Underlying Model of Business Process Outsourcing (BPO) in India

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Abstract

In the new policy regime, the regionalization of economic activities has taken place at a pace ever than before. The new regime is characterized by an interesting dichotomy, i.e., free global mobility of capital coupled with restricted mobility of labour. This dichotomous behaviour, with information technology enabled services acting as a catalyst, has altered the age-old industrial organization. It has given rise to new production and marketing organization systems. Restricted global mobility of labour has compelled the big corporate houses to outsource many of their processes and functions to those parts of the globe where the specialization and comparative cost advantage exists. In this context, the work is an attempt to capture the structure and dynamics of business process outsourcing, with special reference to India. The analysis is based on financial statements of seventy five companies covering a period of ten years. The broad finding of the work is that the emerging model of business process outsourcing industry is a "high-risk quick-buck model" that needs immediate policy intervention to ensure its sustainability and transparency.

Key Words: Business Process Outsourcing, Comparative Cost Advantage, Transaction Cost

Introduction

Globalization has questioned the traditional theories of location and regional development where spatial distance played a crucial role. Technology and institutional factors have marginalized the role of distance. Regionalization of economic activities has taken place at a pace ever than before. In the past decade China has emerged as a factory, USA has developed as R&D hub and India has developed as a back office of the world. Understanding of structural and location dynamics of economic activities is need of the time (Krugman, 2009).

The technological change is a prime mover of economic growth. It refers to changes in the input-output relations of production activities (Mathur, 1963). As the economy moves from lower to higher stages of development, there occurs a shift from simpler to more modern and complicated techniques of production. The role of Information and Communication Technology (ICT) and its effect on the productivity both at micro and the macro level is a subject of recent debate in economics (Hardy 1990; Hanna 1991, 1994; Talero and Gaudette, 1996; Maden and Savage, 1998). ICT has become a catalytic agent in speeding up the process of outsourcing, in general, and the business process outsourcing, in particular (Grace et al., 2003). The technology has enabled the firms to transcend geopolitical borders and start up operations in settings where they could take advantage of less expensive inputs and more favourable conditions for their operations.

The present W.T.O. regime is characterized by an interesting dichotomy, i.e., free global mobility of capital coupled with restricted mobility of labour. This dichotomous behaviour, with information technology enabled services acting as a catalyst, has altered the age-old industrial organization. It has given rise to new production and marketing organization systems. Restricted global mobility of labour has compelled the big corporate houses to outsource many of their processes and functions to those parts of the globe where the specialization and comparative cost advantage exists. The business process outsourcing, a by-product of W.T.O. regime, is going to alter the macro and micro economic parameters and relations of both outsourcing and recipient countries. In this context, the work is an attempt to capture the structure and dynamics of business process outsourcing, with special reference to India.

The concept of 'outsourcing' dates back to Adam Smith (1776) when he identified it by the concept of division of labour. Later, the 'theory of specialization' and 'comparative cost advantage' (Hecksher and Ohlin, 1919) and 'the scale economy approach' gave an economic logic to the concept. 'Coasian transaction costs approach' (R.H. Coase, 1992) has given a scientific base to analyze the process of vertical and horizontal integration and outsourcing. Most of the studies done are theoretical and too aggregative. The researchers have tried to build and theorize a model for business process outsourcing, in general, and offshore outsourcing, in particular. Recent studies present a model of outsourcing from the point view of the outsourcing companies. The study of the behaviour of companies at the recipient-end is relatively a less explored area of research and there is an ample scope for the same.

Coverage

In the above context, the main objective of the study is to evaluate the performance of business process outsourcing in India and to evaluate its feasibility in the long run. Since the phenomenon of 'business process outsourcing' is a new concept, data availability is also scanty and not well defined. For obtaining company level and other disaggregate data, the technique of data mining has been used. It is based on a financial statistics database of seventy five companies, covering ten years, dealing in outsourcing of software processes, services processes and business processes for a period of ten years. The analysis captures the underlying business model, using financial analysis covering profitability, liquidity and solvency aspects with the help of ratio analysis. Wherever needed, appropriate price adjustments have been made.

Analysis

For the analysis purpose, the database of 75 companies covered has been divided into the following three segments: software services and business segment. The overall composition of the data set of 75 companies for various categories is shown in table 1. More than half of the companies deal with software related outsourcing and the rest less than half is contributed by other two segments: the services and the business segment.

Net Profit Ratio

Detailed analysis of profitability, liquidity and solvency, both in its temporal and spatial dimension, has been done. Profitability is generally measured using net profit ratio. The *net profit ratio* is defined as the ratio of profits after tax and sales. This ratio indicates what portion of the net sales is left for the owners after all expenses have been met. Net profit ratio establishes a relationship between net profits (after taxes) and sales, and indicates the efficiency of the management in manufacturing, selling, administrative and other activities of the firm. Higher the value, higher is the profitability of the business. Analysis of net profit ratio is presented in table 2 and table 3.

Table 2 shows descriptive analysis of the net profit ratio in business processing segment in relation to the other outsourcing segments of BPO industry. Historically high average net profit ratio associated with all the segments of outsourcing industry has started normalizing to lower normal levels. The ratio was 14.06 percent in computer software segment as compared to -40.27 in services segment and 7.88 percent in business process outsourcing segment in the year 1998. As compared to the other two, the software segment had been fairly homogenous (CV=89.66 percent) for the same year. In the year 2001, because of US software industry crisis, all the segments of business process outsourcing also depicted a relatively reduced profitability as compared to the earlier period. In computer software industry, average net profit came down to 11.47 percent in 2001 as compared to 14.06 percent in 1998. Likewise, there was also a reduction net profit ratio, in same period, in the other two segments, the services and process outsourcing. The fall in net profit ratio continued even in the following years. In the year 2005, being 4.53 percent, average profitability is the highest in the process outsourcing segment. The higher co-efficient of variation (901.71 percent) shows greatest heterogeneity of data in this category. As far the range is concerned greatest range co-efficient is shown by the services and computer software segment. The variations in the net profit ratio are pronounced both in the temporal and spatial dimension. Temporal variability in range coefficients indicates the instability of ratio in the time dimension and spatial variability in the same indicates the heterogeneity of the sampled companies.

On the whole, the analysis of net profit ratio is indicative of the fact that in the past, information technology industry in general and the outsourcing industry in particular have enjoyed a privileged position because of poor competition of rivals and comparative cost advantage. But over a period of time, the profitability in terms of net profit ratio is shrinking and coming to normal levels due to competition and increasing wage bills in the industry. The process outsourcing is emerging as relatively a profitable segment.

The temporal growth of net profitability ratio of the industry is presented in table 3. Table shows analysis of growth rate of net profit ratio in business segment in relation to other segments. The growth rates have been classified on a five point scale and the percentages of companies have been calculated under each category according to growth rates. The overall period analysis shows that, 42.86 percent of the companies in the business segment lie in the above 20 percent per annum growth rate of net profit ratio. This percentage mark of net profit ratio is 16.67 percent for the services segment and 9.52 percent for software segment. Nearly 73.81 percent of the companies in software segment and 61.11 percent in services segment and 42.86 percent in business segment are in the recession zone in terms of shrinking profitability. Period up to the year 2000 is characterized by the fact that the number of fast growing companies, in terms of net profit growth higher than 20 percent per annum, it was 26.47 percent for software companies, 9.09 percent for the service companies and 16.67 percent for the business process segment. As against this, after the year 2001 the situation has drastically changed. The share of companies having more than 20 percent per annum growth has become 12.50 percent for software companies; 33.33 percent for service companies; and 50.00 percent for business segment companies. In the pre-2001 period most of the slowness in terms of net profit associated with business segment companies has shifted to the software companies in the post 2001 period. In terms of net profit ratio, the business segment related companies have been the fast growing and the other two, the software and services have relatively slowed down.

The recent structural shift in the information technology is characterized by a shift from only software or service type of body shopping to pure business process outsourcing. The plain economic reason has been the higher net profit ratio. Thus the overall picture that emerges signifies that business process segment has come into

momentum after the year 2000 only and is doing well with regards to the profitability parameter. The disaggregate analysis at company level is indicative of the fact that both profitability and its growth are not evenly distributed in the industry. There is a simultaneous existence of high and low profit making and slow and very fast growing companies. The industry is very heterogeneous.

Return on Investment (ROI)

Next aspect of profitability may be viewed as a *Return on Investment (ROI)*. ROI is one of the most important ratios used for measuring overall efficiency of the firm. This ratio reveals how well the resources of a firm are being used. It is defined as the percentage of return on the total capital employed in the business. Higher the value higher is the profitability of the business. Descriptive analysis of return on investment for the given data set is presented in table 4. On an average return on investment, in the year 2005, is the highest in software segment (12.65 percent) followed by business (11.12 percent) and service segment (5.48 percent). Further the coefficient for variation for ROI depicts that there is smallest dispersion in software segment as compared to the other two segments. Coefficient of variation of 664.18 in business segment shows that there is a wide variation among the companies in this segment, as far as the ROI is concerned. In the temporal dimension for computer software sector ROI used to be: 27.16 percent in 1999; 24.28 percent in year 2001 and 12.65 percent in 2005. Likewise, in business segment, ROI was 16.20 percent in the year 1999, 15.65 percent in year 2001 and 11.12 percent in 2005. But in case of service, after a spurt in 2001, ROI has come down to 5.48 percent level. Same behavior pattern is being shown by the aggregate sample. Hence, analysis shows that ROI that used to be enormous is losing ground and coming down to lower level. All the segments of the industry are approaching to normal return levels.

Distribution of ROI according to range of growth rate is given in table 5. Majority of high growth companies, say in the range of ROI growth in greater than 20 percent per annum range, are historically associated with business segment and this share is continuously on the rise. In the pre-2001 era, nearly 12 percent companies, both in software and services segment, were in the high growth region of ROI. In the same period, this share for business processing companies was 20.00 percent. But in the 2001 onwards period, in business segment, high growth ROI companies have formed a share of 50.00 percent. It has improved for services also, it has become

27.27 percent. But the share of high growth ROI companies in software has come down to 10.53 percent. Thus the table is indicative of the fact that more and more fast growing companies in ITES-BPO segment are replacing the companies in the other two segments as far as return on investment is concerned.

Return on Shareholders' Funds

Return on Shareholders' Funds (ROSF) helps to work out the profitability of the company from the shareholder's point of view. It is defined as the ratio of profits after interest and tax to shareholder's funds. Higher the value higher is the profitability of the business as more profits secure the shareholder's funds and reduce their risk of investing into the company. Table 6 shows descriptive analysis of the return on shareholder's fund values in relation to industry segments. In the year 2005, ROSF has been the highest in software segment (11.64 percent), followed by services segment (8.33 percent), and lowest in business process segment (-138.66 percent). Historically also the relative position has been the same as present one except that it has become too adverse in case of business process segment of outsourcing. Thus the profitability from the view of shareholders' view has deteriorated in case of business process segment of BPO sector and is fairly comfortable in the other two segments.

Temporal growth rate of ROSF parameter (table 7) is indicative of the fact that still a major chunk of high growth companies is still found in business process segment. Larger share of negative ROSF ratio are associated with other two segments. But it should be read with a caution, as higher negative growth ROSF companies form a very large weight in aggregate profit as compared to the fast growing ones. From shareholders' angle the business process segment is becoming less profitable proposition as compared to the other two segments. This implies ITES-BPO sector is more vulnerable to any slight shock of stock market as compared to the other two segments which are relatively robust.

Liquidity

Liquidity refers to the ability of a concern to meet its current obligation as and when it becomes due. The short-term obligations are met by realizing amounts from current, floating or circulating assets. The current assets should be liquid or near liquidity, or these should be convertible into cash for paying obligations of short-term nature. The sufficiency or insufficiency of current assets should be assessed by

comparing them with short-term liabilities. If current assets can pay off current liabilities, then liquidity position will be satisfactory, and, if not, then liquidity position will be bad. The bankers, suppliers of goods and other short-term creditors are interested in the liquidity, and they will only extend credit if they are sure current assets are enough to pay out the obligations. A company may be profitable but if it fails to generate enough cash to settle its liability is said to be insolvent It also signifies safety or robustness of the company. Short term financial position of the company and its ability to meet short-term obligations (generally one year) is revealed by testing liquidity ratios namely: Current ratio and Quick ratio.

Solvency

The term solvency refers to the ability of a concern to meet its long-term obligations. The long-term indebtedness of a firm includes debenture holders, financial institutions providing medium and long-term loans and other creditors selling goods on installment basis. They are primarily interested in firm's ability to pay regularly interest on long-term borrowings, repayment of the principal amount at the maturity and the security of their loans. Solvency ratios establish and study relationship between owned funds and loaned funds. The main solvency ratios studied are debt-equity ratio, interest coverage ratio, capital gearing ratio and solvency ratio.

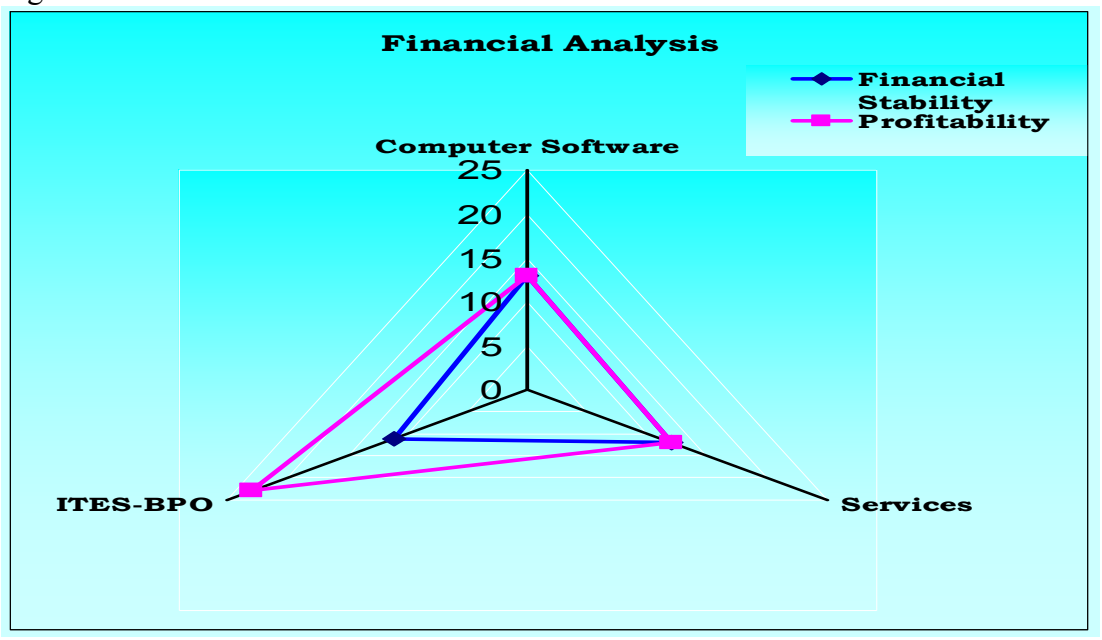
A detailed liquidity and solvency analysis has been done and the summary results are presented in table 8. Overall ratio values are below the prescribed limit for debt-equity ratio, but too high for interest coverage ratio. The values are below the norm for capital-gearing ratio, and above the norm for solvency ratio, thereby signifying weak solvency position. Further breakup of the solvency ratios segment wise is shown in figure 5.4 which indicates a negative interest-coverage ratio of -11.60 for BPO which is compensated by the computer software segment which has too high value for interest coverage. Negative interest coverage values for BPO segment signify a very high risk area for lenders. High solvency ratio values under all the segments are also a deterrent for investors.

Thus the overall grim picture emerges as a deterrent for investors in the long run with all the four dimensions of solvency showing a negative trend. Thus the analysis of liquidity and solvency so far indicates that BPO is a high risk area for investors especially for the MNC's investing in it with inappropriate utilization of

current assets and inability to meet short term and long term liabilities of the companies. The positional analysis of these companies for analysis of liquidity and solvency is given below in table 9. These positions are assigned according to the average values under each segment which are closest to the specified service industry norms. Values in brackets are assigned maximum for the closest norm value.

On the basis of the positional analysis the following graphic model emerges to signify financial stability i.e. liquidity and solvency and its relation to profitability, which shows profitability and financial risk is maximum for the BPO segment followed by the services and least for the computer software segment. On the basis of the positional analysis the following graphic model emerges to signify financial stability, i.e., liquidity and solvency and its relation to profitability. It shows profitability and financial risk is the maximum for the business process segment followed by the service process segment and least for the software segment. The figure depicts the numeric values calculated for each ratio of profitability, liquidity and solvency and assigned the maximum value for the closest norm value and summation is done for final values for financial stability or least financial risk involved and greatest profitability. The axes show the increasing numeric values taking zero value from origin in increasing order for the three segments software process segment (13,13), service process segment (12,12) and business process segment (11,23) as shown for financial stability and profitability respectively.

Figure 1: Model of BPO in India



Source: Calculated

Overall analysis shows that out of the three segments performance-wise the computer software segment which used to be the leading one is being gradually replaced by ITES-BPO followed by services. Most of the profitability parameters go in favour of ITES-BPO as compared to the other two segments. But when we look at the risk and the robustness and safety like parameters ITES-BPO and services are operating under a risky financial management system. The computer software segment is operating under relatively better financial parameters as far as any future uncertainty or negative expectation is concerned. This is due to the fact that computer software has grown and matured over a period of time and has stabilized its financial position while the ITES-BPO and services industry is still in its nascent stages of growth and is hence highly instable. The analysis shows that in case of any negative business expectation, slow down or recession computer software will be able to stay longer than the newly emerging ITES-BPO.

To sum up, the analysis shows that out of the three segments performance wise the software process segment which used to be the leading one is being gradually replaced by business process segment followed by service process segment. Most of the profitability parameters go in favour of business process segment as compared to the other two segments. But when we look at the risk and the robustness and safety like parameters business process and service process segments are operating under a risky financial management system. We can say the emerging business process outsourcing industry may be termed as a “high-risk quick-buck model” that needs immediate policy intervention to ensure sustainability and transparency.

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Appendix Tables

Table 1: Sector-wise breakup of the companies selected for analysis.

Outsourcing segment	Specialization	Number of companies	Percentage
Software	Computer Software Processing	43	57.33
Services	Services Processing (Software Services , Consultancy, Training and Education)	18	24.01
Business	Business Processing	14	18.66
Total	Overall	75	100.00

Source: Calculated

Table 2: Segment-wise descriptive analysis of net profit ratio in BPO sector companies

Year	Statistic	Business process outsourcing segments			
		Software	Service	Business	Total BPO
1998	Average	14.06	-40.27	7.88	4.15
	(CV)	(89.66)	(299.35)	(162.10)	(1233.25)
2001	Average	11.47	-715.21	6.18	-134.57
	(CV)	(404.81)	(351.22	(392.35)	(835.35)
2005	Average	-47.65	-78.02	4.53	-45.20
	(CV)	(551.91)	(374.93)	(901.71)	(541.66)
1998	Range	-10.95 - 34.50	-285.71 - 23.00	-9.87 - 23.25	-285.71 – 34.50
2001		-242.86 - 62.29	-8691.67 -	-45.61 – 28.72	-8691.67 - 62.29
2005		-1500.00 -	-1238.46 -	-84.01 – 55.00	-1500.00 - 55.00
1998	Range Coeff.	1.93	-1.18	2.48	-1.27
2001		-1.69	-1.01	-4.40	-1.01
2005		-1.06	-1.06	-4.79	-1.08

Source: Calculated

Table 3: Segment-wise distribution of net profit ratio according to growth rates in BPO sector companies

Year	Range of growth rates	Segment-wise percentage distribution of companies		
		Software	Service	Business
Up to 2000	Below -10.00	47.06	45.45	66.67
	-10.00-0.00	08.83	27.28	16.67
	0.00-10.00	11.76	18.18	00.00
	10.00-20.00	05.88	00.00	00.00
	Above 20.00	26.47	09.09	16.66
	Total	100.00	100.00	100.00
2001-2005	Below -10.00	57.50	50.00	25.00
	-10.00-0.00	15.00	16.67	00.00
	0.00-10.00	07.50	00.00	00.00
	10.00-20.00	07.50	00.00	25.00
	Above 20.00	12.50	33.33	50.00
	Total	100.00	100.00	100.00
Overall	Below -10.00	50.00	38.89	28.57
	-10.00-0.00	23.81	22.22	14.29
	0.00-10.00	14.29	11.11	14.28
	10.00-20.00	02.38	11.11	00.00
	Above 20.00	09.52	16.67	42.86
	Total	100.00	100.00	100.00

Source: Calculated

Table 4: Segment-wise descriptive analysis of return on investment in BPO sector companies

Year	Statistic	Business process outsourcing segments			
		Software segment	Service segment	Business segment	Total BPO sector
1998	Average	27.16	12.69	16.20	22.92
	(CV)	(75.87)	(37.68)	(57.60	(82.80)
2001	Average	24.28	24.08	15.65	23.03
	(CV)	(130.59)	(82.51)	(151.58)	(133.19)
2005	Average	12.65	5.48	11.12	10.64
	(CV)	(139.79)	(174.09)	(664.18)	(447.89)
1998	Range (R)	-15.11 - 66.96	-9.95 - 30.34	3.75 - 28.52	-15.11 - 66.96
2001		-90.00 - 118.39	-10.05 - 102.57	-3.05 - 71.37	-90.00 - 118.39
2005		-20.00 - 68.00	-221.56 - 163.32	-150.00 - 163.32	-221.56 - 163.32
1998	R. Coeff.	1.58	1.98	0.77	1.58
2001		7.34	1.22	1.09	7.34
2005		1.83	-6.61	0.53	-6.61

Source: Calculated

Table 5: Segment-wise distribution of return on investment according to growth rates in BPO sector companies

Year	Range of growth rates	Segment-wise percentage distribution of companies		
		Software	Service segment	Business
Up to 2000	Below -10.00	56.00	37.50	40.00
	-10-0.00	12.00	12.50	00.00
	0.00-10.00	12.00	25.00	40.00
	10.00-20.00	8.00	12.50	00.00
	Above 20.00	12.00	12.50	20.00
	Total	100.00	100.00	100.00
2001-2005	Below -10.00	55.26	54.55	25.00
	-10-0.00	15.79	18.18	12.50
	0.00-10.00	13.16	00.00	12.50
	10.00-20.00	05.26	00.00	00.00
	Above 20.00	10.53	27.27	50.00
	Total	100.00	100.00	100.00
Overall	Below -10.00	51.16	47.06	14.29
	-10-0.00	23.26	23.53	00.00
	0.00-10.00	09.30	17.65	28.57
	10.00-20.00	00.00	05.88	14.29
	Above 20.00	16.28	05.88	42.86
	Total	100.00	100.00	100.00

Source: Calculated

Table 6: Segment-wise descriptive analysis of return on shareholder's funds in BPO sector companies

Year	Statistic	Business process outsourcing segments			
		Software segment	Service segment	Business segment	Total BPO sector
1998	Average	21.26	7.94	9.59	17.10
	(CV)	(130.01)	(32.70)	(154.16)	(142.18)
2001	Average	10.67	19.25	9.29	12.13
	(CV)	(893.05)	(81.10)	(130.62)	(650.06)
2005	Average	11.64	8.33	-138.66	-17.56
	(CV)	(190.75)	(74.12)	(404.12)	(1393.70)
1998	Range (R)	-63.24 - 65.66	-11.54 - 24.60	-7.97 - 30.86	-63.24 - 65.66
2001		-540.00 - 122.07	-22.25 - 92.49	-4.93 - 31.94	-540.00 - 122.07
2005		-32.10 - 92.00	-38.79 - 96.38	-2072.73 - 100.29	-2072.73 - 100.29
1998	R. Coeff.	53.26	2.77	1.70	53.26
2001		-1.58	1.63	1.37	-1.58
2005		2.07	2.35	-1.10	-1.10

Source: Calculated

Table 7: Segment-wise distribution of return on shareholder's funds according to growth rates in BPO sector companies

Year	Range of Growth Rates	Segment-wise percentage distribution of companies		
		Software	Service	Business
Up to 2000	Below -10.00	52.00	25.00	60.00
	-10-0.00	08.00	12.50	00.00
	0.00-10.00	12.00	50.00	20.00
	10.00-20.00	04.00	00.00	00.00
	Above 20.00	24.00	12.50	20.00
	Total	100.00	100.00	100.00
2001-2005	Below -10.00	57.89	54.55	37.50
	-10-0.00	10.53	18.18	12.50
	0.00-10.00	13.16	00.00	12.50
	10.00-20.00	05.26	18.18	00.00
	Above 20.00	13.16	09.09	37.50
	Total	100.00	100.00	100.00
Overall	Below -10.00	55.81	56.25	28.57
	-10-0.00	18.61	12.50	14.29
	0.00-10.00	11.63	18.75	14.29
	10.00-20.00	02.33	00.00	07.14
	Above 20.00	11.63	12.50	35.71
	Total	100.00	100.00	100.00

Source: Calculated

Table 8: Key ratios and values

Ratios	Overall Average	Norm value
Current Ratio	5.82	1.29
Quick Ratio	3.89	0.68
Debt-equity Ratio	0.52	0.75
Interest Coverage Ratio	31.46	> 1
Capital Gearing Ratio	0.53	>1
Solvency Ratio	6.33	<1

Source: Calculated

Table 9: Positional analysis for liquidity and solvency

Ratio/ Segment	Current ratio	Quick ratio	Debt-equity ratio	Capital gearing ratio	Interest coverage ratio	Solvency ratio	(Total)
Computer Software	3(1)	3(1)	1(3)	2(2)	2(2)	2(2)	(13)
Services	1(3)	1(3)	3(1)	3(1)	1(3)	3(1)	(12)
Business	2(2)	2(2)	2(2)	1(3)	3(1)	1(3)	(11)

Source: Calculated

Appendix A: List of Outsourcing Companies

Software Process	Services Process	ITES-BPO
G T L Ltd.	Philips Electronics India Ltd.	E-serve International
HP Globalsoft Ltd.	Cranes SW International Ltd.	Pentamedia Graphics Ltd.
I-flex Solutions Ltd.	Accel Transmatic	Crest Animation Studio Ltd.
Hexaware Technologies Ltd.	ABM Knowledgeware Ltd.	Tricom India Ltd.
Infosys Technologies Ltd.	Ram Informatics Ltd.	Nucleus Netsoft & Gis (I) Ltd.
K L G Systel Ltd.	Flexitronics SW Systems	Fortune Infotech Ltd.
Hinduja T M T Ltd.	Advent Computer Services	Transworks Infor. Ser. Ltd.
T C I L Bellsouth Ltd.	Mascon Global Ltd.	Datamatics Tech. Ltd.
P S I Data Systems Ltd.	Birlasoft Ltd.	Allsec Technologies
Melstar Info. Tech. Ltd.	Micro Tech. (india) Ltd.	Saffron Global Ltd. [merged]
Punjab Communications Ltd.	Accel Frontline	Intelenet Global Services Ltd.
Siemens Info. Systems Ltd.	Aptech Ltd.	N I I T Smartserve Ltd.
Rolta India Ltd.	Patni Computer Systems Ltd.	Nipuna Services Ltd.
Satyam Comp Services Ltd.	Globsyn Technologies Ltd.	Colwell & Salmon Comm.
Mphasis B F L Ltd.	Indigo Lever Shared Ser. Ltd.	
Nucleus SW Exports Ltd.	Career Launcher(I) Ltd.	
Omega Interactive Tech. Ltd.	CMC Ltd.	
Infotech Enterprises Ltd.	CDS International Ltd.	
K P I T Cummins Infosys. Ltd.		
Datamatics Ltd.		
DCM Data Systems		
L & T Infotech Ltd.		
Geometric SW SOL. Ltd.		
Kale Consultants Ltd.		
Spanco		
Microland Ltd.		
Megasoft Ltd.		
STG(I)		
Softsol India Ltd.		
Prithvi Info. Solutions Ltd.		
I T C Infotech India Ltd.		
Igate Global Solutions Ltd.		
H C L Technologies Ltd.		
Danlaw Tech. (I) Ltd.		
Lanco Global Systems Ltd.		
Ramco Systems Ltd.		
Ontrack Systems Ltd.		
Syntel Ltd.		
ASP Technologies		
Bangalore Softsell Ltd.		
Solix Technologies Ltd.		
N I I T Technologies Ltd.		
TCS Ltd.		