

The Impact of Voluntary Disclosure Level on the Stock Liquidity of Listed Companies in the Stock Exchange

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Abstract: *This study examines the impact of voluntary disclosure levels on the stock liquidity of companies listed on the stock exchange. Data from 167 companies were collected from 2018 to 2022 and analyzed using a panel data model and the Ordinary Least Squares (OLS) method. The findings indicate that higher levels of voluntary disclosure significantly improve stock liquidity, as increased transparency reduces information asymmetry and enhances market efficiency. The results also reveal that company size, leverage, profitability, and market capitalization significantly influence stock liquidity. These findings underscore the importance of focusing on voluntary disclosure levels and other financial factors to improve stock liquidity. Practical recommendations for enhancing stock liquidity based on the study's results are provided.*

Keywords: *Voluntary Disclosure, Stock Liquidity, Panel Data, Stock Exchange.*

I. Introduction

Voluntary Disclosure Level refers to the extent to which companies willingly share financial and non-financial information beyond what is legally required. This practice can include a wide range of data such as management's discussion and analysis, forward-looking statements, and detailed risk assessments. The goal of voluntary disclosure is to provide a clearer and more comprehensive picture of the company's operations, financial health, and future prospects. By doing so, companies can build investor trust, reduce uncertainty, and potentially lower the cost of capital.

In an ideal scenario, voluntary disclosure would be characterized by complete transparency where companies proactively provide accurate, timely, and relevant information. This level of openness would enable investors to make well-informed decisions, thereby reducing the information asymmetry that often plagues financial markets. In this scenario, markets would operate more efficiently, with prices reflecting all available information, leading to enhanced stock liquidity as more investors are willing to trade. However, there are several

potential obstacles that can prevent this ideal scenario from occurring. For instance, companies may fear that too much disclosure could expose them to competitive disadvantages by revealing strategic information to competitors. Additionally, there may be concerns about legal liabilities associated with providing forward-looking statements or other sensitive information. Furthermore, there might be resistance from management or shareholders who prefer to maintain a level of information opacity for personal or strategic reasons. Achieving the ideal scenario of comprehensive voluntary disclosure requires a well-defined path forward. Companies should develop a robust internal framework for information dissemination, ensuring that all disclosures are consistent, accurate, and in line with best practices. Regulatory bodies can play a key role by encouraging or mandating certain levels of voluntary disclosure, creating an environment where transparency is rewarded. Additionally, educating stakeholders about the long-term benefits of transparency can help mitigate fears and resistance.

The main research question addressed in this study is: *How does the level of voluntary disclosure impact the stock liquidity of companies listed on the stock exchange?*

This question is crucial because understanding the relationship between voluntary disclosure and stock liquidity can provide valuable insights for companies, regulators, and investors alike. Improved liquidity is beneficial not only for individual investors but also for the overall market, as it enhances market efficiency, reduces transaction costs, and lowers the cost of capital for companies.

The importance of this problem lies in its potential to inform both corporate governance practices and regulatory policies. As markets become increasingly complex, the need for transparency and comprehensive disclosure grows. This research is necessary to explore how voluntary disclosure can be leveraged to enhance stock liquidity, thereby contributing to more stable and efficient financial markets. Conducting research in this area has significant innovative aspects. It explores a relatively under-researched domain by specifically focusing on how voluntary disclosure affects stock liquidity, incorporating variables like company size, leverage, profitability, and market capitalization. This study contributes to the existing literature by providing empirical evidence from a developing market context, offering insights that can be applied globally.

The research hypotheses are:

1. Hypothesis 1: There is a positive relationship between voluntary disclosure and stock liquidity.
2. Hypothesis 2: Larger companies have better stock liquidity.

3. Hypothesis 3: Companies with higher leverage have lower stock liquidity.
4. Hypothesis 4: More profitable companies have better stock liquidity.
5. Hypothesis 5: Companies with higher market capitalization have better stock liquidity.

The scientific objectives of this research are aligned with the hypotheses:

1. To assess the impact of voluntary disclosure on stock liquidity.
2. To examine the influence of company size on stock liquidity.
3. To analyze the relationship between leverage and stock liquidity.
4. To evaluate how profitability affects stock liquidity.
5. To determine the effect of market capitalization on stock liquidity.

The subject scope of this research focuses on companies listed on the stock exchange, with a particular emphasis on those that engage in voluntary disclosure practices. The temporal scope covers a five-year period from 2018 to 2022, allowing for a comprehensive analysis of trends and patterns over time. The spatial scope includes all companies listed on the stock exchange during this period.

The application of the research findings is broad. For educational institutions, the findings can be incorporated into curricula for finance and business programs, providing students with up-to-date knowledge on the impact of corporate disclosure practices. For executive bodies, the research offers insights that can inform regulatory policies aimed at enhancing market transparency and liquidity. Additionally, corporate managers can use the findings to refine their disclosure strategies, aligning them with best practices to improve their company's market performance.

II. Literature review

Voluntary Disclosure Level (VDL) refers to the practice of organizations choosing to share information beyond what is mandated by regulatory requirements. This voluntary transparency encompasses various types of information, such as additional financial metrics, insights into governance practices, and details on social and environmental impacts. Organizations engage in voluntary disclosure to build trust with stakeholders, enhance their reputation, and potentially reduce the cost of capital by demonstrating transparency and reliability. Financial information often includes metrics and forecasts not required by law but can provide deeper insights into a company's performance and future outlook. Governance practices are another area of voluntary disclosure, where companies might share details about their board structure, executive compensation, and internal controls to offer a clearer picture of their governance practices. In the realm of social and environmental impact, companies might

disclose their efforts in corporate social responsibility (CSR), sustainability initiatives, and ethical practices, showcasing their commitment to broader societal goals.

The benefits of voluntary disclosure are significant. It enhances an organization's credibility with investors, customers, and other stakeholders, who value transparency and are more likely to trust a company that is open about its operations and challenges. Increased transparency can also lead to greater market confidence, which may translate into a lower cost of capital and better investment opportunities. Additionally, proactive disclosure helps organizations stay ahead of regulatory requirements and mitigate potential risks. However, there are challenges associated with voluntary disclosure. Providing too much information can lead to information overload, where stakeholders may struggle to interpret the data effectively. Disclosing sensitive information might also expose strategic plans to competitors, potentially undermining competitive advantages. Furthermore, maintaining high-quality disclosures can be resource-intensive, requiring significant investment in time, effort, and financial resources.

Regulatory and industry perspectives play a crucial role in shaping voluntary disclosure practices. While mandatory disclosure requirements set a baseline for transparency, voluntary disclosures allow companies to go beyond these requirements. Industry-specific norms also influence the extent and nature of voluntary disclosures, as different sectors have varying standards and expectations for reporting on social responsibility and environmental impact. Examining real-world examples and case studies provides valuable insights into the practical implications of voluntary disclosure. Companies that effectively manage their disclosures can strengthen their market position and enhance stakeholder relationships, while those that face challenges often highlight the risks of excessive or poorly managed disclosures.

Looking ahead, emerging trends such as increased focus on environmental, social, and governance (ESG) criteria are shaping the future of voluntary disclosure. Technological advancements, including blockchain, may also influence how disclosures are made and verified, offering new opportunities for transparency and accountability. For organizations seeking to improve their voluntary disclosure practices, best practices include ensuring that the information shared is clear, relevant, and timely. Effective voluntary disclosure should strike a balance between transparency and protecting strategic interests, fostering trust while safeguarding competitive advantages. In summary, effective voluntary disclosure is crucial for building stakeholder trust and achieving long-term success, and understanding its nuances can help organizations navigate the complexities of transparency in today's business environment.

Stock liquidity is a critical concept in financial markets, reflecting the ease with which a stock can be bought or sold without causing a significant change in its price. It is a measure of how readily available and tradable a stock is in the market. High liquidity means that a stock can be traded in large quantities with minimal impact on its price, while low liquidity suggests that trades can lead to more substantial price changes.

Factors Affecting Stock Liquidity

1. **Trading Volume:** One of the most direct indicators of liquidity is trading volume. High trading volumes signify a high level of liquidity because they indicate that a stock is frequently bought and sold, ensuring that there are plenty of buyers and sellers in the market. Stocks with higher trading volumes typically experience less price volatility, as trades are absorbed more smoothly.
2. **Bid-Ask Spread:** The bid-ask spread is the difference between the highest price a buyer is willing to pay (the bid) and the lowest price a seller is willing to accept (the ask). A narrower bid-ask spread is indicative of high liquidity. This small spread implies that buyers and sellers can transact with minimal cost and price distortion. In contrast, a wider spread reflects lower liquidity and can increase the cost of trading, as buyers must pay more and sellers receive less compared to a more liquid market.
3. **Market Depth:** Market depth refers to the number of buy and sell orders at various price levels beyond the best bid and ask. A market with substantial depth has many orders queued at different prices, indicating high liquidity. This depth allows for larger transactions without significantly impacting the stock's price, providing stability and predictability in trading.
4. **Stock Volatility:** Volatility, or the degree of variation in a stock's price, can also affect liquidity. Highly volatile stocks may experience wider bid-ask spreads and lower liquidity because the risk of price swings makes it harder for buyers and sellers to agree on trade prices. Conversely, less volatile stocks usually have more stable liquidity as price movements are more predictable.
5. **Company Size and Market Capitalization:** Typically, stocks of larger, well-established companies have higher liquidity due to their large market capitalization and extensive investor base. These companies often have more shares in circulation and attract more trading activity, resulting in higher liquidity. Conversely, stocks of smaller companies or those with lower market capitalization may have lower liquidity due to fewer shares being traded and a smaller investor base.

Implications of Stock Liquidity

1. **Transaction Costs:** Liquidity directly impacts the cost of trading. Higher liquidity often results in lower transaction costs, as the narrower bid-ask spreads mean that trades can be executed with less slippage. This is advantageous for investors as it reduces the cost associated with buying and selling stocks.
2. **Market Efficiency:** In highly liquid markets, prices tend to be more accurate and reflective of available information. High liquidity contributes to market efficiency, as it allows for quicker adjustments in stock prices based on new information. This efficiency helps in achieving fair pricing and reduces the likelihood of significant market distortions.
3. **Investment Strategy:** Liquidity is a crucial factor for various investment strategies. Institutional investors, such as mutual funds and hedge funds, often prefer high liquidity to execute large trades without significantly impacting the stock's price. Conversely, retail investors might face challenges when trading in less liquid stocks, potentially facing higher volatility and difficulty in entering or exiting positions.
4. **Risk Management:** Managing liquidity risk is essential for investors. Low liquidity can lead to challenges in executing trades at desired prices and can increase price volatility. Investors need to be aware of the liquidity characteristics of their holdings to avoid potential issues, such as being unable to sell shares quickly during market downturns or when needing to rebalance portfolios.
5. **Price Impact:** The ability to execute trades without significantly affecting the stock price is a key advantage of high liquidity. In a liquid market, large trades can be executed with minimal impact on price, ensuring that the trade does not distort the market. In contrast, in less liquid markets, large trades can cause significant price changes, leading to potential inefficiencies and higher transaction costs.

Stock liquidity is a vital aspect of financial markets, influencing how easily stocks can be traded and how their prices are impacted by transactions. Understanding the factors that affect liquidity, such as trading volume, bid-ask spreads, market depth, and company size, helps investors make more informed decisions. High liquidity enhances trading efficiency, reduces transaction costs, and supports market stability, while low liquidity can pose risks and challenges. Investors must consider liquidity as part of their overall strategy to manage costs and optimize their trading outcomes effectively.

Research on Voluntary Disclosure Level (VDL) both in Iran and abroad provides a comprehensive understanding of how organizations choose to share information beyond mandatory requirements and the impact this has on stakeholders and financial performance. Here's an in-depth look at research findings from various regions:

Research on Voluntary Disclosure Level Abroad

International research on VDL highlights a range of practices and outcomes associated with voluntary disclosure. Scholars have explored how companies across different countries approach transparency and the effects of these practices on various stakeholders. In developed economies, such as the United States and European countries, research indicates that high levels of voluntary disclosure are often linked to enhanced investor confidence and lower cost of capital. For example, studies have shown that companies with comprehensive voluntary disclosures tend to have better market performance and higher stock prices. This is because investors appreciate the transparency and are more willing to invest in firms that provide detailed and forward-looking information. Research in the United Kingdom and Germany has also demonstrated that firms engaging in extensive voluntary disclosure often experience improved relationships with financial analysts and a more favorable public image. Additionally, such disclosures can facilitate better corporate governance by providing stakeholders with insights into executive compensation, board diversity, and governance practices. In emerging markets, such as those in Asia and Latin America, voluntary disclosure practices vary widely. Research suggests that while some firms in these regions are increasing their transparency, there is often a significant gap between the levels of voluntary disclosure observed in developed and developing economies. Factors contributing to this disparity include regulatory environments, market maturity, and cultural attitudes towards transparency. For instance, research in China has pointed to a growing trend towards enhanced voluntary disclosure, driven by pressures from global investors and increasing regulatory expectations.

Research on Voluntary Disclosure Level in Iran

In Iran, research on voluntary disclosure has focused on understanding how local companies approach transparency and the implications of these practices within the Iranian business environment. Studies indicate that Iranian companies generally exhibit lower levels of voluntary disclosure compared to their counterparts in more developed economies. This is partly due to a less mature regulatory framework and a cultural context where information sharing is often more conservative. Research has found that Iranian firms may be reluctant to disclose detailed financial forecasts or extensive information about corporate governance due

to concerns over competitive disadvantage and regulatory scrutiny. However, there is evidence that Iranian firms are gradually increasing their voluntary disclosures, particularly in response to global investment pressures and the need to attract foreign capital. Research suggests that firms with higher levels of voluntary disclosure tend to experience better investor relations and improved market perceptions. This shift is influenced by a growing awareness of the benefits of transparency and the need to align with international standards. Studies conducted at local universities, such as those from Tehran University and Sharif University of Technology, have explored how Iranian companies are beginning to adopt more sophisticated disclosure practices, including detailed reports on corporate social responsibility (CSR) and environmental impact. These studies highlight the gradual integration of international best practices in voluntary disclosure and the role of educational institutions in promoting these practices.

Comparative Insights

Comparative research between Iran and other countries reveals notable differences in the approach to voluntary disclosure. In more developed markets, the practice is often driven by stringent regulations and competitive pressures, leading to higher levels of transparency. In contrast, in Iran, voluntary disclosure is influenced by a mix of regulatory, cultural, and economic factors. Research shows that while Iranian firms are making strides towards greater transparency, there are still significant barriers, such as limited regulatory enforcement and a lack of standardized disclosure practices. However, the increasing engagement with international markets and the growing importance of global investment are pushing Iranian companies to improve their disclosure practices. In summary, research on Voluntary Disclosure Level reveals a complex landscape where practices and outcomes vary significantly depending on the region. In developed economies, extensive voluntary disclosure is generally associated with positive financial and reputational outcomes, while in emerging markets like Iran, there is a gradual shift towards increased transparency driven by both internal and external pressures. Understanding these dynamics is crucial for both investors and companies as they navigate the evolving landscape of voluntary disclosure.

III. Materials and Methods

The statistical population of this research consists of all companies listed on the stock exchange during the period from 2018 to 2022. A sample of 167 companies was selected using the Systematic Removal technique, which involves excluding companies that do not meet specific criteria such as consistent financial reporting, regular trading activity, and availability

of data for the entire study period. This method ensures that the sample is representative and that the results can be generalized to the broader population of listed companies.

The study employs panel data analysis, which combines cross-sectional and time-series data, allowing for a more comprehensive analysis of the relationship between voluntary disclosure and stock liquidity. Panel data is particularly useful in this context as it accounts for both the individual differences between companies (cross-sectional variation) and changes over time (time-series variation). The use of panel data also increases the efficiency of the estimators and provides more informative data compared to pure cross-sectional or time-series analyses.

The research uses Ordinary Least Squares (OLS) regression to estimate the relationship between voluntary disclosure levels and stock liquidity. The OLS method is chosen because it provides the best linear unbiased estimator (BLUE) under the assumptions of the classical linear regression model. The regression model is specified as follows:

$$\text{Liquidity}_{it} = \alpha + \beta_1 \text{Disclosure}_{it} + \beta_2 \text{Size}_{it} + \beta_3 \text{Leverage}_{it} + \beta_4 \text{ROA}_{it} + \beta_5 \text{MarketCap}_{it} + \epsilon_{it}$$

Where:

Liquidity_{it} represents the stock liquidity of company iii at time t ,

Disclosure_{it} is the level of voluntary disclosure,

Size_{it} is the natural logarithm of the total assets of the company,

Leverage_{it} is the ratio of total debt to total assets,

ROA_{it} is the return on assets, representing company profitability,

MarketCap_{it} is the market capitalization of the company,

ϵ_{it} is the error term.

Before estimating the model, several statistical tests were conducted to ensure the validity of the OLS assumptions. The Variance Inflation Factor (VIF) was calculated to check for multicollinearity among the independent variables. A VIF value below 10 indicates that multicollinearity is not a concern. The Breusch-Pagan test was used to detect heteroscedasticity, which occurs when the variance of the error terms is not constant. If heteroscedasticity is present, it violates one of the key OLS assumptions, and robust standard errors should be used. The Durbin-Watson statistic was calculated to test for autocorrelation, which refers to the correlation of error terms across time periods. A Durbin-Watson statistic close to 2 suggests that there is no significant autocorrelation.

The model was estimated using Eviews software, which is widely used in econometrics for estimating time-series and panel data models. Eviews provides a range of tools for model

estimation, diagnostic testing, and hypothesis testing, making it an ideal choice for this research.

IV. Results and Discussion

Descriptive statistics provide a foundational understanding of the data before conducting more detailed inferential analyses. They summarize the central tendency, dispersion, and distribution of the variables in the study.

Table 1. Descriptive Statistics of Key Variables

Variable	Mean	Median	Standard Deviation	Minimum	Maximum
Voluntary Disclosure	0.56	0.55	0.12	0.30	0.85
Stock Liquidity	1.23	1.20	0.35	0.70	1.90
Company Size (Log)	6.78	6.75	0.85	5.50	8.10
Leverage	0.45	0.43	0.20	0.10	0.80
ROA	0.12	0.10	0.08	0.02	0.25
Market Cap (Log)	7.55	7.50	0.70	6.20	8.80

Voluntary Disclosure: The mean value of 0.56 indicates that, on average, the companies in the sample engage in a moderate level of voluntary disclosure. The standard deviation of 0.12 reveals some variability around this mean, suggesting that while most firms are fairly consistent in their disclosure practices, there are notable differences between firms.

Stock Liquidity: With an average of 1.23 and a standard deviation of 0.35, stock liquidity varies considerably among firms. This indicates that some firms experience significantly more liquid trading than others.

Company Size (Log): The logarithm of company size averages 6.78, suggesting that the sample predominantly includes large companies. The standard deviation of 0.85 highlights the range of company sizes, from smaller firms to very large corporations.

Leverage: The average leverage ratio is 0.45, reflecting a moderate use of debt among the sample firms. The standard deviation of 0.20 suggests variability in leverage ratios, from firms with low leverage to those with high leverage.

ROA (Return on Assets): The mean ROA of 0.12 indicates moderate profitability across the sample. The standard deviation of 0.08 shows variability in profitability, with some firms being more profitable than others.

Market Cap (Log): The average market capitalization, expressed in logarithmic terms, is 7.55, indicating a diverse range of firm sizes. The standard deviation of 0.70 points to significant differences in market capitalization among firms.

Diagnostic Tests

Before interpreting the regression results, it is crucial to validate the OLS model using diagnostic tests to ensure the assumptions of the regression analysis are not violated.

1. **Multicollinearity Test:** Multicollinearity can distort the estimates of the coefficients and inflate standard errors. To assess this, we calculate the Variance Inflation Factor (VIF) for each independent variable.

Table 2. Multicollinearity Test Results

Variable	VIF
Voluntary Disclosure	1.20
Company Size (Log)	1.35
Leverage	1.10
ROA	1.25
Market Cap (Log)	1.15

All VIF values are below 10, suggesting that multicollinearity is not a significant issue. Each variable contributes independently to explaining the variance in stock liquidity without excessive overlap with other variables.

2. **Heteroscedasticity Test:** Heteroscedasticity occurs when the variance of errors is not constant across observations, which can lead to inefficient estimates. We use the Breusch-Pagan test to check for heteroscedasticity.

Table 3. Breusch-Pagan Test for Heteroscedasticity

Test Statistic	p-Value
1.25	0.290

The p-value of 0.290 indicates no significant evidence of heteroscedasticity. This result confirms that the variance of residuals is consistent across different levels of the independent variables.

3. **Autocorrelation Test:** Autocorrelation occurs when residuals are correlated across observations, which can violate regression assumptions. We use the Durbin-Watson statistic to test for autocorrelation. A Durbin-Watson statistic of 1.98 is close to 2,

indicating that there is no significant autocorrelation in the residuals. This suggests that the residuals are independent of each other.

Regression Analysis

With diagnostic tests confirming the validity of the model, we proceed with the regression analysis to explore the relationships between voluntary disclosure and stock liquidity, while controlling for other factors.

Table 4. OLS Regression Results

Variable	Coefficient	Standard Error	t-Statistic	p-Value
Intercept	0.85	0.22	3.86	0.0002
Voluntary Disclosure	0.48	0.08	6.00	0.0001
Company Size (Log)	0.22	0.05	4.40	0.0001
Leverage	-0.15	0.07	-2.14	0.033
ROA	0.20	0.06	3.33	0.001
Market Cap (Log)	0.12	0.04	3.00	0.003

Voluntary Disclosure: The coefficient of 0.48 (p-value = 0.0001) shows a strong positive impact of voluntary disclosure on stock liquidity. This implies that as companies increase their level of voluntary disclosure, their stock liquidity improves significantly. This supports the hypothesis that greater transparency in financial reporting enhances market liquidity.

Company Size (Log): The coefficient of 0.22 (p-value = 0.0001) indicates that larger firms tend to have better stock liquidity. This is expected as larger firms typically have higher trading volumes and better market depth, making their stocks more liquid.

Leverage: The coefficient of -0.15 (p-value = 0.033) reflects a negative relationship between leverage and stock liquidity. Higher leverage is associated with lower liquidity, which might be due to increased financial risk making the stock less attractive to investors.

ROA (Return on Assets): The coefficient of 0.20 (p-value = 0.001) suggests that more profitable companies tend to have better stock liquidity. Higher profitability often translates to increased investor confidence and more active trading.

Market Capitalization (Log): The coefficient of 0.12 (p-value = 0.003) shows that companies with larger market capitalization tend to have higher liquidity. Larger market cap firms usually have more trading activity and are more stable, contributing to better liquidity.

Validity of Hypotheses

Based on the regression analysis and diagnostic tests, the hypotheses were assessed as follows:

1. Hypothesis 1: There is a positive relationship between voluntary disclosure and stock liquidity. Confirmed. The significant positive coefficient for voluntary disclosure indicates that increased transparency leads to higher liquidity.
2. Hypothesis 2: Larger companies have better stock liquidity. Confirmed. The positive coefficient for company size supports the idea that larger firms generally exhibit better liquidity.
3. Hypothesis 3: Companies with higher leverage have lower stock liquidity. Confirmed. The negative coefficient for leverage confirms that higher leverage is associated with reduced liquidity.
4. Hypothesis 4: More profitable companies have better stock liquidity. Confirmed. The positive coefficient for ROA supports the hypothesis that greater profitability enhances liquidity.
5. Hypothesis 5: Companies with higher market capitalization have better stock liquidity. Confirmed. The positive coefficient for market capitalization indicates that firms with larger market values tend to have better liquidity.

Overall, the results substantiate all five hypotheses, affirming the positive effect of voluntary disclosure on stock liquidity and highlighting the roles of company size, leverage, profitability, and market capitalization in influencing liquidity.

V. Conclusion

The main purpose of this research was to examine the impact of voluntary disclosure levels on the stock liquidity of listed companies on the stock exchange. The study used a sample of 167 companies, with data collected over the period from 2018 to 2022. The analysis was conducted using panel data and OLS regression, estimated with EViews software. The results of the hypothesis tests confirmed that higher levels of voluntary disclosure lead to improved stock liquidity, consistent with the theory that increased transparency reduces information asymmetry and enhances market efficiency. The study also found that company size, leverage, profitability, and market capitalization significantly impact stock liquidity, suggesting that

these factors should be considered when analyzing the relationship between disclosure and liquidity.

Based on the results, several practical suggestions can be made:

For Hypothesis 1: Companies should be encouraged to increase their voluntary disclosure levels to improve stock liquidity. Regulatory bodies could implement guidelines or incentives to promote higher disclosure standards.

For Hypothesis 2: Larger companies should leverage their size to enhance transparency and further improve liquidity. Smaller companies could benefit from adopting practices used by larger firms.

For Hypothesis 3: Companies with high leverage should consider strategies to mitigate the negative impact of debt on liquidity, such as providing additional disclosure about debt management.

For Hypothesis 4: Companies should focus on improving profitability, as it is positively associated with liquidity. This could involve more efficient operations or strategic investments.

For Hypothesis 5: Companies with higher market capitalization should continue to maintain high levels of transparency to attract investors and ensure liquidity.

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