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BUSINESS RISK ANALYSIS THROUGH GINNI'S COEFFICIENT: A STUDY OF SELECT IT COMPANIES IN INDIA

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ABSTRACT

With the remarkable changes in the business environment consequent upon economic liberalization initiated in 1991 by the Govt. of India, the Indian corporate world is witnessing a rapid transformation. One striking feature of it is that the information technology (IT) industry has established itself as a catalyst in accelerating the economic growth of our economy in the past few years in terms of its potentiality to generate foreign exchange earnings, high quality employment and contribution to the productivity in contrast with the rest of the industries in the economy. Despite the fact that the IT sector has been playing a pivotal role in strengthening the Indian economy, adequate attention has not yet been paid to conduct research on the different financial aspects of this sector. Moreover, no significant empirical study has been carried out in India during the last two decades on the issue relating to the business risk associated with the players of the Indian IT sector. But, considering the stiff competition that exists in the present day corporate world, the understanding, analyzing and measuring business risk are immensely important to the corporate executives to instigate managerial excellence by assessing the relative position of the company within the given pattern of industry risk which in turn reflects the capability to achieve stability and also for making risk-return trade off. The present paper is a modest attempt to measure the business risk associated with the sample companies taken up for the purpose of the study using Ginni's coefficient of mean difference and to ascertain the relative risk-return status of them in the Indian IT sector during the period 1999-2000 to 2008-09. It also examines the legitimacy of the theoretical claims as evident in the literature of risk management.

KEYWORDS
IT, Risk, Business, Economy, Earnings.

INTRODUCTION

Business risk associated with a company stems from its business operations. It is, in fact, gleaned from the volatility of the company's capability of generating operating surplus. Business risk is caused by numerous factors which are generally categorized as economy–specific, industry–specific and company–specific. Economy–specific factors, being macro in nature, affect all sectors of the economy, such as, fluctuations in foreign exchanges, inflation rate, import, concentration of economic power etc. Industry–specific factors influence the industry to which the company belongs. Any special status enjoyed by the concerned industry, growth prospects in the market of the output produced or service rendered by the industry etc. are included in this category. Company–specific factors are uniquely linked with the company concerned such as cost structure, liquidity, managerial efficiency, culture, values etc. Economy risk, industry risk and company risk – these three components of business risk emanate from economy–specific factors, industry–specific factors and company–specific factors respectively. The genesis of company risk lies in instability in company's one or more fronts, important of which are instability in cost behaviour pattern, inconsistency in revenue generating capability using long term funds and instability in short term debt paying capability (Ghosh, 1997). These weaknesses lead to cost structure risk, capital productivity risk and liquidity risk (Sur, 2009). The economy risk and industry risk associated with a company remain largely uncontrollable while it is, to some extent, possible for the company to exercise control over the risk distinctively connected with its company–specific components, i.e. capital productivity risk, cost structure risk and liquidity risk. In theoretical terms, there is expected to be a high degree of positive association between risk and return and a company with high risk–low return profile is about to face immense difficulties to rotate its business wheel in the long run. However, the findings of several studies provide an absolutely reverse outcome which is in sharp contrast with the theoretical arguments as evident in the literature of risk management (Bettis and Mahajan 1985, Singh 1986, Oviatt and Bauerschmidt 1991, Mallik and Sur 2009).

With the spectacular changes in the economic environment consequent upon economic liberalization initiated in July 1991, the Indian corporate scenario is witnessing a rapid transformation. One notable feature of it is that information technology (IT) industry has established itself as a poster boy in accelerating the economic growth of our economy in the past few years. The IT sector in India has already proved its potentiality to generate foreign exchange earnings, high quality employment and also to contribute to the productivity in contrast with the rest of the industries in the economy. The Indian IT industry accounts for a 5.9% of the country's GDP and export earnings as of 2009 along with creating job opportunity directly or indirectly to a significant number of its tertiary sector workforce. More than 2.3 million people are provided employment in this sector which makes the industry one of the biggest job creators in India and a mainstay of the national economy. In March 2009, annual revenues from outsourcing operations in India amounted to US$60 billion and this is expected to increase to US$225 billion by

2020. As per the NASSCOM-Mckinsey Report, the volume of software exports from India is expected to reach the US $ 60 billion target set for the fiscal year 2010. The purchasing power of a large section of Indian people affiliated to this sector has improved substantially in the recent years. It has also resulted in an increase in the gross production of goods and services in the Indian economy. So, it is not hard to understand that the growth of India's IT industry is very much instrumental in facilitating the economic progress of India.

Despite the fact that the IT sector has been playing a vital role in strengthening the Indian economy, much attention has not been paid so far to conduct research on the different financial aspects of this sector. Moreover, no empirical study has been carried out in India during the last two decades on the issue relating to the business risk associated with the players of the Indian IT sector. But especially considering the stiff competition that exists in the present day corporate world, the understanding, analyzing and measuring business risk are immensely important to the corporate executives to instigate managerial excellence by assessing the relative position of the company within the given pattern of industry risk which in turn reflects the capability to achieve stability and also for making risk-return trade off. Against this backdrop, the present study seeks to analyse the business risk in the Indian IT sector during the period 1999-2000 to 2008-09.

OBJECTIVES OF THE STUDY

The present study is aimed at the following objectives:

a. To ascertain the business risk associated with each of the IT companies under study and to compare the same with the IT industry average.
b. To measure the company–specific components of business risk associated with each of the selected companies and to examine whether there was any uniformity among such components.
c. To analyse the relationship between business risk and its company–specific components of the selected companies under study.
d. To measure the joint effect of the company-specific components of the selected companies on their business risk.
e. To assess the relative risk–return status of the selected companies.
f. To evaluate the closeness of association between risk and return of the selected companies.
g. To examine whether the findings of the study conform to the theoretical arguments.

METHODOLOGY OF THE STUDY

The study has been carried out with a sample of seventeen companies selected from the top twenty seven IT companies in India (based on the aggregate of total income and total assets) following purposive sampling procedure. This selection has been made considering 'The BW Real 500' published by the Business World, Vol. 28 Issue 23, Kolkata, October 27, 2008. The data of the selected companies for the period 1999-2000 to 2008-09 used in this study have been taken from secondary sources i.e. Capitaline Corporate Database of Capital Market Publishers (I) Ltd., Mumbai, India. For measuring business risk and its components associated with the selected companies Ginni's coefficient of mean difference has been used. Statistical techniques like Pearson's simple correlation analysis, Spearman's rank correlation analysis, Kendall's correlation analysis, Kendall's coefficient of concordance, multiple correlation analysis and multiple regression analysis. Statistical tests like t test, F test and Chi-square (χ^2) test have been applied at appropriate places.

LIMITATIONS OF THE STUDY

a. This study is based only on the data contained in published financial statements.
b. This study is confined to the analysis of the company–specific components of the business risk. The issue relating to the analysis of industry risk and economy risk has not been taken into consideration in this study.
c. The matter in connection with minimization of cost structure risk through forex management does not come under the purview of this study.

EMPIRICAL FINDINGS

a. In Table 1, the business risk (BR) of each of the selected companies in Indian IT sector has been measured by Ginni's coefficient (GC) of its return on capital employed (ROCE). This table shows that the BR of Mascon was the highest and it was followed by FTIL, Mahindra, Cranes, HCLT, Hexaware, Subex, Lgate Global, CMC, HCLI, Oracle, Wipro, Infotech, Moser, Rolta, Infosys and GTL respectively presented in a descending manner during the period under study. The degree of BR associated with Mahindra, FTIL, Cranes and Mascon was far above the IT industry average while that of the remaining fourteen companies under study was below the industry average.
b. Three major components of company–specific business risk, namely capital productivity risk (CPR), cost structure risk (CSR) and liquidity risk (LR) of each of the selected companies (shown in Table 2) have been measured by Ginni's coefficient of capital turnover ratio, that of cost to sales ratio and that of working capital ratio respectively. In this table, to examine whether any uniformity among CPR, CSR and LR of the selected companies exists or not, Kendall's coefficient of concordance (W) has been used. For testing the significance of such coefficient Chi-square (χ^2) test has been applied. It is evident from Table 2 that Cranes maintained the highest level of risk of not getting stable turnover by utilizing average long term funds during the period under study and it was followed by HCLI, CMC, Mascon, Wipro, Subex, Mahindra, HCLT, Lgate Global, Hexaware, GTL, FTIL, Infotech, Oracle, Infosys, Rolta and Moser respectively presented in a descending order. In respect of CSR, FTIL captured the top most position and it was followed by Cranes, Mascon, GTL, Mahindra, Subex, Moser, HCLT, Hexaware, Infotech, Lgate Global, Wipro, Rolta, Oracle, CMC, Infosys and HCLI respectively in that order. The risk in connection with short term debt paying capability was the maximum in Mascon, followed by Hexaware, HCLT, GTL, Subex, Oracle, Cranes, Infosys, Rolta, FTIL, Wipro, Mahindra, Moser, Lgate Global, Infotech, HCLI and CMC respectively. At a glance, lack of uniformity among CPR, CSR and LR of the selected companies was observed during the study period. Table 2 also reveals that the computed value of Kendall's coefficient of concordance was 0.44989 which was not found to be statistically significant at 5% level. It confirms that uniformity among the company specific components of business risk of the selected companies was absent during the period under study.
c. In Table 3, an attempt has been made to assess the extent of relationship between business risk and each of its company–specific components of the selected companies by using Spearman's rank correlation coefficient. In order to test whether these coefficients are statistically significant or not, t test has been made. Table 3 discloses that the rank correlation coefficient between BR and CPR (0.548) and that between BR and CSR (0.563) were positive as well as found to be statistically significant whereas the rank correlation coefficient

between BR and LR, though positive in nature (0.248), was not found to be statistically significant. Theoretically, there should be a positive correlation between BR and its components. The correlation results found in the first two cases corroborate the theoretical argument while in case of LR the outcome of the correlation analysis fails to show strong evidence of positive association between LR and BR.

d. In Table 4, it has been attempted to investigate the joint effect of the selected components of the company risk associated with the companies under study on their BR by applying multiple correlation analysis and multiple regression analysis. The multiple correlation coefficient and the partial regression coefficients have been tested using F test and t test respectively. The regression equation that has been fitted in this regard is: $BR= b_0+b_1.CPR+b_2.CSR+b_3.LR$ where b_0 is the intercept, b_1, b_2 and b_3 are the partial regression coefficients. Table 4 reveals that for one unit increase in each CPR and CSR, the BR stepped up by 2.614 units and 27.4 units respectively which were found to be statistically significant. This outcome again matches the theoretical argument that higher the degree of CPR or CSR higher the degree of BR. For one unit increase in LR, the BR increased by 0.458 unit only which was not found to be statistically significant. It again confirms that the contribution made by LR towards enhancing BR of the selected companies was not at all noticeable. Table 4 also depicts that the multiple correlation coefficient of BR on CPR, CSR and LR was 0.72 which was found to be statistically significant. This table also discloses that the company – specific components CPR, CSR and LR contributed 51.8 % of the variation in the BR of the selected companies during the period under study.

e. In Table 5.1, the risk–return profile of the selected companies in Indian IT sector has been assessed on the basis of business risk and overall profitability. The return on capital employed (ROCE) has been taken as the overall profitability measure in this analysis. It is observed from Table 5.1 that Infosys was the only company among the selected ones which maintained a low risk- high return combination whereas Mahindra was placed in the high risk–high return class. HCLI, HCLT, Oracles, Cranes, CMC and Wipro were in the moderate risk–moderate return class. Hexaware, Lgate Global and Subex maintained a combination of moderate risk and low return. Infotech and Rolta were placed in the low risk–moderate return category while Moser and GTL maintained a low risk–low return combination. FTIL and Mascon were placed in the high risk–moderate return class.

f. In Table 5.2, the risk-return status of the selected companies has been measured with reference to capital productivity risk and overall profitability. While making this measurement the ROCE has been used as the overall profitability indicator. Table 5.2 discloses that Infosys retained the same status by occupying low risk– high return cell. Hexaware, Lgate Global, Moser and GTL were placed in the low risk–low return class. A combination of high risk and moderate return was maintained by HCLI, Cranes and CMC. Mahindra was a moderate risk–high return company whereas Subex was placed in the moderate risk–low return category. The cell representing a combination of low risk and moderate return was occupied by FTIL, HCLT, Infotech, Oracle and Rolta. Mascon and Wipro maintained a balance between risk and return by capturing moderate risk- moderate return cell.

g. Table 5.3 presents the risk-return status of the selected companies which has been assessed by examining the combination of cost structure risk and overall profitability. The ROCE has been used as the overall profitability criterion in this analysis. Table 5.3 shows that Infosys continued to keep itself in the most desirable category i.e. low risk–high return category. HCLI, Lgate Global, Oracle, Rolta, CMC, Wipro and Infotech were placed in the low risk-moderate return category. Moser, Subex and GTL maintained a combination of moderate risk and low return. Mahindra was in the moderate risk-high return class whereas the reverse combination i.e. high risk-moderate return combination was maintained by FTIL, Mascon and Cranes. A balance between risk and return by occupying moderate risk-moderate return cell was maintained by HCLT and Hexaware.

h. In Table 5.4 it has also been attempted to assess the risk-return profile of the companies under study by using the combination of liquidity risk and overall profitability. The ROCE has been taken as the overall profitability indicator in this assessment. Table 5.4 depicts that Infosys and Mahindra were placed in the most desirable class i.e. low risk-high return class. A combination of low risk and moderate return was maintained by FTIL, HCLT, Infotech, Rolta, CMC and Wipro whereas Lgate Global, Subex and GTL were found in the moderate risk– low return category. HCLT and Mascon maintained a combination of high risk and moderate return. Oracle and Cranes maintained a balance between risk and return by occupying moderate risk-moderate return cell while Moser adopted the similar policy by capturing low risk-low return cell. Hexaware, the only company among the selected ones, was placed in the most undesirable category i.e. high risk–low return class.

i. In Table 6, the nature and extent of relationship between business risk and overall profitability and that between each of the company-specific components of business risk and overall profitability of the selected companies have been assessed through correlation coefficients between the selected measures of risk and return taking into account their magnitudes (i.e. by Pearson's simple correlation coefficient), ranking of their magnitudes (i.e. by Spearman's rank correlation coefficient) and the nature of their associated changes (i.e. by Kendall's correlation coefficient). In order to test whether these coefficients are statistically significant or not, t test has been used. The ROCE has been taken as the overall profitability indicator while making this analysis. Table 6 shows that all the three correlation coefficients between BR and ROCE and those between CPR and ROCE were positive which were not found to be statistically significant. This table also testifies that in case of correlation between CSR and ROCE and that between LR and ROCE all the six correlation coefficients were negative which were found to be statistically insignificant. So, the outcome of the correlation analysis fails to provide any strong association between business risk and return. It implies that high risk was not at all compensated by high risk premium in the Indian IT sector during the study period.

CONCLUDING OBSERVATIONS

1. The maximum volatility in operating profitability was observed in Mascon while GTL enjoyed the least risk in its overall business operation. 76.5 per cent of the selected companies maintained the business risk at the level below the IT industry average during the period under study whereas the remaining 23.5 per cent of the selected ones kept it at the level above the industry average in the same period.
2. The highest rank was captured by Cranes in respect of capital productivity risk while cost structure and liquidity risks of it were ranked second and seventh respectively during the period of study. Similarly, HCLI enjoyed the lowest risk in cost structure front and occupied the sixteenth rank in respect of liquidity risk whereas in it the second highest volatility was found in capital productivity front during the period under study. This kind of disparity was observed in fifteen companies out of the seventeen companies under study (except Subex and Cranes). So, uniformity among capital productivity risk, cost structure risk and liquidity risk was absent during the study period. The outcome of the analysis of Kendall's coefficient of concordance made in this study also confirms the above inference.

3. The empirical results of the study on the relationship between BR and CPR and that between BR and CSR as found in the analysis of Spearman's rank correlation conform to the theoretical argument that the higher the degree of CPR the greater the degree of BR. However, the outcome of the study on the relationship between BR and LR fails to provide any strong evidence of positive relationship between them. So, it can be concluded that CPR and CSR made significant contribution towards enhancing BR of the companies under study during the study period while LR failed to do so in the same period.
4. The study of multiple regression of BR on CPR, CSR and LR provides similar evidence confirming the significant positive influence of CPR and CSR on the BR of the selected companies during the period under study.
5. Lack of uniformity in respect of risk-return trade off among the selected IT companies was noticed. Rather a peculiar combination was observed in most of the cases. Infosys was considered as a risk averse but profit hunter. Hexaware, bearing the highest risk in respect of liquidity and yielding low return, faced a severe crisis regarding payment of short term debt during the period under study. The company should adopt appropriate measures to exercise control over its liquidity risk. Moser proved itself as a conservative risk-taker as it was placed in low risk – low return category in almost all cases during the study period. Although the level maintained by Mahindra in respect of business risk and company-specific components of it varied widely from low to high, the company established itself as a profit hunter during the period under study. Moderate volatility in the operating profitability or moderate instability in the cost behaviour pattern, capital productivity and liquidity of Subex was not at all well compensated as the company failed to occupy high or moderate return strata.
6. Although a high degree of positive relationship between business risk or its company – specific components and overall profitability is theoretically desirable, the analysis of interrelation between them made in this study fails to show strong evidence of positive or negative association between them. It reflects that high risk was not at all compensated by high risk premium i.e. high return in the Indian IT sector during the period under study.

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TABLES

Table I : Ranks of Business Risk of the Selected Companies in the IT Sector

Company	Business Risk		Rank
Wipro	11.22	B	12
Infosys	7.07	B	16
HCLI	11.62	B	10
HCLT	13.68	B	5
Moser	9.22	B	14
Mahindra	25.98	A	3
Oracle	11.36	B	11
GTL	6.97	B	17
FTIL	30.04	A	2
Rolta	7.80	B	15
Subex	12.13	B	7
CMC	12.04	B	9
Cranes	18.31	A	4
Hexaware	13.32	B	6
Mascon	36.79	A	1
Lgate Global	12.07	B	8
Infotech	9.56	B	13
IT Industry Average	**14.66**		
'A' denotes 'Business Risk above the Industry Average' and 'B' 'denotes Business Risk below the Industry Average'.			
Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai.			

Table 2 : Ranks of Company- Specific Components of Business Risk of the Selected Companies in the IT Sector

Company	Capital Productivity Risk		Cost Structure Risk		Liquidity Risk	
		Rank		Rank		Rank
Wipro	0.71	5	0.08	12	0.80	11
Infosys	0.14	15	0.04	16	1.02	8
HCLI	2.84	2	0.03	17	0.27	16
HCLT	0.50	8	0.12	8	3.03	3
Moser	0.09	17	0.13	7	0.70	13
Mahindra	0.52	7	0.15	5	0.79	12
Oracle	0.17	14	0.06	14	1.26	6
GTL	0.25	11	0.16	4	2.50	4
FTIL	0.24	12	0.81	1	0.84	10
Rolta	0.10	16	0.07	13	0.91	9
Subex	0.59	6	0.14	6	1.33	5
CMC	1.09	3	0.05	15	0.14	17
Cranes	7.55	1	0.31	2	1.19	7
Hexaware	0.35	10	0.11	9	3.18	2
Mascon	0.95	4	0.22	3	4.24	1
Lgate Global	0.49	9	0.09	11	0.62	14
Infotech	0.19	13	0.10	10	0.56	15
IT Industry Average	**0.99**	-	**0.16**	-	**1.38**	-

***Kendall's coefficient of concordance among the selected company-specific components of business risk (W) is 0.44989 and Chi-Square (χ) value of W is 21.59472 being insignificant at 0.05 level**

Source: Compiled and computed from 'Capitaline Corporate database' of Capital Market Publishers (I) Ltd., Mumbai.

Table 3 : Analysis of Spearman's Rank Correlation between Business Risk and its Company-specific components of the Selected Companies in Indian IT Sector

Spearman's Rank Correlation Coefficient between Business Risk and Capital Productivity Risk= 0.548*
Spearman's Rank Correlation Coefficient between Business Risk and Cost Structure Risk= 0.563*
Spearman's Rank Correlation Coefficient between Business Risk and Liquidity Risk= 0.248
* Significant at 0.05 level
Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai.

Table 4 : Analysis of Multiple Regression and Multiple Correlation between Business Risk on its Company-specific components of the Selected Companies in Indian IT Sector

Multiple Regression Equation of BR on CPR, CSR and LR:

BR= b_0+b_1.CPR+b_2.CSR+b_3.LR

Variable	Partial Regression Coefficient	t value
CPR	2.614	1.839*
CSR	27.400	3.021***
LR	0.458	0.504
Constant	6.243	2.107*

Multiple Correlation Coefficient of BR on CPR, CSR and LR:

$R_{B.PSL}$ = 0.72

$R^2_{B.PSL}$ = 0.518

F = 4.655**

*Significant at 0.10 level
** Significant at 0.05 level
*** Significant at 0.01 level

Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai.

Table 5.1: Risk-return Status of the Selected Companies in Indian IT Sector based on Combination of Business Risk and Overall Profitability

ROCE / Business Risk	High (≥ 40%)	Moderate (>20% but <40%)	Low (≤20%)
High (≥20)	Mahindra	FTIL,Mascon	
Moderate (>10 but <20)		HCLI, HCLT, Oracle, Cranes, CMC, Wipro	Hexaware, Lgate Global, Subex

Low (≤10)	Infosys	Infotech, Rolta	Moser, GTL
Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai.			

Table 5.2: Risk-return Status of the Selected Companies in Indian IT Sector based on Combination of Capital Productivity Risk and Overall Profitability

ROCE / Cap[ital Productivity Risk	High (≥ 40%)	Moderate (>20% but <40%)	Low (≤20%)
High (≥1)		HCLI ,Cranes, CMC	
Moderate (>0.5 but <1)	Mahindra	Mascon, Wipro	Subex
Low (≤0.5)	Infosys	FTIL, HCLT, Infotech, Oracle, Rolta	Hexaware, Lgate Global. Moser, GTL
Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai.			

Table 5.3: Risk-return Status of the Selected Companies in Indian IT Sector based on Combination of Cost Structure Risk and Overall Profitability

ROCE / Cost Structure Risk	High (≥ 40%)	Moderate (>20% but <40%)	Low (≤20%)
High (≥0.2)		FTIL, Mascon, Cranes	
Moderate (>0.1 but <0.2)	Mahindra	HCLT, Hexaware	Moser, Subex, GTL
Low (≤0.1)	Infosys	HCLI, Lgate Global, Oracle, Rolta, CMC, Wipro, Infotech,	
Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai.			

Table 5.4: Risk-return Status of the Selected Companies in Indian IT Sector based on Combination of Liquidity Risk and Overall Profitability

ROCE / Liquidity Risk	High (≥ 40%)	Moderate (>20% but <40%)	Low (≤20%)
High (≥3)		HCLT, Mascon	Hexaware
Moderate (>1 but <3)		Oracle, Cranes	Lgate Global, Subex, GTL
Low (≤1)	Infosys, Mahindra	FTIL, HCLT, Infotech, Rolta, CMC, Wipro	Moser
Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai.			

Table 6 : Analysis of Correlation between Risk and Return of the Selected Companies in Indian IT Sector

Correlation Measure	Correlation between Business Risk and Overall Profitability	Correlation between Capital Productivity Risk and Overall Profitability	Correlation between Cost Structure Risk and Overall Profitability	Correlation between Liquidity Risk and Overall Profitability
Pearson's simple correlation coefficient	0.26	0.061	-0.105	-0.239
Spearman's rank correlation coefficient	0.194	0.375	-0.345	-0.206
Kendall's correlation coefficient	0.147	0.235	-0.281	-0.162

Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai.

APPENDIX I: LIST OF SAMPLE COMPANIES

1. Wipro Ltd (Wipro)
2. Infosys Technologies Ltd (Infosys)
3. HCL Infosystems (HCLI)
4. HCL Technologies (HCLT)
5. Moser Baer India (Moser)
6. Tech Mahindra Ltd (Mahindra)
7. Oracle Financial Services Software (Oracle)
8. GTL (GTL)
9. Financial Technologies (India) Ltd (FTIL)
10. Rolta India Ltd (Rolta)
11. Subex Ltd (Subex)
12. CMC Ltd (CMC)
13. Cranes Software International (Cranes)
14. Hexaware Technologies Ltd (Hexaware)
15. Mascon Global Ltd (Mascon)
16. Lgate Global Ltd (Lgate Global)
17. Infotech Enterprises (Infotech)

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