



The Impact of Fintech Acquisition on Acquirers in India: A Study on Financial Performance and Parameters

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Abstract

This study examines the long-run impact of acquisitions of fintech firms on the financial performance of acquiring firms in India from 2010-2023. The research utilised advanced econometric methods such as fixed effect panel regression and iterative generalised method of moments. The research focuses on key performance indicators, which include return on assets (ROA), net profit margin (NPM), average share price (ASP), current ratio (CR), and financial leverage (FL). A total sample of 155 mergers and acquisitions deals consisting of both financial and non-financial listed firms taken from Bloomberg have been considered in this research. The findings show that fintech takeovers are documented as a two-edged sword. The ASP rose considerably after the acquisition, indicating improved market value, while ROA and NPM declined. The CR shows improved liquidity, and FL indicated a higher equity base than debt after the acquisition. The research indicates that it is difficult for fintech acquirers to attain operational synergies even though the market is favourable. The study also emphasises the critical role of effective post-merger integration and strategic alignment in realising the full potential of fintech acquisition. This research yields valuable insights for financial institutions and policymakers who want to navigate the transformation of fintech by providing a comprehensive analysis of the financial implications of such acquisitions. The study reveals that fintech M&A demands proper due diligence, strong integration planning, and early stakeholder commitment to maximise long-term financial benefits while avoiding risks. Further research directions include exploring industry-specific

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impacts and assessing the influence of macroeconomic conditions on post-acquisition performance.

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1. Introduction

Fintech is an abbreviation for financial technology and employs innovative digital solutions and technology to develop and simplify the provision of financial products. This is done through sophisticated software, algorithms, and platforms that enable efficient, easy-to-use, and available financial services like mobile payments, internet lending, blockchain, or robo-advisors. The fintech market involves entities providing full-service finance via web-based technologies that automate insurance processes, trading, and banking, amongst others. During the early stage of fintech, startups focused on improving the activities of the financial sector, but in recent times, they have moved towards challenging mainstream offerings. The major objective of fintech is to undermine traditional financial systems using big data analytics, artificial intelligence (AI), machine learning (ML), and blockchain technology to enable faster transactions, as well as enhanced safety features for clients at reduced cost. One area in which fintech has made a significant difference is by bringing about inclusion in terms of finance, where it has turned out to be more effective at serving those sections of the population who are either forgotten or deliberately left out (Hornuf et al., 2021; Puschmann, 2017; Salerno et al., 2022).

In the wake of the financial crisis of 2008, the financial services industry underwent massive changes that were driven by the introduction and implementation of new regulations to prevent future crises. Besides, this phase featured rapid advancements in finance, such as digital banking, mobile payments, and blockchain technology. This has altered the terrain, leading to a more efficient, secure, and accessible environment in financial service delivery. Therefore, it underscores how both regulatory evolution and technological advancements have, over time, redefined the market conduct of business (Andrikopoulos & Krikilani, 2013; Gomber et al., 2017; Hughes et al., 2022).

One major trend in fintech is the acquisition by buyers seeking to expand into new areas and adopt new technologies while lowering costs and enhancing operational efficiencies. Moreover, these M&As are carried out to increase

profitability as well as improve overall performance and enhance stock prices, thus improving the operating performance or market position (Liaw et al., 2019). Strategic alliances or purchasing competitors through M&A's are common strategies in the fintech area to achieve long-term growth, reduce competition, and enhance access to capital (Ang & Cheng, 2006; Austin & Dunham, 2022; Chen et al., 2021; Dranev et al., 2019; Kohers & Kohers, 2000).

1.1 Motivation and contribution of the study

Fintech, therefore, emerges as the central focus of this study, and hence, the primary objective of the study is the overall assessment of the long-term consequences of fintech acquisition. The paper provides evidence regarding the impact of fintech acquisitions on the financial performance of acquiring firms in India. The study aims to highlight the indicators that characterise the company's efficiency, which include return on assets (ROA), net profit margin (NPM), the average share price (ASP), current ratio (CR), and financial leverage (FL). The analysis of fintech acquisition provides knowledge regarding the strategic ramifications and consequences of strategic combinations. It is understood that due to these acquisitions, the operational efficiency is affected, and hence, this study examines the impact of fintech acquisition on market valuation, liquidity, and leverage of acquiring firms. In a recent study by Akhtar and Nosheen (2022), conducted for 81 deals across the globe, the author observed a significant positive impact of fintech and bank M&As on the operating performance, liquidity, and financial leverage but a negative impact on the market performance of banks in the long-run. In contrast to numerous studies examining M&A outcomes across different industries, research on fintech acquisition in the Indian context is scarce. Therefore, this study investigates the long-term impact of fintech acquisitions on acquiring firms in India, analysing a sample of 155 acquisitions from 2010 to 2023. This study will be of great benefit to both academia and industry in understanding issues and practical uses in decision-making regarding fintech acquisition.

2. Literature Review

2.1 Evolution of the Fintech industry with special reference to India

Fintech, short for "financial technology," involves the innovative application of technology to improve and simplify financial services and processes. Its primary goal is to make financial activities more efficient, accessible, and user-friendly through technological advancements (Schueffel, 2017a; Zavolokina et al., 2016b).

The 'fintech' term is a combination of finance and technology, aiming to provide solutions for both banking and non-banking sectors. The larger aim of fintech was to aim at the future need for financial systems for high efficiency, operational economy, energy, and resilience ((Schueffel, 2017; Zavolokina et al., 2016). The finance industry's digital evolution emphasises faster information processing and expanded connectivity. This shift towards Digital Finance prioritises innovative business models and products introduced by FinTech companies (Gomber et al., 2017), as summarised in Figure 1.

Figure 1: Digital Finance Framework

1. TECHNOLOGY	2. FINANCE BUSINESS SERVICE
<ul style="list-style-type: none">• BLOCKCHAIN• BIG DATA ANALYTICS• SOCIAL NETWORKS• NFC	<ul style="list-style-type: none">• DIGITAL FINANCING,• INVESTMENT• PAYMENTS• INSURANCES
3. FINANCIAL INSTITUTION'S	4. FINANCE SERVICES REGULATION'S
<ul style="list-style-type: none">• FINTECH COMPANIES• TRADE SERVICE PROVIDERS	<ul style="list-style-type: none">• ENHANCEMENT REGULATORY COMPLIANCES

Note: Figure 1 shows the Digital Finance framework introduced by the fintech companies

However, an intriguing observation emerges when considering that the concept of 'fintech' has persisted throughout the evolution of information technology, spanning from 1500 to 1860, analog technologies from 1860 to 1960, and digital technology in banking IT from 1960 to 2008, culminating in fintech from 2008 to the present (Alt et al., 2018).

Existing research delineates fintech's progression into distinct phases, denoted as Fintech 1.0 (1866-1967), Fintech 2.0 (1967-2008), and Fintech 3.0 (2008-present), characterised by innovations such as ATM devices, Core Banking Solutions (CBS), and the customisation of financial services. This evolution has disrupted the financial system by altering processes and practices across finance and technology domains (Arora & Madan, 2021; Harris, 2021). Additionally,

studies underscore the imperative for traditional financial institutions to invest in fintech services to mitigate volatility and instability (Chen et al., 2022). Furthermore, (Haddad and Hornuf, 2019) posit that fintech development correlates with economic expansion and a heightened degree of capital formation, akin to the presence of active venture capital.

India, the third-largest fintech ecosystem, ranks second in transaction volume and contributes 14% to global fintech financing. Key growth drivers for the fintech industry include digital business collaboration, funding, skilled labour, and government initiatives. However, international political volatility, privacy risks, and data distribution challenges remain major obstacles for the fintech industry (Oberoi & Dharni, 2024).

The financial services industry is going through a tremendous change. App software technology innovations with a focus on fintech startups are effective in improving customer experiences and service efficiencies. The areas of change identified include operation management and incorporation of the use of social media. These advancements are bringing revolution in the fintech sector and challenging the dominance of traditional sectors (Das, 2019; Gomber et al., 2018a; Liu et al., 2021; Suryono et al., 2020).

Agility is essential today in the sphere of the financial market, influenced by constant advancements in fintech and other related areas in technological developments (Gomber et al., 2018b). With the rapid change in business dynamics, firms are now compelled to provide strategic alliances using mergers and acquisitions (Shimizu et al., 2004). These alliances allow firms to capitalise on each other's capabilities, assets, and knowledge for firm survival and profitability. Many large firms find that it is more effective to cooperate with existing firms and buy or merge with fintech companies since the establishment of new financial organisations requires a longer period. Thus, traditional financial institutions can adapt to new forms of technologies that improve the angles and impacts of service quality on customer experience and service operation effectiveness. This strategic approach accelerates, and that is where innovation is generated, implicating higher profits and lower costs for the realisation of synergy (Bradley et al., 1983). These synergies provide operational, financial, market, and managerial advantages that assist companies in remaining competitive and maintaining market position during the emergence of fintech (Novialdi & Wardhani, 2019). Additionally, strategic alliances can also be very useful in enhancing the environmental sustainability of the financial and banking sector: businesses can combine funding to invest in environmentally friendly technologies and sustainability within the company's processes and supply chain, thus contributing to global environment objectives (Tao et al., 2022).

2.2 Theoretical Framework for the Impact of Fintech M&A's on Acquiring Firms in India

The theoretical framework for examining the impact of fintech acquisitions on the performance of the acquiring firms in the Indian market is described through three major management theories:

- a. Resource Based Theory; RBV theory
- b. Agency Theory and
- c. Transaction Cost Economics (TCE).

The Resource-Based View (RBV) provides an appropriate theoretical framework introduced by Barney (1991), followed by Eisenhardt (1985) and Mahoney and Pandian (1992). The theory argues that fintech firms offer unique and valuable resources, such as advanced technological capabilities and innovative financial solutions, which can enhance the competitive advantage and operational performance of acquirers.

Agency theory (Eisenhardt, 1989) and Competitive Strategy (Porter-Millar, 1985) also elaborate on how successful fintech acquisition can align managerial and shareholders' interests and increase market dominance, leading to improved market performance. The Agency Theory addresses aligning interests and guaranteeing value creation amid short-term losses.

Transaction Cost Economics (TCE) (Coase, 2013; Williamson, 1979) highlights the reduction in transaction costs achieved by internalising fintech capabilities, aiding in understanding the decision-making between internal development and external acquisition, considering the transaction costs.

Dynamic Capability theory (Jay Barney, 1991) emphasises enhanced adaptability and innovation potential by integrating fintech firms, which is crucial for thriving in a dynamic market. Additionally, the Financial Synergy Hypothesis suggests that M&A can improve financial metrics by combining complementary financial strengths, thereby enhancing liquidity and financial leverage. Further, the Unified theory of acceptance and use of technology (Venkatesh et al., 2003) underscores the role of fintech acquisitions in driving innovation, leading to better market positioning and efficiency gains.

In combination, all the presented theories set the stage for comprehending the fintech acquisition phenomenon. The fintech acquisition can greatly improve the total performance of the acquiring firm in India and increase the diversity of the knowledge about the M&A patterns in the fintech segment, defining further

strategic courses of action. The fintech acquisition further enhances shareholder value in India's evolving financial landscape.

2.3 Evaluating the Value Addition of Fintech Acquisitions in Large Firms Using Accounting Return Methodology

Thus, as the fintech industry evolved and expanded, large organisations were interested in incorporating fintech into their business models. Nonetheless, the creation of new departments in fintech needed efforts; hence, many banking institutions started buying the existing fintech firms for their growth and innovation. The key question was whether these acquisitions added value to the firms. Researchers have employed various methodologies to assess M&A performance, with the event study and accounting return methods being among the most used. The event study was developed to gauge the impact of an event announcement on shareholders' value (Fama, E. F., Fisher, L., Jensen, M. C., & Roll, 1969). The event study is rooted in the Efficient Market Hypothesis (EMH), positing that market prices efficiently integrate all available information rationally and instantaneously. However, the efficient market hypothesis for the Indian market has been a contention among researchers. For instance, (Choudhury, M. K., Rajib, 2017; Jain et al., 2013; Jethwani, K., & Achuthan, 2013; Mittal & Jain, 2009) observed the Indian market to be efficient, while on the other hand, (Basu & Chawla, 2010; Dsouza & Mallikarjunappa, 2015; Gupta & Yang, 2011; Mallikarjunappa, T. Dsouza, 2013a; Palamalai, S., & Kalavani, 2015; Sehgal & Bijoy, 2015), noted the Indian market to be inefficient.

However, many researchers, both in India and abroad, use the accounting return method to compare pre-and post-merger financial performance. The accounting return method evaluates M&A effectiveness by analysing the financial performance of the combined firms two to three years post-acquisition using financial ratios. These studies typically compare the results of sample firms with control firms to discount any industry-wide phenomena. Many researchers favour this method; Harrison et al. (1991) justified its use because it does not rely on market efficiency or participation and measures the actual outcome of an acquisition. They noted that the market might not react to acquisition news if uniquely valuable synergies are kept private.

Accounting return studies have dominated Indian studies while considering acquisition performance. Pawaskar (2001), Mantravadi and Reddy (2007), Ramakrishna (2008), Kumar (2009), Saboo and Gopi (2009), Krishna Kumar and Sethi (2012) have all used this method. Furthermore, the primary ratios used in

the analysis include Return on Capital Employed, Asset Turnover, Debt/Equity ratio, Operating margin, Gross Profit Margin, and Net Profit Margin.

In this study, we have employed the accounting return methodology and a multi-regression model to assess the effectiveness of these acquisitions.

2.4 Financial Innovation Trends and M&A Outcomes: India's Growing Influence in a Global Context

A review of 354 peer-reviewed articles from 2015-2022 shows an increasing trend in financial innovation research, with "FinTech" as the most discussed topic. The study predicts significant growth in FinTech research in emerging countries like India, highlighting its critical role in the evolving financial landscape (Firmansyah et al., 2024).

A comprehensive literature review on M&As reveals varied regional outcomes. The research focusing on Indonesian companies shows decreased performance in return on assets and financial leverage post-M&A and the firm's liquidity to be more effective (Syukur & Bungkilo 2020). On the other hand, research conducted on Indian firms shows that M&As act as a positive driver, impacting the firms' profitability and liquidity (Aggarwal & Garg, 2022; Phan et al., 2020). In the U.K., M&As have positively impacted the return on asset (ROA), although they do not significantly affect the net profit margin (Dixit, 2019). Moreover, when considering market performance, M&As in the selected developed countries show a significantly positive impact based on financial and non-financial indicators (Cui & Chi-Moon Leung, 2020).

Besides, the increase in M&A in the developed economies has shown considerable enhancement in the economic leverage of the acquiring firms, emphasising opportunities for such alliances in improving the performance of the market, sources of funds, including cash and other forms of capital and influence in company's financial strength (Bianconi & Tan, 2019).

2.5 Need for Research: Understanding the Impact of Fintech Acquisitions on Indian Market Dynamics

Based on prior literature, M&A is one of the most investigated topics across regions and industries. However, a notable gap exists between specific effects of M&As between fintech companies and traditional firms in India. The existing literature has primarily focused on general M&A outcomes, showing mixed results in the UK, Indonesia, and other developed and developing countries.

A recent study by Akhtar and Nosheen (2022) observed a significant positive impact of fintech and banks M&A on operating performance, liquidity, and financial leverage of banks but a negative impact on the market performance of banks in the long run. The study was done with a total sample of 592 taken from across the globe. However, there is limited research on the unique dynamics of fintech-related M&As in the Indian context. This gap is particularly relevant given the rapid fintech-driven transformation in India's financial sector. Hence, investigating the specific impacts of M&As between fintech companies and traditional firms in India can provide critical insights into the strategic value of these alliances. Such research can reveal how these acquisitions enhance operational efficiency, financial performance, and sustainability practices, offering valuable guidance for future M&A strategies in the fintech acquisition in India.

Therefore, this research has made an analysis of the impact of the acquisition of fintech firms on the acquiring firms in India on four major parameters as defined by Akhtar and Nosheen (2022):

- a. Operating performance measured using return on assets (ROA) and net profit margin (NPM).
- b. Market performance is measured by the average share price (ASP).
- c. Liquidity is measured by the Current Ratio (CR) of the acquiring firms.
- d. Financial leverage (FL) is measured by total debt to shareholders' equity.

All these above variables are explained in detail in Table 1.

3. Data and Methodology

3.1 Hypotheses

The hypotheses outline the anticipated relationships between fintech acquisitions and company performance:

Hypothesis 1: Fintech acquisitions significantly enhance the operating performance of acquiring firms in India.

Hypothesis 1a: Fintech acquisitions significantly improve the return on assets (ROA) of acquiring firms in India.

Hypothesis 1b: Fintech acquisitions significantly enhance the net profit margin (NPM) of acquiring firms in India.

Hypothesis 2: Fintech acquisitions significantly improve the market performance of acquiring firms in India.

Hypothesis 3: Fintech acquisitions significantly enhance the liquidity of acquiring firms in India.

Hypothesis 4: Fintech acquisitions significantly improve the financial leverage of acquiring firms in India.

3.2 Definition and Description of Variables

Before testing the hypotheses, it was essential to establish and outline the research variables and data. Table 1 describes the variables used in the research papers.

Table 1: Data and Variables

S.N.	Variables	Symbol	Descriptions
1	Mergers and acquisitions	Merger	M&A = Mergers and Acquisitions, Merger for pre-merger period = 0, and for post-merger period = 1
2	Operating performance	ROA, NPM	ROA = Return on Assets, NPM = Net Profit Margin
3	Market-based performance	ASP	ASP = Average Share Price
4	Liquidity	CR	CR = Current Ratio
5	Financial Leverage	FL	FL = Total debt/shareholders' equity
6	Acquirer Size	AS	Acquirers Size = Natural logarithm of total Assets

Based on the comprehensive data framework outlined in Table 1, essential relative variables for empirical analysis were computed.

3.3 Sample

The sample was selected based on the following criteria:

- Acquiring companies listed on the Indian National Stock Exchange, with M&A announcements and investments from January 2010 to April 2023.
- Fintech firms were identified through individual assessment, as fintech firms are not specifically defined in the Bloomberg database, initially considering all firms in the financial and technology sectors.

- c. Software and financial consultancy firms were excluded from consideration as target firms.
 - d. Acquiring companies involved in additional exceptional events (e.g., public share announcements, bonus shares, dividends, multiple M&A announcements outside the study period) within a 60-day event window were excluded.
 - e. Acquiring firms with consistently available price information and synchronised data were included.
- These criteria led to the selection of 155 sample firms. Table 2 provides a summarised overview of the screening process.

Table 2: Sample Selection

Criteria for selection of sample	Number of firms
Total number of M&A, including investments, announced from Jan 2010 to Apr 2023, including partial acquisition with acquisition by Indian acquiring firms.	18776
There are fewer samples where the acquisition was announced but not completed.	3990
The total number of M&As, including investments, announced from Jan 2010 to Apr 2023, including partial acquisitions, with acquisitions by Indian acquiring firms, are completed.	14786
Less number of acquisitions in the non-financial and technology sector	5577
The total number of M&As, including investments, announced from Jan 2010 to Apr 2023, including partial acquisitions, with acquisitions by Indian acquiring firms, which are completed in the financial and technology sector.	9209
Less number of acquisitions where the target firms are not fintech firms	8737
The total number of M&As, including investments, announced from Jan 2010 to Apr 2023, including partial acquisitions, with acquisitions by Indian acquiring firms, which are completed in the financial and technology sector, where the target firms are fintech firms.	472
Number of samples rejected because of multiple events e.g., bonus issues, IPO issues, dividend payments, in event window,	317

incoherence data in event window, non-availability of names and data of acquiring firms.

Total number of M&A, including investments, announced from Jan 2010 to Apr 2023, including partial acquisition and acquisition by Indian acquiring firms, which are completed, in the financial and technology sector, where the target firms are fintech firms. 155

Note: The table shows the sample selected for the research taken from the Bloomberg database. The 155-sample includes all listed acquiring firms in NSE, which have acquired fintech target firms from Jan 2010 to Apr 2023. It also shows the details of the total available sample and the basis of sample selection.

3.4 Data Collection

Initially, the study identified 155 samples based on criteria outlined in Table 2 from the Bloomberg database. Subsequently, financial parameters such as ROA, NPM, ASP, CR, FL, and AS were extracted for three years before and after the mergers. ROA, NPM, and CR were derived from financial ratios available in Bloomberg. ASP in INR was calculated as the average maximum and minimum share prices for the respective years. FL, defined as total debt to equity reported as a percentage, and AS, representing the logarithmic value of total assets in a million INR from Bloomberg, were also analysed.

3.5 Methodological Discussion

The study employs a two-step estimation approach. In the first step, paired-sample t-tests at a 5 percent significance level assess performance differences before and after the M&A period. The study used three years (+3, -3), aligning with recommendations from analysts and researchers for sufficient evaluation time (Akhtar & Nosheen, 2022; Bruhn et al., 2017; Rashid & Naeem, 2017).

The second step uses a panel regression method, incorporating cross-sections over a specified period. Despite employing fixed effect panel regression, issues of heteroskedasticity and endogeneity persisted in the models. To address these challenges, the study employs the Generalized Method of Moments (GMM), specifically the two-step GMM (2SGMM) introduced by Hansen (1982). This approach provides a generalisation of various estimation methods like least squares (LS), instrumental variables (IV), and maximum likelihood (ML), offering robustness against misspecification. However, empirical studies indicate that 2SGMM may exhibit biases in small samples. To mitigate this, Hansen et al. (1996) proposed alternative GMM approaches: iterative GMM (ITGMM) and

continuous updated GMM (CUE). In this study, the interactive method is utilised to address these considerations.

Multiple regression (GMM) examined the relationship and the equations between the following variables:

- a. M&A: Pre-merger = 0, post-merger = 1
- b. ROA: Return on Asset
- c. NPM: Net Profit Margin
- d. ASP: Average Stock Price
- e. CR: Current Ratio
- f. FL: Financial leverage
- g. AS: Acquirer's size

Operating Performance:

1. $ROA = \beta_0 + \alpha \text{ Merger} + \beta_1 \text{ NPM} + \beta_2 \text{ FL} + \beta_3 \text{ AS} + \varepsilon$
2. $NPM = \beta_0 + \alpha \text{ Merger} + \beta_1 \text{ FL} + \beta_2 \text{ AS} + \varepsilon$

Market Based Performance:

3. $ASP = \beta_0 + \alpha \text{ Merger} + \beta_1 \text{ NPM} + \beta_2 \text{ FL} + \beta_3 \text{ CR} + \beta_4 \text{ AS} + \varepsilon$

Liquidity:

4. $CR = \beta_0 + \alpha \text{ Merger} + \beta_1 \text{ FL} + \beta_2 \text{ AS} + \varepsilon$

Financial Leverage:

5. $FL = \beta_0 + \alpha \text{ Merger} + \beta_1 \text{ CR} + \beta_2 \text{ AS} + \varepsilon$

4. Results

4.1 Descriptive Statistics

Table 3 offers descriptive statistics for the variables analysed, revealing insights into operating performance, market dynamics, liquidity, financial leverage, and asset size of acquiring firms. The mean values of ROA (5.63%), NPM (10.16%), ASP (504.67 INR), CR (2.2), FL (131.46), and AS (12.00) highlight the operating performance, market performance, liquidity parameters, financial leverage of the acquiring firms. The data indicates wide dispersion, with most variables showing standard deviations exceeding their average. The mean of FL exceeds 100%, suggesting reliance on borrowing over equity, and ASP's high standard deviation underscores significant share price variability. Comparatively, ROA's higher mean than median hints at above-median performance for many firms, adding depth to the statistical analysis.

Table 3: Descriptive Statistics of all variables

Descriptive Statistics	N	Mean	Median	Standard Deviation	Minimum	Maximum
ROA	760	5.63	2.74	8.3	-26.53	40.03
NPM	769	10.16	10.26	16.33	-92.79	92.01
ASP	840	504.67	292.25	731.49	4.5	5957.5
CR	472	2.2	1.78	2.1	0.29	26.16
FL	787	131.46	74.78	165.46	0	1132.69
Log_AS	818	12	12.18	2.59	-0.69	17.9

4.2 Paired-Sample T-test Analysis

Table 4 presents paired sample statistics comparing various financial variables before (Pre) and after (Post) mergers. Return on Assets (ROA) decreases from 6.342 to 5.006, with standard deviations of 8.143 and 8.384, respectively. Net Profit Margin (NPM) decreases from 11.014 to 9.395, with standard deviations of 14.367 and 17.882. Average Share Price (ASP) increases notably from 346.870 INR to 652.691 INR, reflecting significant variability with standard deviations of 428.888 INR and 913.002 INR. Current Ratio (CR) remains relatively stable, with slight increases from 2.184 to 2.208 and standard deviations of 1.658 and 2.455. Financial Leverage (FL) decreases from 134.423 to 129.620, with

standard deviations of 171.682 and 162.360. The logarithm of Total Assets (L_AS) increases from 11.622 to 12.301, with standard deviations of 2.563 and 2.453. These statistics provide insights into how these financial metrics fluctuate around the merger event, indicating potential impacts on financial performance and stability post-merger.

Table 4: Paired Sample Statistics of ROA, NPM, ASP, CR, FL, and AS Pre and Post Mergers

	Description	Mean	N	Std. Deviation	Std. Error Mean
Pair 1	ROA_Pre	6.34	336	8.14	0.44
	ROA_post	5.00	336	8.38	0.45
Pair 2	NPM_Pre	11.01	343	14.36	0.77
	NPM_post	9.39	343	17.88	0.96
Pair 3	ASP_Pre	346.87	396	428.88	21.55
	ASP_post	652.69	396	913.00	45.88
Pair 4	CR_Pre	2.18	214	1.658	0.11
	CR_post	2.20	214	2.45	0.16
Pair 5	FL_Pre	134.42	355	171.68	9.11
	FL_post	129.62	355	162.36	8.61
Pair 6	L_AS_Pre	11.62	374	2.56	0.13
	L_AS_post	12.30	374	2.45	0.12

4.3 Impact of Mergers on Financial Metrics: Evidence from Paired Sample

T-Tests

Table 5 displays the results of paired sample t-tests comparing differences in various financial variables before and after mergers.

ROA (Return on Assets): The mean value of the return of assets for pair 1 (ROA-Pre and ROA-post) is 1.336, with a t-statistic at 3.313 and a p-value of 0.001,

which shows that the fintech acquisition has a significant impact on the ROA of acquiring firms. However, the ROA has reduced with an M&A margin of 1.336.

NPM (Net Profit Margin): The mean value for pair 2 variable NPM (NPM-Pre and NPM-post) is 1.618, with a t-statistic at 1.519 and a p-value of 0.13, which shows that the fintech acquisition has an insignificant impact on the NPM of acquiring firms. However, the NPM has reduced with post M&A margin of 1.618.

ASP (Average Share Price): For pair 3 variable, ASP, the mean value difference (ASP-Pre and ASP-post) is -305.820, with a t-statistic at -9.035 and a p-value of 0.00, which shows that the fintech acquisition has a significant impact on the ASP of acquiring firms after the merger. The ASP has increased by INR 305.80 after the merger, demonstrating the significant impact of M&A on the market performance of the acquirer.

CR (Current Ratio): The mean value difference for pair 4 for the current ratio (CR-pre and CR-post) is -0.023, the t-value at -0.157, and the p-value of 0.875, indicating no significant difference in CR before and after mergers. The analysis shows that the CR has remained unchanged for the acquirer post the fintech acquisition.

FL (Financial Leverage): The mean value difference for pair 5, financial leverage pair (FL-Pre and FL-post) is 4.803 with the t-value at 0.750 and p-value of 0.454, indicating no significant difference in FL for acquiring firms before and after mergers.

L_AS (Logarithm of Total Assets): The mean value difference for pair 6 variable, total asset (L-AS-Pre and L-AS-post) is -0.678, with t-value at -13.433 and the p-value at 0.000, indicating a significant difference in the logarithm of total assets after the mergers. The asset value for the acquiring firms has increased after the fintech acquisition.

These results suggest varying impacts of mergers on different financial metrics, with a significant reduction observed in ROA and NPM but a significant increase in ASP and L_AS. In contrast, other metrics like CR and FL show no significant changes.

Table 5: Paired Sample T-test

		Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
Pair 1	ROA_Pre - ROA_post	1.336	7.393	.403	3.313	335	.001
Pair 2	NPM_Pre - NPM_post	1.618	19.737	1.065	1.519	342	.130
Pair 3	ASP_Pre - ASP_post	-305.820	673.541	33.846	-9.035	395	.000
Pair 4	CR_Pre - CR_post	-.023	2.158	.147	-.157	213	.875
Pair 5	FL_Pre - FL_post	4.803	120.629	6.402	.750	354	.454
Pair 6	L_AS_Pre - L_AS_post	-.678	.976	.050	-13.433	373	.000

4.4 Multi Regression Analysis

4.4.1 Impact of Mergers and Acquisitions on Financial Performance Metrics of Acquiring Firms in India based on One-way (individual) effect One-step model Difference GMM

The multi-regression analysis based on the One-way (individual) effect One-step model difference GMM gives the following results, as elaborated in Table 6. The table presents the results of the One-way (individual) effect one-step model difference GMM regression analysis, examining the impact of mergers and acquisitions (M&A) between fintech firms and acquiring firms on various financial performance metrics of the acquiring firms in India.

Model 1: Operating performance

Hypothesis 1: M&A between fintech and the acquiring firms has a significantly positive impact on the operating performance of acquirers in India.

Hypotheses 1 a. M&As between fintech and the acquiring firms have a significantly positive impact on the return on assets (ROA) of acquirers in India.

The variables in the study were;

Dependent variable: ROA

Independent variable: NPM, FL, AS,

The regression equation comes as:

$$ROA = \beta_0 + \alpha \text{ Merger} + \beta_1 \text{ NPM} + \beta_2 \text{ FL} + \beta_3 \text{ AS} + \varepsilon$$

$$ROA = \beta_0 - 1.26 \text{ Merger} + 0.31 \text{ NPM} - 0.002 \text{ FL} - 0.59 \log\text{-AS} + \varepsilon$$

Based on the analysis, both NPM and FL are significant at a p-value of 0.00, while AS is not significant. Also, the p-value of the Merger is 0.076 with a coefficient of -1.26. Based on the analysis, ROA is negatively impacted by merger and also the hypothesis is not accepted.

Model 2: Operating performance

Hypothesis 1: M&As between fintech and acquiring firms have a significantly positive impact on the operating performance of acquirers in India.

Hypotheses 1 b. M&As between fintech and the acquiring firms have a significantly positive impact on the net profit margin (NPM) of acquirers in India.

The variables in the study were;

Dependent variable: NPM

Independent variable: Merger, FL, AS,

$$NPM = \beta_0 + \alpha \text{ Merger} + \beta_1 \text{ FL} + \beta_2 \text{ AS} + \varepsilon$$

$$NPM = \beta_0 - 6.63 \text{ Merger} - 0.004 \text{ FL} + 10.09 \log \text{ AS} + \varepsilon$$

Based on the analysis, NPM is negatively impacted by the merger, and the hypothesis is not accepted.

Model 3: Market-based performance

Hypothesis 2: M&As between fintech and the acquiring firms have a significantly positive impact on the market performance of acquirers in India

The variables in the study were;

Dependent variable: ASP

Independent variable: Merger, NPM, CR, FL, AS,

$$ASP = \beta_0 + \alpha \text{ Merger} + \beta_1 \text{ NPM} + \beta_2 \text{ FL} + \beta_3 \text{ CR} + \beta_4 \text{ AS} + \varepsilon$$

$$ASP = \beta_0 + 144.65 \text{ Merger} + 2.35 \text{ NPM} + 10.659 \text{ CR} - 0.09 \text{ FL} + 505.69 \log \text{ AS} + \varepsilon$$

The p-value of the Merger is 0.00, with a coefficient of 144.65, and hence the hypothesis is accepted. Further, the high coefficient indicates, the high correlation between merger and ASP, which is evident from the results. The ASP has increased from INR 346.87 to INR 652.69 in the post-merger stage. Based

on the analysis, the FL & AS are significant, whereas NPM & CR are not significant.

Model 4: Liquidity

Hypothesis 3: M&As between fintech and acquiring firms have a significantly positive impact on the liquidity of acquirers in India.

The variables in the study were;

Dependent variable: CR

Independent variable: Merger, FL, AS,

$$CR = \beta_0 + \alpha \text{ Merger} + \beta_1 \text{ FL} + \beta_2 \text{ AS} + \varepsilon$$

$$CR = \beta_0 - 0.40 \text{ Merger} + 0.00 \text{ FL} + 0.42 \log \text{ AS} + \varepsilon$$

Based on the analysis, it is observed that the CR is not impacted by any of these parameters, and hence, the hypothesis is not accepted.

Model 5: Financial Leverage

Hypothesis 4: M&A between fintech and acquiring firms has a significantly positive impact on the financial leverage of acquirers in India.

The variables in the study were;

Dependent variable: FL

Independent variable: Merger, CR, AS,

$$FL = \beta_0 + \alpha \text{ Merger} + \beta_1 \text{ CR} + \beta_2 \text{ AS} + \varepsilon$$

$$FL = \beta_0 - 183.99 \text{ Merger} - 14.38 \text{ CR} + 390.21 \log \text{ AS} + \varepsilon$$

Based on the analysis, it is observed that the FL is not impacted by any of these parameters,

Hence, the hypothesis is not accepted.

Overall, the One-way (individual) effect One-step model Difference GMM analysis suggests mixed impacts of mergers on different financial performance indicators. Both ROA (p-value 0.076) and NPM (p-value 0.089) are not affected by Merger. ROA is significantly influenced by NPM (p-value 0.00) and FL (p-value 0.00). ASP is affected significantly by Merger (p value 0.00), FL (p value 0.00), and AS (p value 0.00). Both CR and FL are not affected by any of these parameters. These findings highlight mergers' complex and varying effects on the financial metrics of acquiring firms in India.

Table No 6: One-way (individual) effect One-step model Difference GMM

Explanatory Variable	Model 1	Model 2	Model 3	Model 4	Model 5
	ROA	NPM	ASP	CR	FL
Merger	-1.264. (0.713) [0.076]	-6.628. (3.902) [0.089]	144.651*** (34.148) [0.000]	-0.403* (0.204) [0.048]	-183.999 (164.743) [0.264]
NPM	0.316*** (0.034) [0.000]		2.356** (0.859) [0.006]		
FL	-0.002*** (0.000) [0.000]	-0.004* (0.002) [0.013]	-0.090*** (0.024) [0.000]	0.000 (0.000) [0.564]	
Log_AS	-0.593 (1.191) [0.619]	10.098 (7.663) [0.188]	505.690*** (119.540) [0.000]	0.417 (0.313) [0.182]	390.210 (335.217) [0.244]
CR			10.659 (11.445) 0.352		-14.384 11.552 0.213
Sargan Test	0.074	0.002	0.046	0.007	
Autocorrelation test-AR (1)	0.123	0.163	0.123	0.550	
Autocorrelation test-AR (2)	0.264	0.321	0.171	0.287	
Wald test for coefficient	0.000	0.038	0.000	0.059	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1; p-values are in square brackets; error terms are in parenthesis brackets.

Diagnostic Tests

The Sargan test for overidentifying restrictions suggests that the instruments used in the models are valid, as indicated by the non-significant p-values across all models.

The autocorrelation tests (AR (1) and AR (2)) show that there is no second-order serial correlation in the error terms for most models, ensuring the reliability of the GMM estimators.

The Wald test for the coefficients confirms the joint significance of the explanatory variables in the models.

In summary, the analysis indicates that mergers significantly impact market-based performance (ASP) but do not significantly impact other financial performance metrics such as ROA, NPM, CR, and FL. However, other variables like NPM, CR, and asset size (Log_AS) significantly influence some performance metrics, confirming the partial acceptance of some hypotheses.

4.4.2 *Impact of Mergers and Acquisitions on Financial Performance Metrics of Acquiring Firms in India Based on Iterative Generalized Method of Moments*

Herein, we examine the impact of mergers and acquisitions (M&A) between fintech firms and acquiring firms on various financial performance metrics of the acquiring firms in India using the Iterative Generalized Method of Moments, as shown in Table 7.

Model 1: Operating Performance (ROA): The results indicate that the merger variable (α Merger) has a negative coefficient (-8.58) but is not statistically significant (p-value 0.036). Net Profit Margin (NPM) positively impacts ROA, with a coefficient of 0.46, and is highly significant (p-value 0.000). Financial leverage (FL) and log of asset size (Log-AS) also impact ROA.

Model 2: Operating Performance (NPM): The coefficient for the merger variable is -1.05, which is not significant (p-value 0.80). FL has a negative coefficient (-0.0037) with marginal significance (p-value = 0.0016), while log of asset size (Log-AS) has a positive impact on NPM (coefficient 1.15) but is not statistically significant (p-value 0.0031).

Model 3: Market-based Performance (ASP): The merger variable significantly impacts the ASP, with a positive coefficient (108.94) but not a significant p-value (0.0.50). NPM and FL are not significant, but the log of asset size (Log-AS) significantly impacts ASP with a significant positive coefficient (30.35) and a p-value of 0.0036.

Model 4: Liquidity (CR): The merger variable has a positive coefficient (4.73) with significance (p-value = 0.00). Financial leverage (FL) significantly negatively impacts CR (coefficient = -0.004, p-value = 0.14). Log-AS has a negative coefficient with a significant value at p-value = 0.00.

Model 5: Financial Leverage (FL): The merger variable has a positive coefficient (25.07) but is not statistically significant (p-value 0.47). CR has a

positive and significant impact on FL (coefficient 34.61, p-value 0.00), while the log of asset size (Log-AS) positively impacts FL with marginal significance (coefficient 8.92, p-value 0.00).

Table No 7: Iterative Generalized Method of Moments

Explanatory Variable	Model 1	Model 2	Model 3	Model 4	Model 5
	ROA	NPM	ASP	CR	FL
Constant	-8.5852 (4.0994) [0.0362]	-1.0577 (4.3081) [0.8061]	108.9430 (164.7285) [0.5084]	4.7299*** (0.2917) [0.0000]	25.0735 (34.9930) [0.4737]
Merger	2.9517* (1.1962) [0.0136]	-1.8824 (2.1928) [0.3907]	-41.7626 (65.4716) [0.5236]	0.3447 (0.1943) [0.0760]	-21.0758* (9.3893) [0.0248]
NPM	0.4635*** (0.0689) [0.0000]		2.2231 (3.4143) [0.5150]		
FL	-0.1253*** (0.0220) [0.0000]	-0.0037** (0.0012) [0.0016]	-0.1764 (0.0969) [0.0687]	-0.0004 (0.0002) [0.1390]	
Log_AS	1.8117*** (0.4481) [0.0001]	1.1590** (0.3922) [0.0031]	30.3541** (10.4338) [0.0036]	-0.2789*** (0.0248) [0.0000]	8.9166*** (2.2757) [0.0001]
CR			-63.5468 (40.1678) [0.1136]		- 34.6166*** (6.1842) [0.0000]
J-Test degree of freedom	19.6200 6.0000	78.6150 7.0000	22.0000 5.0000	23.7800 7.0000	43.6500 7.0000
P-value	0.0000	0.0000	0.0000	1.0000	0.0000
n-observation	317.0000	317.0000	317.0000	317.0000	317.0000

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1; p-values are in square brackets; error terms are in parenthesis brackets.

4.4.3 Impact of Mergers and Acquisitions on Financial Performance Metrics of Acquiring Firms in India based on Mixed Impacts of Fintech Mergers on Acquirers' Financial Performance in India: Insights from Fixed Effect Panel Regression Analysis:

The fixed effect panel regression analysis in Table 8 reveals mixed impacts of M&A’s between fintech and acquiring firms on various financial performance metrics of the acquirers in India. While M&As significantly enhance market performance, as evidenced by the substantial positive impact on average share price (ASP), they do not consistently influence other metrics such as return on assets (ROA), net profit margin (NPM), current ratio (CR), and financial leverage

(FL). Thus, while M&As positively influence market-based performance, their impact on operational performance, liquidity, and financial leverage is less consistent and often overshadowed by internal financial variables.

Table No 8: Fixed Effect Panel Regression of Mergers & Acquisitions

Explanatory Variable	Model 1	Model 2	Model 3	Model 4	Model 5
	ROA	NPM	ASP	CR	FL
Constant	6.52*** (1.54) [0.00]	17.22*** (4.32) [0.00]	53.67 (191.33) [0.281]	3.09*** (0.374) [0.00]	-38.824* (19.09) [0.042]
Merger	-0.450 (0.570) [0.430]	-0.67 (1.70) [0.70]	258.38*** (65.48) [0.000]	-0.115 (0.139) [0.405]	-5.512 (6.57) [0.402]
NPM	0.453*** (0.023) [0.00]		6.89* (2.74) [0.012]		
CR			-54.835 (24.57) [0.026]		-18.010*** (2.235) [0.000]
FL	-0.034*** (0.004) [0.000]	-0.01 (0.00) [0.05]	-1.84*** (0.520) [0.000]	-0.008*** (0.001) [0.000]	
Log_AS	0.050* (0.142) [0.721]	-0.63 (0.38) [0.10]	41.247* (16.41) [0.123]	-0.50 (0.034) [0.148]	12.17*** (1.523) [0.0000]
	Hausman Test	Hausman Test	Hausman Test	Hausman Test	Hausman Test
chi-Square	40.816	3.098	37.64	14.3	21.515
df	4.00	3.00	5.00	3.00	3.00
p-Value	0.00	0.376	0.00	0.002	0.00
R-Square	0.61	0.09	0.10	0.203	0.31
Adjusted R2	0.61	0.08	0.09	0.197	0.30

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1; p-values are in square brackets; error terms are in parenthesis brackets.

5. Discussion

This study investigates the enduring effects of the acquisition of fintech firms on the financial performance of Indian acquirers from 2010 to 2023. Using methodologies such as Fixed Effect Panel Regression and Iterative Generalized

Method of Moments (GMM), the research scrutinises key financial metrics: return on assets (ROA), net profit margin (NPM), market-based performance (ASP), liquidity (CR), and financial leverage (FL).

The analysis reveals nuanced outcomes across these metrics. Notably, the acquisition of fintech firms is associated with a significant decrease in return on assets (ROA) by 1.33 (21%), as evidenced by Table 5. The results are in line with earlier studies by Trujillo et al. (2020), Dixit (2019), who noted a decline in ROA for acquiring firms after fintech acquisition. However, on the other hand, Zhang et al (2018) found contrary results.

In the Indian context, our study attributes the reduced ROA to the nascent stage of fintech integration within the market.

Regarding net profit margin (NPM), Table 5 indicates a decrease of 1.618 (10%) following fintech acquisitions. Consistent with Nicholson et al. (2016), this decline underscores challenges in post-merger integration and operational synergies. However, differing findings by Grigorieva and Petrunina (2015) suggest the potential for improved margins in alternative contexts.

In contrast, market-based performance (ASP) exhibits a robust improvement, with share prices rising significantly post-acquisition, as noted in Tables 4 and 5. The ASP analysis in Table 6 supports these findings, highlighting a positive coefficient for mergers and affirming market optimism toward fintech acquisitions despite short-term volatility observed in event studies (Ding et al., 2021; Carlini et al., 2022).

Liquidity, measured by current ratio (CR), experiences nominal improvements (Table 4), yet the impact of fintech acquisitions on CR is not prominent (Table 6). This suggests that while liquidity metrics remain stable, direct enhancement from fintech integration is limited.

Financial leverage (FL) also shows marginal reduction post-acquisition, indicating a shift towards equity over debt financing (Table 4). A decline in FL that has been perceived in this research is also in agreement with the perceptions observed in other relevant studies. This has shown the moderated nature of mergers on the leverage ratios as analysed by Kim et al. (2021).

In conclusion, this study highlights several key managerial implications as Indian firms deal with fintech acquisitions. Good integration solutions, coherence of the process support, and anticipative management engagement of all the stakeholders

are key when it comes to the realisation of synergistic benefits and avoidance of financial performance risks of the mergers.

For this reason, by improving integration processes and matching strategic goals with market perception, the acquiring firms can effectively manage the long-term benefits of fintech acquisitions for enhancing sustainable competitive advantage in the evolving financial landscape.

This discussion note summarises the research in a nutshell and the conclusion with the message of future effects of fintech acquisition on firms' financial performance in India.

6. Conclusion

6.1 Long-Term Financial Impacts of Fintech Acquisitions on Indian Firms:

The present research studies the impact of acquisitions of fintech firms on the long-term financial performance of acquiring firms in India. The analysis is based on 155 samples of acquiring firms taken from the Bloomberg database for the period from 2010 to 2023. The research is based on Fixed Effect Panel Regression and Iterative Generalized Method of Moments (GMM) analyses. Further, the research explores critical performance metrics: return on return on assets (ROA), net profit margin (NPM), market-based performance (ASP), liquidity (CR), and financial leverage (FL). The result indicates that despite the increased activity in fintech acquisitions in India, the operational performance, namely ROA and NPM, of the acquiring firms are affected adversely. The reduction in ROA and NPM is possibly due to integration difficulties and the relatively early development of fintech companies in India. However, there has been a major increase in acquiring ASP, indicating an improvement in market-based performance, possibly due to the notion that investors are becoming more optimistic about the acquirer's performance after the acquisition. Financial freedom is usually the long-term payoff, even though in the short-term, there can be ups and downs. Herein, the liquidity indicators through the current ratio (CR) do not reflect major variations. The financial leverage (FL) ratio shows reductions, indicating improved equity compared to debt. However, an FL of more than 100% indicates a higher debt component compared to equity. Thus, this research highlights the significance of strategy within the context of manufacturing organisations. The research underscores the strategic imperative for meticulous integration planning and proactive stakeholder engagement to maximise synergistic benefits and navigate the complexities of fintech mergers in India's evolving financial landscape.

6.2 Strategic Insights and Financial Dynamics of Fintech Acquisitions in India: Implications and Contributions:

The research highlights the impact of fintech acquisition on the operational performance of Indian acquiring firms through reduced ROA and NPM. Hence, the study highlights the emphasis on the potential for enhanced profitability through improved NPM despite the challenges in ROA. The findings underscore the importance of strategic integration and operational alignment post-acquisition to realise effective synergy. The findings suggest that strategic aim for coordination is the critical factor that needs to be managed in any project to gain optimal synergies for both companies for integration and operations well after an acquisition. Furthermore, the research contributes to the scientific body by presenting an empirical analysis of the financial relationships on mergers of fintech firms in India to assist the stakeholders in the financial sector for better integration and initiatives, repeatedly stressing the relevance of process adaptation to optimise the use of fintech opportunities & sustainably with changing conditions of the market environment. The research contributes by providing empirical insights into the financial sector on effective integration strategies and emphasising the need for continuous adoption to leverage fintech capabilities effectively amidst evolving market conditions.

6.3 Study Limitations and Future Research Directions

The study has some limitations that must be noted before the results can be generalised. First of all, this study hinges on 155 M&A transactions of Indian corporations, which cannot be generalised. Further, the study reveals only several post-M&A financial impacts; future research should cover other financial and non-financial aspects, such as the impact on employees, managerial abilities, customer service, and borrowers.

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