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The Effect of Discretionary Cash Flow on Profitability Ratios: Evidence from Jordanian Manufacturing Corporations

Mohammad Salim Elessa[*], *Ayman Mohammad AL Shanti, Mohammad Mahmoud Humeedat and Sulaiman Raji Weshah*

Department of Accounting and Accounting Information System, Amman University College, Al-Balqa Applied University, Amman, Jordan

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Abstract: This study examines the effect of discretionary cash flow on the profitability ratios of the manufacturing corporations listed on the Amman Stock Exchange. The study relied on primary data collected from Jordanian manufacturing corporation reports for the period 2010-2021, based on a stratified sample of twenty manufacturing corporations listed on the Amman Stock Exchange (ASE). Regression analysis and numerous relevant statistical tests were used to assess the hypotheses. Profitability ratios as the dependent variable were assessed by return on investments (ROI), return on equity (ROE), and net profit margin (NPM), while discretionary cash flow was the independent variable. Furthermore, the study found that discretionary cash flows have a significant impact on return on investments (ROI), return on equity (ROE), and net profit margin (NPM). The researchers recommend that further research consider other measurements of profitability ratios.

Keywords: Discretionary Cash Flow, Profitability Ratios, Return on Investments, Return on Equity, Net Profit Margin, Manufacturing Corporations

1 Introduction

Discretionary cash flow is one of the issues addressed in much accounting and finance literature [1]. Kieso et al. (2018) proposed the idea of "discretionary cash flow," which is the cash remaining after the business invests in all projects and pays capital expenditures and dividends [2]. One of the concepts utilized in cash flow analysis is discretionary cash flow, which quantifies the cash available for usage after cash costs are paid. A valuation model of cash flow in general focuses on money entering (receipts) and going (payments); if receipts exceed payments, a cash surplus results, which is a good sign of the entity's potential to generate returns, as long as the surplus is not the consequence of borrowing [3,4,5].

Cash flow measures are an essential analytical tool done by using cash flow information to assess liquidity and estimate profitability [6,7]. Discretionary cash flow is defined as net cash flows from operations less capital expenditures (used to maintain the enterprise's production capacity) and cash distributions (needed to make the required payments to stakeholders for their contribution) [8,9], and that cash flows indicate excess to be used in the future to grow production, develop new products, own and develop operating assets, pay dividends, reduce debt, exploit opportunities, and increase. As a result, it is regarded as one of the most essential measures of company success for its stakeholders, as many investors rely on discretionary cash flow estimates to make their own investment decisions [10,11,12].

Most businesses believe profitability ratios to be an important aim [13,14,15]. Therefore, economic entities strive for returns to ensure long-term survival and continuity [16,17,18]. For that purpose, these institutions use all of their available energies and resources in a way that allows them to accomplish the expected results based on the objectives and foundations established. Jordanian manufacturing corporations, which are listed in the ASE, are regarded as part of all sectors that support the Jordanian economy, with the balance of market value for the manufacturing sector reaching (4586.3) millions from a total of (15495.7) millions by the end of 2021 (ASE reports, 2021), and some research has recommended focusing on inside manufacturing financial statements [19,20].

* Corresponding author e-mail: Dr.moh.elessa@bau.edu.jo

Many academics believe that discretionary cash flow is an essential issue because of the value it gives in supporting shareholders, investing, measuring the performance of the firm, its efficiency, and the amount to which future investments may be increased [21,22]. Numerous studies, as mentioned by [23], have discovered an ambiguous relationship between discretionary cash flow and enterprise financial ratios, and this report informs interested stakeholders to conduct additional research on the influence of discretionary cash flow and profitability ratios, as well as to improve their ability to make judgments based on the findings of this investigation and to understand the financial status of these situations [24]. This research is intended to provide information to assist in identifying discretionary cash flow (DCF) and its influence on profitability ratios measured by ROI, ROE, and NPM as published in the literature, as well as to assist manufacturing corporations' decision-makers in strengthening the strengths of the results and addressing deficiencies when developing the economies of developing countries such as Jordan, as well as in an important sector such as manufacturing. The primary purpose is to examine the effect of discretionary cash flows on Jordanian manufacturing corporations' profitability ratios.

2 Literature Review and Hypotheses Development

Discretionary cash flow is one of the themes discussed in much accounting literature. Historically related to the definitions, it is found in Jensen (accounting literature. Historically related to the definitions, it is found in [25], which developed the general concept of it as the cash left after investments are done and cash expenses are paid. It is also described as "cash available from operational cash flows" to repurchase shares, pay off prior obligations, or make additional investments [26]. Bhandari and Adams (2017) defined it as the additional capital that a business employs for investment purposes to produce future cash flows [1].

Otherwise, discretionary cash flow is the enterprise's net cash earned after subtracting costs, taxes, changes in net working capital, and investments, and it is one of several measures used to assess and analyze financial health [27]. It is the cash flow available to the enterprise's ordinary shareholders after paying all operational expenditures and loan charges (capital and interest) and making the necessary capital and fixed asset investments; it is also a measure of dividends or share repurchases after deducting reinvestment and debt payments [28]. Likewise, Sadaf (2016) illustrated the link between discretionary cash flows and revenue growth in the enterprises' performance; profitability was also affected by sales growth, which in turn was affected by discretionary cash flows [29]. Furthermore, discretionary cash flow enables a firm to take advantage of possibilities that increase stock prices, dividends, creating new goods, settling obligations, purchasing shares, and generating cash flow overall [30,31].

However, Dogru et al. (2020) showed that diminishing free cash flow may cause problems for organizations that are seeking to support their company operations as well as expansion. Moreover, for businesses to develop, they must maintain enough funds to be able to reinvest, so it is an indicator of future growth [32]. Further, managers may not exhibit profit-maximizing behavior but rather use increased free cash flow to achieve personal goals [33].

Profitability ratios are indicated by a variable that represents the firm's capacity to create earnings from its properties. Size, leverage, revenue growth, investments, and current assets are some of the characteristics used to assess the firm's performance [34]. On the other hand, profitability is a key aim pursued by manufacturing corporations in particular and other economic sectors, and it is a vital sign of a company's existence and continuance. It is regarded as the primary aim that shareholders, management, and decision-makers strive for [35]. Moreover, profitability is an essential notion in the business world, and this is because it is a primary aim for companies and profit societies since they utilize metrics and indicators to gauge the entity's achievement of its goals, continuity, and ability to recruit investors [36,37].

Nevertheless, profitability ratios alone cannot define a manager's optimal efficiency. Profitability stability is another issue to consider. Profitability ratios result from an organization's resources being allocated and used wisely [38]. Firms with surplus cash but inefficient use of the cash might cause agency difficulties owing to shareholder unhappiness; therefore, profitability is calculated as a ratio against several essential variables to determine the real status of the organization, such as the margin ratio, which can be used to measure profitability by comparing earnings to sales, assets, investments, or equity. Profit margin necessitates profits that may be calculated from income given as a percentage of these factors [39]. Both the ROI and ROE metrics are valuable for manufacturing organizations since they gauge managers' efficiency in employing investments and equity to produce profits [40], so they are employed as a surrogate measure for profitability in this study to reflect the link between DCF and profitability ratios. Profitability can also be calculated in terms of net profit margin (NPM), which measures profitability in relation to total sales [41,42].

Another study focused on the relationship between cash flows and related factors such as accounting aspects of dividend policy, earnings management, and revenues, and found a negative relationship with dividend payout ratio [43]. Pour and Khaksari (2008) arrived at cash as a dividend policy determinant [44]. According to [45], discretionary revenues are positively correlated with free cash flows but negatively correlated with operating results. Toumeh et al. (2020) found a positive link between free cash flow and the business's market capitalization, which is a surrogate for profitability, and recommended that the free cash flow theory outperform the firm's profitability; they also discovered a

strong connection with both free cash flows and market capitalization [27]. The outcomes of this study likewise demonstrate a favorable association between DCF and company profitability ratios within both the NPM and ROE models.

Correspondingly, in a study examining the effects of free cash flow on the firm's profitability and a method of stratified sampling, thirty firms listed on the Karachi Exchange were utilized. They considered free cash flows, capital liquidity, and firm size as independent variables with profitability as a dependent variable and reported that free cash flow is an essential measurement that accurately forecasts whether a company is financially sound or not. The study employed a descriptive survey, which resulted in a substantial positive association between profitability and overall free cash flows, which leads us to believe that for any organization to attain profitability, it must rely on its free cash flows. Based on the previous research, the current study framework, and our study objectives, we developed the following hypotheses:
H_0**:** There is an impact of discretionary cash flows on the Jordanian Manufacturing Corporation's profitability ratios content.

According to above, the following sub hypotheses have been emerged:
H_{01}**:** There is an impact of discretionary cash flows on Jordanian manufacturing corporation's profitability ratios measured by the return on investment.
H_{02}**:** There is an impact of discretionary cash flows on Jordanian manufacturing corporation's profitability ratios measured by the return on equity.
H_{03}**:** There is an impact of discretionary cash flows on Jordanian manufacturing corporation's profitability ratios measured by net profit margin.

3 Variables and Operational Definition Measurements

Table 1: Definition of study variables and their measurement method

Types and Variables		Definition and method of measurement	Source
Independent: Discretionary cash flow (DCF)		Discretionary Cash Flow = Net Cash provided by Operating Activates - Capital Expenditures – Dividend	[2]
Dependent: Profitability ratios	ROI	Return on investment (ROI) = Net income after tax / total investments	[46]
	ROE	Return on Equity (ROE) = Net income after tax / Average Equity	[47]
	NPM	Net Profit Margin (NPM) = Net income after tax / sales revenues	[48]

4 Methods and Data Collection

The study was based on the heuristic (analytical) method through a representative random stratified sample which represented all layers of manufacturing corporation's population and considered the permanent existence of corporations listed in Amman Stock Exchange throughout the study period extended from (2010-2021). Therefore, a sample size of (20) corporation were subjected and used in generating data in quantitative form covered in order to provide all the necessary data that measure the (4) variables of the current study during the mentioned period, the purpose of this method is to form a database reached (960) observations through which characteristics or relationships belonging to the population can be inferred.

The manufacturing sector was chosen because of its marked contribution to economic status and as a key supporting pillar to encourage other sectors in ASE and Jordan to grow. As mentioned in the study introduction above, its market value formed 30% of total ASE market values; in addition, this sector is one of the most prestigious and successful activities in the Jordanian economy, and its effectiveness has been proven over the years despite the challenges faced by the Jordanian economy [49,50].

The study tool is the means that were adopted to collect the necessary data related to the independent variables (discretionary cash flow) and the dependent variable (profitability ratios), which are measured by ROI, ROE, and NPM, and the financial statements listed on the official website of the Amman Stock Exchange have been relied upon during the period from 2010 to 2021 as the main data collection tool described earlier. The study relied on secondary sources such as published scientific books, research papers, and university theses and dissertations, printed and electronic, which related to the current study.

5 Results

In the first step and before statistical analysis and further testing, we have to test the normality of the data, as one of the conditions is that these data are normally distributed, and to ensure that the collected data and the value (K-S) (Kolmogorov-Smirnov Test) were extracted as follows:

Table 2: Data normality distribution based on the (K-S) test

Variable	DCF	ROI	ROE	NPM
N	240	240	240	240
Kolmogorov-Smirnov (K-S)	1.002	1.051	0.968	0.889
Sig.	0.0634	0.0883	0.0986	0.0705

Table 2 indicates that the data was normally distributed in terms of values of (sig.) related to study variables which found greater than (0.05) and the number of views is greater than (50) [51,52,53,54,55].

5.1 Descriptive statistics

The mean, standard deviation, highest value and lowest value were extracted to describe the study variables during the study period extended from (2010-2021) and the results were as follows:

Table 3: Descriptive statistics of study variables for the period (2010-2021)

Variable	Minimum	Maximum	Mean	Std. Deviation	N
DCF	-3.457	8.093	3.078	7.303	240
ROI	-0.515	0.686	0.025	2.191	240
ROE	-0.871	0.926	0.092	3.281	240
NPM	-7.357	9.228	2.487	5.354	240

* For statistical analysis, the data has been statistically processed to reach the natural log value of (DCF and NPM) data.

5.2 Hypotheses testing

This first hypothesis was tested using a simple linear regression test, which represents the answer to the first sub-question in the study problem, and the results were as appeared in table 4.

Table 4: Results of the regression model of the effect of (DCF) on (ROI)

Model Summary						
R		R^2			$Adjusted - R^2$	
0.517		0.267			0.263	
Coefficients						
Dependent	**Model**	**B**	**E**	**Beta**	**t**	**Sig.**
ROI	Constant	-0.631	0.489		-1.290	0.126
	DCF	1.210	0.038	0.435	2.684	0.004*
F= 86.698; F sig (0.000); * Significant at the level of (0.05)						

The simple regression equation is:

$$ROI_{it} = B_0 + B_1 DCF_{it} + e \quad (1)$$

$$ROI_{it} = -0.631 + 1.210 DCF_{it} + e$$

It is noted from Table 4 above that the correlation coefficient (R) = 51.7%, which indicates a positive medium relationship between discretionary cash flow and ROI, and the coefficient of determination (R2) = 26.7%, which indicates that discretionary cash flow can explain 26.7% of the variation in return on investment. By looking at the analysis of variance matrix above, it is noted that the calculated F, which is 86.698, exceeds the table F value, which is 3.89; or by looking at the value of F sig, which is 0.000, and this value is less than 0.05, that means there is a statistically significant impact at a significant level (5%) of discretionary cash flow on profitability ratios measured by the return on investment in Jordanian manufacturing corporations.

The second hypothesis was tested using a simple linear regression test, which represents the answer to the second sub-question in the study problem, and the results were as shown in table 5.

Table 5: Results of the regression model of the effect of (DCF) on (ROE)

Model Summary						
R			R^2		$Adjusted - R^2$	
0.541			0.293		0.290	
Coefficients						
Dependent	**Model**	**B**	**E**	**Beta**	**t**	**Sig.**
ROE	Constant	-0.857	0.511		-1.677	0.097
	DCF	0.349	0.164	0.408	2.128	0.017*
F= 82.368; F sig (0.000); * Significant at the level of (0.05)						

The simple regression equation is:

$$ROE_{it} = B_0 + B_1 DCF_{it} + e \tag{2}$$

$$ROI_{it} = -0.857 + 0.349 DCF_{it} + e$$

It is noted from Table 5 above that the correlation coefficient (R) is equal to 54.1%, which indicates a positive medium relationship between discretionary cash flow and return on equity. Also, the table shows a coefficient of determination (R2) of 29.3%, which indicates that discretionary cash flow can explain 29.3% of the variation in return on equity. By looking at the analysis of variance matrix above, it is noted that through the calculated F, which is (82.368), this value exceeds the table F value, which is 3.89, or through the value of F sig, which is (0.000), this value is less than 0.05, which means that there is a statistically significant impact at a significant level (5%) of discretionary cash flow on profitability ratios measured by the return on equity in Jordanian manufacturing corporations.

The third hypothesis was tested using a simple linear regression test, and the results were as shown in table 6.

Table 6: Results of the regression model of the effect of (DCF) on (NPM)

Model Summary						
R			R^2		$Adjusted - R^2$	
0.334			0.112		0.108	
Coefficients						
Dependent	**Model**	**B**	**E**	**Beta**	**t**	**Sig.**
NPM	Constant	-1.341	0.763		-1.758	0.126
	DCF	0.214	0.082	0.335	2.610	0.005*
F= 29.912; F sig (0.007); * Significant at the level of (0.05)						

The simple regression equation is:

$$NPM_{it} = B_0 + B_1 DCF_{it} + e \tag{3}$$

$$ROI_{it} = -1.341 + 0.214 DCF_{it} + e$$

The correlation coefficient (R) is 33.4 percent in Table 6, indicating a weak positive relationship between discretionary cash flow and net profit margin, and the coefficient of determination (R2) is 11.2 percent, indicating that discretionary cash flow can explain 11.2 percent of the variation in net profit margin. By looking at the analysis of variance matrix above, it is noted that through the calculated F, which is (29.912), this value exceeds the table F value, which is (3.89), or via the value of F sig, which is (0.007), this value is less than (0.05), which concludes that there is a statistically significant

impact at a significant level (5%) of discretionary cash flow on profitability ratios measured by the net profit margin in Jordanian manufacturing corporations.

The result of testing the hypotheses agreed with the study by [29,56,57], which found a positive correlation between discretionary cash flows and profitability. It also agreed with [23,58,56,59], who found that discretionary cash flows were in a positive relationship with profitability measured by ROE. On the other hand, our results did not agree with those of [29,57,60], which found a positive correlation between discretionary cash flows and profitability. It also agreed with [23, 56,58,59], who found that discretionary cash flows were in a positive relationship with profitability measured by ROE. On the other hand, our results did not agree with those of [60], which showed an inverse relationship between discretionary cash flows and the profitability of corporations listed on the Nairobi Stock Exchange; they also did not agree with those of [61], which showed no significant impact on a firm's profitability.

6 Conclusion and Recommendations

This study examined the impact of DCF on the profitability ratios of Jordanian manufacturing corporations as measured by ASE, and the results showed a statistically significant effect at the significance level of 0.05, which is positively indicated by the analysis of DCF on profitability ratios according to the three measures used: ROI, ROE, and NPM. This indicates that the investment of discretionary cash flow by management leads to an increase in profitability ratios and thus the ability to achieve the interests of shareholders.

Moreover, the results showed a positive effect but a medium-sized DCF on profitability ratios measured by ROI and ROE; this is due to the global crisis, the economic recession, and its side effects on Jordanian economics. Moreover, the results showed a positive but weak effect of DCF on profitability ratios measured by NPM, and it is possible to explain this because of the fluctuation of manufacturing businesses and the stagnation in the Jordanian markets during the study period, as well as the instability of financial performance due to shutdowns and bans and, consequently, the lack of new investments made by Jordanian manufacturing corporations.

Based on current study results, it is recommended to direct the departments of Jordanian manufacturing corporations to maintain and raise cash flows from operating activities as long as they can increase their efficiency and effectiveness to achieve the highest level of profitability ratios due to the positive results proven by studies that lead to an increase in profitability ratios and, consequently, the satisfaction of shareholders and decision-makers. Organizing and continuing seminars and training courses to educate manufacturing corporation departments about discretionary cash flow contents. Also, as much as possible, conduct the same study to brief the topic broadly across different sectors.

Conflict of Interest

The authors declare that there is no conflict regarding the publication of this paper.

References

[1] S. Bhandari and M. Adams. On the definition, measurement, and use of the free cash flow concept in financial reporting and analysis: a review and recommendations. *Journal of Accounting and Finance*,**17**, 11-19 (2017).
[2] D. Kieso, J. Weygandt and T. Warfield. *Intermediate Accounting IFRS*. Wiley, New York: United States (2020).
[3] E. Brigham and P. Daves. *Intermediate financial management*. Cengage Learning, Massachusetts: United States (2018).
[4] L. AL-Qudah, K. Aburisheh, A. ALshanti, D. Massadeh, E. Hyasat and S. Al-Hawary. Corporate social responsibilities and financial reporting quality: Evidence from Jordanian manufacturing firms. *Uncertain Supply Chain Management*,**10**, 1493-1500 (2022).
[5] I. Dichev. On the conceptual foundations of financial reporting. *Accounting and Business Research*,**47**, 617-632 (2017).
[6] L. Aryan, w. Owais, A. Dahiyat, A. Rahamneh, S. Saraireh, A. Haija and S. Al-Hawary. The effectiveness of corporate governance on corporate social responsibilities performance and financial reporting quality in Saudi Arabia's manufacturing sector. *Uncertain Supply Chain Management*,**10**, 1141-1146 (2022).
[7] S. Foerster, J. Tsagarelis and G. Wang. Are cash flows better stock return predictors than profits?. *Financial Analysts Journal*,**73**, 73-99 (2017).
[8] S. Saraireh, W. Owais, N. Abbas, G. Matar, L. Aryan, A. ALRahamneh and S. Al-Hawary. The effect of corporate social responsibility and board diversity on earnings management: Evidence from Jordanian listed firms. *Uncertain Supply Chain Management*,**10**, 1253-1260 (2022).
[9] P. Vernimmen, P. Quiry and Y. Le Fur. *Corporate finance: theory and practice*. John Wiley and Sons, New York: United States (2022).

[10] R. Alshawabkeh, H. AL-Awamleh, M. Alkhawaldeh, R. Kanaan, S. Al-Hawary, A. Mohammad and R. Alkhawalda. The mediating role of supply chain management on the relationship between big data and supply chain performance using SCOR model. *Uncertain Supply Chain Management*,**10**, 729-736 (2022).
[11] I. AlTaweel and S. Al-Hawary. The Mediating Role of Innovation Capability on the Relationship between Strategic Agility and Organizational Performance. *Sustainability*,**13**, 7564 (2021).
[12] X. Xu. *Optimize Entrepreneurial Resources*. In Introduction to Entrepreneurship. Springer Texts in Education. Springer, Singapore (2020).
[13] M. Alhalalmeh, R. Alkhawaldah, A. Mohammad, A. Al-Quran, G. Hijjawi and S. Al-Hawary. The effect of selected marketing activities and promotions on the consumers buying behavior. *Business: Theory and Practice*,**23**, 79-87 (2022).
[14] S. Al-Hawary. The Role of Perceived Quality and Satisfaction in Explaining Customer Brand Loyalty: Mobile Phone Service in Jordan. *International Journal of Business Innovation and Research*,**7**, 393–413 (2013).
[15] S. Al-Hawary and T. Alhajri. Effect of Electronic Customer Relationship Management on Customers' Electronic Satisfaction of Communication Companies in Kuwait. *Calitatea*,**21**, 97-102 (2020).
[16] F. Aityassine, B. Aldiabat, S. Al-rjoub, F. Aldaihani, H. Al-Shorman and S. Al-Hawary. The mediating effect of just in time on the relationship between green supply chain management practices and performance in the manufacturing companies. *Uncertain Supply Chain Management*,**9**, 1081-1090 (2021).
[17] M. Al-Alwan, S. Al-Nawafah, H. Al-Shorman, F. Khrisat, F. Alathamneh and S. Al-Hawary. The effect of big data on decision quality: Evidence from telecommunication industry. *International Journal of Data and Network Science*,**6**, 693-702 (2022).
[18] M. Alhalalmeh, H. Almomani, S. Altarifi, A. Al- Quran, A. Mohammad and S. Al-Hawary. The nexus between Corporate Social Responsibilty and Organizational Performance in Jordan: the mediating role of Organizational Commitment and Organizational Citizenship Behavior. *Test Engineering and Management*,**83**, 6391-6410 (2020).
[19] S. Al-Nawafah, H. Al-Shorman, F. Aityassine, F. Khrisat, M. Hunitie, A. Mohammad and S. Al-Hawary. The effect of supply chain management through social media on competitiveness of the private hospitals in Jordan. *Uncertain Supply Chain Management*,**10**, 737-746 (2022).
[20] M. Alolayyan, S. Al-Hawary, A. Mohammad and B. Al-Nady. Banking Service Quality Provided by Commercial Banks and Customer Satisfaction. A structural Equation Modelling Approaches. *International Journal of Productivity and Quality Management*,**24**, 543–565 (2018).
[21] R. Gregory. ESG activities and firm cash flow. *Global Finance Journal*,**52**, 100698 (2022).
[22] D. Al-Sraheen and M. Hamdan. An analysis of joint effects of free cash flows and ownership concentration on corporate debt policy. *Global Business and Economics Review*,**26**, 353-363 (2022).
[23] M. Abughniem, M. Al Aishat and A. Hamdan. Free Cash Flow and Firm Performance: Empirical Evidence from the Amman Stock Exchange. *International Journal of Innovation, Creativity, and Change*,**10**, 668-681 (2020).
[24] S. Al-Hunnayan. The capital structure decisions of Islamic banks in the GCC. *Journal of Islamic Accounting and Business Research*,**11**, 745-764 (2020).
[25] M. Jensen. Takeovers: Their causes and consequences. *Journal of economic perspectives*,**2**, 21-48 (1988).
[26] M. Maksy. Is Free Cash Flow Value Relevant? The Case of the Information Technology Industry. *Journal of Accounting and, Finance*,**16**, 2158-3625 (2016).
[27] A. Toumeh, S. Yahya and A. Amran. Surplus Free Cash Flow, Stock Market Segmentations and Earnings Management: The Moderating Role of Independent Audit Committee. *Global Business Review*, 0972150920934069 (2020).
[28] A. Kadim, N. Sunardi and T. Husain. The modeling firm's value is based on financial ratios, intellectual capital, and dividend policy. *Accounting*,**6**, 859-870 (2020).
[29] A. Sadaf. Impact of free cash flow on the profitability of the firms listed on the Karachi stock exchange. *Euro-Asian Journal of Economics and Finance*,**4**, 57-67 (2016).
[30] M. Elessa, M. Hameedat, J. Altarairеh and M. Nofal. A Worthy Factors Affecting Dividends Policy Decisions an Empirical Study on Industrial Corporations Listid in Amman Stock Exchange, *Interdisciplinary journal of contemporary research on business*,**4**, 614-622 (2012).
[31] M. Guizani. The mediating effect of dividend payout on the relationship between internal governance and free cash flow. *Corporate Governance: The international journal of business in society*,**18**, 748-770 (2018).
[32] T. Dogru, M. Kizildag, O. Ozdemir and A. Erdogan. Acquisitions and shareholders' returns in restaurant firms: The effects of free cash flow, growth opportunities, and franchising. *International Journal of Hospitality Management*,**84**, 102327 (2020).
[33] E. Lai, A. Latiff, O. Keong and T. Qun. *The impact of free cash flow on firm's performance: evidence from Malaysia*. In Eurasian Economic Perspectives, 3-16, Springer, Cham (2020).
[34] R. Ball, J. Gerakos, J. Linnainmaa and V. Nikolaev. Deflating profitability. *Journal of Financial Economics*,**117**, 225-248 (2015).
[35] E. Brigham and J. Houston. *Fundamentals of Financial Management*. Cengage Learning, Massachusetts: United States (2021).
[36] A. Mohammad. The effect of customer empowerment and customer engagement on marketing performance: the mediating effect of brand community membership. *Verslas: Teorija ir praktika/Business: Theory and Practice*,**21**, 30-38 (2020).
[37] A. Mohammad. Customers' electronic loyalty of banks working in Jordan: The effect of electronic customer relationship management. *International Journal of Scientific and Technology Research*,**8**, 3809-3815 (2019).
[38] D. Asteriou, K. Pilbeam and I. Tomuleasa. The impact of corruption, economic freedom, regulation and transparency on bank profitability and bank stability: Evidence from the Eurozone area. *Journal of Economic Behavior and, Organization*,**184**, 150-177 (2021).

[39] K. Lin, X. Lu, J. Zhang and Y. Zheng. State-owned enterprises in China: A review of 40 years of research and practice. *China Journal of Accounting Research*,**13**, 31-55 (2020).
[40] C. Panigrahi. Impact of liquidity and profitability on share price: An analysis of Indian cement companies. *Journal of Management and Research Analysis*,**9**, 22-28 (2022).
[41] S. Bhamornsathit and P. Katawandee. An analysis of Thai listed hotels: Financial and operational performance. *Journal of Business and Behavioral Sciences*,**28**, 55-69 (2016).
[42] K. Hardies, D. Breesch and J. Branson. Do (fe) male auditors impair audit quality? Evidence from going-concern opinions. *European Accounting Review*,**25**, 7-34 (2016).
[43] D. Parsian and A. Koloukhi. A study on the effect of free cash flow and profitability current ratio on dividend payout ratio: Evidence from Tehran Stock Exchange. *Management Science Letters*,**4**, 63-70 (2014).
[44] O. Pour and M. Khaksari. Examining the Determinants of Dividend Policy over Tehran Stock Exchange (TSE). *Development and Capital Journal*,**2**, 183 (2008).
[45] J. Hu and S. Gan. On the Agency Costs of Free Cash Flow: Theory and Evidence. *Contemporary Finance & Economics*,**12**, 1-18 (2009).
[46] P. Easton. *Financial Statements Analysis and Valuation*. Cambridge Business Publisher, United States (2020).
[47] S. Martin and A. Fernando. *Financial statement analysis*. Wiley, New York: United States (2022).
[48] C. Gibson. *Financial Statements Analysis*. Cengage Publishing, Hampshire: United Kingdom (2014).
[49] A. Mohammad, R. Aldmour and S. Al-Hawary. Drivers of online food delivery orientation. *International Journal of Data and Network Science*,**6**, 1619-1624 (2022).
[50] H. Boudlaie, A. Boghosian, T. Chandra, S. Al-Hawary, R. Hussein, S. Talib, D. Mutlak, I. Muda and A. Heri Iswanto. Investigating the effect of humility of Muslim leaders on the moral behaviours of followers and spirituality at work in Islamic society. *HTS Teologiese Studies/Theological Studies*,**78**, 1-6 (2022).
[51] U. Sekaran and R. Bougie. *Research Methods for Business: A skill Building Approach*. SAGE, United States (2019).
[52] M. Alolayyan, M. Al-Qudah, M. Hunitie, I. Akour, S. Alneimat, S. Al-Hawary and M. Alshurideh. Validating the operational flexibility dimensions in the medical service sectors. *Uncertain Supply Chain Management*,*10*, 1397-1404 (2022).
[53] A. AL-Zyadat, J. Alsaraireh, D. Al-Husban, H. Al-Shorman, A. Mohammad, F. Alathamneh and S. Al-Hawary. The effect of industry 4.0 on sustainability of industrial organizations in Jordan. *International Journal of Data and Network Science*,**6**, 1437-1446 (2022).
[54] H. Mukhlis, S. Al-Hawary, H. Linh, I. Hani and S. Adnan. Religious capital and job engagement among Malaysian Muslim nurses during the COVID-19 pandemic. *HTS Teologiese Studies/Theological Studies*,**78**, 1-6 (2022).
[55] Z. Drezner, O. Turel and D. Zerom. A modified Kolmogorov–Smirnov test for normality. *Communications in Statistics—Simulation and Computation*,**39**, 693-704 (2010).
[56] U. Ali, L. Ormal and F. Ahmad. Impact of free cash flow on the profitability of the firms in the automobile sector of Germany. *Journal of Economics and Management Sciences*,**1**, 57-67 (2018).
[57] W. Ahmed, M. Hasan, M. Hoque and M. Alam. Impact of free cash flow on profitability: An empirical study on a pharmaceutical company. *Journal of Jessore University of Science and Technology*,**3**, 49-57 (2018).
[58] A. Nguyen and T. Nguyen. Free cash flow and corporate profitability in emerging economies: Empirical evidence from Vietnam. *Economics Bulletin*,**38**, 211-220 (2018).
[59] R. Rajapaksha and V. Weerawickrama. *The Impact of Free Cash Flow on Profitability of Listed Diversified Holding Companies in the Colombo Stock Exchange*. Proceedings of the International Conference on Business & Information ICBI, 41-55 (2020).
[60] C. Ojode. *Effect of free cash flow on profitability of firms listed on the Nairobi securities exchange*. Master thesis, University of Nairobi (2014).
[61] H. Nobanee and J. Abraham. The Impact of Free Cash Flow, Equity Concentration and Agency Costs on Firm's Profitability. *Investment Management and Financial Innovations*,**14**, 19-26 (2017).