

Measuring and Classifying Financial Competitiveness of IT Companies in India: An Empirical Investigation

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Abstract:

With rising competition and continuous technological advancement, Financial Competitiveness (FC) has become a prerequisite for ensuring firm survival and progress. This study evaluates FC of Indian Information Technology companies from 2020 to 2025. Factor analysis was employed to appraise comprehensive FC scores. Solvency and profitability appeared as most influential drivers of FC, implying that firms with profit generating ability and robust financial management are better positioned to preserve their competitive position. Findings contribute by providing novel perspectives that equip policymakers and managers in this sector to employ practical insights thereby ensuring financial stability and firms' strategic competitive acumen.

Keywords: generating, specifically, Competitiveness, financially, Academicall.

Introduction:

One of most the dynamic and influential sectors in global economy, the Indian Information Technology (IT) sector boasts of driving innovation and productivity of the economy, both selectively and in general. Since economic liberalization and specifically since the beginning of twenty first century, Indian IT has been shaping the country's economic growth for decades now. It contributes significantly to the nation's Gross Domestic Product (GDP), to the tune of around 8%, facilitates employment generation and enhances India's foreign exchange reserves by attracting investments and promoting country's exports (Khan and Musa, 2018; Raju et al., 2025). India IT has evolved from providing mere basic software development services to offering comprehensive digital solutions including cloud computing, artificial intelligence, cybersecurity and enterprise software services (India Brand Equity Foundation, 2024). These Indian companies have created a niche for itself on the global stage, which makes it all the more necessary for them to focus on their financial performance metrics to allow them to stay competitive on the global stage (Joshi and Aggarwal, 2024). Also, alongside the intensified competition among domestic players, making Financial Competitiveness (FC) a critical determinant of study for ensuring sustainability and growth, has become imperative for these companies to stay ahead in the race and ensure their functional viability.

Academically, FC is the firms' ability to generate superior returns, manage costs effectively, optimize capital structure and sustain profitability. It is the innovative, practical and operational capabilities of organisations in order to derive benefits and better profit in their functioning

(Ahlawat et al., 2024). FC drives companies to perform better and gain a strategic advantage vis-a-vis its peers, which both directly and indirectly helps in performing better, gain market share and optimise profits (Yahaya, 2019). A financially competitive firm not only preserves strong profitability and liquidity, but also manages and overcomes obstacles generated by market volatility and technological disruptions. FC is a required and desirable trait in the overall performance of a company (Saini et al., 2024). It is this strength which propels a company to produce better and produce efficiently any goods or services it may be providing. With IT companies investing heavily in research and development, talent acquisition, and infrastructure, understanding the financial health and strategic financial management of these firms becomes essential, both for industry stakeholders and policymakers.

In view of these attributes and their relevance, this paper has been envisaged to study FC of Indian IT companies. This paper is segmented into various parts where first part includes introduction, second covers literature review and methodology, third part covers results and discussion and the last part covers conclusion, limitations and further research areas.

Literature review:

Numerous prior works have evaluated FC among varied sectors and economic domains, adopting diverse methodological approaches and performance metrics. Researchers have assessed key parameters such as profitability, liquidity, innovative capability, to understand how undertakings achieve and sustain FC. The subsequent section presents a synthesis of existing studies on the determinants and metrics used to evaluate FC. In this context, Wei and Shao (2013) performed research in real estate enterprises of China. Solvency, profitability, operational and development ability indicators were utilised to derive FC's composite score and then entropy method was applied to determine indicator weights. The research revealed that enterprises with high scores were found to possess robust profitability, operational strength and stable growth prospects whereas low score enterprises struggled with maintaining profits and sustainability. Altin (2023) carried out research to evaluate the FC of Turkish listed aviation companies over the period of 5 years from 2019 to 2023. Operational Competitiveness Ratings Analysis, Additive Ratio Assessment (ARAS), and CRITIC methods were employed to evaluate the competitiveness. Outcomes derived that core profitability, operational competence and enduring growth potential had substantial influence on competitiveness on firms while solvency had minimal effect. Outcomes also highlighted the importance of strategic resource utilisation and maintaining operational strength. Talas and Rozsa (2015) conducted research from 2008 to 2013 to assess the financial competitiveness of dairy firms of Hungary. Firms with strong capital base, broad product range and substantial sales were chosen for analysis. Results revealed that operational effectiveness, profitability and market focused strategies were key indicators in shaping FC of firms. Zhu et al. (2019) undertook research to examine the role of R&D investment on FC of energy undertakings of China. "Cash flow ability, profitability, operating capacity, development capacity, debt paying ability" metrics were utilised to analyse FC of undertakings. To derive composite score of FC, factor analysis was employed. Results revealed substantial and affirmative role of R&D on FC. He et al. (2011) carried out research on measuring financial competitiveness of telecom enterprises. Performance indicators

precisely, profit earning ability, leverage, debt structure and asset productivity were selected to measure FC score by employing factor analysis.

Methodology:

Sample:

To evaluate financial competitiveness: BSE listed Information Technology index was chosen which had 77 constituents. Due to unavailability of consistent data over the time period, 3 companies were removed.

Data source:

Data of all the companies was derived from Prowess which is managed by CMIE (Centre for Monitoring Indian Economy) and also from annual reports of the companies.

Study period:

For the purpose of this study, secondary data was used for the period from 2020 to 2025

Selection of Financial Competitiveness metrics:

Based on existing studies, to compute the financial competitiveness of IT undertakings, 5 performance metrics were utilised precisely, profitability, solvency, development ability, operational efficiency and cash flow ability, which are further segmented into different parts where profitability included asset profit ratio, ratio of profits to cost, return on asset; solvency included current ratio, quick ratio and cash to current liability ratio; development ability included growth rate of return on equity and net profit growth rate; operational efficiency included total asset turnover and current asset turnover and lastly, cash flow ability included operating cash flow to current liabilities and operating cash flow to total liabilities.

Results and discussion:

Factor analysis:

Assessment of financial competitiveness encompasses various performance metrics such as “profitability, solvency, development ability, operational efficiency and cash flow ability”. These metrics collectively capture distinct dimensions of enterprises’ financial health and competitive standing in the market. Despite this, numerous metrics share mutual relationships, resulting in redundancy and multicollinearity issues. Therefore, to deal with this limitation, factor analysis was selected (Ahlawat et al., 2024; Liu et al., 2021; Xu et al., 2022). This helped in reducing complex and large number of metrics into key factors that represent the financial competitiveness.

First of all, to check the suitability and aptness of data to proceed with factor analysis, KMO (Kaiser-Meyer-Olkin) and Bartlett's test were performed (Chen and Kang, 2012; Vijayakumar, 2018). Results in table 1 exhibit that KMO score was greater than 0.5, implying that data was adequate for proceeding further and significance results of bartlett's test also indicated that variables inter-item correlations was strong enough for factor extraction.

Table 1: KMO and Bartlett's Test		
Kaiser Meyer Olkin (KMO)		.557
Bartlett's Sphericity Test	Chi Square (Approx.)	8604.306
	D.f.	66

	Significance	.000
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After knowing the aptness of data to proceed further with factor analysis principal component analysis with varimax rotation was performed. Table 2 demonstrates that five components with eigen value greater than 1 was extracted. These components collectively explain 90.46 % of total variance where factor 1 accounted for 21.60% of variance, factor 2 for 20.30%, factor 3 for 16.60%, factor 4 for 16.29% and factor 5 for 15.64%.

Table 2: Cumulative explained variance

Component	pre-rotation eigenvalues			Explained Variance After Extraction			Rotated Factor Variance		
	Total	Variance Contribution (%)	Cumulative Percent	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.716	22.633	22.633	2.716	22.633	22.633	2.593	21.606	21.606
2	2.536	21.133	43.766	2.536	21.133	43.766	2.436	20.301	41.907
3	1.936	16.135	59.901	1.936	16.135	59.901	1.993	16.609	58.516
4	1.893	15.778	75.679	1.893	15.778	75.679	1.956	16.296	74.812
5	1.774	14.781	90.460	1.774	14.781	90.460	1.878	15.648	90.460
6	.530	4.414	94.874						
7	.422	3.517	98.390						
8	.108	.901	99.291						
9	.044	.367	99.658						
10	.025	.209	99.868						
11	.016	.131	99.999						
12	.000	.001	100.000						

Table 3 exhibits the Factor Loading Matrix (after rotation) where 12 metrics whose value exceeding 0.5 is loaded into five main factors namely: profitability, solvency, development ability, operational efficiency and cash flow ability. Metrics such as current ratio, quick ratio and cash to current liabilities ratio demonstrated high loadings on first component which can be interpreted as solvency. Second components demonstrated strong loadings for asset profit ratio, ratio of profits to cost, return on asset reflecting profitability. Third factor captured operating cash flow to current liabilities and operating cash flow to total liabilities reflecting cash flow ability. Fourth component captured total asset turnover and current asset turnover reflecting operational efficiency. Whereas fifth factor captured growth rate of return on equity and net profit growth rate which can be interpreted as development ability. Outcomes also revealed that solvency and profitability were the most prominent and contributing factors in the

assessment of financial competitiveness of IT undertakings.

Table 3: Factor Loading Matrix (after rotation)					
Variable	Component				
	1	2	3	4	5
V1	0.969	-0.014	-0.011	-0.006	-0.029
V2	0.969	-0.013	-0.011	-0.005	-0.029
V3	0.831	0.015	-0.009	0	0.021
V4	-0.015	-0.099	0.015	-0.005	0.967
V5	-0.015	0.095	0.017	0.006	0.965
V6	-0.003	-0.038	-0.001	0.988	0
V7	-0.007	-0.043	-0.014	0.988	0
V8	-0.068	0.960	0.12	-0.034	-0.046
V9	0.11	0.772	-0.067	-0.023	0.069
V10	-0.073	0.941	0.133	-0.033	-0.041
V12	-0.002	0.09	0.987	-0.01	0.019
V13	-0.025	0.054	0.991	-0.005	0.01

Following computation was performed to calculate the composite score of financial competitiveness:

$$FC = (\text{Factor 1} * 21.606 + \text{Factor 2} * 20.301 + \text{Factor 3} * 16.609 + \text{Factor 4} * 16.296 + \text{Factor 5} * 15.648) / 90.460$$

Competitiveness-based firms' categorisation:

After computing scores of financial competitiveness from factor analysis, average scores of all IT companies were computed over the time period of study. Then, on the basis of these average scores, firms were categorised into three segments: top performing, medium performing and low performing firms. Outcomes exhibited that top performing firms maintained consistently strong competitive position which demonstrates efficiency and ability of undertakings in utilising their financial resources. While medium performing undertakings maintained consistent results, yet lacked the dynamism of top performers indicating opportunities for further strategic improvement. Whereas, low performing undertakings demonstrated comparatively weaker financial positions and operational efficiencies. Categorisation of IT firms on the basis of average FC scores is given below:

Table 4: Categorisation of IT enterprises

Top performers	Medium performers	Low performers
Accelya Solutions India Ltd.; Blue Cloud Softech Solutions Ltd.; CE Info Systems Ltd.; HCL Technologies Ltd.; Hexaware Technologies Ltd.; Infobeans Technologies Ltd.; Infosys Ltd.; Inventurus Knowledge Solutions Ltd.; K P I T Technologies Ltd.; Ksolves India Ltd.; Latent View Analytics Ltd.; Ltimindtree Ltd.; Mphasis Ltd.; Network People Services Technologies Ltd.; Oracle Financial Services Software Ltd.; Orient Technologies Ltd.; Persistent Systems Ltd. R Systems International Ltd.; Sonata Software Ltd.; Tata Consultancy Services Ltd.; Tata Elxsi Ltd.; V L E-Governance & I T Solutions Ltd.; Vakrangee Ltd.; Xchanging Solutions Ltd.; Zensar Technologies Ltd.	Birlsoft Ltd.; Cigniti Technologies Ltd.; Coforge Ltd.; Control Print Ltd.; Cyient Ltd.; Datamatics Global Services Ltd.; Emudhra Ltd.; Expleo Solutions Ltd.; Happiest Minds Technologies Ltd.; Innovana Thinklabs Ltd.; L & T Technology Services Ltd.; Mastek Ltd.; Netweb Technologies India Ltd.; Newgen Software Technologies Ltd.; Nucleus Software Exports Ltd.; Protean Egov Technologies Ltd.; Quick Heal Technologies Ltd.; Rategain Travel Technologies Ltd.; Sasken Technologies Ltd.; Tata Technologies Ltd.; Tech Mahindra Ltd.; Unicommerce Esolutions Ltd.; Wipro Ltd.; Zaggie Prepaid Ocean Services Ltd.	63 Moons Technologies Ltd.; A S M Technologies Ltd.; Affle 3I Ltd.; Allied Digital Services Ltd.; Aurionpro Solutions Ltd.; B L S E-Services Ltd.; Black Box Ltd.; Ceinsys Tech Ltd.; D-Link (India) Ltd.; Dynacons Systems & Solutions Ltd.; Genesys International Corpn. Ltd.; Intellect Design Arena Ltd.; Iris Business Services Ltd.; Kellton Tech Solutions Ltd.; Magellanic Cloud Ltd.; Mindteck (India) Ltd.; Moschip Technologies Ltd.; Nelco Ltd.; Onward Technologies Ltd.; Ramco Systems Ltd.; Rashi Peripherals Ltd.; Silver Touch Technologies Ltd.; Subex Ltd.; T V S Electronics Ltd.; Tanla Platforms Ltd.

Conclusion:

This study comprehensively evaluates the FC of Indian IT companies and helps all stakeholders better understand and comprehend the survival abilities and financial performance of firms. This sector uniquely portrays the effect FC has on thriving and competitiveness of firms in their global area of operations. Findings depict the multi-dimensional nature of FC and the impact it experiences from other attributes like profitability, solvency, operating efficiency, development capability and cash flow ability. Findings also depict the prominent role of solvency and profitability in explaining the FC of firms, specifically Indian IT firms. Outcomes of this study clearly demarcate some IT firms who perform better by using their FC and ensuring better cost management and enhanced revenue generation, by directly or indirectly employing their FC, while other laggards show scope of much improvement so that their efforts and strengths can be better managed and strategically utilised to ensure better performance.

Limitations and further research areas:

Qualitative aspects managerial acumen, innovation abilities could not be captured as the study is solely based on secondary data. Findings are streamlined to only the Indian IT sector. Further

researches can focus on a mix of primary and secondary data, to decipher comprehensively both quantitative and qualitative attributes of FC.

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