Structural Risk Modelling- Indian Mergers & Acquisitions

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Abstract

Primary survey data of Indian M&A transactions were used to test the hypotheses on latent risk factors. A structural equation model (SEM) model was estimated to assess the composite risk factors considering financial, non-financial, and sustainability risks. The results reveal that reforms in management and human resources can control up to 23 percent of overall risk. Ensuring appropriate technology will take away another 22 percent risk. Macroeconomic stability can reduce risks of the firms by 12 percent. Then sustainability factors reduce risk by 11 percent and another 11 percent of risk can be controlled by a sound financial sector. Thus overall novelty of this research is to critically evaluate the existing framework and propose a holistic M&A risk assessment model that captures contemporary technical, management and HR, economic issues underlying challenges of business enterprises in India. The research gap in assessing sustainability M&A risks is an extended version of the existing M&A synergy gain theory.

Keywords: Rating and Rating Agencies, Financial Risk Management, Mergers & Acquisitions,

JEL Classification: G24, G32, G34

1. Introduction

Cross-border mergers and acquisitions (M&A) play a significant role in domestic and global context by providing various synergies to both target and acquirer companies. Technological advancement/disruptions, coupled with the fast-changing economic and business environment, make it imperative for a company to focus on an inorganic growth path through the M&A route. Global and domestic corporations need to become resilient with the complexity of an undeniable growth in top and bottom lines of business from promoters, shareholders, and other stakeholders. There is not much choice left for them but to grow or perish. Even if the corporation is on the right path, it may still get run over by the new-age start-up, fin-tech, business disruptions syndrome. Currently this was accentuated with the Covid-19 pandemic and new age technological disruptions like generative AI/AR and VR.

Normally in a typical M&A transaction, due diligence of financial, and legal factors are well analyzed before getting into the M&A. Financial factors like Market Capitalization, Deal Size,

Enterprise Value, EBITDA, P/E Ratio, and Market to Book, Free Cash Flows, Financial Leverage, Liquidity, Sales Growth, and Market Price per Share are used to compare the pre and post deal to arrive at the performance of the M&A deal. Legal due diligence is carried out to assess the compliance and documentation of various processes.

However, non-financial factors like economy, industry, technology, and culture also impact the performance of the deals. Currently, the focus of ESG, climate risk, has become one more challenge in identifying measures of risks, and in analyzing the impact of these risks on the performance of the M&A transactions.

It is in this context, that the objective of this research study is to create a holistic M&A sustainability risk assessment model that enables to identification of gaps, measures, and predicts the performance of M&As. Based on the computed scores, and gaps identified, the model offers opportunities to find effective countervailing measures enabling increasing scores and thereby enabling higher success rate. Intuitive each of the risk factors can be explained as follows.

Finance: Reforms in the financial sector in recent years have improved the quality of assets in the balance sheet of the banks. Also, the structure of the financial sector has been gradually moving away from the domination of banks to long-term capital sources including fund management, equities, joint ventures, and bond markets. With newly opened Adhar bank accounts millions of low-income and poor Indians have been brought into the financial networks. These reforms have reduced the transaction cost of finance and improved the liquidity position required by the speedy growth of the economy.

Sustainability: India's growth has been very imbalanced across states or economic regions. Five southern states– Telangana, Andhra, Karnataka, Tamil Nadu, and Maharashtra have grown a lot faster than states in the Northern or Eastern regions of the country. High gaps in the dynamics of business, investment, and job markets and level of incomes, make sustainability factors are quite important for domestic or foreign investors. Such dualistic patterns of economic growth are sources of region-specific risks.

Technology: India's IT companies are leading exporters in the global markets but the other manufacturing and agriculture sectors still operate on traditional technologies. Adoption of new

technical processes and ideas faces challenges either due to institutional setup or levels of skill of the working people. Enhancing mass-level productivity is not possible without breakthroughs in technology. The uneven development of technology across production sectors or regions creates technology-specific risks to potential investors.

Management and Human Resources: Quality of management can make or break a business. It is very important factor for success of M & A deal. Only 100 million of over 1,000 million of working age population is skilled in India. There is a huge gender gap in the employment situation and prospects across states and sectors of the Indian economy. Labor laws are not liberal or efficient – nonwage costs are often quite high. These raise the risks to potential investors in the economy.

Macroeconomic risks: Macroeconomic stability is essential for business and it has become better in recent years. In the past uneven rates of economic growth, high inflation, frequency of business cycles, industry cycles, high inflation and interest rates, and fluctuations in exchange rates had raised risks to businesses depressed M & A activities (Bhattarai, Prasuna and Kumar 2021). Hence, impacts of macroeconomic variables must be assessed correctly in M& A risk evaluation.

2. Theoretical Background

2.1. Economic Theories of Cross-border M&As

Dunning (1980) in his paper used three parameters of Ownership, Location, and Internalization advantages to the Internalization theory to explain international business activities. Mathews (2002, 2006) proposed the Linkage, Learning, and Leverage (LLL)-framework, which explained that the international expansion of emerging country multinationals is driven by resource linkage, leverage, and learning.

2.2.Synergy Theories

Various theories of M&A namely Efficiency theory, synergy gain theory, market power, strategic realignment, free cash flow, tax considerations, redistribution, hubris hypothesis have been studies by various researchers. Amihud et al. (1986), Romano (1992), Lang and Stulz (1994), Weston et al. (2010) and De Pamphilis (2010). Caiazza, S., Galloppo, G., & Paimanova, V. (2021) analyzed corporate social responsibility in the context of the modern stakeholder theory of conflict between ethical behavior and profits. Maung, Wilson, and Yu (2020) studied the behavior of socially

responsible firm's acquisition premiums using cross-country sample data from 2007-17. It was found that ESG incidents tend to have lower premiums.

2.3.SEM models of risk assessment

A research study by Mardani, Kannan, Hooker, Ozkul, S., Alrasheedi & Tirkolaee (2020) presented a holistic review of the application of Structural Equation Models (SEM) in the context of sustainable and green supply chain management. Lewis & Bozos (2019) studied how to mitigate cross-border uncertainties in global mergers and acquisitions using integrated risk management measures using deal-level risk. Chang & Cho (2017) examined post-merger risks in information technology firms during short and long-term horizons. Ren & Li (2017), addressed the risk evaluation of recent measures undertaken by the Chinese government in its healthcare system to promote M&A. Rath & Durand (2015) research used the Fama-French-Carhart four-factor model and decomposed size, value, and momentum premia. The study suggested that portfolio sensitivity is associated with total liabilities and leverage. Finch and French, (2011) study used structural equation modeling to assess the performance of latent variables by conducting multiple indicators and multiple cause models which is a flexible tool to test the effectiveness of observed and latent variables. Dell'Anno, R. (2007), estimated the shadow economy in Portuguese using multiple indicators and multiple causes model. Causes and benchmarks to estimate the shadow economy were discussed. Krishnakumar & Nagar's (2008) study reviewed various multidimensional models and indices constructed using principal component and latent variables models and came out with the statistical properties and results. Rabe-Hesketh, Skrondal, & Pickles (2004), tried to create a unified multilevel SEM called generalized linear mixed models and SEM that consists of a response model and structural model for latent variables. Banker, Charnes & Cooper (1984) used the data envelopment (DEA) method, and mathematical programming authors examined how management can plan and select various courses of action and evaluate each action compared to its accomplishment. **Eccles** et al (2014, 2012) study examined role of sustainability on M&A performance and long-term value creation.

Research Questions

1. What are the key risks for a company considering an M&A?

2. How are sustainability risks addressed in process of M & A?
3. Is there a holistic model to measure overall risks including ESG risks before an M & A?

4. Data & Methods

4.1.Primary data

M&A transactions that took place in the Indian context were identified. The sample size was 150 deals that took place from 1996 to 2020. The survey questionnaire was prepared to capture respondent's experience during the M&A transaction. Based on the proposed model, five types of risks and a set of factors that captures each type of risk were converted as questions to get them filled by the respondents. This survey was carried out during 2019-2020 with the professionals working in M&A teams from Indian companies. Filled survey forms were entered in Excel format and analysis was carried out.

4.3. Hypotheses development

The following five hypotheses were framed and tested using the primary survey data.

H_1- Financial risks do not significantly impact the probability of success

Various research studies tested the financial performance of the firm post-merger and came out with inferences like positive impacts in the short-run and in some cases, the impact was limited to the merger announcements only.

H_2 – Technology risks do not significantly impact the probability of success

Post-merger technology integration challenges were faced by many firms and hence had huge negative effects on the performance of the merged entity..

H_3 Management /Leadership risks do not significantly impact the probability of success

It has been found that the role of top management and leadership is critical in obtaining success of the deal. Change in leadership, and multiple positions in the merged entity create confusion and lead to major risks for the firm to achieve the targeted success.

H_4 – Sustainability risk does not significantly impact on the performance of the M&A transaction.

When the firm plans strategy of M&A and studies the sustainable practices of the target entity, it can lead to positive financial performance. It is critical to assess if ESG risks are taken into account in the estimated model.

H_5 – Macroeconomic risks do not significantly impact the performance of M&A

Economic growth outlook, rate of inflation, interest rates, and exchange rates are critical factors to be investigated before getting into cross-border M&A deals. Hence, economic variables that impact the performance of the deal were also captured.

4.4 Methodology:

The method of estimation includes identifying a set of five risk factors associated to the M&A strategy that applies to the deal or M&A transaction. Each risk factor has various sub-factors that add up to the composite score of the specified risk. Then aggregate risk score is measured by a latent variable that is arrived at by adding five composite latent scores of five types of risks. Furthermore, impact of each computed composite score is evaluated against the total risk score at an aggregate level. The proposed method of evaluating M&A risk assessment of the deals thus includes the following steps:

- Identifying a set of risks associated to the M&A transaction.
- Risks include financial, non-financial data like technology, leadership & management, macroeconomic data, sustainability ESG factors and practices
- Assigning and evaluating a weight for a risk factor comprises:
- Identifying a set of sub-factors for each of the risk factor.
- Assigning a weight to a sub-factor.
- Aggregating the weight of each sub-factor of the risk factor to obtain the composite weight of the risk factor and total score of five risks.
- Grading the M&A risk applicable to the transaction based on the evaluated score.

- The model has five types of risks namely denoted by
    1. Financial X_1
    2. Sustainability – X_2
    3. Technology – X_3
    4. Leadership and management X_4

5. Macroeconomic X_5

Each of these risks has sub-factors that can be measured and aggregated namely:

Financial risk has seven sub-factors – denoting X_{11} to X_{17}

1. **Financial risk factors**
   i) Nature of deal
   ii) EV/EBITDA
   iii) Valuation parameter used
   iv) Current profit/Loss
   v) Deal Value USD million
   vi) Share Price
   vii) Revenue

Technology risk has nine sub-factors – denoting X_{21} to X_{29}

2. **Technology risk factors**
   i. Current technology
   ii. New Technology
   iii. Adaptability
   iv. Patents
   v. R&D expenses required
   vi. Replacement Cost
   vii. Sustainability of technology
   viii. Cyber security risks
   ix. Lifespan of technology

Management risk has seven sub-factors – denoting X_{31} to X_{37}

3. **Management / Leadership risk factors**
   i. Current Leadership
   ii. New Leadership
   iii. Strategic Sync
   iv. Compensation sync
   v. Process sync
   vi. Policy integration
   vii. Culture Sync

Sustainability risk has five sub-factors – denoting X_{41} to X_{45}

4. **Sustainability risk factors**
   i. Environmental factors
   ii. Social Factors
   iii. Governance

iv. Climate risk
v. Non- Compliance -fines

Macroeconomic risk has seven sub-factors – denoting X_{51} to X_{57}

5. **Macroeconomic risk factors**
   i. Economic growth
   ii. Inflation
   iii. Nominal Interest rates
   iv. Exchange Rate
   v. Industry Prospects
   vi. Government Policies
   vii. Skilled workers/Employability conditions

The questionnaire was floated to be filled out by the respondents. Analysis of survey data was carried out using the SPSS software.

4.5. Specification of M &A Risk Scoring Model

Equations (1) to (5) provide an analytical expression for each composite risk score. Equations (6) to (10) specify these direct and indirect links to risk factors. The model equations in matrix form in (11) and (12) contains the analytical solution for the structural equations in our model.

Specification -1 of the SEM

The composite financial index is constructed from 7 financial factors as Nature of the deal, EV/EBITDA, Valuation parameter used, Current profit/Loss, Deal Value USD million, Share Price, and Revenue with parameter φ_i being the weight of each sub-factor towards the Fin composite as:

$$Fin = \sum_{i=1}^{7} \varphi_i Fin_i \qquad (1)$$

Composite Tech index is constructed from 9 technical factors such as Current technology, New Technology, Adaptability, Patents, R&D expenses required, Replacement Cost, Sustainability of technology, Environment factors/risks, Lifespan of technology with parameter τ_i being weight of each sub-factor towards the Tech composite such as:

$$Tech = \sum_{i=1}^{9} \tau_i Tec_i \qquad (2)$$

Composite management and leadership index is constructed from 7 management and leadership factors such as Current Leadership, New Leadership, Strategic Sync, Compensation sync, Process sync, Policy integration, Culture Sync with parameter μ_i being weight of each sub-factor towards the management and HR composite as:

$$MgtHR = \sum_{i=1}^{7} \mu_i MgtHR_i \quad (3)$$

Composite sustainability index is constructed from 5 sub-factors, Environment, social, governance, climate risk, non-compliance fines being weight of each sub-factor towards the sustainability composite as

$$SUS = \sum_{i=1}^{5} \gamma_i Sus_i \quad (4)$$

Composite economic index is constructed from 7 macroeconomics factors such as Economic growth, Inflation, Nominal Interest rates , Exchange Rate, Industry Prospects, Government Policies, Skilled workers/Employability conditions with parameter ϵ_i being weight of each sub-factor towards the Eco composite as

$$Eco = \sum_{i=1}^{7} \epsilon_i Eco_i \quad (5)$$

Then risk is modeled as a latent factor from above five composite factors representing micro and macro-economic factors that firms face in the economy.

Specification 2

The SEM model equations to derive the direct effect can be explained as follows:

$$K_1 + A.K_1 + E.K_1 + F.K_1 + G.K_1 = Fin.R \quad (6)$$

$$AK_2 + K_2 + B.K_2 + H.K_2 + I.K_2 = Tech.R \quad (7)$$

$$CK_3 + B.K_3 + K_3 + E.K_3 + H.K_3 = MgtHR.R \quad (8)$$

$$F.K_4 + H.K_4 + C.K_4 + K_4 + D.K_4 = Sus.R \quad (9)$$

$$G.K_5 + D.K_5 + J.K_5 + I.K_5 + K_5 = Eco.R \quad (10)$$

$$\begin{bmatrix} 1 & A & E & F & G \\ A & 1 & B & H & I \\ C & B & I & E & H \\ F & H & C & I & D \\ G & D & J & I & 1 \end{bmatrix} \begin{bmatrix} K_1 \\ K_2 \\ K_3 \\ K_4 \\ K_5 \end{bmatrix} = \begin{bmatrix} Fin.R \\ Tech.R \\ MgtHR.R \\ Sus.R \\ Eco.R \end{bmatrix} \quad (11)$$

Solution

$$\begin{bmatrix} K_1 \\ K_2 \\ K_3 \\ K_4 \\ K_5 \end{bmatrix} = \begin{bmatrix} 1 & A & E & F & G \\ A & 1 & B & H & I \\ C & B & I & E & H \\ F & H & C & I & D \\ G & D & J & I & 1 \end{bmatrix}^{-1} \begin{bmatrix} Fin.R \\ Tech.R \\ MgtHR.R \\ Sus\ R \\ Eco.R \end{bmatrix} \quad (12)$$

5.Results & Discussion

A survey questionnaire was prepared, and data were collected on M&A transactions capturing the responses from the corporate professionals who have been working in this domain. The analysis was carried out with principal components, factor analysis, reliability tests, and regression analysis were carried out. The summary of results presented in the path diagram as given below.

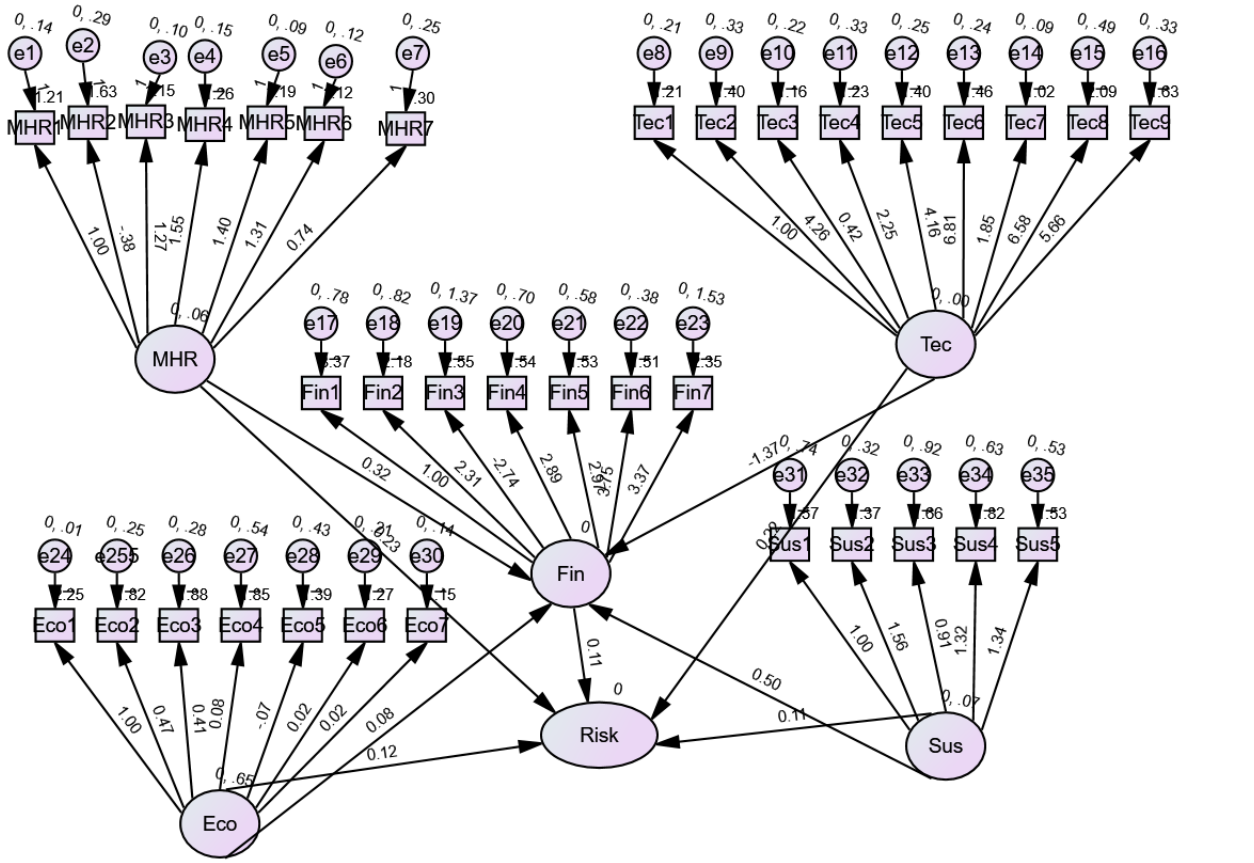

Fig:1 Model results: Estimates of structural equation model in a path diagram

Fit between model and obverved covariance were statistically significant in this SEM. Summary of model fit statistics are were CMIN=686, DF= 265, CMIN/df = 2.58, Goodness of Fit Index (GFI)=0.958, Adjusted Goodness of Fit Index (AGFI) =0.944

R^2

Variable	R^2
Finance	0.614

Overall test results are statistically significant confirming the reliability of covariance of model variables.

Model tests

Label	X^2	df	P
User Model	686	265	< .001
Baseline Model	1276	300	< .001

After a careful study of interdependence through the SEM estimations, risk of a firm that is considering a M & A deal is a latent variable and that is determined by five factors as follows:

$$\text{Risk} = (0) + (0.12)\,\text{Eco} + (0.11)\,\text{Fin} + (0.23)\,\text{MHR} + (0.11)\,\text{Sus} + (0.22)\,\text{Tec} + \text{errors}$$

The results of the estimated model of latent risk variables mentioned above reveals that about 0 percent risks are measurable in terms of factors outlined above. Predominant risk of a firm originates from the management and human resources (0.23), followed by technology (0.22), macroeconomic factors (0.12), sustainability factors (0.11) and financial factors (0.11).
Splitting the risk of a firm contemplating a deal into its constituent parts as above is the main contribution of this study.

Mergers & Acquisitions (M&A) have been at the center of corporate strategy to achieve inorganic growth, witnessing an increasing trend in volume and value during the past seven decades. Various theoretical and empirical studies analyzed M&A is terms of financial performance. While some studies proved to be successful and other studies concluded that failure to achieve the expected outcomes of M&A transactions were due to post-integration challenges. The increased focus on sustainable development goals (SDG) implementation and measurement of environmental, social, governance (ESG), and climate risk aspects, led to an investigation of sustainable practices in M&A domain. Intentions of both acquiring and target companies to adopt to sustainable goals have become important for empirical analysis as well as revising the theoretical framework.

6. Discussion

Research question 1 (RQ1) specified as what are the key risk of a M&A was addressed by categorizing key risks into five major risks in terms of Financial, sustainability, Technology, Leadership and management, and Macroeconomic risks. These risks were quantified by the structural equation model from the responses provided by the survey participants.

(RQ 2) How are we addressing these risks was analysed by the sub-factors that determine the level of each of the five risks identified as above. The responses for these sub-factors were collated and using the weights at sub-factor level and each factor level, the maximum score and computed

scores were used to construct a latent variable which shows links of each risk factor on the aggregate risk faced by the firm that is contemplating a deal.

(RQ 3) Are there any intervening mechanism to address risks was derived with the help of allocation of grades to the computed scores for each of the deal. Based on the estimated scores and grades the management can decide the course of action in terms of probability of success and going ahead with the deal or dropping or calibrating the factors to enhance the probability of success.

7. Conclusion, Implications, limitations, and future research direction

7.1 Conclusion

We constructed a two-level nested model to measure the aggregate risk taking five important factors relating to finance, management and human resources, technology, geography, and macroeconomic risks. Risk level of each firm can be estimated using the contribution of volatility in each of these factors to the unobserved value of aggregate risks. We also explain how external shocks to such unobserved risk causes fluctuations in these components. These results are based on results from the structural equation model estimated from the survey data of 150 firms engaged in cross boarder or local M&A activities in India. This model can predict M & A possibility for a firm based on the aggregate measure of latent risk scores relevant to it prevailing in the market. Model is comprehensive, takes accounts of most factors affecting dealings of such firms.

This implies that reforms in management and human resources can control up to 23 percent of overall risk. Ensuring appropriate technology will take away another 22 percent risk. Macroeconomic stability can reduce risks of the firms by 12 percent. Then sustainability factors reduce risk by 11 percent and another 11 percent of risk can be controlled by a sound financial sector.

Therefore, for each firm i, above estimation makes it possible to estimate unobserved risk. As in our survey each firm has its own structure of these four components and thus will have different measures of risk as shown in the estimation of risk scoring SEM model section. In theory M & A

deal occurs when the aggregate risk is lower than certain cut-off points set and followed by policy makers in the corporate world.

7.2. Managerial Implications

Allocation of Grades

Based on the computed risk scores, manager can decide the plan of action in terms of going ahead with the deal, drop the deal or try to rework on the factors that cause high risk and thereby try to increase the probability of success of the deal.

- AAA – Score 71 and above - Probability of success is high
- AA – Score 65-70 - Probability of success is moderate
- BBB – Score 60-64 - Probability of success is Low
- BB – Score 55-59 – Above average
- CCC – Score 50-54 – Below average
- CC - Score 45-49
- Score of 44 and below
- UR – kept on review
- UR+ – scope for improvement
- UR- - scope for improvement is low

Unobserved risks, unknown unknows, may affect risk components as well causing on biases.

7.3. Limitations and Scope for Future Research

Both theoretical and empirical research on M&A being complex and dynamic, a holistic approach of assessing its risks and taking intervening measures is important for the corporate leadership to manage business sustainability. Hence the assessment of risks prior to the M&A transaction is vital both for the corporate as well as the stakeholders. Regulators also will have some insight and can track the risks associated with mega deals and avoiding their adverse effects on the industry and country. As risk rating models are popularly used for country risk,

credit risk, operational risk and finance risks, a holistic model for M&A risks must be evolved and implemented to ensure transparency and accountability.

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Appendix 1: Survey Questionnaire

(Academic/Research Perspective)

Purpose of the Survey: To study Sustainable M&A practices adopted by Indian Corporate firms.

Please tick the choice applicable. Specify the deal name.

1. What is the number of deals conducted during past three years?
   a) less than 5
   b) 5-10
   c) 10 - 15
   d) 15 and above

2. Do you have a separate M&A Division or Unit at Group level? (Yes/ No)
3. Do you have a formal M&A policy for conducting deals? (Yes/ No)
4. Does your risk management policy specify the quantum of risk cover that needs to be undertaken while examining M&A deals? (Yes/ No)
5. How do you define success of a M&A deal? (share price increase/revenue increase/market entry/Technology synergy/any other _____)
6. Over the past 12 months, how many of your M&A deals have been proved profitable? (No. of successful deals as a % of the total)

7. How many geographies/ currencies did you conduct M&A deals? (1/2/3 or more _____)
8. What is the core objective of M&A strategy? (Strategic/ Financial/Technology/Market entry)
9. What is the approximate time involved in identifying and closing a deal (6/9/12 or more months)
10. Nature of the deal
    a) JV
    b) Merger
    c) De-merger
    d) Equity Purchase

11. Financial Parameters / Synergy Factors

    i) EV/EBITDA
        a) 0
        b) 1-3
        c) 5-7
        d) 7 and above

i) Valuation parameter used
    a) DCF
    b) NAV
    c) PBV
    d) P/E
    e) CCM

ii) Current profit/Loss
    a) Above industry average
    b) Below industry average
    c) Average
    d) Not available

iii) Deal Value USD mln
    a) 50-100
    b) 100-300
    c) 300-500
    d) 500 and above

iv) Share Price
    a) Increased
    b) Decreased
    c) Neutral
    d) Not available

v) Revenue
   a) Positive
   b) Negative
   c) Neutral
   d) Not available

vi) Customers/clients
   a) New additions
   b) Neutral
   c) No additions
   d) Not available

vii) Suppliers
   a) Additions
   b) Attrition
   c) Neutral
   d) Not available

12. Technology Synergy Factors

x. Current technology
   a) Can be used
   b) Partially be used

xi. New Technology
   a) Completely new
   b) Licensed

xii. Adaptability
   a) Easy
   b) Difficult

xiii. Patents
   a) Existing
   b) Not existing

xiv. R&D expenses required
   a) Yes
   b) No

xv. Replacement Cost
   a) Yes
   b) No

xvi. Sustainability of technology
   a) Yes
   b) No

xvii. Environment factors/risks
   a) High
   b) Medium

c) Low

xviii. Lifespan of technology
   a) High
   b) Medium
   c) Low

13. Management / Leadership synergy Factors

viii. Current Leadership
   a) Capable of handling
   b) Needs to be replaced

ix. New Leadership
   a) Taken from outside
   b) Groomed internally

x. Strategic Sync
   a) Yes
   b) No

xi. Compensation sync
   a) Yes
   b) No

xii. Process sync
   a) Yes
   b) No

xiii. Policy integration
   a) Yes
   b) No

xiv. Integration-related issues handling HR Accounting, Finance- treasury, banking management, Media management Town hall addresses
   a) Above satisfactorily
   b) Satisfactory
   c) Below satisfactorily
   d) Cannot say

xv. Critical documentation process like BOD constitution, Non- compete/ Non-solicitation related
   a) Very well
   b) Satisfactorily
   c) Somewhat satisfactorily
   d) Cannot say

xvi. Culture Sync
   a) Yes
   b) No

14. Sustainability synergy and factors

vi. Environmental measures
   a) Energy efficiency
   b) Waste management.
   c) Biodiversity
   d) Air pollution

vii. Social measures
   a. People With Disabilities policy
   b. Gender pay gap
   c. Employee benefits
   d. Health policies

viii. Governance measures
   a. Diversity on Board
   b. Anti bribery policies
   c. Whistle blower policies.
   d. CSR linked to ESG measures

ix. Climate Risk
   a) Identification
   b) Measurement
   c) Actions to mitigate risks.
   d) Impact analysis of measures

x. Non compliance - fines
   a) Environmental fines
   b) Stakeholder activism
   c) Regulatory filings
   d) Employee awareness measures

xi. Sustainability reporting
   a) Yes
   b) No
   c) Partially

xii. Timelines of sustainability transition
   a. 1-3 years
   b. 4-5 years
   c. Cannot say

15. Macroeconomic Factors

viii. Economic growth
   a) 0-3%

b) 3-5%
c) 5-8%

ix. Inflation
a) 0-3%
b) 3-5%
c) 5-8%

x. Nominal Interest rates
a) 0-3%
b) 3-8%
c) 8% and above

xi. Exchange Rate
a) Appreciate
b) Depreciate
c) Neutral

xii. Industry Prospects
a) Growth oriented
b) Stagnant
c) Recovery

xiii. Government Policies
a) Conducive
b) Non conducive

xiv. Skilled workers/Employability conditions
a) Optimistic
b) Pessimistic

Suggest any other parameter that is important and not considered here

Please list any three non-financial parameters that are important in your view:

1.

2.

3.

Name of the Respondent:

Affiliation:

Designation:

Email ID:

Appendix 2: List of M&A Deals used for Survey

Sl No	Parent Company	Merger/ Acquired/Demerger/JV
1	Kraft Foods -Us	Cadbury -UK
2	Google	Motorola phone business
3	P&G	Gillette
4	Facebook	Whatsapp and Instagram
5	Diageo	United Breweries
6	Tech Mahindra	Satyam
7	Etihad	Jet airways
8	Vedanta	Cairn India
9	Aditya Birla Nuvo Ltd	Idea Cellular, Apollo briking, pantaloon apparel business
10	Lafarge DLF	Gujarat Ambuja
11	Murdoch	Dow Jones
12	Gujarat ambuja	Holcim
13	Tata	Chores
14	Hindalco	Novellis
15	Bombay Dyeing	Great Eastern(Mahindra Holidays)
16	Forbes Gokak	Fall Industries
17	Godrej Consumers	GHPL
18	Airtel	Zain
19	Asian paints	Choksey- Akzo Nobel former UK ICI
20	United Spirits	Diageo
21	Deccan airlines	Kingfisher airlines
22	Jaypee Hydropower	Reliance
23	Pantaloon	Aditya Birla Nuvo
24	Ranbaxy	Daiichi Sankyo
25	Daiichi Sankyo	Sun Pharma
26	L&T	Non core sell
27	Tata	Tata oil mills, lakme, Hitech
28	Hutchison	Sale of telecom assets
29	Bank of Madura	ICICI bank

30	Reliance stake in	L&T to Grasim
31	Koutons	Fashion United
32	Shubiksha	Blue green constructions
33	Air deccan	Kingfisher airlines
34	Henkel	Jyothi labs
35	Zandu	Emami
36	Uniliver	Brands acquisitions Horlicks from GSK
37	ICICI	ICICI bank
38	Infosys	Brand valuation
39	Times bank by TOI to	HDFC
40	Spice telecom	Idea cellular, Apollo briking, pantaloon apparel business
41	Sprint US telecom service provider	Softbank Japan telecom operator
42	Nicholas Piramal	Rohne Poulenc from Aventis Pharma
43	Mothernson Sumi-Joint venture with Sumitomo Japan as auto-ancillary to maruti Udyog	Visiocorp in 2009 for $39 mln, Peguform in 2011 from Euro for 140 mln
44	Dr. Reddys Laboratories	Beta Pharma AG in 2006 for Euro 480 mln
45	Mittal steel	Arcelor
46	Suzlon Energy	RE power German
47	Suzlon Energy	Hansen Transmissions of Belgium
48	United Breweries	Shaw Wallace
49	TCS	CMC
50	Caterpillar	Siwei
51	HP	Compaq Computer Corporation
52	HDFC	Appolo Munich Health
53	Mahindra	OFD Acquisition
54	Mahindra	Aerostaff Acquisition
55	Mahindra	Bramont Acquisition
56	Mahindra	BSA Acquisition
57	Mahindra	Erkunt Acquisition
58	Mahindra	Gamaya Acquisition
59	Mahindra	Hirsarlar Acquisition
60	Mahindra	Mac Boutique Acquisition
61	Mahindra	Mitsubishi Acquisition
62	Mahindra	Pininfarina Acquisition
63	Mahindra	Peugeot Acquisition
64	Mahindra	Sampo Rosenlew Acquisition

65	Mahindra	Ssangyong Acquisition
66	Mahindra	Holiday Club resorts Oy Acquisition
67	Mahindra	UNIVEG and Mahindra Shubhlabh Joint Venture
68	Mahindra	JV with HZPC
69	Mahindra	Alliance with CE
70	Mahindra	Mahindra Defense JV with BAE
71	Mahindra	JV of Kinetic
72	Mahindra	Acquisition of Pubjab Tractors
73	Petrol Complex Pte Ltd	Essar Oil Ltd
74	Vodafone Grp Plc	Hutchison Essar Ltd
75	Vodafone Grp PLC-Vodafone Asts	Idea Cellular Ltd-Mobile Bus
76	Bharti Airtel Ltd	MTN Group Ltd
77	Bharti Airtel Ltd	Zain Africa BV
78	BP PLC	Reliance Industries Ltd-21 Oil
79	MTN Group Ltd	Bharti Airtel Ltd
80	Shareholders	Reliance Inds Ltd-Telecom Bus
81	Oil & Natural Gas Corp Ltd	Hindustan Petro Corp Ltd
82	Reliance Commun Ventures Ltd	Reliance Infocomm Ltd
83	ONGC Videsh Ltd	NCOC BV
84	Aircel Ltd	Reliance Commun-Wireless Bus
85	Investor Group	Republic of Venezuela-Carabobo
86	Vedanta Resources PLC	Cairn India Ltd
87	Sesa Goa Ltd	Sterlite Industries(India)Ltd
88	Abbott Laboratories	Piramal Healthcare Ltd-
89	Unilever PLC	Hindustan Unilever Ltd
90	Daiichi Sankyo Co Ltd	Ranbaxy Laboratories Ltd
91	Vodafone Grp Plc	Hutchison Essar Ltd
92	Sun Pharmaceutical Inds Ltd	Ranbaxy Laboratories Ltd
93	HDFC Standard Life Insurance	Max Finl Svcs Ltd-Life Ins Bus
94	Adani Transmission Ltd	Reliance Infrastructure Ltd-Mu
95	Grasim Industries Ltd	Aditya Birla Nuvo Ltd
96	Investor Group	Sabiha Gokcen International
97	NTT DOCOMO Inc	Tata Teleservices Ltd
98	ONGC Videsh Ltd	Rovuma Offshore Area 1
99	Sterlite Industries(India)Ltd	ASARCO LLC
100	Undisclosed SPV	Videocon Mozambique Rovuma 1
101	UltraTech Cement Ltd	Jaiprakash Assoc Ltd-Cement
102	Kotak Mahindra Bank Ltd	ING Vysya Bank Ltd
103	IndusInd Bank Ltd	Bharat Financial Inclusion Ltd
104	HDFC Bank Ltd	Centurion Bank of Punjab Ltd
105	Tata Motors Ltd	Jaguar Cars Ltd

106	Apollo Tyres Ltd	Cooper Tire & Rubber Co
107	Vedanta Ltd	Cairn India Ltd
108	Reliance Industries Ltd	Reliance Industries Ltd
109	Infosys Ltd	Infosys Ltd
110	ONGC Videsh Ltd	Akpo
111	AAA Project Ventures Pvt Ltd	Reliance Energy Ltd
112	American Tower Corp	Viom Networks Ltd
113	Mundra Port & Special Eco Zone	Abbot Point Coal Terminal
114	Ratnagiri Gas & Power Pvt Ltd	Dabhol Power Co
115	Ambuja Cements Ltd	Holcim(India)Pvt Ltd
116	Relay BV	United Spirits Ltd
117	Mylan Inc	Agila Specialties Pvt Ltd
118	Investor Group	Housing Development Finance
119	Reliance Capital Ventures Ltd	Reliance Capital Ltd
120	The Indian Hotels Co Ltd	Orient-Express Hotels Ltd
121	Investor Group	Axis Bank Ltd
122	Wipro Ltd	Denim Group

Note/: Rest of the deals 28 were confidential and hence names are not included.