CHAPTER 4

RESULTS

The statistical results of this study were based on the methodological research made by Bennet et al (1999) and Chase (1997). The reliability test using Cronbach's Alpha model was used to evaluate the reliability of the measures as suggested by Nunnally (1978). Churchill (1979) suggests that this calculation be the first measure one uses to assess the quality of the data. Cronbach's alpha model can be considered adequate index of the inter-item reliability of independent and dependent variables (Sekaran, 1992). Cronbach's alpha model was computed for each items within each section: D, E, F, G, and H (see Table: 5,6) indicating reliability. Hence the scales for each section were compared to form composite variables. Nunnally (1979) suggests that constants have reliability values of 0.7 or greater. In Table: 5 alpha values for D were 0.91, for E=0.89 and F=0.69, while in Table: 6, the alpha values for G was 0.87, H was 0.79 and for G=0.61. Since Table: 4 had limited number of questions in the survey form, alpha values were not generated.

Table: 1 gives the responses for the questions related to i) respondent suffered costly mistakes because employees lack sufficient knowledge or knowledge was not available when needed and ii) critical skills or expertise

FREQUENCY DISTRIBUTION

		No. of respondents = 137	
		Yes	No
1.	Have you suffered costly mistakes because employees lack sufficient knowledge or knowledge was not available when and where needed?	89 (65%)	48 (35%)
2.	Are there critical skills or expertise where it would be valuable for more employees to possess such knowledge of what is only currently known by one or two persons?	108 (78.7%)	29 (21.2%)

Table-1

KNOWLEDGE MANAGEMENT SYSTEMS

Use of electronic-mail to share expertise	109	(79.6%)
Use of Intranet to publish information	83	(60.6%)
Electronic storage of company processes / manuals	77	(56.2%)
Technical libraries within your company	105	(76.6%)
Technical seminars / presentation within your company	91	(66.4%)

Table-2: Knowledge Management Systems

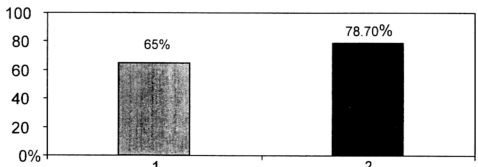
where it would be more valuable for more than one employees to possess such knowledge of what is only available by one or two persons. Figure: 2 shows the results for the questions No1 and No.2

Table: 2 gives the responses for questions related to the knowledge management systems in the organisations. The results are shown in Figure: 3. 79.6% of the respondents surveyed used electronic mail such as lotus-notes, etc to share expertise, followed by 76.6% who use technical libraries within the organisation, 66.4% used technical seminars/presentations within the company, 60.6% use the intranet to publish information and 56.2% use electronic storage of processes/manuals.

Table: 3, gives the results of the responses for questions relating to the main challenges facing organisation in managing knowledge. Respondents marked the major challenges and the results are shown in Figure: 3. Among the major challenges faced by the organisations, 83.2% of the respondents agreed that changing people's behaviour was the major challenge followed by retaining talented people, lack of time 51.8% and making knowledge available 49.4%.

Further, linear regression was run for Tables 4, 5 and 6 to explain the dependent variables. P1 tested the relationship between knowledge management and the competitive environment. P2 tested the relationship between knowledge management and organisational factors and P3 tested

Figure 2: Responses for Questions No1. & No .2



1. Have you suffered costly mistakes because employees lack sufficient knowledge or knowledge was not available when and where needed.

2. Are there critical skills or expertise where it would be valuable for more employees to possess such knowledge of what is only currently known by one or two persons.

Total No. of respondents = 137

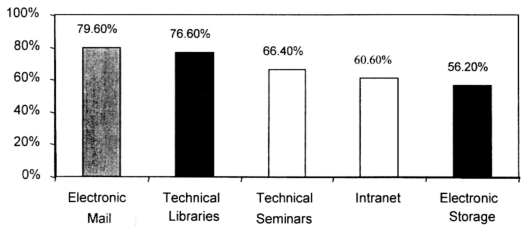
BARRIERS TO KNOWLEDGE MANAGEMENT SYSTEMS

Changing people's behaviour	114	(83.2%)
Attracting and retaining talented people	72	(52.6%)
Making knowledge available	68	(49.4%)
Technological limitations	42	(30.7%)
Determining what knowledge should be managed	37	(27%)
Non-standardised processes	56	(40.9%)
Top-management commitment	59	(43.1%)
Emphasis on individual rather than team	38	(27.7%)
Documenting Expertise	56	(40.9%)
Lack of time	71	(51.8%)

Table-3: Barriers to Knowledge Management Systems

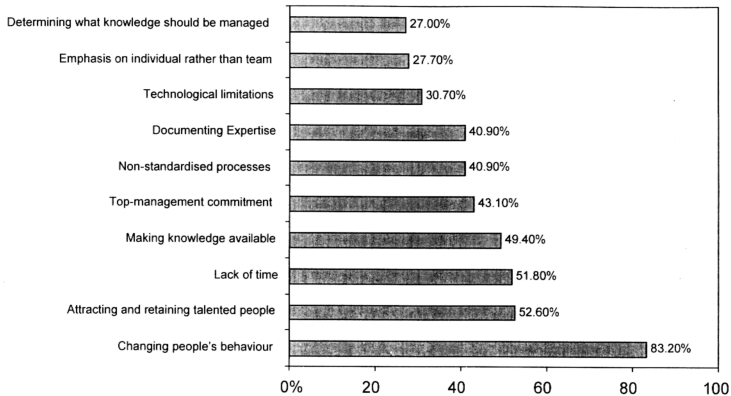
No. of respondents = 137

Figure-3: Knowledge Management Systems



Total No. of respondents = 137

Figure 4: Barriers to Knowledge Management



Total No. of respondents = 137

COMPETITEVENESS

Total No. of respondents = 137

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
A. Environment					
Our organisation operates in a fiercely competitive environment	66 (48.2%)	42 (30.7%)	15 (10.9%)	11 (8.0%)	3 (2.2%)
The markets in which our organisation operates are subject to rapid and unexpected change	19 (13.9%)	71 (51.8%)	24 (17.5%)	23 (16.8%)	0
B. Innovativeness					
Our organisation can quickly reallocate its resources to exploit emerging opportunities	6 (4.4%)	44 (32.1%)	65 (47.4%)	22 (16.1%)	0
Managing knowledge will increase innovativeness	25 (18.2%)	80 (58.4%)	21 (15.3%)	4 (2.9%)	7 (5.1%)
C. Financial Resources					
Our organisation's overall financial performance is better than that of our competitors	10 (7.3%)	43 (31.4%)	61 (44.5%)	14 (10.2%)	9 (6.6%)

Table-4: Competitiveness

the relationship between knowledge management and employee attitude. The results are tabulated in Table: 11.

Table 4: shows the results of the questionnaires where organisation is perceived to be in a competitive market, innovativeness and financial performance. Regression A attempts to confirm the proposition that firms in a highly competitive environment tend to have more knowledge management systems than the rest. Further the regression also confirms that innovativeness has a strong correlation and confirms the proposition that firms show innovative tendency to explain the adoption of knowledge management systems.

Regression B in Table11 explains that highly bureaucratic and centralised decision making organisation tends to use less knowledge management systems (Chase, 1997). Further the regression confirms that organisations that are adaptable and flexible tend to use more management systems than those who do not. Hence this confirms the second proposition.

Regression C shows that organisations where the employee's sharing knowledge and teamwork tend to have knowledge management systems than those organisations where employees who do not share knowledge and expertise.

In addition to regression, T-Tests was run on the two groups – oil & gas and power sectors to confirm the statistical correlation. Since the responses were small, oil & gas = 94 and power=43 there was no statistical correlation between the two groups.

ORGANISATIONAL FACTORS	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
					No. of respondents=137
D. Decision-making (alpha=0.91)					
It takes our organisation a long time to change its working methods and procedures	26	52	34	21	4
	(19%)	(19%)	(38%)	(24.8%)	(15.3%)
Our organisation has many rules and procedures that must be followed when making decisions that lead to change	13	69	22	26	7
	(9.5%)	(50.4%)	(16.1%)	(19%)	(5.1%)
Management decision making within this organisation is highly centralised	18	52	39	17	11
	(13.1%)	(38%)	(28.5%)	(12.4%)	(8%)
E. Adaptability (alpha=0.89)					
Business practices which are successful in one part of the organisation are often adopted by other parts of the organisation	3	57	38	34	5
	(2.2%)	(41.6%)	(27.7%)	(24.8%)	(3.6%)
Our organisation regularly experiments and innovates new technologies/processes	19	33	36	33	16
	(13.9%)	(24.1%)	(26.3%)	(24.1%)	(11.7%)
Our physical environment encourages creativity	6	24	66	34	7
	(4.4%)	(17.5%)	(48.2%)	(24.8%)	(5.1%)
If other firms introduce new technology, we quickly adopt them	12	29	48	43	5
	(8.8%)	(21.2%)	(35%)	(31.4%)	(3.6%)
F. Miscellaneous (alpha=0.69)					
Employees of our organisation are encouraged to question existing policies, to innovate and challenge current systems	7	37	35	45	13
	(5.1%)	(27%)	(25.5%)	(32.8%)	(9.5%
Our organisation invests time and money to build people's "know-how" and expertise	3	57	43	24	10
	(2.2%)	(41.6%)	(31.4%)	(17.5%)	(7.3%)
Our organisation rewards people for acquiring new knowledge and skills	4	27	53	38	15
	(2.9%)	(19.7%)	(38.7%)	(27.7%)	(10.9%)

Table-5: Organisational factors

EMPLOYEE ATTITUDE

No. of respondents = 137

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
G. Sharing Knowledge (alpha=0.87)					
People here learn on their own	39 (28.5%)	54 (39.4%)	25 (18.2%)	19 (13.9%)	0
People here learn in groups	4 (2.9%)	63 (46%)	54 (39.4%)	14 (10.2%)	2 (1.5%)
People are willing to share their ideas with others	7 (2.9%)	58 (42.3%)	57 (41.6%)	13 (9.5%)	2 (1.5%)
People are willing to use other people's ideas	14 (10.2%)	59 (43.1%)	51 (37.2%)	11 (8%)	2 (1.5%)
H. Teamwork (alpha=0.79)					
People consider themselves experts and prefer not to collaborate with others	1 (0.7%)	26 (19%)	46 (33.6%)	50 (36.5%)	14 (10.2%)
In our organisation interdisciplinary cross-functional teamwork is extremely important for taking decisions and solving problems	26 (19%)	60 (43.8%)	31 (22.6%)	13 (9.5%)	7 (5.1%)
People from different departments frequently interact to discuss new strategies and plans	12 (8.8%)	58 (42.3%)	31 (22.6%)	27 (19.7%)	9 (6.6%)
I. Miscellaneous (alpha=0.61)					
Within this organisation people tend to disseminate the knowledge they acquire through informal rather than formal methods	11 (8%)	71 (51.8%)	30 (21.9%)	17 (12.4%)	8 (5.8%)
Within this organisation, knowledge is disseminated to a wide range of people rather than on a 'need to know' basis	4 (2.9%)	32 (23.4%)	42 (30.7%)	45 (32.8%)	14 (10.2%)

Table-6: Employee Attitude

DEMOGRAPHIC STUDY

No. of respondents = 137

Below 5 years	5-10 years	10-15 years	15–20 years	Above 20 years
38	58	23	8	10
(27.7%)	(42.3%)	(16.8%)	(5.8%)	(7.3%)

Table-7: Respondents experience

CEO / MD	Director / VP	GM	Manager	Senior Engineer	Others
6	5	6	44	36	40
(4.4%)	(3.6%)	(4.4%)	(32.1%)	(26.3%)	(29.2%)

Table-8: Respondents position

0-50	51-100	101-250	251-500	501-750	751-1000	More than 1000
47	11	26	17	3	5	28
(34.3%)	(8%)	(19%)	(12.4%)	(2.2%)	(3.6%)	(20.4%)

Table-9: Organisation size (No. of employees)

Oil & Gas	Power
94	43
(68.6%)	(31.4%)

Table-10: Industry sector

Regression Analysis	No. of respondents = 137
	(P=0.05 level)
A. Competitiveness	
1. Environment	0.031
2. Innovativeness	0.007*
3. Financial resources	0.51
B. Organisational Factors	
4. Decision making	0.37
5. Adaptability	0.021
C. Employee Attitude	
7. Sharing Knowledge	0.036
8. Teamwork	0.032

Table 11: Regression Analysis

Note: * Denotes statistical significance at 0.01 level

Figure 5: Schematic of the statistical results