Information environment and strategy of mergers and acquisitions: Evidence from Vietnamese companies' deals

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Abstract. The This study investigates the relationship between companies' internal information environment and strategic decisions of acquirers. By using cross-sectional data from all mergers and acquisitions (M&A) deals completed in the period 2005-2020 of all target companies listed on Vietnam's stock exchanges, the study confirms the quality of the target company's internal information environment is proportional to the level of share ownership of the acquirer. Besides, the results finds that transnational acquirers are more likely to make acquisitions of target companies with a transparent internal information environment. This finding suggests the acquirers to be especially careful when considering the issue of information transparency in target companies in Vietnam, in which, stock liquidity and earnings management are two of many criteria to measure a company's information environment and should be used in decision making.

Keywords: internal information environment, M&A deals, asymmetric information.

1 Introduction

Firstly, the M&A market in Vietnam has continuously set new milestones, becoming a major capital attraction channel and an attractive market for both domestic and foreign investors. Despite the negative impact of the COVID-19 pandemic, foreign investment in Vietnam, including capital flows through M&A activities, still grew by 9.2% compared to 2020, reaching 31.15 billion USD. In the first 10 months of 2021, it attracted more than 8,8 billion USD, an increase of 17.9% compared to 2020 and an increase of 13,7% compared to 2019, the period before the COVID-19 pandemic. The significant potential of this market underscores the importance of studying the motives and factors influencing the M&A market. One of the shocking "scandals" at the beginning of 2022 on the Vietnamese stock market was the decision by the authorities to initiate criminal prosecution and arrest Mr. Trinh Van Quyet, Chairman of the Board of Directors of FLC Group Joint Stock Company, for the acts of "Manipulating the securities market" and "Hiding information in securities activities".

T. A. Trinh et al. (eds.), *Proceedings of the 2nd International Conference - Resilience by Technology and Design (RTD 2024)*, Advances in Intelligent Systems Research 186,
https://doi.org/10.2991/978-94-6463-583-6_21

This is considered a warning bell for non-transparent behaviors that cause disorder in the stock market.

Secondly, foreign investment activities in Vietnam through capital contributions and share purchases have been simplified since the application of the Investment Law in 2014 and the new Investment Law in 2020. However, currently in Vietnam, M&A regulations are not uniformly constructed but are instead scattered in different laws such as the Enterprise Law, Investment Law, and Competition Law (Ta, 2020). In Vietnam, regulations against takeovers in the market have not yet been established (Pham et al., 2015; Dang et al., 2019). In addition, most domestic companies still have limitations in management capacity and need more proper awareness regarding the establishment of a transparent information environment, which reduces investor confidence (Dang & Hoang, 2019; Dang et al., 2019). The legal regulations related to M&A activities are currently inconsistent and the information system about M&A activities is weak, which directly affects the M&A decisions of acquirers, especially companies from other countries.

Thirdly, a necessary condition for a successful M&A deal is transparency in the valuation of both the acquirer and the target company. However, once there is asymmetric information in one or both partners in the deal, it will lead to a situation where the company's value is inflated too high or pushed down too low, affecting the sustainability of the deal and both participating partners. Identifying the mechanisms or channels through which asymmetric information affects the success of deals as well as the strategic decisions in M&A deals. This context is particularly relevant given the current efforts by the Government and the State Securities Commission to control the market in the spirit of upholding the law and ensuring discipline, transparency, and fairness for investors.

This study focuses on the internal information environment of companies to identify their mechanisms and influences on the establishment of M&A decisions in transactions. Existing empirical studies have shown that the information environment are key factors receiving particular interest in the M&A strategies of acquirers (Zhu et al., 2011; Dang et al., 2022). In fact, the difference in the information environment at both the national and company levels leads to different research results on the impact of the information environment on strategic decisions in an M&A deal.

This research is essential to provide valuable experimental evidence confirming the impact of the internal information environment of target companies on the decision-making process of acquirers in the Vietnamese market. The research results add further evidence of the relationship between the information environment considered from the perspective of target companies, and the strategic decisions of acquirers in M&A deals in developing countries. Additionally, based on the findings, this research provides some recommendations for investors, companies, and regulatory agencies to ensure future transparency and competition in the Vietnamese M&A market.

2 Theoretical framework

The impact of earnings management on the strategic decisions of acquirers.

M&A is an important investment strategy for all participants, so the quality of the information that partners disclose to the outside has an important meaning to the

M&A decisions, especially regarding shareholding decisions and decisions to choose the acquisition area. Both the acquirer and the target company are particularly interested in the internal information environment of the partner, expressed through the quality of the financial statements published as well as the stock liquidity of the company in the market. Earnings management is an important factor directly affecting the quality of company information. However, the number of studies on the relationship between earnings management and M&A activity is limited, mostly considering the aspect of the acquirer.

Existing empirical evidence finds that managers of listed companies tend to use earnings management behavior to impact the stock price in a short period before specific events of the company (Keown & Pinkerton, 1981; Barclay & Warner, 1993; Schwert, 1996; Hu et al., 2022). Keown and Pinkerton (1981) studied on the relationship between merger announcements and insider trading. The authors identified the existence of significant abnormal earnings before the first public announcement of the merger plan and explained the reason due to the leakage of internal information to the outside. In another study, Barclay and Warner (1993) also found that most listed stocks verified changes in accumulated prices for the average transaction size, the reason due to leakage of personal transaction information. Barclay and Warner also found that significant abnormal earnings accounted for 50% of the total compensation of the deal, where the compensation of the deal was determined by the difference between the bid price and the stock price before the M&A announcement of the target company.

M&A is an important investment strategy for all participants, so the quality of the information that partners disclose to the outside has an important meaning to the M&A decisions, especially regarding shareholding decisions and decisions to choose the acquisition area. Both the acquirer and the target company are particularly interested in the internal information environment of the partner, expressed through the quality of the financial statements published as well as the stock liquidity of the company in the market. Earnings management is an important factor directly affecting the quality of company information. However, the number of studies on the relationship between earnings management and M&A activity is limited, mostly considering the aspect of the acquirer.

Surveying the relationship between acquisition costs and pre-acquisition stock price run-ups of all target companies listed on the NYSE and AMEX exchanges, Schwert (1996) found that the increase in stock prices before and after the announcement of the deal is not related. Stock price run-ups increase the costs of acquirers. Schwert pointed out that abnormal earnings accounted for 57% of the total deal premium. In another study, Lennox et al. (2018) discovered that auditors requested acquirers to adjust their income downward in the preceding year before conducting stock payment mergers, implying that acquirers used earnings management as a method to adjust stock prices before M&A events with the expectation of reducing deal costs.

Betton et al. (2008) addressed the issue of whether the affordable behavior of target companies' stock prices led acquirers to raise their bid prices. The research results identified a positive relationship between deal premium and stock price run-up behavior, confirming that acquirers adjusted their bid prices after the announcement of the deal event. Brigida and Madura (2012) found that acquirers did not decrease bid prices to compensate for the target company's stock price run-up costs, although these costs affected acquisition costs.

The impact of stock liquidity on strategic decisions of acquirers

Besides earnings management, liquidity is also one of the important factors reflecting the company's internal information environment. Some existing empirical evidence shows that liquidity significantly impacts on the corporate restructuring process (Graham et al., 2008; Massa & Xu, 2013; Yang et al., 2017; Huang & Ho, 2020).

Using liquidity criteria to reflect the information environment, Graham et al. (2008) evaluated the repurchase ability of acquirers in the UK in emerging markets during the period 1992-2003. The analysis results show that the price, the liquidity of the shares of large companies have a positive correlation with the probability of mergers and acquisitions in emerging markets, meaning that the higher the liquidity of the shares, the higher the probability of cross-border acquisitions by acquirers.

Surveying cross-border acquisitions announced in the US from 1996 to 2002, Bae et al. (2013) argued that the choice of acquisition target did not depend much on the level of liquidity of the national market where the target company is headquartered. Or the liquidity of the national market receiving investment does not have a significant impact on the decisions of acquisition area.

Massa and Xu (2013) used a regression method with cross-sectional data to analyze the value of stock liquidity in the M&A market. The authors provided evidence that the acquisition of a liquid company has a positive impact on the liquidity of the acquirers, as this directly affects the outcome of M&A activities. The research results of Yang et al. (2017) also indicated that acquirers are more inclined to repurchase when the target company's liquidity is high, reflecting that higher liquidity of the target company is likely to increase majority share repurchase deals. Conversely, Huang and Ho (2020) found that high stock liquidity encourages managers to engage in earnings management. Therefore, high liquidity increases the threat of investor withdrawal due to liquidity risk assessment. The implication of the study suggests that the higher the liquidity, the lower the probability of majority share repurchase deals.

Based on the survey of existing studies, the author observes that there are not many studies clarifying the role of the information environment, especially the issue of stock liquidity and earnings management, from the perspective of target companies regarding stock price run-up behavior and bid price adjustment actions of acquirers, thereby influencing the decision-making process of acquisitions in M&A deals in countries with different regulatory environments and levels of information transparency.

In Vietnam, Dang (2019) examined the influence of stock liquidity on the decision of acquisition areas by acquirers in the Vietnamese market from 2005 to 2018. It found that companies from other countries tend to select domestic targets with high stock liquidity to minimize risks when entering new markets. The results from this study support the hypothesis of strategic market penetration. This research solely considered the impact of stock liquidity and the potential influence of this factor on strategic decisions in the M&A planning process. This study provided the first evidence confirming the importance of stock liquidity in M&A activities in Vietnam. However, there are few studies demonstrate the influence of the company's information environment on the M&A market in Vietnam. Therefore, this study proposes:

Hypothesis H1: The quality of the target company's internal information environment is proportional to the level of share ownership of the acquirer.

Hypothesis H2: Transnational acquirers tend to seek acquisitions of target companies with a transparent internal information environment.

3 Research method

3.1 The influence of internal information environment on the stock ownership decisions of acquirers

Based on previous studies, the authors used a multivariate regression model with the purpose of analyzing the influence of the internal information environment on the stock ownership decisions of acquirers. Originating from the desire to own shares before the transaction (SHARE SOUGHT), the percentage of shares purchased during the negotiation process (SHARE ACQUIRED) and the total number of shares achieved after the acquisition is completed (SHARE OWNED) may be different.

Possibility 1: SHARE SOUGHT = SHARE ACQUIRED

If the acquirer does not hold shares of the target company before the deal, then SHARE SOUGHT = SHARE ACQUIRED = SHARE OWNED.

If the acquirer holds shares of the target company before the deal, then SHARE ACQUIRED < SHARE OWNED.

Possibility 2: SHARE SOUGHT > SHARE ACQUIRED

In this study, the author proposes three models to test:

The author uses the regression equation (1) below to verify the influence of the information environment on the desired stock ownership decisions of the acquirers before the transaction.

$$SHARE\ SOUGHT_{i,t} = \beta_0 + \beta_1 CIE_{i,t-1} + \beta_2 CONTROLS_{i,t-1} + \gamma_j + \quad {}_t \qquad (1)$$

In which, the dependent variable SHARE $SOUGHT_{i,t}$ represents the percentage of shares that the acquirer aims to hold in the transaction i in year t.

The regression equation (2) below is used to examine the influence of the information environment on the extent of share ownership acquired in the deal.

$$SHARE\ ACQUIRED_{i,t} = \beta_0 + \beta_1 CIE_{i,t-1} + \beta_2 CONTROLS_{i,t-1} + \gamma_j + \quad {}_t \qquad (2)$$

In which: The dependent variable SHARE $ACQUIRED_{i,t}$ reflects the ownership percentage in the target company that the acquirer achieves in deal i in year t.

The regression equation (3) below is used to examine the influence of the information environment on the extent of share ownership acquired after the deal.

$$SHARE\ OWNED_{i,t} = \beta_0 + \beta_1 CIE_{i,t-1} + \beta_2 CONTROLS_{i,t-1} + \gamma_j + \quad {}_t \qquad (3)$$

In which: The dependent variable SHARE $OWNED_{i,t}$ reflects the percentage of share ownership in the target company that the acquirer holds after the deal i in year t.

3.2 The influence of the internal information environment on cross-border takeover decisions

To consider the impact of the information environment on cross-border takeover decisions, the authors use Probit regression. The research model is established as follows:

$$Prob\left(CROSS - BORDER_{i,t} = 1\right) = \beta_0 + \beta_1 CIE_{i,t-1} + \beta_2 CONTROLS_{i,t-1} + \gamma_j + \quad {}_t \qquad (4)$$

The above model also includes industry fixed effects (${}_j$) and year fixed effects (${}_t$), to control the dominant impact of industry and year on the influence of corporate governance on decisions on shareholding ratio and selection of acquisition areas. Dependent variable (CROSS-BORDER) takes a value of 1 in the case of a cross-border acquisition, takes a value of 0 in the case of a domestic acquisition. In addition, in this study, the standard errors were also adjusted (robust standard errors) to address the phenomenon of heteroskedasticity and estimated according to the deal to solve the problem of correlation between the deals of companies in the same industry.

3.3 Research data

This study examines a sample of 674 completed M&A deals in Vietnam during the period 2005-2020. Based on the criteria of the ownership percentage of acquirers, the deals are categorized into two groups: those with ownership below 50% and those with ownership of 50% or more. Additionally, to analyze the influence of corporate governance mechanisms and the internal information environment on the choice of the acquisition region, the research sample is divided into two groups of deals: (1) Groups acquired by domestic companies, (2) Groups acquired by foreign companies. Furthermore, target companies are grouped by industry (4-digit SIC code according to the U.S. standard).

Data collected from reliable sources: (1) Information on the announcement date and characteristics of the acquisition deals were obtained from the paid database Thomson Reuters SDC Platinum. (2) Financial results and stock price data collected from Mint Global - Bureau Van Dijk and FiinPro - Stoxplus databases; (3) Corporate governance characteristics collected from the annual report (Information on the number of independent members of BOD, CEO duality, majority shareholder ownership) of the fiscal year ended before the date of announcement of the deal.

3.4 Measurement of research variables

Dependent variables

Share ownership ratio decision

Regarding the difference between 03 variables ("SHARE SOUGHT", "SHARE ACQUIRED" and "SHARE OWNED"): These 03 variables represent 03 different contents although basically they all represent the percentage of acquired shares of the acquirer.

Accordingly, "SHARE SOUGHT" reflects the % of shares in the target company that the acquirers want to achieve in the transaction, while "SHARE ACQUIRED" is the % of shares officially acquired by the acquirers in the transaction. "SHARE OWNED" represents the percentage of ownership shares in the target company that the company acquires after the acquisition is completed. “SHARE SOUGHT” may not be concurrently “SHARE ACQUIRED” and is always greater than or equal to “SHARE ACQUIRED” because there is a possibility that the desired ownership ratio of the acquirers is not met by the target companies and is forced to buy lower than the desired ownership.

In addition, "SHARE ACQUIRED" may not be simultaneously "SHARE OWNED" and is always less than or equal to "SHARE OWNED" because in some acquisitions, the acquirer currently holds a certain percentage of shares in the target company. In general, these 3 ownership rates are sometimes not the same at the same time; therefore, the author has run a model for all these 3 variables with the aim of identifying whether or not there is a difference in the research results of these 3 variables.

Cross-border takeover decisions

CROSS-BORDER: A binary variable, taking value of 1 if the company acquires the target company in Vietnam and 0 if the acquirer and the target company both have the same Vietnamese nationality (Dang & Henry, 2016). The tender offer will reflect the nationality of the acquirer, so at the time of the deal announcement, it is possible to identify cross-border acquisitions or domestic acquisitions related to the target companies in Vietnam.

Explanatory variable

The internal information environment (CIE)

Earnings management and stock liquidity are both indicators to measure the quality of a company’s internal information environment. However, the level and direction of impact of factors on information transparency are different. Measuring the quality of the internal information environment through these two indicators is expected to help clarify the role of the internal information environment in making M&A decision. In this study, the independent variable $CIE_{i,t-1}$ is the variable representing the internal information environment of the target company in the transaction i at year t-1 (note that year t is the year of notice of the transaction). CIE is reflected through illiquidity (ILLIQUID) or earnings management (EM).

Earnings Management (EM):

Earnings reflected in financial reports will help convey company information to the market. In addition, through published financial data, external investors can analyze the growth potential to make investment decisions in the company. However, agency problems can lead to some managers having a lot of inside information about the company’s operations and potential income streams that shareholders and other stakeholders do not have. The intervention of managers in profits can lead to the company’s profits being pushed up/down compared to the reality; consequently, investors may be exposed to risks when investing in company shares. Therefore, this research uses the earnings management variable to represent the internal information environment of the company. The lower the earnings management in the company, the higher the transparency of internal information.

Previous well-known studies (Jones, 1991; Shivakumar, 2000) have measured earnings management through excess accrual, using the balance sheet approach to calculate accruals, in order to detect price manipulation behaviors that affect earnings management behavior. This study applies the quantitative model of Jones' accrual variable, which measures the EM variable through the criterion of abnormal accrual, or excess accrual, calculated as the difference between expected accrual and actual accruals.

Accumulated expectations:

$$E\frac{ACC_{i,t}}{A_{i,t-1}} = \alpha_1\frac{1}{A_{i,t-1}} + \alpha_2\frac{\Delta REV_{i,t}}{A_{i,t-1}} + \alpha_3\frac{GPPE_{i,t}}{A_{i,t-1}}$$

Where:

$A_{i,t-1}$: Total assets at the end of year t-1 of company i;

$\Delta REV_{i,t}$: Net revenue difference of company i between year t and year t-1;

$GPPE_{i,t}$: Gross fixed assets of company i at the end of year t;

α_1, α_2, α_3 : Parameters of each company.

All variables in the research model are hysteresis variables to limit the phenomenon of variance change.

Lack of liquidity (ILLIQUID)

In this study, the author estimates stock liquidity based on the price impact measure through illiquidity developed by Amihud (2002). Stock illiquidity tends to be sensitive to market liquidity (Acharya & Pedesen, 2005), reflecting liquidity risk. The illiquidity affects not only the current stock price but also the future distribution of profits. Lower illiquidity represents high stock liquidity, implying that the quality of the company's information environment disclosed to the outside is more transparent.

According to Amihud (2002), stock liquidity i on day d is measured as:

$$ILLIQUID_{i,d} = \frac{|R_{i,d}|}{V_{i,d}}$$

In which:

$ILLIQUID_{i,d}$: the variable that measures the liquidity of shares i on day d;

$|R_{i,d}|$: the absolute value of the stock return rate i on day d;

$V_{i,d}$: the share transaction value i on day d.

Internal governance mechanisms (GOVERNANCE)

A company's internal governance mechanisms is measured through the following variables:

Number of independent members on the board of directors (IND.DIRECTORSi,t-1) reflects the number of independent members on the BOD of the target company in year t-1, indicating the degree of independence within the BOD. An independent board member joining the BOD is not financially tied, maintains no affiliations with individuals within the company, auditors, suppliers, significant shareholders of the company, and is also not a former employee of the company. The higher the count of independent members on the BOD, the greater the independence (Bange & Mazzeo, 2004; Dang & Henry, 2016), suggesting a robust corporate governance mechanism.

CEO duality (CEODualityi,t-1) is a binary variable taking the value of 1 if the CEO is also the chairman of the board of directors, and 0 if otherwise. The CEO has greater power when the CEO is also the chairman of the board of directors (Pathan, 2009; Dang & Henry, 2016; Nguyen & Le, 2018; Dang et al., 2019).

Ownership of blockholders (BLOCKHOLDERi,t-1) reflects the ownership of blockholders in year t-1. This variable is a continuous variable, defined as the percentage of shares held by major shareholders, those who own 5% or more of the target company's shares (Masulis et al., 2007; Nguyen & Le, 2018; Dang et al., 2019). The higher the ownership of major shareholders, the higher the level of control over BOD activities and the stronger the quality of corporate governance.

Table 1. Summary table of variables and expected signs

No.	Variable name	Symbol	Measurement	Expected sign		Reference
				Impact of ownership decisions	Impact of decisions on domestic/international acquisitions	
Independent variable						
1	Lack of liquidity	ILLIQUID		–	–	Dang Huu Man (2019), Yang et al. (2017)
2	Earnings Management	EM		–	–	Hu et al., 2022
Control variable						
3	Cash	CASH	Binary variable, which takes value 1 if two companies agree to pay 100% of the deal value in cash, otherwise it receives a value of 0.	–	+	Dang and Henry (2016), Bae et al. (2013), Dang Huu Man et al. (2018)
4	Acquisition in the same field	RELATEDNESS	Binary variable, receiving value 1 if in acquisitions, the acquirer and the target company operate in the same field and receiving	–	+	Dang and Henry (2016), Dang Huu Man (2019)

			value 0 if operating in a different field.			
5	Own target company's shares before the deal	TOEHOLD	Binary variable, takes value 1 if the acquirer holds shares of the target company at the time of deal announcement, otherwise takes value 0.	−	−	Hamberg et al. (2013)
6	Company size	SIZE	The continuous variable reflecting the company's scale is measured by taking the natural Logarithm of the total assets at the end of the most recent financial year prior to the deal announcement year	−	+	Pham et al. (2015), Zhou et al. (2019), Xie (2014).
7	Return on assets	ROA	The continuous variable, calculated as the profit before interest and taxes divided by total assets is referred to as ROA (Return on Assets).	−	−	Dang and Henry (2016), Zhou et al. (2019), Baugue ss et al. (2009)
8	Debt ratio	LEVERAGE	Continuous variable, defined as total debt divided by total assets	+	−	Huang and Ho (2020), Dang Huu Man

						(2019)
9	Revenue growth rate	SALESGROWTH	Continuous variable, reflecting the annual revenue growth rate. This variable is determined by dividing the difference in net revenue between year t and year t-1 by the net revenue in year t-1	–	–	Zhou et al. (2019), Basuil and Datta (2017)
10	Market to book ratio	M/B	Continuous variables, reflecting how many times the value of outstanding shares is higher than the book value, helping investors identify the value of investment opportunities.	+	+	Miletkov et al. (2014), Huang and Ho (2020).

3.5 Estimation method

In this research, the authors adopt and extend existing research to employ a multivariate regression model with panel data and probit, Logistic regression, Panel smooth transition model estimation techniques to analyze the correlation between the dependent variable and several independent variables (Massa & Xu, 2013; Botsari & Meeks, 2018; Dang, 2019; Doukas & Zhang, 2020). Specifically, the study aims to explore the relationship between corporate governance, the information environment, and M&A decisions in Vietnam. Moreover, this research incorporates Probit regression to validate the association between corporate governance, the information environment, and the decision-making regarding the selection of the acquisition region.

4 Results and Discussion

4.1 Statistical results describe the deal characteristics and financial characteristics of the target company

Table 2 below presents descriptive statistics on the deal characteristics and financial characteristics of target companies in minority and majority acquisitions when differentiated according to the following criteria: the percentage of shares desired to be held, the percentage of shares achieved in the deal, and the percentage of shares held after the acquisition is completed. Concerning the deal characteristics, it is shown that acquirers in minority acquisitions primarily choose cash as the payment method (CASH). When distinguishing acquisitions according to the percentage of shares held after the transaction is completed, the results from Table 2 show that acquirers hold higher shares before the acquisition than in the majority of transactions (TOEHOLD).

The financial characteristics analysis reveals that, on average, target companies in minority acquisitions have a higher ROA but a lower M/B ratio compared to majority acquisitions when distinguishing the sample groups based on the ownership ratio sought and the ownership ratio achieved after the completion of the acquisition. Meanwhile, most acquirers tend to look for existing target companies with higher M/B when distinguishing the research sample according to the share ownership ratio achieved in the acquisition. Among the research sample groups, the target companies have no average differences in size, level of financial leverage, and revenue growth rate.

Table 2. Deal characteristics and target firm financial characteristics in minority and majority acquisitions

Corporate governance characteristics	Minority acquisitions (1)				Majority acquisitions (2)				Paired difference test (1)-(2)	
	N	Mean	Med	SD	N	Mean	Med	SD	t-test (t)	Wilcoxon Rank-Sum test (z)
A, According to the percentage of shares desired to hold (SHARE SOUGHT)										
A1, Characteristics of the deal										
RELATEDNESS	606	0.200	0.000	0.400	68	0.197	0.000	0.384	0.455	0.455
CASH	606	0.490	0.000	0.500	68	0.294	0.000	0.459	3.087***	3.068***
CROSS-BORDER	606	0.132	0.000	0.338	68	0.132	0.000	0.341	-0.008	-0.008
TOEHOLD	604	0.098	0.000	0.171	68	0.109	0.000	0.256	-0.494	2.285**
A2, Financial characteristics										
SIZE	593	3469.452	478	16627.08	59	3274.864	466	8968.337	0.089	-0.262

(million USD)										
ROA	598	0.060	0.051	0.080	65	0.040	0.021	0.090	1.865*	2.943***
LEVERAGE	593	0.462	0.473	0.234	62	0.491	0.523	0.268	-0.893	-0.878
SALES GROWTH	594	0.280	0.126	0.808	61	0.256	0.039	0.945	0.222	1.948*
M/B	502	1.199	1.036	0.889	53	1.648	1.300	1.230	-3.355***	-2.797***
B, According to the percentage of shares achieved in the deal (SHARE ACQUIRED)										
B1, Characteristics of the deal										
RELATEDNESS	616	0.205	0.000	0.404	58	0.121	0.000	0.329	1.535	1.533
CASH	616	0.481	0.000	0.500	58	0.362	0.000	0.485	1.729*	1.727*
CROSS-BORDER	616	0.131	0.000	0.338	58	0.138	0.000	0.349	-0.138	-0.138
TOEHOLD	615	0.099	0.000	0.172	57	0.102	0.000	0.265	-0.130	2.666***
B2, Financial characteristics										
SIZE (million USD)	599	3478.275	473	16595.780	53	3153.679	594	8349.467	0.141	-0.971
ROA	608	0.059	0.049	0.081	55	0.045	0.029	0.088	1.240	1.820*
LEVERAGE	601	0.463	0.474	0.234	54	0.495	0.513	0.266	-0.973	-0.899
SALES GROWTH	601	0.277	0.124	0.804	54	0.285	0.048	1.001	-0.070	1.519
M/B	507	1.214	1.040	0.910	48	1.536	1.285	1.136	-2.292**	-2.056**
C, According to the percentage of shares held after the deal ends (SHARE OWNED)										
C1, Characteristics of the deal										
RELATEDNESS	532	0.199	0.000	0.400	142	0.190	0.000	0.394	0.242	0.242
CASH	532	0.500	0.500	0.500	142	0.359	0.000	0.481	3.003***	2.985***
CROSS-BORDER	532	0.145	0.000	0.352	142	0.085	0.000	0.279	1.886*	1.882*
TOEHOLD	532	0.050	0.000	0.093	140	0.288	0.245	0.283	-16.374***	-9.122***
C2, Financial characteristics										
SIZE (million USD)	529	3467.365	478	16561.11	123	3385.089	501.000	13883.57	0.051	-1.286
ROA	530	0.060	0.051	0.080	133	0.046	0.033	0.085	1.810*	2.357**
LEVERAGE	528	0.462	0.476	0.235	127	0.477	0.494	0.247	-0.624	-0.548

SALES GROWTH	529	0.283	0.135	0.804	126	0.258	0.042	0.892	0.309	2.575***
M/B	447	1.208	1.020	0.933	108	1.380	1.196	0.933	-1.713*	-2.316**

The asterisks ***, **, and * indicate significance levels of 1%, 5%, and 10%, respectively.

4.2 The internal information environment and decision on the level of stock ownership of acquirers

The influence of the internal information environment on the desire to hold shares of the acquirers

The regression results in table 3 show the coefficient of the variable EM is negative and statistically significant at the 10% level, indicating that acquirers prefer to hold lower ownership stakes in target companies with high earnings management behavior and vice versa. This result supports Hypothesis 1 and suggests that target companies with high earnings management behavior may have lower transparency in external financial reporting, which could make acquirers wary of overpaying in acquisitions. Their optimal strategy remains a desire to hold lower ownership stakes in these target companies. Regarding stock liquidity, the obtained results do not provide evidence that stock liquidity significantly influences the desired ownership stakes of acquirers.

Overall, the results of this section demonstrate an inverse relationship between earnings management behavior and the desired ownership stakes of acquirers, implying that the presence of earnings management behavior leads to less transparent disclosure of information, thus influencing the decision to hold ownership stakes in target companies by acquiring firms.

Table 3. Influence of the target company's internal information environment on the decision to choose the desired capital ownership ratio

Variable	1	2	3	4	5	6
ILLIQUID	0.001	0.002	-0.001			
	(0.37)	(0.67)	(-0.94)			
EM				-0.023	-0.039	-0.047*
				(-0.94)	(-1.53)	(-1.68)
CROSS-BORDER		0.004	0.012		-0.010	0.005
		(0.13)	(0.48)		(-0.35)	(0.16)
RELATEDNESS		0.104*	0.106*		0.096*	0.109**
		(1.76)	(1.77)		(1.88)	(2.06)
CASH		0.035	0.034		0.027	0.028
		(1.63)	(1.55)		(1.06)	(0.03)
FRIENDLY		0.096***	0.095***		0.104***	0.100***
		(4.74)	(4.70)		(4.59)	(4.39)
TOEHOLD		-0.062***	-0.062***		-0.073***	-

						0.073***
		(-3.63)	(-3.47)		(-3.55)	(-3.50)
SIZE			-0.012			-0.013
			(-1.26)			(-1.52)
LEVERAGE			0.001			0.014
			(0.03)			(0.29)
ROA			-0.121			-0.101
			(-1.48)			(-0.87)
M/B			0.007			0.003
			(0.63)			(0.24)
SALES GROWTH			-0.012**			-0.013**
			(-2.07)			(-2.09)
Blocking coefficient	0.206**	0.129	0.166**	0.227***	0.148*	0.213**
	(2.23)	(1.39)	(2.64)	(2.64)	(1.68)	(2.14)
Year control	Yes	Yes	Yes	Yes	Yes	Yes
Industry control	Yes	Yes	Yes	Yes	Yes	Yes
No. of observations	294	294	292	232	232	230
R-squared	0.07	0.18	0.20	0.10	0.22	0.24
F ratio	1.05	2.38	2.15	1.56	2.85	2.43

The standard errors are reported in parentheses. The asterisks ***, **, and * indicate significance levels of 1%, 5%, and 10%, respectively.

The influence of the internal information environment on M&A area decisions

In this section, the authors employ Probit regression to examine the influence of the information environment on the decision to choose the merger region. The results in Table 4 show that the coefficient of the EM variable is negative and statistically significant at the 5% level, after controlling for financial characteristics and deal characteristics. These results support Hypothesis H2 and indicate that target companies with lower earnings management behavior are more likely to be sought after in cross-border acquisition deals. It appears that foreign acquirers are more cautious in selecting acquisition targets to limit information risks when entering new markets. Seeking targets with low earnings management behavior implies that these companies have higher information transparency. Therefore, foreign companies can easily access and make decisions in the investment process, given their ability to assess risks and anticipate the profit potential of these investment opportunities. On the other hand, due to the domestic information advantage, domestic acquirers are more inclined to accept companies with higher earnings management behavior compared to acquirers from other countries.

Table 4. Influence of the target company's internal information environment on the decision to choose the desired capital ownership ratio

Variable	(1)	(2)	(3)	(4)	(5)	(6)
ILLIQUID	-0.069**	-0.060*	0.013			
	(-2.10)	(-1.73)	(0.28)			
EM				-0.912**	-1.118***	-0.720**
				(-2.31)	(-2.79)	(-1.98)
RELATEDNESS		1.189***	0.961***		0.697	0.396
		(3.19)	(2.62)		(1.35)	(0.71)
CASH		0.192	0.343		0.575**	0.787**
		(0.78)	(1.39)		(1.98)	(2.52)
FRIENDLY		-0.071	0.050		0.325	0.606*
		(-0.28)	(0.18)		(1.08)	(1.84)
TOEHOLD		-0.290	-0.387		-0.429	-0.427
		(-1.17)	(-1.48)		(-1.63)	(-1.54)
SIZE			0.325***			0.365***
			(3.07)			(3.01)
LEVERAGE			-0.304			-1.16
			(-0.74)			(0.51)
ROA			0.940			1.635
			(1.08)			(1.34)
M/B			0.140			0.100
			(1.10)			(0.62)
SALES GROWTH			-0.031			0.028
			(-0.43)			(0.33)
Blocking coefficient	-0.612	-0.455	-1.002	0.015	-0.266	-1.088
	(-0.72)	(-0.50)	(-1.09)	(0.02)	(0.79)	(-1.32)
Year control	Yes	Yes	Yes	Yes	Yes	Yes
Industry control	Yes	Yes	Yes	Yes	Yes	Yes
No. of observations	252	252	250	195	195	193
Pseudo R^2	0.14	0.19	0.25	0.14	0.18	0.26
Wald χ^2	34.90	44.56	57.75	26.95	31.56	48.97

The standard errors are reported in parentheses. The asterisks ***, **, and * indicate significance levels of 1%, 5%, and 10%, respectively.

On the aspect of stock liquidity, the regression results show that the coefficient of the ILLIQUID variable is negative and statistically significant at the significance level (models 1 and 2), indicating that foreign acquirers tend to seek companies with high liquidity for investment. This result also supports Hypothesis H2. Higher liquidity reflects credibility, high operational efficiency, and comprehensive external information disclosure. Choosing investment targets with high liquidity will help foreign partners limit risks arising from barriers on legal framework, culture, and ability to penetrate the market.

In general, the results from Table 4 show that the more transparent the target company's information environment, demonstrated through high stock liquidity and low earnings management behavior, the more likely the company is to become a sought-after target in cross-border acquisition deals.

The influence of the internal information environment on M&A area decisions (using the lagged independent variable method)

In this section, the authors examine the robustness of the research results regarding the correlation between the information environment and the decision to choose mergers, domestic acquisitions or cross-border acquisitions by using lagged independent variables, as reflected in Table 5. Specifically, the lagged independent variables $ILLIQUID_{t-1}$ and EM_{t-1} represent the t-1 lag of the variables $ILLIQUID_t$ and EM_t. The regression results still provide evidence of an inverse relationship between liquidity and the probability of choosing cross-border deals, while the coefficient of the earnings management variable is not statistically significant.

Table 5. The influence of the internal information environment on the decision to choose cross-border M&A (using the lagged independent variable method)

Variable	(1)	(2)	(3)	(4)	(5)	(6)
$ILLIQUID_{t-1}$	-0.078**	-0.087**	-0.058			
	(-2.20)	(-2.41)	(-1.30)			
EM_{t-1}				-0.223	-0.232	-0.094
				(-0.57)	(-0.51)	(-0.22)
RELATEDNESS		1.074***	0.895**		0.850**	0.744**
		(3.15)	(2.54)		(2.43)	(2.25)
CASH		0.213	0.394		0.387	0.463*
		(0.82)	(1.54)		(1.53)	(1.81)
FRIENDLY		0.020	0.176		-0.097	-0.009
		(0.08)	(0.63)		(-0.37)	(-0.04)
TOEHOLD		-0.520**	-0.574**		-0.402	-0.439*
		(-1.99)	(-2.13)		(-1.54)	(-1.66)
SIZE			0.257***			0.248***
			(2.60)			(2.65)
LEVERAGE			-0.451			-0.017
			(-0.98)			(-0.04)
ROA			0.869			1.192
			(0.87)			(1.27)
M/B			0.279*			0.111
			(1.96)			(0.69)
SALES GROWTH			-0.104			-0.10

			(-1.25)			(-1.25)
Blocking coefficient	-1.406** (-2.20)	-1.263* (-1.77)	-2.547*** (-2.99)	-0.774 (-1.12)	-0.534 (-0.69)	-1.578* (-1.75)
Year control	Yes	Yes	Yes	Yes	Yes	Yes
Industry control	Yes	Yes	Yes	Yes	Yes	Yes
No. of observations	238	238	236	253	253	252
Pseudo R^2	0.147	0.195	0.265	0.128	0.172	0.223
Wald χ^2	31.28	40.45	59.45	25.25	35.78	46.25

The standard errors are reported in parentheses. The asterisks ***, **, and * indicate significance levels of 1%, 5%, and 10%, respectively.

5 Conclusions and Recommendations

5.1 General conclusion drawn from experimental research results

In this research, the authors employed various experimental models to examine the influence of the internal information environment on M&A activities, as manifested through the impact on ownership decisions and cross-border M&A deals. By using cross-sectional data from all M&A deals completed in the period 2005-2020 of all target companies listed on Vietnam's stock exchanges, the authors conducted regression analysis and found the importance of the internal information environment on strategic decisions in the M&A planning process. The research results imply that the success of a deal in the Vietnamese M&A market, in addition to the internal factors of the deal itself and the financial characteristics of the relevant entities, is also influenced by the internal information environment of the target company.

The results from this study provide significant evidence, adding to the theoretical and practical framework regarding factors influencing M&A markets in developing and emerging economies in general, and the Vietnamese M&A market in particular. On the other hand, foreign acquirers tend to pursue Vietnamese target companies with strong information environments, ensuring risk minimization in international investment activities. These findings support the strategic market penetration hypothesis and the signaling theory and are consistent with the previous findings (Massa & Xu, 2013; Yang et al., 2017). These results once again confirm the scope of the importance of improving the internal information environment of companies in the context of Vietnam's M&A market is becoming increasingly vibrant due to its large growth potential.

5.2 Some recommendations for relevant parties

From the research results, the authors propose some recommendations for stakeholders in the process of participating in M&A activities.

Corporate managers need to exercise caution when implementing earnings management strategies. The degree of earnings management directly affects the quality of information disclosed externally, thus influencing investor sentiment and stock price volatility. Continuous efforts to enhance transparency in external disclosures, compliance with accounting standards to minimize asymmetric information, are essential methods to increase stock price stability and attract financial support for investment projects, thereby enhancing defense against scrutiny from acquiring companies. On the other hand, one of the reasons for earnings management behaviors is the emergence of conflicts of interest among stakeholders. Therefore, target companies need to intensify strict monitoring of management processes, such as increasing the number of independent members participating in the board, separating the roles of CEO and chairman of the board, increasing the ownership ratio of large shareholders, and even inviting potential partners to become strategic shareholders of the company.

The findings are also important for acquirers. The acquirers should be especially careful to consider the issue of information transparency in target companies in Vietnam and screen stocks of these target companies based on the information environment to contribute to investment decisions. Stock liquidity and earnings management are two of many criteria to measure a company's information environment and should be used in decision making. Correctly assessing the value of the target company's shares is an urgent problem for acquiring companies when formulating M&A strategies. Acquirers need to choose a reputable valuation team and audit team to support information analysis and valuation so that they can make effective investment decisions.

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