International Journal for Research in Engineering Application & Management (IJREAM)
ISSN : 2454-9150 Vol-10, Issue-03, June 2024

Factors affecting the financial performance of companies listed at Muscat Stock Exchange - An Empirical Study using SEM

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Abstract - Financial performance stands as a cornerstone for organizational vitality and sustainability, particularly within the dynamic landscape of stock exchanges. Understanding the complex association between factors influencing financial health is paramount for strategic decision-making and long-term success. This study explores the determinants of financial performance among industrial sector companies listed on the Muscat Stock Exchange (MSX). This research analyses data collected from audited annual reports of thirty MSX-listed companies over a four-year period (2020-2023). Employing structural equation modelling, it assesses the direct and indirect impacts of liquidity, leverage, and efficiency on financial performance, with profitability as a mediating factor. Results indicate a significant direct relationship between efficiency, measured by the asset turnover ratio (ATR), and financial performance. However, liquidity and leverage measures exhibit no significant direct effects. Notably, profitability partially mediates the relationship between efficiency and financial performance. This research contributes to the existing literature by providing empirical evidence on the relationships between financial metrics and performance outcomes within the context of the MSX. The study provides valuable insights for strategic decision-making and organizational resilience by integrating direct and mediated effects.

Key Words : Financial Performance, Mediation effect, Muscat Stock Exchange. Profitability, Structural Equation Modelling (SEM), Industrial Sector

I. INTRODUCTION

Financial performance is a crucial determinant of an organization's overall financial health and sustainability. Numerous internal and external variables influence this performance. Internally, management decisions regarding investment, liquidity, and financing significantly impact a firm's profitability, which in turn affects its financial performance. Achieving organizational goals necessitates a focus on financial performance, using financial indicators to create models that support managerial decisions [1]. Externally, market conditions and economic policies also play a crucial role. Among the internal factors, capital structure, liquidity, corporate size, and asset management are particularly significant. Of these, capital structure and asset management often have the most pronounced effects on a firm's performance [2]. Understanding these factors is essential for managers, investors, and other stakeholders to make well-informed decisions that enhance the firm's financial health. Research on the factors influencing the financial success of companies on a global scale is prevalent, but studies pertaining specifically to those listed on the Muscat Stock Exchange (MSX) are noticeably rare [3]. The majority of the research focuses on major stock exchanges in developed markets, including the US, EU, and Asia [4]. This introduces a gap in understanding the impact of regional factors, market dynamics, and economic conditions on corporate financial performance in Oman. Additionally, it is important to consider the unique issues and characteristics of the industrial sector in the context of the MSX, as these were frequently overlooked in earlier research. This study aims to address this research gap by using an empirical analysis to examine the factors that influence the financial performance of industrial companies listed on the MSX.

The primary objective of this study is to investigate the factors affecting the profitability and financial performance of industrial sector companies listed on the MSX. Specifically, the study focuses on examining the direct and indirect effects of liquidity, leverage, and efficiency on a company's financial performance, with profitability acting as a mediating variable. By identifying and analysing these factors, the study intends to offer useful insights that might support strategic decision-making and enhance financial outcomes for these organisations. Contributing to a deeper

 DOI : 10.35291/2454-9150.2024.0285

understanding of the factors influencing financial performance in various economic conditions, the emphasis on MSX-listed companies offers a particular regional context.

II. REVIEW OF LITERATURE

Financial performance in a company refers to its ability to manage its capital to generate profit for the welfare of investors [5]. This term encompasses a company's capabilities as demonstrated in financial reports, which are utilised by stakeholders in decision-making [6]. Liquidity, efficiency, capital structure, and labour productivity are considered major factors impacting the financial performance of the company [7]. Liquidity, in particular, has a significant positive effect on financial performance [8]. Additionally, the current ratio, leverage, and firm size significantly affect profitability, with the current ratio and firm size having a positive impact and leverage having a negative impact [9].

Firm debt has a significant negative effect on financial performance in manufacturing companies listed on the Indonesia Stock Exchange, while sales growth, liquidity, and firm size have an insignificant effect [10]. Leverage, as measured by the debt-to-asset ratio, does not significantly affect a company's financial performance, as measured by earnings per share. In contrast, capital structure, as measured by the long-term debt-to-equity ratio, and institutional ownership have a significant effect on earnings per share [5]. Multiple linear regression analyses were used to determine the effect of capital structure, liquidity, corporate size, and asset management on financial performance. It was reported that capital structure negatively affects financial performance, liquidity and corporate size have no effect, while asset management has a positive effect on financial performance [2].

Multiple linear regression analysis with simultaneous T-test and F-test hypothesis testing was used to study the impact of profitability ratios and solvency ratios on a company's financial performance [11]. The results indicated that return on assets, net profit margin, and debt-to-asset ratio have a negative effect, while return on equity and debt-to-equity ratio have a positive effect on financial performance. SEM analysis using SmartPLS was conducted to study the factors affecting financial performance, revealing that liquidity, leverage, and efficiency negatively and significantly impact financial performance [12]. Previous studies have primarily focused on individual variables such as Operational Efficiency and Profitability [13], financial performance [14, 15], Liquidity [16, 17], and capital structure [18], with some examining specific aspects like Debt financing [19]. Consequently, most research has concentrated on determining the impact of single elements such as liquidity, leverage, and efficiency on financial performance [20-22]. However, there remains a gap in the existing literature regarding the assessment of the direct and indirect effects of all these variables, including liquidity, leverage, and efficiency, on a company's financial performance, with profitability serving as a mediating variable.

III. OBJECTIVES OF THE STUDY

The present study focuses study focuses on examining the factors affecting the financial performance of industrial sector companies listed on the Muscat Stock Exchange. Specifically, the objectives of the study are:

1. To determine the direct effect of liquidity, leverage and efficiency on the financial performance of a company.
2. To examine the indirect effect of liquidity, leverage and efficiency on the firm's performance through profitability as mediating variable.
3. To suggest measures to improve the financial performance of the organisations.

IV. HYPOTHESIS OF THE STUDY

This section outlines hypotheses to achieve the study's objectives by examining the direct and indirect effects of liquidity, financing, and efficiency on financial performance in industrial sector companies listed on the MSX.

Hypothesis 1 (H1): *There is a significant direct effect of liquidity, financing, and efficiency on the financial performance of a company.*

Hypothesis 2 (H2): *There is a significant indirect effect of liquidity, financing, and efficiency on financial performance through profitability as a mediating variable.*

V. METHODOLOGY OF THE STUDY

The section outlines the systematic approach employed to investigate factors influencing the financial performance of industrial sector companies listed on the MSX.

Population and Sample Selection:

The study encompasses companies listed on the MSX, forming the population of the study. Specifically focusing on the industrial sector, a subset of companies from the MSX was carefully chosen. From the initial pool of 37 companies, data was available for 30 entities, forming the sample for analysis. The data essential for this study was precisely extracted from the audited annual reports of these select companies.

Period of the Study

Spanning four years, from 2020 to 2023, the study captures a comprehensive snapshot of financial performance dynamics. This timeframe allows for a robust analysis of trends and patterns over a significant duration.

Variables Considered:

A set of key variables is examined to assess the financial health and performance of the selected companies. These include liquidity ratios, profitability indicators, leverage metrics, efficiency measures, and overall financial

 DOI : 10.35291/2454-9150.2024.0285

performance assessments. These variables are detailed in Table 1, offering a structured framework for analysis and comparison.

Table 1. List of Variables and Measures

S.No	Ratio	Factors
1	Debt Equity Ratio(DER)	**Measures Liquidity**
2	Debt Ratio (DR)	
3	Super Quick Ratio (SQR)	
4	Gross Profit Ratio (GPR)	**Measures Profitability**
5	Net Profit Ratio(NPR)	
6	Operating Profit Ratio(OPR)	
7	Debt-Equity Ratio(DER)	**Measures Leverage**
8	Debt Ratio(DR)	
9	Inventory Turnover Ratio (ITR)	**Measures Efficiency**
10	Debtors Turnover Ratio (DTR)	
11	Assets Turnover Ratio (ATR)	
12	Return on Assets (ROA)	**Measures Financial Performance**
13	Return on Capital Employed (ROCE)	

Data Analysis :

SEM is a comprehensive approach that allows the examination of complex relationships between the observed variables and latent variables. Adding mediation, helps to understand the effect of mediating variable on the relationship between the independent variables and dependent variables.

In the present study, Structural Equation Modelling (SEM) technique is used to analyse the direct effect of liquidity, leverage and efficiency on the financial performance and also the indirect effect of liquidity, leverage and efficiency on the financial performance with profitability as mediating variable. Statistical Package for Social Science (SPSS) and Analysis of Moment Structures (AMOS) software is used to carryout the data analysis.

The Current Ratio (CR), Quick Ratio (QR), Super Quick Ratio (SQR), Debt-Equity Ratio (DER), Debt Ratio (DR), Inventory Turnover Ratio (ITR), Debtors Turnover Ratio (DTR), Assets Turnover Ratio (ATR) were considered as independent variables (observed variables). Profitability is considered as a mediating variable that can be inferred from the observed variables viz., Gross Profit Ratio (GPR), Net Profit Ratio (NPR) and Operating Profit Ratio (OPR). And the financial performance is also considered as a latent variable which is inferred from Return on Assets (ROA) and Return on Capital Employed (ROCE).

The conceptual framework for the study is present in Figure 1.

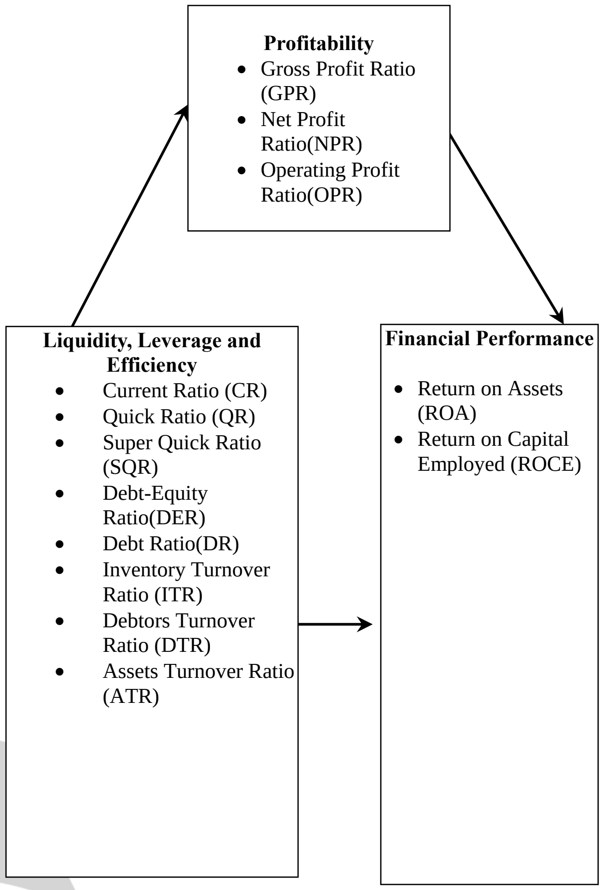

Figure 1. Conceptual Framework of the Proposed Model

VI. RESULTS OF THE STUDY

The ratios calculated for the thirty companies listed at Muscat Stock Exchange related to liquidity, leverage, efficiency, profitability and financial performance for a period of four years have undergone mediation analysis. The full structural model examines both the direct and indirect effect of liquidity, leverage and efficiency ratios on financial performance through profitability. The variables utilized in the research model are presented in Table 1, while the graphical output obtained from AMOS is shown in Figure 2.

Table 2 : Variable Description for Mediation Analysis

Variables	Variable Name	Constructs
Independent	Liquidity Leverage and Efficiency	CR, QR, SQR, DER, DR,ITR, DTR and ATR
Dependent	Financial Performance	ROA and ROCE
Mediator	Profitability	GP, OP and NP

 DOI : 10.35291/2454-9150.2024.0285

ISSN : 2454-9150 Vol-10, Issue-03, June 2024

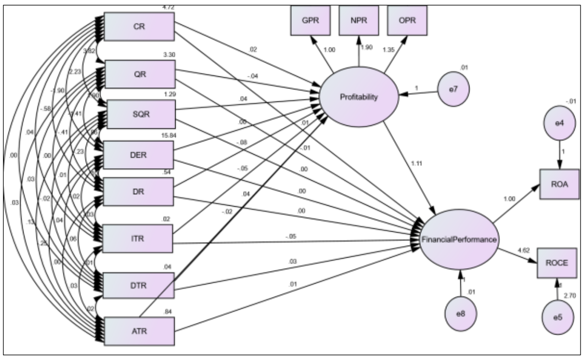

Figure 2 : AMOS Graphic Output for the Proposed Mediation Analysis

Table 3 presents the regression weights for the relationships between key variables in the study. These weights represent the strength and direction of the relationships between profitability, financial performance, and various financial indicators.

Table 3 : Regression Weights for the Variable Relationships

Relationships	Estimate	S.E.	C.R.	P	Label
Profitability<---CR	.018	.026	.677	.498	a
Profitability<---QR	-.039	.038	-1.029	.304	a
Profitability<---SQR	.041	.028	1.463	.143	a
Profitability<---DER	-.004	.002	-1.520	.128	a
Profitability<---DR	-.081	.019	-4.326	***	a
Profitability<---ITR	-.049	.122	-.402	.687	a
Profitability<---DTR	.042	.072	.589	.556	a
Profitability<---ATR	-.025	.012	-2.094	.036	a
Financial Performance<---Profitability	1.108	.116	9.536	***	b
Financial Performance<---CR	.008	.009	.950	.342	c
Financial Performance<---QR	-.007	.013	-.545	.586	c
Financial Performance<---SQR	-.004	.009	-.473	.636	c
Financial Performance<---DER	-.001	.001	-1.443	.149	c
Financial Performance<---DR	-.002	.006	-.320	.749	c
Financial Performance<---ITR	-.054	.042	-1.286	.198	c
Financial Performance<---DTR	.034	.024	1.379	.168	c
Financial Performance<---ATR	.008	.004	1.986	.047	c

The results reveal a significant direct association between efficiency, measured by asset turnover ratio (ATR), and financial performance (b = 0.008, $p < 0.05$), providing support for this hypothesis H1. However, no significant relationship is observed between liquidity measures (CR and QR) and leverage measures (DER and DR) and financial performance. This indicates a rejection of the hypothesis H1 regarding the direct effects of liquidity and leverage on financial performance. Notably, there exists a significant association between leverage, specifically measured by debt ratio (DR), and profitability (b = -0.081, $p < 0.05$). Additionally, there exists a significant association between efficiency as measured by the asset turnover ratio (ATR) and profitability (b = -0.025, $p < 0.05$). Conversely, a significant direct relationship is observed between profitability and financial performance (b = 1.108, $p < 0.05$).

The results of the mediation analysis, exploring the indirect effects of the independent variables on the financial performance through profitability, were detailed in Table 4. Confidence intervals were generated using the bootstrap technique at a significance level of 5%.

Table 4 : Indirect Effects of the Proposed Mediation Analysis

Constructs	Indirect Effect Financial Performance	Lower Bounds	Upper Bounds	Two-Tailed Significance
CR	0.20	-0.016	0.075	0.294
QR	-0.43	-0.121	0.030	0.192
SQR	0.045	-0.001	0.107	0.055
DER	-0.004	-0.020	0.001	0.107
DR	-0.089	-0.154	0.087	0.228
ITR	-0.054	-0.312	0.116	0.525
DTR	0.047	-0.170	0.276	0.622
ATR	-0.027	-0.073	-0.004	0.025

It is evident that efficiency, as measured by Assets Turnover Ratio (ATR), indirectly impacts the organisation's financial performance (b = -0.027, LB = -0.073 and UB = -0.004). Conversely, the measures of liquidity and leverage show insignificant indirect effects on the financial performance of the organisation, with a zero between the lower bound and upper bound. The value of 0.025 at the intersection of ATR and financial performance indicates two-tailed significance ($p < 0.05$). Therefore, it can be concluded that profitability mediates the relationship between efficiency, as measured

DOI : 10.35291/2454-9150.2024.0285

ISSN : 2454-9150 Vol-10, Issue-03, June 2024

by ATR, and financial performance. This suggests that ATR has a significant indirect effect on financial performance through profitability. The summary of the mediation analysis is provided in Table 5.

Table 5. Mediation Analysis Summary

Relationship	Direct Effect	Indirect Effect	Total Effect	Confidence Interval		p-value	Form of Mediation
				Lower bound	Upper bound		
ATR → Profitability → Financial Performance	.008 (0.047)	-0.027	-0.019	-0.073	-0.004	0.025	Partial Mediation
CR → Profitability → Financial Performance	.008 (0.342)	0.20	0.208	-0.016	0.075	0.294	Not significant
QR → Profitability → Financial Performance	-.007 (0.586)	-0.43	-0.437	-0.121	0.030	0.192	Not significant
SQR → Profitability → Financial Performance	-.004 (0.636)	0.045	0.041	-0.001	0.107	0.055	Not significant
DER→ Profitability → Financial Performance	-.001 (0.149)	-0.004	-0.005	-0.020	0.001	0.107	Not significant
DR → Profitability → Financial Performance	-.002 (0.749)	-0.089	-0.091	-0.154	0.087	0.228	Not significant
ITR → Profitability → Financial Performance	-.054 (0.198)	-0.054	-0.108	-0.312	0.116	0.525	Not significant
DTR → Profitability → Financial Performance	.034 (0.168)	0.047	0.081	-0.170	0.276	0.622	Not significant

Table 6 reveals that profitability partially mediated the relationship between efficiency, as measured by ATR, and financial performance. However, no significant mediation effect of profitability on liquidity, leverage, and financial performance was observed. This suggests that the efficiency of asset utilisation by an organisation significantly influences both the firm's profitability and its overall financial performance. Therefore, while the results partially support Hypothesis H2 by indicating an indirect effect of efficiency on financial performance through profitability, they also suggest a rejection of the hypothesis H2 regarding the indirect effects of liquidity and leverage on financial performance through profitability.

VII. MAJOR FINDINGS AND RECOMMENDATIONS

a) There is a significant direct association between efficiency and financial performance. The financial performance of an institution is determined by how efficiently it uses its assets. This emphasizes the significance of optimizing asset utilization through efficient production processes, minimizing idle capacity, and enhancing inventory management practices. To improve the financial performance, the company should better utilize its assets.
b) There is no significant relationship between liquidity and Leverage on financial performance.
c) There is a significant negative association between leverage and profitability. Higher the total liabilities, lower is the profitability of the organisation. The firm should use debt judiciously to increase profitability and thereby enhance the financial performance of the organisation.
d) There is a significant direct relationship between profitability and financial performance. The higher the profitability, the better the financial performance of the organization.
e) There is a significant association between efficiency and profitability. The firm's profitability can be boosted by maximizing asset use.
f) The Asset Turnover Ratio (ATR) has a significant indirect effect on financial performance through the profitability. Profitability partially mediated the relationship between efficiency as measured by ATR and financial performance
g) There is no significant mediation effect of profitability on the relationship between liquidity, leverage and financial performance.

VIII. CONCLUSION

An organization's financial performance shows its capacity to effectively manage resources, generate revenue, and achieve profitability. Analysing key financial ratios such as liquidity ratios, capital structure ratios, efficiency ratios and profitability ratios can reveal important information about an organization's operating efficiency and future prospects. Hence the present study was carried out to find out the factors affecting the financial performance of the organisation of the companies in industrial sector listed at Muscat Stock Exchange. The study examined the direct effect of liquidity, leverage and efficiency on the financial

DOI : 10.35291/2454-9150.2024.0285

performance and the results found that there is significant impact of efficiency on financial performance whereas liquidity and leverage have no direct significant impact on firm's financial performance. The study also examined the mediation effect of liquidity, leverage and efficiency on the financial performance through profitability and the results revealed that there is partial mediation effect of efficiency on financial performance whereas there is no mediation effect of liquidity and leverage on the financial performance through profitability.

In the future, researchers could examine aspects including industry dynamics, market conditions, and organisational characteristics to better understand how efficiency and profitability impact financial performance. Additionally, exploring the influence of external factors like macroeconomic trends and regulatory changes on the identified relationships could offer valuable strategic insights. Furthermore, longitudinal studies could examine financial performance changes over time and across different economic cycles, gaining a comprehensive understanding of the underlying dynamics. Also, increasing the breadth of the study to include new sectors or areas could provide a richer understanding of the variables impacting financial performance in different settings.

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