had transformative effects in many sectors, they caused some sectors to disappear and new sectors to be created [20]. Information technologies primarily increase the abilities of managers to make decisions and increase the rate of meeting customer demands and decrease the cost. Especially the Internet makes a significant contribution to carrying out this transformation. While wireless networks enable to monitor technologies, inventories, work orders and transports remotely, web-based instruments make it possible for businesses to share operational details with business partners through a network and monitor the demands in real time [20].

The changing business world and market conditions continuously force businesses to search for new strategies or adapt the current strategies to these new conditions. The information flow factor is one of the most significant factors determining the difference between organizations. Accordingly, the success of a business is connected to its ability to create value from the information processed and distributed and the business model developed to acquire this value [12].

In recent years, the ability to manage information effectively in the business has become a significant matter because it is required to manage information successfully to provide an advantage of competition to businesses. Thus, it has become a necessity for businesses to invest in information technologies to collect, share and use information effectively [1].

Developments in computer and communication technologies cause changes in operating activities related to cost, time, quality and service. Especially changes in information technologies cause important changes in the structure of the business and provide new ways to businesses to enter new markets, present its products and services, increase the productivity of the processes, gain customers and ensure the loyalty of customers [24-32]. Information technologies are generally defined as “technologies enabling to collect, process, store and transmit information to anywhere or access information from anywhere when required”[32]. Moreover, Sarihan (1998) [26], Dulkadir & Akkoyun, (2013) [10] described

information technologies as “all technologies, applications, and services serving to collect, store, process, access and distribute information and all information in the system”.

Information technologies have the potential for managing the information flow and affecting the cost, quality, delivery, flexibility and finally the general performance of the supply chain [7]. It is suggested that the efficiency of information technologies can be measured with the fact to what extent the mentioned technology increases the abilities of people required to perform a certain job [8]. It is generally known that information technologies contribute to businesses in subjects such as increasing productivity, decreasing the cost to the lowest level, providing much more quality products and services to customers, developing new information-based goods and increasing the competitive power [25].

The development of new technologies brings the productivity revolution in the production area to an end and shifts the center of gravity from production to information. Many businesses use information technologies to collect information, analyze and keep reports with the increasing computer use. This situation causes hierarchical structures in organizations to dissolve rapidly and thus, lead to the reconstruction of organizations. While information technologies play a significant role in the reconstruction of the businesses, they make the effective information flow easier and contribute to making active and effective decisions in operating activities. Moreover, information technologies are effective in decreasing the costs of operations resulting from the acquisition of products and services. Information technologies rapidly become the inseparable part of the management and most of the administrative decisions become effectively inapplicable without information technologies. The content of organizational changes can change depending on the intended purpose of information technologies [22].

An abstract of publications made in the subject of information technologies in the literature is indicated in terms of its content in Table 1 below. According to this table, it is seen that mostly developed planning and planning software come to the forefront. Furthermore, barcoding/automatic identification systems, ERP, e-supply system, forecast/demand management software technologies have a significant place.

The measurement of the performance can be described as the process of measuring the effectiveness and productivity of an activity. A performance measurement requires some variables to measure the effectiveness and productivity of an activity. The performance measurement and these variables have an active role in determining the future position of activities, evaluating the performance and stating the objectives [17].

Information technologies stand out as an effective instrument to reorganize the functions of an institution to continue its existence and to become successful in the rapidly developing business world under the effect of globalization. The increasing use of information

technologies is resulted with the need to evaluate the effects of these technologies on productivity. The effect of information technologies on the performance is a continuously examined subject in the companies, industry, and information sector [10]. Generally, it is stated that the following factors of information technologies increase the performance of the company [10].

- By increasing the scale efficiency of the company activities
- By decreasing the costs of operations
- By collecting and processing the information that can be used in the decision-making process on time
- By indicating the performance of employees effectively
- By keeping communication channels at low cost.

*Table 1. Study Subject Information Technologies*

Information Technologies																
Reference	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16
[18]	X										X					
[38]	X															
[37]	X															
[14]		X										X	X			
[13]	X	X							X	X	X	X	X			
[36]	X	X								X	X	X	X			
[29]			X			X	X									
[23]			X	X		X										
[28]								X								
[21]					X											
[9]														X		
[2]																X
[4]																X

B1: Advanced planning and planning software, B2: Bar coding / automatic identification System, B3: Computer Aided Manufacturing (CAM) System, B4: Computer Integrated Manufacturing (CIM) System, B5: Computerized Statistical Process Control (SPC), B6: Computer aided design (CAD) System, B7: Computer aided engineering (CAE) System, B8: Computer aided process planning (CAPP) System, B9: Electronic mail System, B10: Electronic data interchange (EDI) feature, B11: Enterprise Resource Planning (ERP) System, B12: E-procurement System, B13: Forecast / demand management software, B14: Flexible Manufacturing Systems (FMS), B15: Manufacturing resource planning (MRP II) System, B16: Material requirements planning (MRP) system

Dulkadir and Akkoyun (2013) focused on the definition and the content of information technologies in their studies and studied the effects of information technologies on the performance of the business and presented the results obtained with the frequency analyses [10].

Gök (2005) examined the effects of the success of the ERP application on the performance of the business in the study conducted on businesses using the ERP system in Turkey [15].

In their study, Bülbül, H., Özçifçi, V., Özoğlu, B., (2014) studied the relationship between information technologies, cooperation between customers and suppliers, the supply chain (customer-supplier) performance and business performance using the data of 233 businesses in Turkey. It was identified as a result of the data analysis conducted by using structural equation modeling that information technologies did not have a direct effect on the supply chain performance and business performance, and there was a direct relationship between information technologies and the cooperation between customer and supplier [5].

In this study, Turunç (2016) examined the level of use of information technologies in businesses operating in the tourism sector which is an important sector of the service industry and evaluated the effects of the use of information

technologies on the organizational performance of these businesses multi-directionally [33].

Shang and Marlow(2005), used the structural equation model in their study based on a questionnaire of 1200 production companies in Taiwan to examine the relationship between logistic capabilities, logistic performance, and financial performance. The results indicated that information-based capabilities of the companies are effective on the logistic performance and financial performance [30].

Aksoy, 2009, indicated in his study that while businesses increase the supply chain performance, they benefit from information technologies and this affected the general performance of the business positively [1].

### III. COST AND FINANCIAL PERFORMANCE

In recent years, the financial function in businesses has changed significantly. Especially, the financial management process in businesses was directly affected by technological developments. The desire of businesses to obtain the financial income firstly to increase business performance stood out as a basic factor and they followed technological developments in financial issues closely [15]. Information systems increase the financial

performance and customer potential thanks to the decrease in processing time, the use of excess capacity, inventory management, providing effective relationships with external business partners and acquiring information more easily and cheaply and providing the competitive advantage in the long term and thanks to the fact that this reflects on the business income positively (Gök, 2005). Successful applications of information technologies are seen as a factor which contributes to the business

financially both in the short term and long term and has positive effects on the financial performance.

Baihaqi & Sohal (2012) indicated in their studies that information sharing is one of the significant instruments for the expanded supply chain performance and tested the relationship between the level of information sharing and organizational performance. The results indicated that integrated information technologies and information quality have a positive effect on the intensity of information sharing [3].

*Table 2. Information Technologies and Performance Indicators Which are the Subject of the Study*

<b>Information Technologies</b>	<b>Performance Indicators</b>
<b>B1:</b> Developed planning and planning software	<b>Cost Indicators</b>
<b>B2:</b> Barcoding / Automatic Identification System	<b>M1:</b> Unit product cost of primary product
<b>B3:</b> Computer Aided Manufacturing (CAM) system	<b>M2:</b> Unit direct labor cost of primary product
<b>B4:</b> Computer Integrated Manufacturing (CIM) system	<b>M3:</b> Unit material cost of primary product
<b>B5:</b> Computer Statistical Process Control (SPC)	<b>M4:</b> Total cost of general production
<b>B6:</b> Computer Aided Design (CAD) system	<b>Financial Indicators</b>
<b>B7:</b> Computer Aided Engineering (CAE) system	<b>F1:</b> Sales income
<b>B8:</b> Computer Aided Process Planning (CAPP) system	<b>F2:</b> Assets Profitability
<b>B9:</b> Electronic mail system	<b>F3:</b> Return on sales
<b>B10:</b> Electronic Data Interchange (EDI) feature	<b>F4:</b> Asset turnover
<b>B11:</b> Enterprise Resource Planning (ERP) system	<b>F5:</b> Profit before the interest tax as a percentage of income
<b>B12:</b> E-supply system	
<b>B13:</b> Forecast / demand management software	
<b>B14:</b> Flexible Manufacturing Systems (FMS)	
<b>B15:</b> Manufacturing Resource Planning (MRP II) system	
<b>B16:</b> Material Requirements Planning (MRP) system	

In their studies, Hsiao et al. (2002) created a conceptual framework regarding the effect of relationships between customer-supplier and purchasing process on the supply chain performance. It is submitted in an empirical study conducted in China that the relationships between customer and supplier have a positive effect on the financial performances of businesses [19].

Vickery et al. (2003) suggested in a study conducted on automotive suppliers in North America that there was not a direct relationship between the integration of the supply chain and the financial performance of a business and indicated that the effect there could be an indirect effect. It was identified in the study that there were direct positive relationships between integrated information technologies and the supply chain integration, the supply chain integration and customer services and, customer services and company performance [35].

The facts that information technologies lead the business to a continuous development in all areas and add value to the business with innovations provided affect the business performance positively. The financial performance of a business increases thanks to the fact that information technologies systems reflect positively on the

customer potential and business income with the decrease in processing time, the use of excess capacity, inventory management, providing effective relationships with external business partners and acquiring information more easily and cheaply and providing competitive the advantage in the long term [10].

#### **IV. THE EFFECT OF THE USE OF INFORMATION TECHNOLOGIES IN BUSINESSES ON COST AND FINANCIAL PERFORMANCE**

In this study, the relationships of information technologies used in businesses with costs and financial performance will be addressed. It is known that the use of information technologies contributes significantly to the business performance. The main purpose of the study is to investigate which technologies contribute to which performance criteria to what extent. In our study, the data of the study conducted on the businesses in the context of ISO 1000 in Turkey were taken as a basis. The information technologies and performance indicators taken as a basis in the study are presented in the table below.

*Table 3. The Relationship between the Levels of the Use of Information Technologies and Cost Performance (Correlation Coefficients)*

	M1	Probab.	M2	Probab.	M3	Probab.	M4	Probab.
B1	0,084	0,27	-0,028	0,711	-0,034	0,651	-0,058	0,44
B2	0,063	0,411	-0,077	0,312	-0,065	0,392	-0,041	0,596
B3	0,019	0,795	-0,048	0,514	0,06	0,417	0,018	0,804
B4	0,084	0,259	0,019	0,803	0,036	0,628	0,018	0,808
B5	0,072	0,335	0,024	0,75	0,071	0,343	0,088	0,237
B6	<b>0,171*</b>	0,024	0,05	0,509	0,1	0,186	0,12	0,114
B7	<b>0,177*</b>	0,017	0,06	0,422	0,121	0,106	0,046	0,535
B8	<b>0,187**</b>	0,0098	0,083	0,252	0,104	0,152	0,112	0,122
B9	-0,01	0,894	0,038	0,596	-0,065	0,361	-0,034	0,631
B10	0,135	0,067	<b>0,151*</b>	0,04	0,09	0,223	0,069	0,346
B11	0,059	0,417	-0,033	0,647	0,053	0,463	0,035	0,63
B12	0,026	0,741	0,055	0,479	0,029	0,714	0,047	0,547
B13	<b>0,341**</b>	0	<b>0,17*</b>	0,025	<b>0,253**</b>	0,001	<b>0,192*</b>	0,011
B14	0,128	0,093	0,032	0,676	0,137	0,072	0,037	0,63
B15	0,104	0,16	-0,001	0,986	0,07	0,345	0,025	0,737
B16	0,057	0,433	0,046	0,531	0,132	0,07	0,029	0,689

(\*)Significant at the 5% significance level    (\*\*)Significant at the 1% significance level

## V. THE RELATIONSHIPS BETWEEN THE LEVELS OF THE USE OF INFORMATION TECHNOLOGIES AND PERFORMANCE INDICATORS

In this section, firstly, the effects of the levels of the use of information technologies on the fiscal and financial performance of the business will be addressed. For this purpose, the relationships between the levels of the use of information technologies and performance indicators were examined with the correlation analysis. IBM SPSS Statistics 21 packaged software was used for the statistical analyses in the study. The correlation coefficients between the levels of the use of information technologies and performance indicators are indicated in Table 3 and Table 4 below.

As it is indicated in Table 3, a positive and significant relationship was observed between the unit cost of the primary product and the levels of the use of CAD, CAE, CAPP and Forecast/Demand Management Software. A positive and significant relationship was observed between

the direct labor cost of the primary product and the levels of the use of EDI (Electronic Data Interchange) and Forecast/Demand Management Software. It is found out that there is a positive and significant relationship between the unit material cost of the primary product and the total cost of general production and the levels of the use of Forecast/Demand Management Software.

The correlation coefficients reflecting the relationship between the level of the use of information technologies and financial performance indicators are indicated in Table 4 below.

It is clear from Table 4 above that there is a significantly positive relationship between sales income and electronic mail system. Therefore, it can be said that as the level of the use of electronic mail system increases, sales income increases as well. On the other hand, there are significant relationships between sales income and electronic data interchange and between the levels of the use of forecast/demand management and FMS systems.

Table 4. The Relationship between the Levels of the Use of Information Technologies and Financial Performance (Correlation Coefficients)

	F1	Prob.	F2	Prob.	F3	Prob.	F4	Prob.	F5	Prob.
B1	-0,012	0,87	-0,026	0,728	0,114	0,13	-0,01	0,898	0,112	0,138
B2	0,118	0,12	0,037	0,624	0,102	0,18	-0,016	0,834	0,012	0,877
B3	0,046	0,532	-0,006	0,931	-0,041	0,574	-0,072	0,324	-0,016	0,825
B4	0,084	0,256	-0,039	0,603	0,039	0,598	-0,056	0,449	0,07	0,343
B5	0,067	0,366	0,012	0,875	-0,005	0,944	-0,078	0,297	0,003	0,971
B6	0,124	0,1	0,123	0,104	<b>0,17*</b>	0,024	0,034	0,657	<b>0,145*</b>	0,05
B7	0,066	0,374	0,102	0,173	<b>0,176*</b>	0,017	0,03	0,692	<b>0,2**</b>	0,007
B8	0,096	0,184	0,075	0,307	0,12	0,097	-0,007	0,921	0,095	0,19
B9	<b>0,22**</b>	0,002	0,034	0,632	-0,05	0,48	0,119	0,094	0,025	0,729
B10	<b>0,15*</b>	0,04	<b>0,15*</b>	0,041	<b>0,155*</b>	0,034	<b>0,21**</b>	0,005	<b>0,184*</b>	0,012
B11	-0,004	0,956	<b>0,175*</b>	0,016	<b>0,286**</b>	0	<b>0,143*</b>	0,048	<b>0,24**</b>	0,001
B12	0,084	0,277	0,082	0,29	0,019	0,808	0,1	0,196	0,049	0,527
B13	<b>0,163*</b>	0,031	<b>0,252**</b>	0,001	<b>0,195**</b>	0,009	<b>0,25**</b>	0,001	<b>0,2**</b>	0,008
B14	<b>0,146*</b>	0,049	0,125	0,1	0,073	0,335	0,116	0,125	0,13	0,087
B15	0,065	0,378	0,125	0,092	0,105	0,153	0,054	0,463	0,131	0,076
B16	0,092	0,206	0,036	0,619	0,118	0,104	0,035	0,634	<b>0,148*</b>	0,041

(\*)Significant at the 5% significance level (\*\*)Significant at the 1% significance level

There is a positive and significant relationship between asset profitability and forecast/demand management and between electronic data interchange and the ERP system.

It is understood from Table 4 that there is a positive and significant relationship between sales income and the ERP and forecast/demand management. Moreover, there is a positive and significant relationship between sales income and CAD, CAE, electronic data interchange and the ERP.

There is a significant relationship between asset turnover and FMS and electronic data interchange and a significant relationship between asset turnover and ERP.

There is a significant relationship between profit before the interest and tax and CAE, FMS, and forecast/demand management and a positive and significant relationship between CAD, MRP, and electronic data interchange in terms of the correlation coefficients in Table 4.

## VI. REGRESSION MODELS OF THE PERFORMANCE INDICATORS RELATED TO THE LEVELS OF THE USE OF INFORMATION TECHNOLOGIES

In this section, the relationships of cost performances in businesses with the levels of the use of information

technologies are studied with regression models. The stepwise and backward regression methods were used in the determination of regression models. The regression models of each cost performance indicator related to the levels of the use of information technologies are indicated in Table 5 below.

The relationships of each performance indicator indicated in Table 2 as the cost performance with the levels of the use of information technologies are studied with the regression model and the results are summarized in Table 5. According to the first model in the Table, CAE, and Forecast/Demand management affect the unit cost performance of the primary product positively and E-supply system and MRP II technologies affect it negatively. It is understood from the model that the forecast/demand management system positively affects the unit cost performance at most.

It is seen in the second model that EDI and forecast/demand management system affect the direct labor cost positively and barcoding/automatic identification system and ERP technologies affect it negatively. EDI (Electronic data interchange system) has the highest positive effect on the direct labor cost.

Table 5. Regression Models of the Cost Performance Indicators Related to Information Technologies

Models	Constant	B2	B6	B7	B9	B10	B11	B12	B13	B15	AdjR <sup>2</sup>	F	Se
M1	3,538			,176				-,15	,389	-,18	0,176	8,9	1,31
Prob.	,000			,049				,037	0,000	0,054		,000	
M2	4,18	-,2				,274	-,21		,228		,07	3,68	1,5
Prob.	,000	,024				,011	,06		,008			,007	
M3	4,4	-,22	,199		-,2				,291		,131	6,4	1,41
Prob.	,000	,018	,02		,06				,000			,000	
M4	4,31								,231	-,14	,04	4,43	1,5
Prob.	,000								,003	,087		,013	

*Italicized words are the probability that the parameter is random.*

According to the model created for the unit material cost of the primary product, CAD, and forecast/demand management systems affect it positively, and barcoding/automatic identification system and Electronic mail system affect it negatively. Forecast/demand management systems have the highest positive effect on the material cost. According to the general production costs model, forecast/demand management systems are

accepted as positively affecting technologies, MRP II systems are accepted as negatively affecting technologies.

In conclusion, it is understood from Table 5 that forecast/demand management software is positive and the most effective information technology on the cost performance in businesses. On the other hand, it can be stated that Barcoding / automatic identification systems and MRP II technologies have negative effects on the cost performance.

Table 6. Regression Models of the Financial Performance Indicators Related to Information Technologies

Models	Constant	B2	B4	B7	B9	B10	B11	B12	B13	B16	AdjR <sup>2</sup>	F	Se
F1	4,17						,144				,025	5,96	1,33
Prob.	,000						,016					,016	
F2	3,46						,288	-,18	,113		,12	8,05	1,24
Prob.	,000						,000	,009	,09			,000	
F3	4,055		-,21			,18			,17		,11	6,5	1,3
Prob.	,000		,006			,014			,01			,000	
F4	3,82	-,12		,192			,224	-,13			,11	5,08	1,15
Prob.	,000	,076		,012			,006	,06				,001	
F5	4,06								,205	-,14	,07	6,9	1,08
Prob.	,000								,000	,02		,001	

*Italicized words are the probability that the parameter is random.*

As it is known, it is indicated that the use of information technologies have positive effects on the business performance. However, it is observed in the regression models above mentioned that some technologies affect business performance negatively. This situation suggests that information technologies can affect the general performance of businesses positively; however, some technologies may have negative effects on some performance indicators.

The summarized results of the regression model created for the relationships between the financial performance of businesses and the levels of information technologies used are presented in Table 6 below. The backward method was used in the development of the models.

According to Table 6, there is a positive and significant relationship between sales income and ERP (Enterprise Resource Planning) technology. Accordingly, a unit increase in the level of the use of the ERP system causes a 0,144 unit increase in sales income.

There is a positive relationship between the asset profitability and the levels of the use of the ERP and Forecast/demand management software and a significant negative relationship between the asset profitability and

the E-supply system. Especially the ERP system appears to be a technology positively affecting asset profitability.

There is a positive relationship between sales income and electronic data interchange (EDI) and forecast/demand management software systems and a negative relationship between sales income and the levels of the use of Computer integrated manufacturing (CIM) technologies.

There is a positive relationship between the asset turnover and computer-aided engineering (CAE) and enterprise resource planning (ERP) and a significant negative relationship between asset turnover and barcoding / automatic identification system and the E-supply system. Especially the ERP system has a significant positive effect on the asset turnover.

There is a positive relationship between profit before the interest and tax and the levels of the use of forecast / demand management software, and a negative relationship between profit before the interest and tax and the level of the use of material requirements planning (MRP II).

It is seen in Table 6 that ERP technologies and forecast/demand management have the highest positive effect on the financial performance indicators.

## VII. CONCLUSION AND SUGGESTIONS

It is known that the use of information technologies contributes significantly to the business performance. The main purpose of the study is to investigate which technologies contribute to which performance criteria to what extent. In this study, the relationships of information technologies used in businesses with costs and financial performance are discussed.

In the analyses made, it has been observed that mostly forecasting / demand management systems have a positive effect on cost and financial performance. Furthermore, it has been observed that Electronic Data Interchange (EDI) feature and Enterprise Resource Planning (ERP) systems have also contributed positively to financial performance.

It has been observed that there is a significant relationship between the level of the use of information technologies and mostly the unit product cost and unit material cost among the cost performance indicators, and the asset profitability, sales turnover and asset turnover rate among financial performance indicators.

In this study, the effects of the use of information technologies on cost and financial performance are examined. It will be useful to study the relationships between the use of information technologies and other business performance indicators. It is thought that it is especially important to examine the effects of the use of information technologies on the labor force performance.

Moreover, it will be appropriate to study the effect of the use of information technologies on this general performance by creating a performance indicator. On the other hand, it is considered that examining these relationships on the sectoral basis and by taking the size of the businesses into consideration will provide more significant relationships.

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