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Assessing the Effects of Liquidity Management on Profitability of Rail Vikas Nigam Limited (RVNL): An Empirical Analysis

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Abstract:

Every corporate entity must closely monitor its liquidity to ensure continued operation and survival. Sufficient liquidity is essential for smooth business operations. It should be maintained at an optimal level, neither too high nor too low. The viability of any business enterprise depends on its ability to have an adequate level of liquid assets in hands to pay its short-term obligations. When a company has too much cash in hands, it sits idle and makes no money, whereas when it has too little, it can't run its business smoothly, cutting into its profits. The primary objective of liquidity management is to ensure that the company has satisfactory liquid assets to pay off its short-term liabilities. The management of liquid assets in most efficient manner is an essential part of overall corporate strategy which helps in generating more values for the organization and ultimately for the stakeholders. The efficiency of a firm's liquidity management has a direct impact on its overall profitability. In today's highly competitive market, assessing liquidity and understanding how effective management of liquid assets influences a firm's profit-earning potential is crucial for evaluating managerial performance and competence. This study focuses on analyzing liquidity trends in the selected company and examining how efficient management of liquid assets affects its overall profitability.

Keywords: Liquidity, Profitability, Strategy, Managerial, Obligations

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Introduction

Liquidity refers to the ease with which assets or securities can be converted into cash without significantly affecting their market price. To manage its regular operations, a firm strives to maintain a proportion of liquid assets such as cash, bank balances, short-term marketable securities, and money market instruments. Liquidity is vital for the survival of a business firm, as adequate liquidity ensures the company can meet its obligations and continue operating smoothly.

However, having surplus liquidity indicates that the firm lacks sufficient investment opportunities to utilize its liquid cash or equivalents effectively. Excessive liquidity can be detrimental to a firm's overall success, while insufficient liquid assets can disrupt normal business operations. Therefore, efficient management of liquid assets is crucial for a firm's success and for creating wealth for its stakeholders. Corporations design strategies to utilize liquid assets efficiently to maximize stakeholder wealth. Given the intense competition in the current business environment, corporate executives must understand how efficient liquid asset management influences a firm's profitability.

The privatization process began in the U.K. in the 1980s and then spread worldwide. In India, the underperformance of public enterprises (PEs) has been a topic of discussion since the privatization process started. The increasing imports of essential commodities from developed nations to meet domestic demands and the over-reliance on foreign funding agencies to manage adverse balance of payments led India to adopt a liberalization policy in 1991. This policy allowed foreign players to enter Indian markets, marking a significant shift from previous restrictive policies.

Since then, the Government of India has moved towards easing policies to foster business growth and global competitiveness. As a result, many public sector enterprises (PSEs) that once enjoyed monopolies began facing intense competition from foreign businesses. To adapt to the changing business environment, PEs have made notable changes in their strategies and policies, including liquidity management. Some well-performing PEs in India have significantly revised their liquidity management strategies since 1991.

This study aims to examine the relationship between liquidity management strategy and the profitability of Rail Vikas Nigam Ltd (RVNL) during the period from 2008 to 2022.

Objectives

1. To evaluate the liquidity of the company.
2. To gauge the liquidity status of the company based comprehensive score.
3. To examine whether the selected liquidity management aspects of the company under consideration are consistent.
4. To evaluate the company's liquidity-profitability relationship.
5. To determine how liquidity management affects firm profits.

Methodology

This study utilized secondary data, sourced from the annual reports of RVNL, as well as from various articles, books, and journals. The data analysis involved selected ratio analysis techniques and appropriate statistical tools, including mean, standard deviation, trend movement, Pearson's simple correlation, Spearman's rank correlation, and Kendall's coefficient of concordance. Additionally, the 't' test and chi-square (χ^2) test were applied to determine the significance of the calculated values.

Profile of the Company

Rail Vikas Nigam Limited (RVNL) is a Navratna PSE under the Ministry of Railways, government of India. It was established in 2003 with the objective of developing railway infrastructure in the country. RVNL is responsible for the implementation of various railway projects, including new railway lines, gauge conversion, doubling of tracks, and modernization of stations. It also undertakes construction of road over-bridges, road under-bridges, and other safety-related works. RVNL has its headquarters in New Delhi, India, and operates in various states across the country. The company has a workforce of over 3,000 employees, as of March 2020. RVNL is known for its expertise in project management and implementation, and it has successfully completed over 500 railway projects across India. Some of the notable projects completed by RVNL include the construction of a new railway line between Ajmer and Pushkar, doubling of tracks between Delhi and Rohtak, and electrification of railway lines in West Bengal.

In addition to completed projects, RVNL also has over 200 projects under implementation across India. Some of these projects include the construction of a new railway line between Haldia and Baharampur, doubling of tracks between Chennai and Bengaluru, and the development of multi-modal logistic parks in various states.

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In terms of financial performance, RVNL reported a revenue of INR 8,669.35 crores (approximately USD 1.18 billion) for the financial year 2019-2020, with a net profit of INR 484.38 crores (approximately USD 66 million). The company's revenue has been steadily increasing over the past few years, from INR 4,972.23 crores in 2016-2017 to INR 8,669.35 crores in 2019-2020. RVNL is committed of meeting the highest standards of safety, quality, and sustainability in all its operations. The company works in close coordination with various stakeholders, including the Ministry of Railways, state governments, and other agencies to ensure timely completion of projects. The primary objective of RVNL is to improve rail connectivity and infrastructure in India, significantly contributing to the nation's economic growth and development through its efforts.

Empirical result

A. Table I aims to assess the liquidity position of RVNL by utilizing specific financial ratios. To identify trends in these ratios, linear trend equations were fitted, and the slopes of these trend lines were evaluated using t-tests.

Current Ratio (CR): The ratio evaluates a company's ability to manage liquidity and its capacity to meet short-term debt obligations within a specified period. According to Table 1, the CR of RVNL fluctuated from 1.24 in 2016 to 13.01 in 2008. It was 5.963 on average. Throughout the study period, a statistically significant downward trend in the CR series was observed. The study revealed that the firm's short-term debt repayment capacity worsened over the course of analysis.

Acid Test Ratio (ATR): This ratio assesses how much a business can cover its immediate liabilities with its most liquid assets. In other words, it measures how much of a business's current debts it can pay off with cash on hand and assets that are easy to turn into cash. Based on the information presented in Table I, the ATR for the company ranges from 0.25 in 2015 to 12.43 in 2013. ATR typically hovered around 3.88. A slight insignificant declining trend was found during the research period, as indicated by the trend line fitted to the ATR series. The insignificant result does to confirm any trend.

Cash Turnover Ratio (CTR): This is typically calculated by a company that generates sales revenue in order to use its cash. This ratio assesses the efficiency with which a company manages its liquid assets to generate sales revenue. A high CTR shows that a company is using its cash well to make money, while a low CTR shows that a company is not using its cash well. In Table 1, it is shown that the CTR of RVNL ranged from 1.50 in 2016 to 14.81

in 2020, and the mean CTR was 4.92 during study. However, the CTR series shows an insignificantly increasing trend for the entire period. During the research period, there was no evidence of improvement in the company's credit management, nor was there any significant enhancement in the efficiency of its cash management.

Receivable Turnover Ratio (RTR): It evaluates how well the business's credit and collection processes are working. The higher ratio reflects the company's efficient management of its debtors, which means there is no huge gap between credit sales and cash collection and therefore a low risk of bad debt, whereas the lower ratio reflects the company's inability to manage its debtors properly and, as a result, a high risk of bad debt. Table 1 demonstrates that RTR of RVNL ranges from 8.15 in 2013 to 42.04 in 2008. RTR had an average value of 19.95 during the study period. The RTR series demonstrates a downward trend that was statistically significant at the 10 percent level throughout the research.

B. In general, the liquidity of any organisation is influenced by different factors, out of which working capital and its composition are highly important aspects that determine any organization's liquidity status. Any organisation or company house is impacted and finds it difficult to meet their existing responsibilities if there is a considerable movement from the highly effective component of working capital to a less effective component. If a business manages its working capital in a responsible manner, Its liquidity status might improve, enabling it to meet its short-term obligations on time. Therefore, in order to obtain a more precise assessment of the company's liquidity performance, a comprehensive test based on the composite score taking into account the various individual rankings of the four criteria namely, the acid test ratio (ATR), debtors turnover ratio (DTR), current ratio (CR), and cash turnover ratio (CTR)was calculated in Table 2. The degree of agreement between the four sets of rankings was measured using Kendall's coefficient of concordance (W), and the significance of the computed value of W was examined using the Chi-square test. The individual rankings of CR, ATR, DTR, and CTR were calculated using the guiding principle that the higher the value, the better the short-term debt-paying capacity. While calculating the final rank, it was considered that the ability to pay off short-term debt was more commendable of those companies whose composite total was lower, and vice versa. The calculated value of "W" was 58.922 and was significant at a 5 percent level, as shown in Table 2. It indicates a clear connection between several elements of working capital and liquidity. It implies that good working capital management might significantly increase a company's liquidity as well as ultimately on overall value of the firm.

The year 2008 is shown in this table as having the company's best possible liquidity position, which was followed by 2011 and 2020, 2013, 2009, 2021, 2012, 2010, 2019, 2018, 2022, 2017, 2014, 2015, and 2016 respectively in that sequence. It shows that the chosen company did better during the research period in terms of liquidity.

C. In Table 3, the "t" table value was used to test whether the calculated values of Spearman's Rank Coefficients (RLP) were significant or not. This was done to find out how closely the firm's earning capacity and liquidity were aligned with each other. Here, the return on capital employed (ROCE) reflects the earning capability of this firm; it varied from 0.87 percent in 2008 to 16.05 percent in 2022, with an average value of 6.08 percent. The ROCE series experienced a significant increase in trend throughout the research period. The computed value of RLP was -0.350; however, this value was not found to be statistically significant. Based on the result, it can be concluded that these two variables have a negligible negative relation over the study period. It can be also concluded that during the study period, the business wasn't able to handle all of its resources in a way that improve its liquidity and its overall profitability.

D. Table 4 attempts to assess the association between RVNL's liquidity and overall profitability. In order to determine the relationship between the liquidity indicators such as CR, ATR, DTR, and CTR and the profitability indicator like ROCE, Pearson's simple correlation coefficient, Kendall's correlation coefficient, and the ranking of their magnitudes according to Spearman's rank correlation coefficient was used. The insignificant positive correlations coefficient between ATR and ROCE and between CTR and ROCE does not make any positive or negative contribution in enhancing the profitability while significate negative correlation coefficient between CR and ROCE, had a detrimental impact on overall profitability.

Conclusion

The research concluded that RVNL's ability to meet its short-term and immediate debts diminished over the study period. During this time, the company's liquidity and profitability were adversely affected due to poor management of debtors, cash, and inventory. The composite rank test also indicated a recent decline in profitability. This decline in both profit-earning capability and liquidity suggests that the company was unable to utilize its current assets efficiently to generate greater value for the organization.

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Suggestions

Taking into consideration the finding of the study, the company should implement several strategic measures. **Firstly**, enhancing cash flow management practices is crucial. This can be achieved by tightening credit policies to ensure timely collection from debtors and by negotiating better payment terms with suppliers to delay outflows. **Secondly**, optimizing inventory levels through the adoption of just-in-time inventory management can reduce holding costs and improve cash availability. **Thirdly**, a thorough review of operational processes to identify inefficiencies and cost-saving opportunities is essential. Streamlining operations can improve profit margins. Additionally, investing in technology to enhance financial monitoring and reporting will provide real-time insights into the company's financial health, enabling proactive decision-making. **Finally**, employee training programs focused on financial management and efficiency can develop a culture of accountability and continuous improvement. By implementing these measures, RVNL can improve its liquidity, enhance profitability, and better utilize its current assets to generate value for the organization.

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Tables

Table-1: Selected Ratios relating to Liquidity Management of RVNL (2008 to 2022)

Year	CR	ATR	CTR	RTR
2008	13.01	2.82	3.47	42.04
2009	12.31	1.59	3.88	34.56
2010	10.38	1.48	2.83	21.99
2011	9.88	9.88	5.39	18.64
2012	11.57	11.57	3.38	11.87
2013	12.43	12.43	5.48	8.15
2014	1.41	1.41	2.03	39.87
2015	1.34	0.25	2.44	16.46
2016	1.24	1.24	1.50	9.40
2017	2.08	1.81	2.19	21.07
2018	2.70	2.70	5.39	10.57
2019	1.85	1.85	10.68	15.72
2020	3.16	3.15	14.81	17.37
2021	3.98	3.97	7.54	15.69
2022	2.11	2.10	2.86	15.91
Average	5.96	3.88	4.92	19.95
Minimum	1.24	0.25	1.50	8.15
Maximum	13.01	12.43	14.81	42.04
Slope	-0.864*	-0.223	0.349	-1.212***
T-value	4.709	0.939	1.705	2.139
Source: Author's calculation.				

* Significant at 5% level**,** ** Significant at 1 % level, *** Significant at 10% level

Table-2: Statement of ranking in order of liquidity and analysis of Kendall's Coefficient of Concordance among selected liquidity indicators of RVNL (2008 to 2022)

YEAR	CR	RANK	ATR	RANK	CTR	RANK	RTR	RANK	SUM OF RANK	ULTIMATE RANK
2008	13.01	1	2.82	6	3.47	8	42.04	1	16	1
2009	12.31	3	1.59	11	3.88	7	34.56	3	24	5
2010	10.38	5	1.48	12	2.83	11	21.99	4	32	8
2011	9.88	6	9.88	3	5.39	6	18.64	6	21	2.5
2012	11.57	4	11.57	2	3.38	9	11.87	12	27	7
2013	12.43	2	12.43	1	5.48	4	8.15	15	22	4
2014	1.41	13	1.41	13	2.03	14	39.87	2	42	13
2015	1.34	14	0.25	15	2.44	12	16.46	8	49	14
2016	1.24	15	1.24	14	1.50	15	9.40	14	58	15
2017	2.08	11	1.81	10	2.19	13	21.07	5	39	12
2018	2.70	9	2.70	7	5.39	5	10.57	13	34	10
2019	1.85	12	1.85	9	10.68	2	15.72	10	33	9
2020	3.16	8	3.15	5	14.81	1	17.37	7	21	2.5
2021	3.98	7	3.97	4	7.54	3	15.69	11	25	6
2022	2.11	10	2.10	8	2.86	10	15.91	9	37	11
Kendall's coefficient of concordance among five sets of liquidity performance ranks (W) is 0.8417 and the Chi-square value of W is 58.922 being significant at 23.685 at 5% level.										
Source: Author's calculation.										

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Table-3 Analysis of Spearman's Rank Correlation between Liquidity and Profitability of RVNL (2008 to 2022)

Year	Liquidity Rank	ROCE	Profitability Rank	
2008	1	0.87	15	Spearman's rank correlation coefficient between liquidity and profitability (RLP) is -0.350 being insignificant.
2009	5	0.94	13	
2010	8	0.9	14	
2011	2.5	1.13	12	
2012	7	1.42	11	
2013	4	1.58	10	
2014	13	3.95	9	
2015	14	4.54	8	
2016	15	6.99	7	
2017	12	9.34	6	
2018	10	9.98	5	
2019	9	11.35	3	
2020	2.5	11.36	2	
2021	6	10.72	4	
2022	11	16.05	1	
Average		6.08		
Minimum		0.87		
Maximum		16.05		
Slope		1.080		
T-value		11.794*		
* Significant at 5% level, ** Significant at 1 % level, *** Significant at 10% level				
Source: Author's calculation.				

Table-4: Analysis of correlation between ROCE and selected liquidity indicators of RVNL

Correlation Measures	CR	ATR	CTR	RTR
Pearson	-0.767**	-0.389	0.388	-0.372
Kendall	-0.371	0.048	0.211	-0.276
Spearman	-0.589*	0.000	0.259	-0.443

Source: Author's calculation.

**. Correlation is significant at the 1% level, *. Correlation is significant at the 5% level.