

# Literature Review on Characteristics and Prediction Modeling of Mergers and Acquisitions in India

VENKATESWARAN VINOD\*  
S.K SUDARSANAM\*\*

---

---

## Abstract

Mergers and acquisitions (M&A) have become critical architectural components of corporate strategy, driving growth, efficiencies, creating assets, or adding resources to the firm. There are multiple theories on the motivations for M&A, such as economies of scale, scope, acquisition of new products, new markets, and increasing market share. Globally and in India, M&As go through waves characterized by the type of M&As, attributes, and significant events that either triggered or ended the wave. The key determinants of M&A are another widely researched topic varying from accounting data, cultural fitment, leadership, ownership structures, and many more. There is considerable effort involved in the entire process; hence, predicting the probability of M&A is critical for management and investors to address. This research paper explores the statistical models and technological advancements, such as machine learning, that can be leveraged in identifying M&A candidates.

---

---

**JEL Code :** C12, C45, E44, G19, G34

**Keywords :** Mergers; Acquisitions; M&A; Modeling; Prediction; India

## I. Introduction

MERGERS AND ACQUISITIONS (M&A) are a popular corporate restructuring method (Cartwright and Schoenberg, 2006). Globally, enterprises spend US\$ 2 trillion on acquisitions yearly (Christensen, Alton, Rising and Waldeck, 2011). Our paper aims to provide a contemporary review of literature across three interrelated streams that will become highly crucial as M&As become complex, global, and defy established patterns. The three workstreams are first to understand the history of M&A, motivations for M&A globally, and performance of evaluation, as shown in Figure 1. Then, in the second workstream, the literature review is focused on M&As in

---

\* Doctoral (Ph.D.) Research Scholar, Vellore Institute of Technology (Deemed-to-be-University), VIT Business School, Kelambakkam-Vandalur road, Rajan Nagar, Chennai, 600127, INDIA

\*\* Dean and Professor, Vellore Institute of Technology(Deemed-to-be-University), VIT Business School, Kelambakkam-Vandalur road, Rajan Nagar, Chennai, 600127, INDIA

### References

- Abid, F., and A. Zouari, (2002), "Predicting Corporate Financial Distress: A New Neural Networks Approach.", *Finance India*, Vol. XVI, No. 2, pp.601-612.
- Adelaja, A., R. Nayga and Z. Farooq, (1999), "Predicting mergers and acquisitions in the food industry.", *Agribusiness*, Vol. 15, No. 1, pp.1-23.
- Agarwal, M., and A. Bhattacharjea, (2006), "Mergers in India: A response to regulatory shocks.", *Emerging Markets Finance and Trade*, Vol. 42, No. 3, pp.46-65.
- Agnihotri, A, (2013), "Determinants of acquisitions: an Indian perspective.", *Management Research Review*, Vol. 36, No. 9, pp.882-898.
- Agarwal, Aman and Yamini Agarwal, (2004), "Mergers and Acquisitions : A Business Strategy for Growth", *Effective Executive*, November 2004, p. 13
- Agarwal, Aman, (2004, 2005), "Methods of Valuation", *The Smart Manager*, Vol 3 No 2, April-June 2004 (Invited Paper); also re-published in *The Financial Express*, November 18th-25th 2005.
- Agrawal, M., and R. Sensarma, (2007), "Determinants of merger activity: evidence from India.", *International Journal of Financial Services Management*, Vol. 2, No. 4, pp. 277.
- Ambrose, B. W., and W.L. Megginson, (1992), "The Role of Asset Structure, Ownership Structure, and Takeover Defenses in Determining Acquisition Likelihood.", *The Journal of Financial and Quantitative Analysis*, Vol. 27, No. 4, pp.575.
- Barai, P., and P. Mohanty, (2012), "Predicting Acquisitions in India.", *Vikalpa*, Vol. 37, No. 3, pp. 29-50.
- Barnes, P., (1998), "Can takeover targets be identified by statistical techniques?: Some UK evidence.", *Journal of the Royal Statistical Society Series D: The Statistician*, Vol. 47, No. 4, pp. 573-591
- Basu, D., S.G. Dastidar and D. Chawla, (2008), "Corporate Mergers and Acquisitions in India: Discriminating between Bidders and Targets.", *Global Business Review*, Vol. 9, No. 2, pp.207-218.
- Belkaoui, A., (1978), "Financial Ratios As Predictors of Canadian Takeovers.", *Journal of Business Finance and Accounting*, Vol. 5, No. 1, pp.93-107.
- Berriategortua, J. S., O.D.O. Olasagasti and B.P. Florencio, (2018), "Does company performance improve after M and A? A literature review", *Advances in Mergers and Acquisitions*, Vol. 17, pp. 31-51.
- Bhat, R., (2022), "Predicting Dividend Omission Behaviour of Indian Firms using Machine Learning Algorithms.", *Finance India*, Vol, 36, No. 1, pp.61-83.
- Bhattacharjea, A., (2008), "India's new competition law: A comparative assessment.", *Journal of Competition Law and Economics*, Vol. 4, No. 3, pp. 609-638.
- Bhoi, B. K., (2000), "Mergers and Acquisitions: An Indian Experience.", *Reserve Bank of India Occasional Papers*, Vol. 21, No. 1, pp.133-166.
- Brar, G., D. Giamouridis and M. Liodakis, (2009), "Predicting European Takeover Targets.", *European Financial Management*, Vol. 15, No. 2, pp. 430-450.
- Brueller, N. N., A. Carmeli and I. Drori, (2014), "How do different types of mergers and acquisitions facilitate strategic agility?", *California Management Review*, Vol. 56, No. 3, pp.39-57.

Buckley, P. J., and P.N. Ghauri, (2003), "International Mergers and Acquisition: Past, Present and Future.", *Advances in Mergers and Acquisitions*, Vol. 2, pp.207-229.

Cahan, R., F. Luo, M. Alvarez, J. Jussa and Z. Chen, (2011), "Signal Processing; Targeting Takeovers.", In Deutsche Bank Quantitative Strategy, Deutsche Bank Securities Inc: Vol. No 22.

Cai, S. W., B. Balachandran and M. Dempsey, (2011), "The financial profiles of takeover target firms and their takeover predictability: Australian evidence.", *Corporate Ownership and Control*, Vol. 8, No. 3G, pp.567-584.

Cannella, A., A. Hambrick and C. Donald, (1993), "Effects of executive departures on the performance of acquired firms.", *Strategic Management Journal*, Vol. 14, pp.137-152.

Capron, L., (2006), "Historical Analysis of three waves of Mergers and Acquisitions in the United States (1887-1904, 1916-1929, 1950-1970), Triggering factors, Motivations and Performance", SSRN Network, USA

Cartwright, S., and R. Schoenberg, (2006), "Thirty years of mergers and acquisitions research: Recent advances and future opportunities", *British Journal of Management*, Vol. 17, No. S1, pp. S1-S5.

Cho, S., and C.Y.Y. Chung, (2022), "Review of the Literature on Merger Waves.", *Journal of Risk and Financial Management*, Vol. 15.

Christensen, C. M., Alton, R., Rising, C., and Waldeck, A., (2011), "The New M&A Playbook.", *Harvard Business Review*, March 2011, pp. 1-11.

Chueh, R. L., (2013), "Abstract A Logit Model for Predicting Takeover Targets in Corporate Mergers and Acquisitions", Working Paper, Walden University.

Cremers, K. J. M., V.B. Nair, and K. John, (2009), "Takeovers and the cross-section of returns", *Review of Financial Studies*, Vol. 22, No. 4, pp.1409-1445.

Cudd, M., and R. Duggal, (2000), "Industry distributional characteristics of financial ratios: An acquisition theory application.", *Financial Review*, Vol. 35, No. 1, pp.105-120.

Das, A., (2021), "Post-Acquisition Performance of Emerging Market Firms: A Multi-Dimensional Analysis of Acquisitions in India.", *Journal of Risk and Financial Management*, Vol. 14, No. 12, pp. 567.

Das, A., and S. Kapil, (2015), "Inorganic growth of technology sector firms in emerging markets: Influence of firm-specific factors in Indian firms' Mand A activities.", *International Journal of Emerging Markets*, Vol. 10, No. 1, pp.52-72.

De Jong, A., and P.T. Fliers, (2020), "Predicting Takeover Targets: Long-Run Evidence from the Netherlands.", *De Economist*, Vol. 168, pp. 343-368.

de Jong, A., and P.T. Fliers, (2020), "Predicting Takeover Targets: Long-Run Evidence from the Netherlands.", *Economist (Netherlands)*, Vol. 168, No. 3, pp.343-368.

Denyer, D., and D. Tranfield, (2006), "Using qualitative research synthesis to build an actionable knowledge base.", *Management Decision*, Vol. 44, No. 2, pp.213-227

Dietrich, J. K., and E. Sorensen, (1984), "An application of logit analysis to prediction of merger targets.", *Journal of Business Research*, Vol. 12, No. 3, pp.393-402.

DePamphilis, Donald, (2011), "Mergers and Acquisition Basics", Elsevier Inc.

Doumpos, M., K. Kosmidou and F. Pasiouras, (2004), "Prediction of acquisitions targets in the UK: A Multicriteria Approach.", *Operational Research. An International Journal*, Vol. 4, No. 2, pp.191-211.

Duppatti, G. R., and N. Rao, (2015), "Cross-border mergers and acquisitions: Mature markets vs. emerging markets-with special reference to the USA and India.", *Cogent Business and Management*, Vol. 2, No. 1, pp.1-11.

Espahbodi, H. and Espahbodi, (2001), "Predicting corporate takeovers.", *The Journal of Business Forecasting Methods and Systems; Fall*, Vol. 20, No. 3, p.25.

Froese, H. G., (2013), "Predicting Takeover Targets An Empirical Analysis of the European Market", Working Paper, University of St. Gallen

Fuad, M., V. Thakur and A.K. Sinha, (2021), "Family firms and their participation in cross-border acquisition waves: evidence from India.", *Cross Cultural and Strategic Management*, Vol. 28, No. 4, pp.791-814.

Galpin, T. J., (2021), "As another Mand A wave begins: three keys to success.", *Strategy and Leadership*, Vol. 49, No. 2, pp.14-21

Goyal, K. A., and M. Rathi, (2020), "A Flashback of Mergers and Acquisition Trends in India.", *Pacific Business Review International*, Vol. 13, No. 4, pp.177-186

Harris, R. S., J.F. Stewart, D.K. Guilkey and W.T. Carleton, (1982), "Characteristics of Acquired Firms: Fixed and Random Coefficients Probit Analyses.", *Southern Economic Journal*, Vol. 49, No. 1, pp. 1-64

Hong, X., X. Lin, L. Fang, Y. Gao and R. Li, (2022), "Application of Machine Learning Models for Predictions on Cross-Border Merger and Acquisition Decisions with ESG Characteristics from an Ecosystem & Sustainable Development Perspective.", *Sustainability (Switzerland)*, Vol. 14, No. 5.

Jan Tuma, B., (2019), "A Probability of a Takeover Bid?: An Investigation of Financial and Market Characteristics of Targeted Firms", Working Paper, Tilburg University, August 2019

Jiang, T., (2021), "Using Machine Learning to Analyze Merger Activity.", *Frontiers in Applied Mathematics and Statistics*, Vol. 7, pp. 1-8.

Jinomol, P., and R. George, (2020), "Acquisition motives of indian companies: Analysis based on industry and age.", *SCMS Journal of Indian Management*, Vol. 17, No. 1, pp.58-71.

Josiam, B. M., R.K. Zutshi and Z.U. Ahmed, (2007), "India's economic reforms: Interpreting the dynamics of change from a contextual perspective. ", *Competitiveness Review*, Vol. 9, No. 1, pp.68-81.

Kapil, S., and G. Barick, (2022), "Determinants Influencing Acquisition of Target Firms and Their Post-Acquisition Performance in Post-Global Crisis India.", *International Journal of Business and Economics*, Vol. 21, pp.27-45.

Kapoor, S., (2018), "Mergers And Acquisitions: Current Scenario And Emerging Trends In India.", *International Journal of Advanced Multidisciplinary Scientific Research*, Vol. 1, No. 6, pp.69-88.

Kar, R. N., N. Bhasin and A. Soni, (2021), "Role of mergers and acquisitions on corporate performance: emerging perspectives from Indian IT sector.", *Transnational Corporations Review*, Vol. 13, No. 3, pp.307-320.

Kar, R. N., and A. Soni, (2018), "Understanding the Dynamics of Mand As in Indian IT Sector: An Analysis of the Trends, Patterns, and Directions.", *Journal of Operations and Strategic Planning*, Vol. 1, No. 1, pp.57-76.

Kode, G. V. M., J.C. Ford, and M.M. Sutherland, (2003), "A conceptual model for evaluation of synergies in mergers and acquisitions: A critical review of the literature.", *South African Journal of Business Management*, Vol. 34, No. 1, pp.27-38.

Kothari, D., and V. Uday, (2021), "Mergers and acquisitions: A new mantra for growth during challenging times in India.", *International Tax Review*

Kramaric, T. P., T. Milun and I. Pavic, (2016), "Target Prediction in Mand A Activities in the Croatian Banking Sector.", *Journal of Financial Studies and Research*, 2016, pp. 1-11.

Kumar, N., (2009), "How emerging giants are rewriting the rules of Mand A.", *Harvard Business Review*, Vol. 87, No. 5

Kumar, R., (2009), "Post-merger corporate performance: an Indian perspective.", *Management Research News*, Vol. 32, No. 2, pp.145-157

Leepsa, N. M., and C.S. Mishra, (2017), "Predicting the Success of Mergers and Acquisitions in Manufacturing Sector in India?: A Logistic Analysis.", *Singapore Management Journal*, Vol. 6, No. 2, pp. 43-72

Lilienfeld, O. A. von., (2020), "Introducing Machine Learning?: Science and Technology Introducing Machine Learning?: Science and Technology.", *Machine Learning: Science and Technology*

Malik, M. F., M.A. Anuar, S. Khan and F. Khan, (2014), "Mergers and Acquisitions: A Conceptual Review.", *International Journal of Accounting and Financial Reporting*, Vol. 4, No. 2, p.520.

Mantravadi, P. and A.V. Reddy, (2008), "Post-Merger Performance of Acquiring Firms from Different Industries in India.", *International Research Journal of Finance and Economics*, Vol. 22, No. 22, pp.192-204

Mariana, V., (2010), "An Overview on the Determinants of Mergers and Acquisitions Waves.", *Annals of the University of Oradea?: Economic Science*, Vol. 1, No. 2, pp.390-397

Martynova, M., and L. Renneboog. (2005), "*Takeover Waves: Triggers, Performance and Motives*.", TILEC Discussion Paper, September, pp. 1-56

Martynova, M., and Renneboog, L., (2006), "*Mergers and Acquisitions in Europe*.", ECGI Working Paper Series in Finance # 114, January 2006.

Nagadevara, V., (2012), "*Prediction Models for Mergers and Acquisitions in the IT industry*.", In Proceedings of Academy of Information and Management Sciences Vol. 17.

Nakamura, H. R., (2005), "*Motives, Partner Selection and Productivity Effects of Mand As - The Pattern of Japanese Mergers and Acquisitions*", Working Paper, Stockholm School Of Economics, Sweden

Nayyar, D., (2007), "The internationalization of firms from India: Investment, mergers and acquisitions.", *Oxford Development Studies*, Vol. 36, No. 1, pp.111-131.

Ouzounis, G., Gaganis, C. and C. Zopounidis, (2009), "Prediction of acquisitions and portfolio returns.", *International Journal of Banking, Accounting and Finance*, Vol. 1, No. 4, pp.381-406

- Palepu, K. G., (1986a), "Predicting takeover targets.", *Journal of Accounting and Economics*, Vol. 8, No. 1, pp.3-35
- Palepu, K. G., (1986b), "Predicting takeover targets. A methodological and empirical analysis.", *Journal of Accounting and Economics*, Vol. 8, No. 1, pp. 3-35
- Pandya, V. U., (2017), "Mergers and Acquisitions Trends - The Indian Experience.", *International Journal of Business Administration*, Vol. 9, No. 1, pp. 44-54
- Park, K. M., and A.M. Gould, (2017), "The overlooked influence of personality, idiosyncrasy and eccentricity in corporate mergers and acquisitions: 120 years and six distinct waves.", *Journal of Management History*, Vol. 23, No. 1, pp. 7-31
- Pasiouras, F., S. Tanna and C. Zopounidis, (2007), "The identification of acquisition targets in the EU banking industry: An application of multicriteria approaches.", *International Review of Financial Analysis*, Vol. 16, No. 3, pp. 262-281
- Patel, R., (2018), "Pre and Post-Merger Financial Performance: An Indian Perspective.", *Journal of Central Banking Theory and Practice*, Vol. 7, No. 3, pp.181-200
- Pawaskar, V., (2001), "Effect of Mergers on Corporate Performance in India.", *Vikalpa: The Journal for Decision Makers*, Vol. 26, No. 1, pp.19-32
- Pillania, R. K., (2011), "Mergers and Acquisitions Strategy In India: Study of Top 100 Firms.", *Journal of Advanced Research in Management*, Vol. 2, No. 2, pp.82-84
- Powell, R. G., (2004), "Takeover Prediction Models and Portfolio Strategies: A Multinomial Approach.", *Multinational Finance Journal*, Vol. 8, No.(1-2), pp. 35-72
- Rahman, M. A., (2022), "A Critical Review of Neoclassical and Behavioural Theories of Merger Waves.", *Financial Studies*, Vol. 26, No. 1, pp.6-22
- Rajeshkumar, B., and P. Rajib, (2007), "Characteristics of merging firms in India: An empirical examination.", *Vikalpa: The Journal for Decision Makers*, Vol. 32, No. 1, pp. 27-44
- Ramakrishnan, K., (2008), "Long-term Post-merger Performance of Firms in India.", *Vikalpa: The Journal for Decision Makers*, Vol. 33, No. 2, pp. 47-63
- Ray, S., (2019), "A Quick Review of Machine Learning Algorithms. Proceedings of the International Conference on Machine Learning, Big Data, Cloud and Parallel Computing: Trends", *Perspectives and Prospects*, COMITCon 2019, pp.35-39
- Reddy, K. S., (2016), "Regulatory framework of mergers and acquisitions A review of Indian statutory compliances and policy recommendations.", *International Journal of Law and Management*, Vol. 58, No. 2, pp. 197-215
- Reddy, K. S., V.K. Nangia and R. Agrawal, (2013), "Indian economic-policy reforms, bank mergers, and lawful proposals: The ex-ante and ex-post 'lookup.'", *Journal of Policy Modeling*, Vol. 35, No. 4, pp. 601-622
- Reis, N. R., F. Carvalho, J.V. Ferreira and C. Reis, (2015), "An Overview of Three Decades of Mergers and Acquisitions Research.", *Revista Ibero-Americana de Estratégia-RIAE*, Vol. 14, No. 2
- Roger Tang, B. Y., and A.M. Metwalli, (2013), "Mergers and acquisitions in India, Pakistan and Bangladesh.", *International Journal of Commerce and Management*, Vol. 23, No. 4, pp. 327-338
- Sarkar, P., (2017), "Post Acquisition Performance of Acquiring Firms in India -a Review of Literature.", *International Journal of Engineering Sciences and Research Technology*, Vol. 6, No. 7, pp. 468-474

Schoenberg, R., (2006), "Biographical Notes: Richard Schoenberg is Senior Lecturer in Strategic Management at Cranfield University School of Management. He previously held faculty positions.", *British Journal of Management*, Vol. 17, No. 4, pp.361-370.

Shah, M. D., and S. Kannadas, (2020), "Impact of Behavioral aspects in Mergers and Acquisitions?: An Overview.", *Finance India*, Vol. XXXIV, No. 1, pp. 127-140

Shao, B., K. Asatani and I. Sakata, (2018), "*Analyzing Mergers and Acquisitions (Mand A) in Japan Using AI methods.*", The 32nd Annual Conference of the Japanese Society for Artificial Intelligence, pp. 6-8

Sharma, S., (2016), "Measuring Post Merger Performance - A Study of Metal Industry.", *International Journal of Applied Research and Studies*, Vol. 2, No. 8.

Shukla, A., and M. Gekara, (2012), "Creating Shareholders value through Mergers and Acquisitions.", *Finance India*, Vol. XXVI, No. 3, pp.859-882

Sikarwar, T., (2020), "What Determines Risk of Bankruptcy?", *Finance India*, Vol. XXXIV, No. 4, pp. 1429-1458

Singh, P., and K. Singh, (2016), "Exploring Synergies in Bank Mergers?: A Case Study.", *Finance India*, Vol. 30, No. 1, pp.141-152

Smita Meena, (2014), "Prospects of Global Mergers and Acquisitions - an Indian Overview", *IMPACT: International Journal of Research in Business Management*, Vol. 2, No. 9, pp.71-80

Soni, A., A. Chandra and S. Varma, (2020), "Impact of Mand As on Employment in the Indian Information Technology (IT) Industry.", *Indian Journal of Labour Economics*, Vol. 63, No. 2, pp. 311-329

Soni, A., R.N. Kar and N. Bhasin, (2019), "Understanding the Paradigm Shift in Strategy of Mand As in India in a Volatile Period Through Motive Analysis: Evidences from the IT Industry.", *Global Business Review*, Vol. 23, No. 5, pp. 1118-1134

Stanley, M., (2008), "*Target Equity Index Family*", In Morgan Stanley IQ, USA

Stevens, D. L., (1973), "Financial Characteristics of Merged Firms: A Multivariate Analysis.", *Journal of Financial and Quantitative Analysis*, Vol. 8, No. 2, pp. 149-158

Straub, T., S. Borzillo and G. Probst, (2012), "A decision-making framework to analyze important dimensions of Mand A performance.", *Advances in Mergers and Acquisitions*, Vol. 11, pp.199-235

Tabachnick, B. G., and L.S. Fidell, (2018), "*Using Multivariate Statistics*", 7th Edition, Pearson, USA

Taussig, R. A., and S.L. Hayes III, (1968), "Cash Take-Overs and Accounting Valuations.", *Accounting Review*, Vol. 43, No. 1, pp. 68

Tsagkanos, A., E. Koumanakos, A. Georgopoulos and C. Siriopoulos, (2012), "Prediction of Greek takeover targets via bootstrapping on mixed logit model.", *Review of Accounting and Finance*, 2012

Tunyi, A., (2019), "Firm size, market conditions and takeover likelihood.", *Review of Accounting and Finance*, Vol. 18, No. 3, pp. 483-507

Tunyi, A. A., (2014), "*Takeover Likelihood Modelling: Target Profile and Portfolio Returns*", Working Paper, University of Glasgow, UK

Tunyi, A. A., (2021), "Fifty years of research on takeover target prediction?: A historical perspective.", *Qualitative Research in Financial Markets*, Vol. 13, No. 4, pp. 482-502

Vazirani, N., (2012), "Mergers and Acquisitions Performance Evaluation - A Literature Review.", *SIES Journal of Management*, Vol. 8, No. 2, pp. 37-42

Verma, N., and R. Sharma, (2013), "Impact of mergers on firm's performance?: An analysis of the Indian telecom industry.", *Asian Journal of Management Research*, Vol. 4, No. 1, pp. 163-175

Very, P., E. Metais, S. Lo and P.G. Hourquet, (2012), "Can we predict Mand A activity?" *Advances in Mergers and Acquisitions*, Vol. 11, pp.1-32

Victor, V.E.C., (2018), "*The Predictability of Nordic M & A Targets*", Working Paper, Hanken School of Economics, Finland

Vipin, H., and M. Manmadhan, (2022), "*Financial Implication of Merger and Acquisition on the Performance of Companies*", Vol. 12, No. 1, pp.1-10.

Yaghoubi, R., M. Yaghoubi, S. Locke and J. Gibb, (2016), "Mergers and acquisitions: a review. Part 1", *Studies in Economics and Finance*, Vol. 33, No. 1, pp. 147-188

Yang, C. S., C. .P. Wei and Y.H. Chiang, (2014), "Exploiting technological indicators for effective technology merger and acquisition (M&A) predictions", *Decision Sciences*, Vol. 45, No. 1, pp. 147-174

Zollo, M., and D. Meier, (2008), "What is Mand A performance?", *Academy of Management Perspectives*, Vol. 22, No. 3, pp. 55-77