

THE MODERATING IMPACT OF MAJOR SHAREHOLDING OF EQUITY ON OPERATIONAL PERFORMANCE AND FIRM VALUE RELATIONSHIP THE EVIDENCE OF THE MANUFACTURING LISTED FIRMS AT ASE

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ABSTRACT

The study objects for determining whether firm value is affected by the operational efficiency of performance, and to determine whether major shareholding moderates the effect relationship of operational efficiency on firm value. To achieve the objectives of the study, secondary data covering the period from 2011 to 2020, of 28 out of a total of 32 listed manufacturing firms at Amman Stock Exchange, is collected and used in the analysis and hypotheses testing. Five indicators of operational efficiency are taken into consideration, including inventory turnover, receivables turnover, total assets turnover, cash flows from operations, and working capital, whereas Tobin's Q is used as an indicator for firm value. Major shareholding that encompasses those shareholders having 5 percent or more of the entire number of shares outstanding, is used as a moderator, and firm size, which is measured using the natural logarithms of total assets, is used as a control variable. Using the regression method for data analysis and hypotheses testing, the study shows that operational efficiency of performance has a significant impact on firm value, and major shareholding plays a significant moderating role on the effect relationship of operational efficiency on firm value. More investigation of the effects of operational efficiency on different aspects of performance, and of more determinants of firm value, is strongly recommended.

Keywords: Operational Efficiency, Firm Value, Major shareholding, Tobin's Q, Inventory Turnover, Receivables Turnover.

INTRODUCTION

Shareholders are normally interested with the dividends of their shares, but they are also interested with the capital gains of shares, that are resulting from the increase of share market prices. Firm value is assumed to reflect firm performance, where share prices of high profitable firms, increase from period to period, and as a result, shareholders achieve another form of profits, or what is called, capital gains, in addition to their interest with dividends.

Investors are not careless while they need to invest their funds, so they attempt to invest their funds where it is more expected to generate higher rate of return. Many factors can affect firm prices or firm value, including firm profitability, leverage and growth opportunity (Wahyuni

& Gani (2022), where these factors depend on the level of firm operational efficiency of performance. The current attempts identifying whether the operating efficiency of performance has an impact on firm market value, since share prices are important indicators used by shareholders in investment decisions. Several indicators of operational efficiency of performance are discussed and investigated in the current study including, inventory turnover, receivables turnover, total assets turnover, operating cash flows, and net working capital, whereas firm market value is the single dependent variable, and measured using Tobin's Q. In addition, the study investigates whether major shareholders, who are those having 5 percent or more of the entire number of shares outstanding, play a moderating role on the expected impact of operational efficiency of performance on firm market value. Firm size is used in the investigations of these issues, as a control variable.

Evaluating firm value and the determination of the different factors that may affect firm value is an important issue, and considered the key stones in taking investment decisions by investors. Firm value is related to the past, present and the expected future performance, so firm value reflects the level of firm performance. It is well known that investors normally invest their money with expectations of receiving reasonable returns, and they attempt to reduce their opportunity cost through getting higher rate of return. An investor is not ready to pay more for shares than these shares worth, while an investor wants to invest in an increasing firm value to achieve higher rate of return. Therefore, incorrect evaluation of a firm value, and of the shares of that firm, will lead to a loss. Operational efficiency plays an increasing role in evaluating firm value and in evaluating firm performance (Bhullar, 2017). In relation to the increasing role of operational efficiency of performance in evaluating firm value, found a significant positive relationship between Earnings per Share (EPS) and the stock price of Public Bank in Malaysia. The current study focuses on several reasonable measures of operational efficiency including, inventory turnover, receivables turnover, total assets turnover, and cash flows from operations.

An increase in firm value is a real increase in shareholders wealth, so shareholders give enough attention to firm value and the share market value. Shareholders normally prefer a good management that can focus on all activities that may lead to an increase in firm value, and on the decisions resulting in higher firm value. The operational efficiency of performance is beneficial to firms and its shareholders. As a result, the problem of the study is to determine whether the operational efficiency of performance can be reflected in the value of firms. In general, whenever there is a good management of the operating activities, an increase firm value is expected to be at higher probability. The operational efficiency of performance means that good management is required to be exercised over the most important operating aspects of firms, including, inventory, receivables, assets, and cash flows from the operating activities. As a result, and because most, if not all, firms have the goal of increasing its market value. In addition, some firms witnessed a continuous decline in its value along several preceding years, and suffering in increasing its value. The current study comes to investigate whether the operational efficiency of performance has an impact on firm value, and to determine what activities, strategies and policies are probable to increase firm value. The ownership structure of business organizations is an important issue to be investigated, since there are major shareholders having 5 percent or more of the entire number of shares outstanding. It is expected that major shareholders affect the operating decisions and the sometimes, the operating day to day operations, since they own more than other shareholders, in the assets and the capital of listed firms in Jordan. Therefore, the problem of the study can be summarized in the following two questions. First, does the operational efficiency of firm performance affect the value of the listed manufacturing firms at Amman Stock Exchange

(ASE), and second Do Major shareholders in the listed manufacturing firms at ASE, play a moderating role in the expected impact of operational efficiency of performance on the value of the listed shareholding firms at ASE? In other words, the study comes to investigate whether inventory, receivables, total assets, working capital, and cash flows from operating activities contribute in determining firm value, and whether there is a moderating role for major shareholding on this issue.

The study seems important because operational efficiency of performance has many reflections on business aspects. Normally, share prices reflect the level of performance, especially, the operating aspect of performance. Therefore, the study is an attempt to identify where firms has to focus in its operating aspect of performance, to achieve a higher firm value. The importance of the study increases because a higher firm value leads to a higher wealth for shareholders. Because higher firm value leads to higher wealth of shareholders and other owners' equity, shareholders are strongly interested with firm value, and with the operating aspect of performance. Therefore, firms that have increasing value, are more attractive for investments, because investors direct their investments toward businesses that are more expected to increase their wealth. The study is also of high Importance, because it focuses on inventory, where inventory is the most important current asset, in addition to receivables, total assets, working capital, and the operating cash flows, where those items are also important.

The study objects for determining whether the market value of the listed manufacturing firm at ASE, is affected by the operational efficiency of performance. In more details, it objects for determining whether inventory turnover, receivables turnover, total assets turnover, cash flows from operations, and net working capital, have a significant impact on firm market value. Furthermore, determining the methods or ways of increasing firm value, is considered an important objective, that is stands behind the change in firm market value. In addition, the study aims for determining whether major shareholding in ownership structure of firms, moderates the impact of operational performance on firm value. Accumulating more literature regarding the relationship between the operational efficiency of performance and firm value, and the moderating role of major shareholding, is among the purposes of the current study.

The remaining of the study is organized as follows. Section 2, shows the literature regarding the operational efficiency and firm market value, in addition to the related prior researches. Section 3, presents the hypotheses development, while the methodology that had followed in the study, is presented in section 4. Section 5 includes the discussion and analysis, and the findings are offered in section 6.

LITERATURE REVIEW

The term “*efficiency*” is related to the term “*Effectiveness*”, but both terms are different, and each means different thing than the other. Efficiency means doing things right, whereas, effectiveness means doing the right thing (Johnson & Lee, 2012). Based on the definitions of both terms, a firm is considered effective when it identifies the appropriate strategies and goals, while it is efficient when the firm can achieve its objectives with the minimal cost. Operational efficiency is defined as the ability to produce and deliver products and services with an effective cost, and with maintaining quality (Johnson & Lee, 2012). Operational efficiency is also defined as the proficiency of a corporation to reduce the unwelcome issues and maximizing resource capabilities for the purpose of delivering products and services with good quality (Kalluru & Bhat, 2009). As a result, operational efficiency of business organization, can is the capability of a

business to produce products in an efficient cost and using the least possible rare resources. Using firm assets in an efficient form leads to higher profitability, so higher profitability reflects better performance.

Operational efficiencies are required at different administrative levels of business organizations, and should be taken into consideration internally and externally. It includes the usage of inputs or resources in producing outputs, in addition to the optimal product mix that can maximize the firm profits. Pricing decision of products and the change in product price as a response to changes inside and outside the firm is included or related to operational efficiency. Moreover, operational efficiency is related to research and development because the development in products or services is needed to maintain operating efficiency. Competition is also related to operational efficiency, and how competitors develop their products and change the prices of their products is also classified within the wide subject of operational efficiency.

Operational efficiency can be using different financial indicators, such as total assets turnover, or fixed assets turnover, or equity turnover (Ndolo, 2015). To include the different aspects of operational efficiency, it is preferred to use more than one measure, whether the measure is financial or nonfinancial. Several indicators can be used, in addition to these mentioned above in measuring operational efficiency, such as inventory turnover, especially because manufacturing and merchandising firms invest high capital in inventory. In addition, receivables turnover can also be used in measuring firm credit policy and the collection of receivables, where most sales occur on credit, so receivables turnover is an important measure. Moreover, net working capital, and the cash flows from operations are other measures than can be used in operational efficiency measurement.

The relative operational efficiency at the operating level can be described as the ratio of actual throughput to the ideal throughput, where ideal throughput is the best observed throughput. The best observed throughput can be determined from the records of performance in past (Lee & Johnson, 2012).

The discussion of the impact of operational efficiency on firm value, and investigating the moderating role of major shareholding on this effect relationship, necessitates reminding the main ideas of contingency theory. The agency theory can be considered among the oldest related theory to the literature of accounting, management, and economics. It discusses the problems resulting from the separation between ownership and management. It focuses on the problems and solutions that arise from contracting between principals and agents, and the delegation of tasks by principals to owners. Agency theory is widely used in accounting to solve the conflict of interest's problem that appears normally between shareholders and managers. Shareholders are referred in the applications of agency theory as the principals, whereas agents are used to refer for the managers. Under contracting arrangements between shareholders and managers, a type of conflict of interests emerges. Where managers are may be seen as they interested by profit increase, and shareholders are interested the wealth of their investments. Therefore, external assessment, such as auditors and governance, are needed to solve such conflict between shareholders and managers. Sometimes the management of some firms may create committees to increase the required trust between shareholders and managers. Therefore, and as a part of agency theory application in the context of the study, major shareholders behave in a different, major shareholders are interested in their wealth and in firm value, and they are expected to exercise a type of pressure on management to take attention of firm operational performance to be more efficient.

Signaling Theory deserves to be discussed in brief states how the management communicate its success or failure to shareholders. When a management sets good information as apart of firms of bad information. Understanding signaling theory is the key issue for financial management. A signal is normally explained or interpreted as a signal made by the management to investors, and it may take several forms but it is made to imply something in the hope of shareholders to push towards changing their assessment. Firms sometimes use disclosure to announce information regarding its financial performance through providing positive signals to shareholders and other stakeholders for the purpose of creating outsiders' trust in the firm. Actually, signals are provided to reveal evidence that insiders have information better than the outsiders hold regarding the firm performance and the future prospects. Sometimes managements intend to affect the firm value through the signals issued to add good and additional information (Connelly et al., 2011).

Despite too much rare the studies investigated the impact of operation efficiency in its complete aspects, but several studies are found related to the purpose of the current study. In terms of firm value, Wahyuni & Gani (2022), investigated the impact of several operational factors on firm value. Specifically, the authors of the study investigated the impact of return on equity, return on assets, and debt to asset ratio, net profit margin, in addition to other operational indicators on firm value. To achieve the objectives of the study, the secondary data that is covering the period of 2019-2021, of 33 firms out of 42 consumer goods sub-sector manufacturing listed firms at Indonesia Stock Exchange, had been collected and used in analysis and hypotheses testing. Using the ordinary least square method, the results of the study revealed that return on equity, return on total assets, asset growth, and market to book value of equity, each of which has a positive significant impact on firm value, whereas debt to equity ratio has a negative impact on firm value. Other factors taken into consideration of the study, has no impact on firm value.

Kumar, et al (2021), examined the impact of leverage and operational efficiency of listed Indian firms on the market value added of these firms. Specifically, the authors considered degree of financial leverage, degree of operating leverage, asset turnover, and the market value added. Secondary data covering the period 2013-2019 is collected and used in the analysis and hypotheses testing. Using the regression method of statistical analysis, the results revealed that there is a significant relationship between market value added and both of financial leverage and assets turnover. Moreover, the study demonstrated the existence of insignificant relationship between operating leverage and market value added.

Sukestl, et al (2020), carried out a study aiming for determining the impact of debt-to-equity ratio, net profit margin, and firm size, on share prices, taking return on assets, as a mediating variable. To achieve the objective of the study, the authors collected the secondary data that is covering the period of 2014-2016, and attributed to 136 listed firms at Indonesia Stock Exchange. Using Warp PLS statistical test in hypotheses testing, the result showed that debt to equity ratio has a significant negative impact on return on assets, and a significant positive impact on share prices. In addition, the result revealed that net profit margin has a significant positive impact on return on assets and share prices. Moreover, the result demonstrated firm size significantly and positively affects return on assets, but it has no significant impact on share prices. The study revealed that return on assets has a significant positive effect on share price, and it has no mediating role on size and share price relationship, while it is a mediating variable in debt to equity ratio and share price relationship.

Mitra & Karathanasopoulos (2019), carried out a study for the purpose of determining whether operational efficiency of firms affects firm market value. Using 11,648 pair trade returns along the period 2000-2007, the results showed that pair trade returns and operational risks vary by business line and event type, where this relation implies that operational systems improve firm performance and firms are required to manage its operational systems to reduce firm value losses.

Sampurna & Romawati (2019), carried out a study for the purpose of determining the most important factors affecting the firm Value. The authors of the study examined definite factors including institutional ownership, firm size, profitability, leverage, and investment opportunity. The attributed data to a sample that consisted of 84 listed manufacturing firms at Indonesia Stock Exchange, and covering the period 2012-2017, was collected and used in the analysis. Using the regression method, the results showed that firm size, return on total assets, and market to book value, have a positive significant impact on firm value, whereas debt to total assets has a negative significant impact on value of firms.

Impact of operational efficiency on firm value. To achieve this important objective, secondary data covering the period 2005-2015, of 15 Indian banks and 15 IT Indian firms, had collected and used in the analysis. Panel data analysis had been employed, where operational efficiency is proxied by six financial ratios. Using the regression method in data analysis, and hypotheses testing, the results showed that fixed assets turnover, and return on capital, each of which has a negative relationship with firm evaluation regarding the banking system, whereas only fixed assets turnover has this negative relationship with firm value.

Beracha, et al (2019), carried out a study to determine whether there is a relationship between the efficiency of the U.S real state firms and shareholders value. Data covering the period 1995-2017 of a sample consisted of 358 U.S real state firms, had been collected, and used in the analysis and hypotheses testing. Using both of correlation and regression methods, the study demonstrated that there is a strong positive relationship between the value of U.S real state firms and lagged operational efficiency measures.

Bhullar (2017), investigated the impact of operating efficiency on firm valuation of two industries of India. A secondary data of 30 Indian firms covering the period 2015-2015 had been collected and used in the analysis and hypotheses testing. Six financial ratios were considered as a proxy for operating efficiency. The authors of the study employed the panel data analysis in exploring the relationship between operating efficiency as independent variable, and firm value as dependent variable. The study showed that the firm operating efficiency has a significant impact on firm value.

Njagi et al (2017), examined the effect of firm efficiency on the relationship between capital structure and firm value. The purpose of the study was to investigate whether firm efficiency influences the capital structure and firm value relationship, based on a sample consisted of thirty nonfinancial listed firms at Nairobi Stock Exchange. The secondary data of the firms included in the sample covering the period from 2008 to 2013, had collected and used in the analysis. The ratios of retained earnings to total capital, debt to total capital, and equity to total capital, were used as measures of capital structure. Operating efficiency, cost efficiency, and profit efficiency were used as measures of firm efficiency, whereas firm value is measured using through firm inputs and outputs. The panel data analysis was employed based on fixed effects model. The results demonstrated that cost efficiency, operational efficiency, and profit efficiency, each of which, has a negative significant effect on the capital structure and firm value

relationship. In addition, the results showed that capital structure has a positive significant influence on firm value.

Impact of operational performance on firm value of manufacturing listed firms at ASI, in Jordan. The secondary data covering the period 2006-2015 of 40 listed firms, is collected and used in the analysis. A sample, of 40 listed industrial firms is used in the analysis and hypotheses testing. Employing the regression method in the analysis of data, the study revealed that operational performance has a significant impact on firm value.

The aim of Aktas & Ünal's study (2015), was to investigate the relationship between the ratios of financial efficiency and share prices of insurance listed firms at Bursa Istanbul. To achieve the objective of the study, the quarterly data covering the period from 2005 through 2012, of the entire 7 insurance listed firms at bursa Istanbul, had been gathered and used in the analysis. Using the regression method in hypotheses testing, the results showed that a significant relationship exists between financial ratios and share prices.

Bhatnagar, et al (2014), examined the effect of operating efficiency on firm valuation. Secondary data covering the period that extends from 2005 to 2012, of a sample consisted of 90 firms spread over six industrial sectors of India, had been collected and used in the analysis and hypotheses testing. The authors actually examined the effect of six important financial ratios on firm value. Using the panel data analysis, the results showed that gross profit, return on capital, asset turnover, and sales, have a significant impact on firm value at the inter-industry level, whereas in the collective sample the entire six financial ratios have a significant impact on firm value. The results also showed that the role of banking industry is positive in value creation, and value creation depends on present performance.

Gill, et al (2014), investigated the relationship between the change in operational efficiency and the change in future performance. To achieve the purpose of the study, the authors gathered data covering the period 2008-2012, of a sample consisted of 244 firms, among the entire listed 500 firms in Bombay Stock Exchange. Using the Pearson correlation method in data analysis and hypotheses testing, the study showed that the change in operation efficiency play a role in the changes in future performance.

Zainuddin, et al (2021), carried out a study with a purpose of determining the relationship ownership concentration, investment opportunities, operational efficiency, and firm value. To achieve the objective of the study, the authors collected and analyzed the attributed data, that covering the period 2013-2019, to 28 listed conventional banks at Indonesian Stock Exchange. The cost-efficiency ratio is used as a measure of operational efficiency, whereas Tobin's Q, is used as a measure of firm value. The study revealed that operational efficiency mediates the significant influence of ownership concentration and investment opportunities, on firm value.

Research Hypotheses

Based on the consideration of the literature, and the limited prior research regarding operational efficiency and its relation with firm value, the following two hypotheses are developed, and listed in their null form.

H₀₁: *The operational performance efficiency of the listed manufacturing firms at Amman Stock Exchange has no significant impact on the firm market value of these firms.*

H₀₂: *Major shareholding does not moderate the assumed impact of operational performance efficiency of the listed manufacturing firms at Amman Stock Exchange, on firm market value of these firms.*

RESEARCH METHODS

The population of the study includes the entire listed manufacturing firms at ASE. In total, there were 32 listed manufacturing firms at ASE by the end on 2020, of these, 4 firms were eliminated because no complete data along 2011-2020, was available. As a result, the data of 28 firms had collected and used in the analysis and hypotheses testing.

Firm value is the dependent variable, where Tobin's Q is used as a measure of firm value. Tobin's Q is the relationship of firm market value to its total assets. The independent variable is the operational efficiency of performance, where five measures are used in measuring operational efficiency of performance, including inventory turnover, receivables turnover, total assets turnover, cash flows from operations, and working capital. Inventory turnover is the relation of cost of goods sold to average inventory. Receivables turnover is a ratio between the credit sales and the average account receivables. In occasion, the average accounts receivable can be determined by finding the sum of beginning and ending accounts receivables, and dividing this sum by 2. Total assets turnover is the a relationship between total sales and average total assets, where average total assets equals the total of beginning and ending total assets divided by 2. The net cash flows from operations had been taken directly from the statement of cash flows, while net working capital; is the difference between total current assets and total current liabilities.

The major shareholding is a moderator variable and used to determine whether it moderates the expected impact of operational efficiency on firm value. Actually, major shareholding is the ratio of those having 5 percent or more of the entire number of shares outstanding. Firm size is used in this study as a unique control variable. Firm size is measured using the natural logarithms of total assets.

The descriptive statistics such as the mean, standard deviation, the least value, and the highest value, are used in data analysis and description, whereas the multiple and the hierarchal regression methods are used in hypotheses testing. Therefore, two models are used as follows.

Model A

$$FV = a + bINT + cRTV + dATV + eOCF + fFWC + gFSZ + E \dots (1)$$

Model B

$$FV = a + bINT + cRVT + dATV + eOCF + fFWC + gMJS + h(INT \times MJS) + i(RVT \times MJS) + j(ATV \times MJS) + k(OCF \times MJS) + l(FWC \times MJS) + E \dots (2)$$

Where:

a, b, ...h. Logarithms referring for the value of FM, when the value of the corresponding variable equals zero.

FV: Firm Market Value and computed by multiplying the ordinary share market price by the number of ordinary shares outstanding.

INT: Inventory turnover.

RVT: Receivables Turnover

ATV: Total assets turnover.

OCF: Cash flows from operations

FWC: Net working capital

FSZ: Firm size, which is the base-10 natural logarithms of total assets

MJS: Major Shareholding

E: Residuals

Both hypotheses are tested based on 95 percent predetermined coefficient of confidence, or 5 percent (1–0.95%) predetermined coefficient of significance. Descriptive statistics are used in data analysis including, the mean as an important indicator of central tendency, and the

standard deviation as a common indicator for data variation. Other descriptive statistics are used such as the least and the highest values. The multiple and hierarchical regression methods are used in hypotheses testing where the multiple regression is used in testing the first hypothesis, and the hierarchical regression method is used in testing the second hypothesis that includes the moderating variable. F-value, in addition to the coefficient of significance, were used as a decision base rule. Using the coefficient of significance as a decision base for the acceptance or rejection of the null hypotheses, the null hypothesis is accepted when the computed coefficient of significance is higher than the corresponding one, which equals 5 percent. In opposite, a null hypothesis is rejected in case where the computed coefficient of significance is less than the corresponding predetermined, which equals 5 percent.

RESULTS

Variables Description

The variables of the study are categorized into four categories including, dependent, independent, moderating, and control variables. In this section, in details description of each variable had introduced.

Table (1) shows the mean, standard deviation, and the least and the highest value of each variable. Tobin's Q is used as a measure for firm value. Considering table (1), it shows that the highest value of Tobin's Q is 3.576639, and the least one is 0.081694. The table also shows that Tobin's Q has a mean of 0.70875933, with 0.540794111 standard deviation. The related statistics of Tobin's Q seem normal and nothing exceptional or abnormal that deserves comment.

With regard to the descriptive statistics of receivables turnover, the mean is 4.82385710, with 6.386197907 standard deviation. The standard deviation of inventory turnover seems high, and this is because of different industries are classified under the manufacturing sector of Jordan, where high inventory is required to be maintained in some industries, and less inventory is considered adequate to be kept on hand. The highest value of inventory turnover is 43.240841, whereas the least inventory turnover is 0.091676. Considering receivables turnover, the mean is 8.35527665, and the standard deviation is 2.020744518E1. The highest receivables turnover value is 209.334174, while the least equals 0.151020. The standard deviation of receivables turnover seems high because of different credit policies, the firms adopt, and because of different sales volume of different firms. The entire descriptive statistics of total assets turnover are normal and no exceptions. The mean, standards deviation, highest, and least values are, 0.50192584, 0.035112133, 0.351046, and 0.351046, respectively. The working capital is found as proportional to total assets to be in consistency with the nature of other values. Considering the descriptive statistics it equals, 0.24684684, 0.240795612, 0.818729, and 0.818729, of the mean, standard deviation, highest value, and least value, respectively. Nothing exceptional in the descriptive statistics of working capital, that needs comment, except that the least value is minus value, where it means that current assets are less than current liabilities, where firms of minus net working capital have a liquidity problem at the short range. The last independent variable is the net cash flows from operating activities. Cash flows from operations are also found as proportional to total assets to be in consistent with other variables. Nevertheless, to be negative cash flows from operating activities is normal situation, because cash inflows from operations may be less than cash outflows in some accounting periods. The mean, standard deviation,

highest value, and least value of net cash flows from operating activities, are in proportional to total assets are 0.06853246, 0.095431954, 0.599134, and -.188643, respectively.

Major shareholding is the moderating variable in the study, where major shareholders include those shareholders, who have 5 percent of the entire number of share outstanding. Note that some firms are 100 percent, while others zero. When major shareholding ratio is zero this means that there are no shareholders have 5 percent of the entire outstanding shares or more, and when it is 100 percent, this means that all shareholders have 5 percent or more, of the entire outstanding shares. Nevertheless the mean, standard deviation, highest value, and least value are, 56.12255714, 2.827723297E1, 100, and zero, respectively.

Firm size is used in this study as a control variable, and computed using the natural logarithms of total assets. The descriptive statistics of total assets refer that most firms have somewhat low assets, except for few firms. The descriptive statistics of firm size are, 7.49797143, 0.561882600, 9.088000, and 6.351000, for the mean, standards deviation, highest, and least value, respectively.

Table 1				
Descriptive Statistics				
	Mean	Standard Deviation	Minimum Value	Maximum Value
Tobin's Q	0.70875933	0.540794111	0.081694	3.576639
Inventory Turnover	4.82385710	6.386197907	0.091676	43.240841
Receivables Turnover	8.35527665	2.020744518E1	0.151020	209.334174
Total Assets Turnover	0.50192584	0.035112133	0.351046	0.709245
Working Capital	0.24684684	0.240795612	-.365596	0.818729
Operating Cash Flows	0.06853246	0.095431954	-0.188643	0.599134
Major Ownership	56.12255714	2.827723297E1	.000000	100.000000
Firm Size	7.49797143	0.561882600	6.351000	9.088000

Several test had been employed to insure that the data is appropriate for analysis and hypotheses testing. The normal distribution, multicollieraity, and Durbin Watson tests are employed in this context. Table (2) shows the results of these tests. The result indicates that the model is useful and valid. The Tolerance and Variance Inflation factor (VIF) are employed, and its results are summarized and revealed as appearing in the table. The VIF for all variables is less than 10, where this means that there are no overlapping variables (Weshah, & Dhiyat, 2021). In addition, the Durbin-Watson test is also used and its results reveal that it equals 1.58, where this value is considered optimal; since the Durbin-Watson test value is optimal it is 1.5 and 2.5. Therefore, the value refers for the absence of autocorrelation (Gujarati, 2003).

Table 2			
Data Validity Tests			
Variables	Multicollinearity		Autocorrelation
	Tolerance	VIF	Durbin-Watson
Inventory Turnover	0.864	1.158	1.63
Receivables Turnover	0.969	1.032	
Total Assets Turnover	0.872	1.147	
Working Capital	0.812	1.232	
Operating Cash Flows	0.855	1.169	
Firm Size	0.856	1.168	
Major Shareholding	0.812	1.232	

Correlations

The Pearson correlation coefficient of each independent variable with other independent variables had been computed. Table (3) shows the correlation coefficients among the independent variables, where based on the coefficients of correlation, no strong correlation is found among independent variables. In opposite, correlation among the independent variables is considered low, and among some independent variables, the coefficient is too much low. The results of Pearson coefficient of correlation refer that the independent variables and its values are valid to be used in the analysis, and useful for the investigation of its effect on Tobin's Q, as the single dependent variable in the study.

Table 3					
Pearson Coefficients of Correlation Among Independent Variables					
	Inventory Turnover	Receivables Turnover	Total Assets Turnover	Working Capital	Operating Cash Flows
Inventory Turnover	1	0.077	0.086	-0.324	0.034
Receivables Turnover		1	0.001	-0.155	0.046
Total Assets Turnover			1	0.093	-0.279
Working Capital				1	0.168
Operating Cash Flows					1

Normality

The data had tested to examine whether it is subject to normal distribution. To examine the data Normality, two tests are used including, Kolmogorov-Smirnov and Shapiro-Wilk. Table (4) shows the coefficients of normality, degrees of freedom, in addition to the coefficient of significance regarding data normality using the coefficient of Kolmogorov-Smirnov and Shapiro-Wilk. Based on the coefficients of normality for underline tests of both Kolmogorov-Smirnov and Shapiro-Wilk, and based of significance of normality, the data is normally distributed, where only the data of working capital variable under Kolmogorov-Smirnov seems slightly normal, despite it is normally distributed under Shapiro-Wilk test.

Table 4						
Normal Distribution Coefficients						
	Kolmogorov-Smirnov^a			Shapiro-Wilk		
	Statistics	df.	Sig.	Statistics	df.	Sig.
Tobin's Q	0.128	275	0.000	0.849	275	0.000
Inventory Turnover	0.265	275	0.000	0.603	275	0.000
Receivables Turnover	0.353	275	0.000	0.269	275	0.000
Total Assets Turnover	0.092	275	0.000	0.849	275	0.000
Working Capital	0.050	275	0.093	0.989	275	0.038
Operating Cash Flows	0.076	275	0.001	0.947	275	0.000

Hypotheses Testing

The study is based on two hypotheses, one is regarding the impact of operational efficiency on firm value, without using major shareholding variable as a moderator, and the second is regarding the moderating impact of major shareholding on the effect relationship of operational efficiency on firm value.

The first hypothesis is developed to enable examining whether operational efficiency has a significant impact on firm value. Operational efficiency is measured using five independent variables including, inventory turnover, receivables turnover, total assets turnover, working

capital, and operating cash flows. Tobin's Q, is used as a measure for firm value. The hypothesis is listed again in its null form as follows.

H₀₁. The operational efficiency of performance of the listed manufacturing firms at Amman Stock Exchange has no significant impact on the market value of these firms.

The multiple linear regression method is used in testing the first hypotheses. Firm size is used as a control variable in testing the first hypothesis. The results of the test are appearing in table (5). The table shows that the coefficient of correlation (R), equals 0.559, where this means that there is a moderate correlation between the five independent variables and the firm size in one hand, and firm value in the other hand. The table also reveals that the coefficient of determination (R²) equals 0.313, where this means that the five elements of operational efficiency explains 31.3 percent of the change taking place in firm value.

The table also shows that the computed f-value equals 20.323, and the related coefficient of significance equals zero. It was mentioned above, that the null hypothesis is accepted when the computed f-value is less than the tabulated, or when the computed coefficient of significance is higher than the predetermined one, which equals 5 percent. In opposite, the null hypothesis is rejected when the computed t-value is higher than the corresponding tabulated one, or when the computed coefficient of significance is less than the predetermined one, which equals 5 percent. Considering the information available in the table, the computed coefficient of significance equals zero, where this is less than the corresponding predetermined one. Because the computed t-value is higher than the corresponding tabulated one, and because the computed coefficient of significance is less than the predetermined one, the null hypothesis is rejected, and alternatively, the alternative hypothesis is accepted. This result means that the operational efficiency of performance has a significant impact on firm value, and it explains a somewhat large portion of the change occurring to firm value.

Table 5						
The Coefficients of the First Hypothesis Test						
	R	R²	Adj. R²	DF.	F. Value	Sig. Value
Operational Efficiency	0.559	0.313	0.297	274	20.323	0.000
	B. Value		Beta	t-value		Sig
Inventory Turnover	0.009		0.105	1.921		0.056
Receivables Turnover	0.002		0.071	1.367		0.173
Total Assets Turnover	2.53		0.164	3.011		0.003
Working Capital	0.927		0.414	7.287		0.000
Operating Cash Flows	1.461		0.255	4.652		0.000

Considering the measures used of operational performance in the analysis, and in testing the first hypotheses, the results approve that more efficient use of inventory, and better policy of receivables, and the collection of receivables are reflected at higher firm value. In addition, efficient working capital and efficient use of total assets improves profitability, and at the end lead to an increase in firm value. Enough cash flows from operations reflects policies of sales, and credit sales, in addition to the collection of receivables, and the adoption and application of these policies improve performance and lead to higher firm value.

When the coefficients of the model are solved, the model appears as follows.

$$FV = -2.773 + 0.009INT + 0.002RTV + 2.53ATV + 1.461OCF + 0.927FWC + 0.243FSZ + 0.541(1)$$

The second hypothesis had developed to enable testing whether major shareholders factor plays a moderating role on the impact relationship of operational efficiency of performance on

firm value. Major shareholding is the ratio of the shares owned by major shareholders to the entire number of ordinary shares outstanding, where those who having 5 percent of the entire number of ordinary shares outstanding are classified as major shareholders. The hypothesis is listed again, in its null form as follows.

H₀₂: Major shareholding does not moderate the assumed impact of operational performance efficiency of the listed manufacturing firms at Amman Stock Exchange, on firm market value of these firms.

The regression method is employed in testing whether major shareholding moderate the effect relationship of operational efficiency of performance on firm value. Table (6) shows the coefficients related to the second hypothesis test. Considering the table, it shows that the coefficient of determination (R^2) is now equals 0.434. Where R^2 in the direct effect of operational efficiency on firm value was 0.313, it is increased to 0.434, where this means that major shareholding as a moderator, has an interaction effect, on the relationship between operational efficiency and firm value. When major holding is taken into consideration, R^2 increased by 0.121. Considering the adjusted R^2 , it was 0.297, but when major shareholding is taken into consideration as a moderator, the Adjusted R^2 increased to 0.410, and it became higher than the adjusted R^2 without moderator by 0.113.

The computed t-value of the direct impact of operational efficiency of performance was 20.323, but when major shareholding is taken into consideration as a moderator, f-value declined to 18.319, with 2.004 decline. The coefficient of significance continued zero with and without moderator. As a result of major shareholding moderating variable, the adjusted R^2 , increased from 0.313 to 0.434. This means that while the operational efficiency as an independent factor was explaining only 0.313 of the change in firm value, without the moderator, it is now explains 0.41, of that change in firm value. This means that the major shareholding-moderating variable, plays a significant role in moderating the effect relationship of operation efficiency on firm value. Therefore, the null hypothesis is rejected, and its alternative one is accepted. This result means that there is a moderating impact of major shareholding on the impact relationship of operational efficiency on firm value.

Table 6 The Coefficients of the Second Hypothesis Test					
Independent variable	Variables	First model		Second model	
		Sig	F	Sig	F
Operational Efficiency	Direct effects	0.000	20.323		
	Interaction effects	-		0.000	18.319
	R^2	0.313		0.434	
	Adj. R^2	0.297		0.410	
	ΔR^2	0.121			
	Δ Adj. R^2	0.113			
	ΔF	-2.004			
	Sig.	0.000			
		B Value	Beta	T. Value	Sig.
Inventory Turnover		-0.015	-0.181	--0.854	0.394
Receivables Turnover		0.013	0.498	0.884	0.377
Total Assets Turnover		0.291	0.019	0.123	0.902
Working Capital		- 0.308	-0.170	-1.288	0.199
Operating Cash Flows		0.114	0.020	0.154	0.878

Major Shareholding	-.011	-0.583	-0.653	0.514
(Major Shareholding * Inventory Turnover)	0.000	0.302	1.345	0.180
(Major Shareholding * Receivables Turnover)	0.000	-0.471	-0.828	0.408
(Major Shareholding * Total Assets Turnover)	0.022	0.597	0.123	0.902
(Major Shareholding * Working Capital)	0.023	0.653	4.595	0.000
(Major Shareholding * Operating Cash Flows)	0.018	0.212	1.575	0.116

When the coefficients of model B, which involves the interaction effect, are solved, it appears as follows.

$$FV = 0.204 - 0.015INT + 0.013RVT + 0.291ATV + 0.114OCF - 0.380FWC - 0.011MJS + 0.000(INT \times MJS) + 0.000(RVT \times MJS) + 0.022(ATV \times MJS) + 0.018(OCF \times MJS) + 0.023(FWC \times MJS) + 1.154 \quad (2)$$

The existence of a significant moderating role of major efficiency can be justified by the existence of strong incentive for major shareholders to intervene the operational policies of firms. Major shareholders have high investments in the assets of firms, and they are more interested with the operational performance than small shareholders, since they generate more benefits from the efficient operational performance. Actually, major shareholders have more interests in the net assets of firms than other shareholders, and they receive more benefits when firms achieve higher profits, where this is considered strong incentive for major shareholders to take actions to enhance operational performance. In more details, major shareholders may take care of inventory management, and they may exercise an effect to enforce better inventory and receivables policies, to insure better performance and higher profits. Cost reduction is one of the goals that may shareholders struggle to achieve this reduction in cost. Therefore, major shareholders are ready to let management to take action in the direction of cost reduction, through the exercise of better cost control, maintaining the appropriate level of inventory that it maintains continuous operations, and avoiding keeping extra inventory. Major shareholders can also encourage the adoption of good sales and receivables policy, where they encourage all procedures that may lead for higher sales volume, and a policy of receivables that do not restrict sales, and at the same time, will not lead to high bad debt expense.

CONCLUSION

The study aims for determining the impact of operational efficiency of performance on firm value, and the moderating role of major shareholding on the effect relationship of operational performance on firm value. The required secondary data had been selected from ASE website, and the hypotheses had been tested using the regression method.

The hypotheses testing demonstrated that the operational efficiency of performance, consisting of indicators including, inventory turnover, receivables turnover, total assets turnover, net working capital, and cash flows from operating activities, has a significant impact on firm value. This finding is explained by the impact of efficient operational performance on share market price, and the efficient operational of performance is reflected in share price. In addition, the results showed that major shareholding in the ownership structure of listed manufacturing firms at ASE, plays a significant moderating role on the impact relationship of operational efficiency of performance on firm value. More studies of operational efficiency of performance are recommended to be employed, and more operational aspects are recommended to be taken in

this context, since operational efficiency of performance explains high proportion of change in firm value.

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Received: 07-Dec-2022, Manuscript No. ASMJ-22-12970; **Editor assigned:** 09-Dec-2022, PreQC No. ASMJ-22-12970 (PQ); **Reviewed:** 30-Dec-2022, QC No. ASMJ-22-12970; **Revised:** 31-Mar-2023, Manuscript No. ASMJ-22-12970(R); **Published:** 04-Apr-2023