STRATEGY AND COMPETITOR COGNITION: AN EXPLORATORY STUDY OF COGNITIVE MAPS OF COMPETITION HELD BY 'INSIDE' AND 'OUTSIDE' INDUSTRY ACTORS

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ABSTRACT

The study examines perceived similarities/dissimilarities between mental models of competition of industry 'insiders' (managers of competing organizations) and industry 'outsiders' (e.g. consultants and analysts). The mental models of competition of industry actors' of retail banking were elicited using the full context form of the repertory grid. Results indicate the existence of homogeneous mental models of competitive space between 'industry outsiders' and 'industry insiders'. These findings support 'social constructionist' explanations of competitive structures in markets and industries. Interpreting the results, we argue (a) that managers can rely on 'industry outsiders' assessments of competitive space and (b) managers can actively interact with 'industry outsiders' to ensure that beliefs of all industry participants cohere on a similar platform, thus creating less ambiguous market fields.

Keywords: Cognitive Strategy, Managerial Cognition, Competitor Dynamics, Mental Models

INTRODUCTION

Identifying, articulating, and anticipating its competitors' moves are very critical for a firm in gaining and maintaining competitive advantage. The traditional model of strategy making treats competitor analysis as a linear, sequential process (Porter, 1980). It assumes that the decision maker will conduct an exhaustive analysis of his or her external and internal environment before adopting an appropriate generic strategy. It disregards managers' limited cognitive capabilities to undertake such an analysis (Schwenk, 1988). To circumvent their limited processing capability, managers often resort to simplification of their environment in the form of heuristics, 'thumb rules' and mental model categorisation (Stubbart, 1989). In contrast, the emerging cognitive perspective of strategy making places the manager and his or her mental models of firms' competitive environment and resources at the centre of the entire process of strategy formulation (Narayanan, Zane, & Kemmerer, 2011). Managers perceive their environment selectively and variedly and these perceptions or mental models of competitive space determine the effectiveness of firm strategies (Tyler & Gyanwali, 2009). Managerial and firm level mental models interact overtime to produce homogeneous industry frameworks or "industry recipes" (Spender 1989; Porac, Thomas, Wilson, Paton, & Kanfer, 1995).

Industry recipes evolve from sense-making processes of various industry participants like managers of competing organizations, customers, consultants, academics, business publications, stock analysts and shareholders. However, studies on competitor cognition have mainly focused on two groups of market participants: Managers (Gripsrud & Gronhaug, 1985; Porac & Thomas, 1990; Clark & Montgomery, 1999) and customers (De Chernatony, 1989; De Chernatony, Daniels, & Johnson 1993a,1993b; Hodgkinson, Tomes, & Padmore, 1996; Hodgkinson, 1997). This study seeks to bridge the gap by studying competitor cognitions of a wider group of market participants. Towards that end, we examine the perceived similarities and dissimilarities between mental models of competitive environment of industry 'insiders' (managers of competing organizations) and industry 'outsiders' (e.g. consultants, academics, analysts and shareholders).

The study of perceived similarities/dissimilarities between mental models of competitive structures of industry actors has important implications for the theory and practice of strategic management as the corporate strategies are marshaled through the perceptual filters of strategists' mental model. Perceived similarities leading to strong convergence of mental models amongst all industry actors could create inertial tendencies (Reger & Palmer, 1996) and dissimilarities of the same could increase chances of market failure. Our paper has three specific objectives. First, we provide a brief overview of managers' knowledge structures of competitive environment. Second, we articulate the research question about perceived similarities/dissimilarities between mental models of competitive environment of industry 'insiders' and 'outsiders' and propose the hypotheses. Third, we present the research design, data analysis, and discuss the results. Finally, we conclude through a discussion of the managerial implications and limitations of our research findings.

MANAGERS' KNOWLEDGE STRUCTURES OF COMPETTIVE ENVIRONMENT

The extant literature has addressed three broad issues: simplification of the process of identifying competitors, categorizing and grouping them on some relevant dimensions, and identifying forces inducing convergence among the mental models of various industry actors. Gripsrud and Gronhaug (1985) were the first to show that managers consider only a modest fraction of 'objectively' discernable competitors as important rivals. On an average, managers in their study conducted in a small Norwegian town, named about three competitors each out of a total of forty-three retailers. Their findings "suggested that an adequate assessment of retail structure as a determinant of retail strategy and performance is difficult to make from 'objective' market structure data alone."

In a study by Clark and Montgomery (1999), managers named relatively very few competitors. In both the studies by De Chernatony, Daniels, and Johnson (1993a, 1993b), limited subset of firms were found to exist in the respondent managers' competitive space. In the former study a total of 56 firms were named by two groups of respondents, suppliers and buyers. Suppliers mentioned on average 5 competitors and the average was 4.2 competitors in case of buyers. In the latter study consisting of 24 senior managers, the average number of competitors named by each manager was five. Porac and Thomas (1994) study of retail managers found that managers had relatively narrow band of rival firms in their mind. Porac, Thomas, and Baden-Fuller (1989) concluded that managers limit their vision of the marketplace by psychologically segmenting it. They refer to this process of segmentation as formation of 'cognitive oligopolies.'

Studies have found managers using various dimensions to define, categorize their competitors into groupings that are amenable to be processed smoothly by their limited attention capabilities. In Gripsrud and Gronhaug (1985) study, a particular store was perceived to be a competitor by 11 other retailers because this store in question was having largest sales in that area. Likewise stores that were very near were perceived as the most important competitors. In Clark and Montgomery (1999) study, managers relied more on supply-based attributes to identify competitors than demand-based attributes. They conclude that this might be due to the tendency of the business world to "favor product categories (as opposed to customer benefits) as a way of classifying firms." Attributes such as size, target firm success and threatening behavior by the target firm were found to be significant but not dominant attributes used in the competitor identification process.

A slightly different categorization approach was followed by a group of studies (Porac, Thomas, & Baden-Fuller, 1989; Porac & Thomas, 1994). These studies using taxonomic interview procedures have found support for claims that managers' mental models are arranged according to the principles of cognitive psychology. Further, the Industrial Organization paradigm literature on strategic groups (Thomas & Venkatraman, 1988; Thomas & Pollock, 1999) has mainly used economic and financial measures to group competing firms. Reger (1990) and Reger and Huff (1993) have questioned these findings and concluded that managers use different sets of measures to classify competitors into groups and economic and financial measures are just one among them. In Reger (1990) study managers used dimensions like history of

competitors, past and expected future successes, management competency and future strategic directions.

Research works studying homogeneity among managers' mental models have yielded conflicting results. Some studies have found significant levels of homogeneity among mental models of managers of competing firms (Calori, Johnson, & Sarnin, 1992; Porac, Thomas, & Baden-Fuller, 1989, Porac, et al., 1995; Reger & Huff, 1993; Spender, 1989; Walton, 1986). Others have found varying degrees of heterogeneity among mental models of managers (Daniels et al., 1994; De Chernatony et al., 1993a, 1993b; Hodgkinson & Johnson, 1994; Johnson et al., 1998; Reger, 1990). Porac and Thomas (1994) study of U.S. grocery retail managers found that managers grouped firms which were perceived to be the most similar. Porac et al. (1989) established support for their claim that knowledge structures of competitive environment are represented in a hierarchical fashion and were also similar in their content and structure.

Porac et al. (1989) argue that with increasing rates of belief similarity of actors' mental models over time creates stable market networks resulting in what Spender (1989) labels as 'industry recipe', which informs rivals on what bases they will be competing with one another. They show how the structure of that industry both determines and is determined by managerial perceptions of the environment, this forming the basic premise of the theory of competitive enactment (Smircich & Stubbart, 1985). These findings also support the 'social constructionist' view on evolution of market structures (Whitley, 1992). The Calori et al. (1992) study which had 16 English and 17 French managers as its respondents, demonstrated significant convergence and divergence among managers' mental models. A higher level of similarity was found in both the cases - among mental models of managers belonging to the same industry and among mental models of managers operating from the same national base.

Daniels et al. (1994) work found managers' mental models being most diverse at company and management levels, and this diversity was less at the company level and least at the management function level. Similarly, De Chernatony et al. (1993a) showed that mental models of managers across competing firms had low convergence levels, but the convergence levels were high for mental models within the same firms. The second study by De Chernatony et al. (1993b) looked at the dimensions suppliers and buyers use to evaluate competitors. The sample consisted two sets of respondents - suppliers and buyers. The suppliers were required to name who their competitors were and the buyers were asked to identify who was competing for their custom. Managers' mental models of competition were found to be diverse and highly idiosyncratic.

Hodgkinson and Johnson (1994) study, adopting a modified version of taxonomic interview procedures found the mental models displaying varying degrees of heterogeneity and homogeneity. The mental models were homogeneous within the same functional area and within the same organization. The mental models were heterogeneous between functional areas and between organizations. Johnson et al. (1998) retested these functional area and organization effect hypothesis and found weak support for the former and no support for the latter. In addition to these two re-tests, the study also tested national and organizational level effects and these two effects were supported. In other words managers of

the same country are likely to hold similar mental models and managers functioning at the same organizational level will hold similar mental models.

Daniels, Johnson, and De Chernatony (2002) found middle managers rating mental models of other middle managers in their own organization as most similar to their own. The senior managers were found to possess mental models which differed from mental models of managers within their organization and also of their competitors. The authors conclude that institutional environment plays a significant role in patterning similarities in middle managers' mental models. They also argue that greater differentiation amongst senior managers' mental models might be due to the influence of task environment. Spencer, Peyrefitte, and Churchman (2003) also contend that institutionalization processes and task environment factors bear significant influence on managers' mental models of competition. They further elaborate that task environment influences originate from distinctive strategic positions adopted by firms to achieve competitive advantage. Finally, Tyler and Gyanwali's (2009) study moves beyond narrow confines of competitor cognition and focuses on much broader managerial mental models of market orientation. Using a multi-method case study, they examine shared mental models of market orientation in terms of competitor, customer, technology, and inter-functional coordination. Findings indicate that top managers displayed more comprehensive, shared, and integrated mental models of market orientation in terms of internal strengths (technology and inter-functional coordination), external opportunities (customer needs), and threats (competitors' cost advantages).
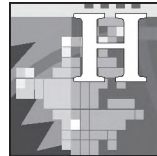
HYPOTHESES

All the studies published so far on cognitive perspective of competitive structures, and reviewed over here, have focused on studying convergence levels of mental models of industry 'insiders' (e.g. managers of competing firms, exception being De Chernatony (1989) and Daniels et al. (1994) who have looked at customers mental models). Our study seeks to bridge the gap by studying the perceived similarities/dissimilarities between mental models of competitive environment of industry 'insiders' and 'outsiders' (e.g. consultants, academics, analysts and shareholders). Chen, Farh, and Macmillan (1993) exploration of the expertness of four groups of industry 'outsiders' - consultants, security analysts, stakeholders, and academics found analysts to be the most accurate and highly reliable followed by academics, who were as reliable as consultants and stakeholders. Beliefs and commonly held assumptions of competitive interaction are part of this 'expertness' that guide strategic action. This belief similarity among market participants might be the result of market information regimes (Anand & Peterson, 2000). They note that "market information regimes are the medium through which producers observe each other and market participants make sense of the world… In market information regimes, information typically takes the forms of sales reports of "hot selling" items, newspaper articles, rumors or gossip with connections to past, present, and future courses of action". Their study shows that information regime acts as a market structuring mechanism, where the interactive beliefs of different market participants cohere around a well defined competitive market boundary.

This is expected in H1.

Hypothesis 1: There will be perceptual similarity about the composition of competitive space between industry 'insiders' and industry 'outsiders.'

Hypothesis 1a: There will be perceptual similarity about the composition of competitive space between managers and consultants.

Hypothesis 1b: There will be perceptual similarity about the composition of competitive space between managers of listed companies and analysts.

METHOD

Sample

The participants in this study were selected from national retail banking industry. This included 3 categories - retail bankers, consultants who consulted the industry, and financial analysts following the national retail banking industry. The first category was representative of 'industry insiders' and the remaining two categories representing 'industry outsiders'. The industry was selected as it satisfied three parameters – two of competitor cognition literature and one of data set. Firstly, the retail banking industry had more than 100 banks vying for the retail pie, rendering it a critical mass of competitive space. This critical mass, we felt, was enough in terms of placing large demands on a managers' processing capability, given his/her cognitive limitations as brought out by the literature review. Secondly, the industry is faced with immense competition from other sectors like non-banking finance companies, resulting in blurred competitive boundaries. Finally, we felt after interacting with industry consultants having general management practice, that the retail banking industry had relatively better strategic planning and competitive tracking systems in place when compared to other industries.

The selection criteria applied in selecting the respondents for the study was as follows: Retail bankers – managers who were involved in the competitive strategy decision making process and held positions like Executive Vice-President, VP and Product Head. Consultants – consultants consulting the retailing banking industry and having a minimum of 2 years of retail banking consulting experience. Financial analysts – analysts currently following the retail banking industry and having a minimum of 2 years experience in analyzing the industry. The sampling technique adopted was a variant of convenient sampling (a variant in the sense, we asked the initial respondents in our study to name and refer us to managers in their organization or their competitor organization). This technique was selected considering the difficulties like getting managers to talk about their competition, executive time pressures and the practice of consultants not publishing their consulting experience (the exception being financial analysts who were tracked by their articles). A total of 50 respondents were interviewed - 29 bankers from 11 banks, 10 consultants from 6 consulting organizations and 11 financial analysts from 8 organizations (1 independent analyst). The interviews were conducted at the respondents' office in the period and all the respondents were male except two. Though a sample of 50 respondents may seem small, there is literature suggesting that a sample of 15 to 25 would generate enough constructs representative of its universe and most of these constructs were elicited from a few first respondents (Ginsberg 1989).

Procedure

In order to test the hypothesis stated in the study, the nature of data elicited should establish the existence 'content similarity' in mental models of 'industry outsiders' and 'industry insiders'. This 'content similarity' is operationalized in terms of respondents naming similar set of competitors and defining the set on similar constructs. Although there exist varied cognitive mapping techniques (Huff, 1990), only a handful of them have been used in the competitor cognition literature. These techniques are hierarchical sorting method, repertory grid and visual card sort technique. This study used repertory grid which measures similarities in individual mental models across the three groups. The other two methods were not found suitable to the study purpose as the former has been primarily used to "map out collective beliefs" and the latter fails to produce as detailed and complex maps as in repertory grid (Daniels, De Chernatony, & Johnson, 1995). The repertory grid technique was developed by George Kelly (as cited in Bannister & Mair, 1968) to operationalize his Personal Construct Theory and a detailed account of the theory and technique is found in their book.

A repertory grid interview was administered to each of the participant lasting for about 25 minutes on an average. Firstly, the managers were asked to produce a list of their competitors (other two categories of 'industry outsiders' were asked to produce a list of closely competing banks in the retail banking industry). These in repertory grid terms are called 'elements'. Secondly, the names of the competitors elicited were written on small cards and three cards were randomly presented at a time. This random generation of cards was done with the help of random number tables. Thirdly, the respondents were asked to identify two firms that were similar on an important attribute that differentiated them from the third. The exact words assigned to two firms being similar (similarity pole) and the third being dissimilar (contrast pole) were recorded. These in repertory grid terms are called 'bi-polar constructs'. Though a construct has two poles, our study will be using just constructs to differentiate the competitors as we are focusing on the content part of competitor cognition and not the structure part. Finally, the second and third steps were repeated till no new constructs to differentiate competitors were elicited from the respondent. For instance, a respondent of a leading public sector bank identified 11 competing banks (including his), and the following constructs or attributes that he thought differentiated his bank from those of his competitors: Public sector/private sector; large/small branch network; large/small ATM network; country wide presence/narrow & focused presence; High technology/low technology; Many customer segments/few customer segments; Head office control/Branch control; Good customer service/Bad customer service; International bank/Domestic bank; Fast decision making/Slow decision making; Highly profitable/Not so profitable; and Trustworthy/Not so trustworthy.

All 50 respondents used 712 constructs in total to define their competitors. Some respondents used different wordings to describe a construct, which in meaning was essentially the same used by all others. So to weed out duplicate items, labels like more high tech; better technology platform; better technology; more higher tech; better utilization of technology; excellent IT infrastructure (central database); better tech-

orientation: tech-savvy; better IT systems; ready made technology were all changed to a label 'technology'. For instance, using the above example of the public sector bank respondent, the following constructs were used in the analysis (the respondent's bi-polar responses are in parentheses): Government ownership (Public sector/private sector); Branch network (large/small branch network); ATM network (large/small ATM network); Geographic spread (country wide presence/narrow & focused presence); Technology (High technology/low technology); Customer segments (Many customer segments/few customer segments); Autonomy (Head office control/Branch control); Customer service (Good customer service/Bad customer service); Foreign ownership (International bank/Domestic bank); Decision making speed (Fast decision making/Slow decision making); Profitability (Highly profitable/Not so profitable); and Trustworthiness (Trustworthy/Not so trustworthy). After this procedure 232 discrete constructs were left which formed the total list of constructs named by all respondents. All respondents named 321 competitors in total and 32 were found to be discrete.

Though the managerial cognition literature acknowledges that comparing idiographic maps still proves to be a problem area (Hodgkinson, 1997), there is no dearth of reasonably good solutions to carry out the procedure (Eden & Ackermann, 1998). The approach taken by this study is to follow two important studies - Porac, Thomas, and Baden-Fuller (1989), and Daniels, Johnson, and De Chernatony (2002) in cluster analyzing each respondent in terms of the competitors named and constructs used to define competitors. Both the studies argue that the best way to test the similarities/dissimilarities of mental models of competition was through hierarchical cluster analysis and its output - hierarchical dendrograms. Therefore, agglomerative hierarchical cluster analysis with binary squared Euclidean distance measure of similarity, and Ward's sum of Squares clustering algorithm was used in analyzing the data. Ward's method was used as it avoids "chaining" problems present in other methods (Hair Jr., Anderson, Tatham, & Black, 1992). Another clustering technique K-clustering was found to be inappropriate, as it demands number of clusters to be specified before the analysis. This, we felt would impose clustering rather than generating clusters. The respondents data set consisting of competitors named and constructs elicited were binary coded. A respondent was coded 1 if he had named a competitor present in the total list of competitors named by all respondents and 0 for not naming. A respondent was given 1 if he had named a construct present in the total list of constructs named by all respondents and 0 for not naming. The first cluster analysis was carried out on 50 respondents clustering on the elements they named and the second cluster analysis on the constructs they used to differentiate competitors. We would briefly outline the procedure followed by hierarchical cluster analysis:

1. Standardization of the variables (Binary coding the data).

2. Calculation of similarities and distances between two objects (Binary squared Euclidean distance was used due to the binary nature of data)

3. Algorithms used to form clusters: Agglomerative methods like Ward's, consider each case to be a separate cluster at the beginning of the analysis. In the second step Ward's algorithm finds next two subjects that are most similar and creates a cluster with two subjects. In the third step, it identifies the next two most similar subjects and creates a two-subject cluster. Ward's algorithm proceeds in this fashion of combining a single subject into a pre-existing cluster till all the subjects are finally combined into one cluster.

4. Interpretation of the Agglomeration schedule determining the optimal number of clusters: The results of agglomerative hierarchical cluster analysis is usually summarized in an agglomeration schedule. The schedule displays the cases being combined at each stage of the process and the clustering coefficient. The coefficient is the squared Euclidean distance over which the any cases were joined. Small coefficients indicate that very similar subjects or clusters are being clustered and large coefficients indicate that very dissimilar subjects or clusters are being clustered. The coefficients also guide the researcher in deciding how many clusters are needed to represent the data. One should usually stop agglomerating as soon as the increase in the coefficient between two steps becomes very large. Another tool which helps in interpreting the results of agglomerative clustering is a dendrogram. The dendrogram shows which subjects/clusters were joined together into clusters and at what distance. The dendrogram plotted by SPSS (Norusis, 1994) for this study does not plot actual distances but rescales them to numbers between 0 and 25. To the question 'how many clusters should be formed?' there lies "no standard, objective selection procedure exists" (Hair Jr., et al., 1992). The literature suggests that theory about the number of underlying groups, ease of profiling the groups and magnitude of change in the agglomeration coefficient should serve as useful guidelines to select optimal number of clusters.

RESULTS AND DISCUSSION

The results of the study will be presented addressing the analysis of two specific issues. Firstly, cluster analysis of the competitors named by respondents and secondly, cluster analysis of constructs named by the respondents. The agglomeration schedule of the cluster analysis of competitors named respondents is shown in Table 1.1. While inspecting the agglomeration levels in the Table 1.1 for sudden increases in the agglomeration levels, one would find that a big jump has occurred at stage 48, where the coefficient jumps in going from two to one cluster (140.100 - 96.792 = 43.308). This clearly suggests that a two-cluster solution should be selected as largest increases were seen in going from two to one cluster. However, to put the findings to a much more rigorous scrutiny, the study selected stage 46 at which another big jump is noticed in the agglomeration coefficient (84.519-75.400 = 9.919). At this stage the algorithm is clustering respondents two and thirteen, resulting in all the respondents being clustered into 4 clusters (50 − 46 = 4). Therefore, a four-cluster solution was found to be optimal. The dendrogram showing a four-cluster solution is displayed in Figure 1.1. The respondents have been identified in the dendrogram with a label of six alphabets, the first four and the last two abbreviating their name and organization respectively. The coding scheme for respondents is 'B' for banker-managers, 'C' for consultants and 'F' for financial analysts. Two long bars denote the point where the two respondents two and fourteen have been combined into a cluster.

Respondents-Competitors Dendrogram using Ward Method Rescaled Distance Cluster Combine
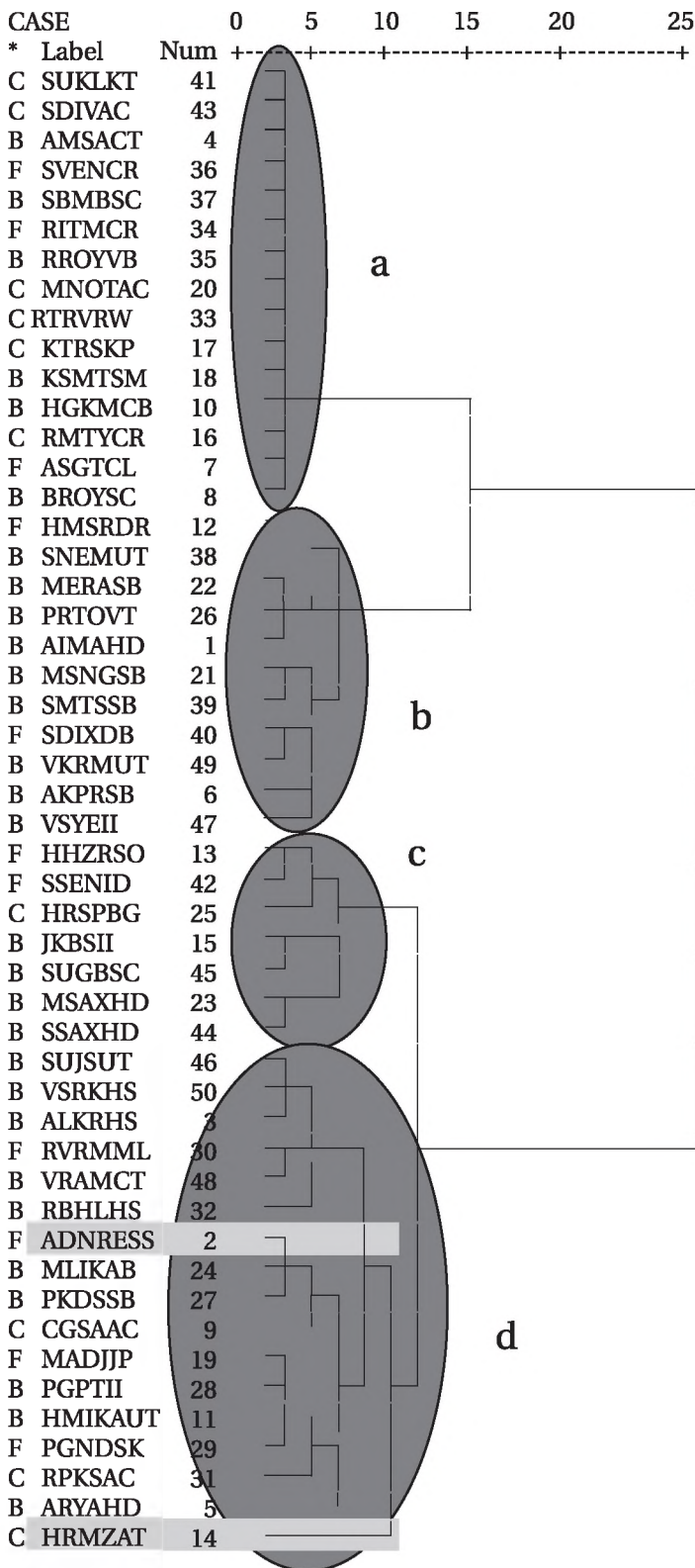

figure 1.1

*Legend:
B-Bankers
C- Consultants
F-Analysts

Table 1.1 Respondents - Competitors Agglomeration Schedule

Stage	Cluster Combined		Coeffi cients	Stage Cluster First Appear		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	41	43	.000	0	0	2
2	4	41	.000	0	1	4
3	36	37	.000	0	0	4
4	4	36	.000	2	3	6
5	34	35	.000	0	0	6
6	4	34	.000	4	5	9
7	20	33	.000	0	0	9
8	22	26	.000	0	0	26
9	4	20	.000	6	7	11
10	17	18	.000	0	0	11
11	4	17	.000	9	10	13
12	10	16	.000	0	0	13
13	4	10	.000	11	12	15
14	7	8	.000	0	0	15
15	4	7	.000	13	14	48
16	46	50	.500	0	0	19
17	19	28	1.000	0	0	20
18	2	24	1.500	0	0	30
19	3	48	2.333	0	16	34
20	11	19	3.167	0	17	27
21	15	45	4.167	0	0	40
22	23	44	5.167	0	0	40
23	13	42	6.167	0	0	40
24	21	39	7.167	0	0	33
25	12	38	8.167	0	0	39
26	1	22	9.500	0	8	32
27	11	29	10.917	20	0	37
28	40	49	12.417	0	0	38
29	30	48	13.917	0	0	34
30	2	27	15.417	18	0	36
31	6	47	17.417	0	0	36
32	1	12	19.483	26	25	44
33	13	25	21.817	23	0	41
34	3	30	24.183	19	29	35
35	3	32	26.650	34	0	45
36	2	9	29.400	30	0	43
37	11	31	32.250	27	0	42
38	6	40	35.500	31	28	39
39	6	21	38.917	38	24	44
40	15	23	42.417	21	22	41
41	13	15	46.726	33	40	47
42	5	11	51.126	0	37	43
43	2	5	56.076	36	42	45
44	1	8	61.237	32	39	48
45	2	3	67.933	43	35	46
46	2	14	75.400	45	0	47
47	2	13	84.519	46	41	49
48	1	4	96.792	44	15	49
49	1	2	140.100	48	47	0

The rescaled distance cluster combine is five, and below this distance four clusters labeled a, b, c and d are evident and are also marked by grey circles. A striking feature of the dendrogram is the absence of a distinct cluster purely representing any one of the three groups of respondents. In each of the four clusters all the three groups have been represented more or less proportionately and very strongly so in cluster 'a'. Cluster 'a' consists of five consultants, three financial analysts and six managers. It constitutes 30% of the total respondents and each group has 30% representation of their respective groups. They

have been combined at rescaled distance cluster combine of 1, which means that they have very strong similarities. This indicates the homogeneity of perceptions of competitive space (competitors named) between 'industry insiders' and 'industry outsiders', thus strongly supporting Hypothesis 1a and Hypothesis 1b.

The agglomeration schedule of the cluster analysis of constructs used by respondents to define competitors is shown in Table 1.2. While inspecting the agglomeration levels in the Table 1.2 for sudden increases in the agglomeration levels, one would find that a big jump has occurred at stage 46, where the coefficient jumps in going from four to three clusters (487.479 - 463.711 = 23.768). This clearly suggests that a four-cluster solution should be selected as largest increases were seen in going from four to three clusters. The dendrogram showing a four-cluster solution

is displayed in Figure no. 1.2. Two long bars denote the point where the two respondents numbered one and seven have been combined into a cluster. The rescaled distance cluster combine is five, and below this distance four clusters labeled e, f, g and h are evident and are also marked by grey circles. Again a striking feature of the dendrogram in Figure 1.2, as was observed in the previous finding is the absence of a distinct cluster purely representing any one of the three groups of respondents. Cluster 'e' has three consultants, nine managers and one financial analyst. This trend is reproduced in each of the clusters where there are at least one or two consultants/financial analysts in each of the groups. Though four distinct clusters might have been formed, the three groups have very strong membership in all the four clusters. This strongly supports Hypothesis 1a and Hypothesis 1b.

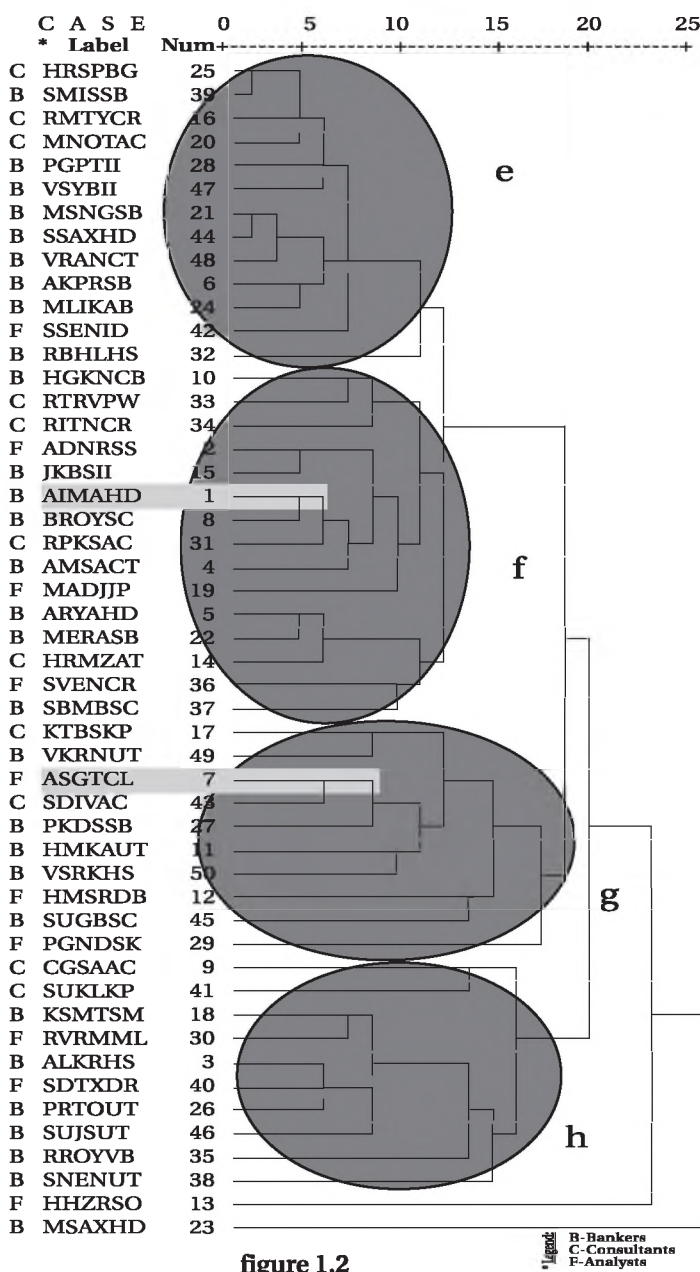### Respondents-Constructs Dendrogram using Ward Method Rescaled Distance Cluster Combine

figure 1.2

Table 1.2 Respondents - Constructs Agglomeration Schedule

Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	25	39	1.000	0	0	4
2	21	44	3.500	0	0	3
3	21	48	7.667	2	0	11
4	16	25	12.000	0	1	16
5	6	24	17.00	0	0	10
6	16	20	22.167	4	0	11
7	5	22	27.667	0	0	17
8	2	15	33.167	0	0	27
9	1	8	38.667	0	0	12
10	16	28	44.567	6	0	13
11	6	21	50.00	5	3	19
12	1	31	57.000	9	0	18
13	16	47	63.767	10	0	19
14	7	43	70.767	0	0	23
15	3	40	77.767	0	0	16
16	3	26	84.767	15	0	25
17	5	14	91.933	7	0	35
18	1	4	99.433	12	0	27
19	6	16	107.2012	11	13	22
20	10	33	115.712	0	0	26
21	18	30	124.212	0	0	28
22	6	42	132.833	19	0	33
23	7	27	141.833	14	0	34
24	17	49	151.333	0	0	38
25	3	46	160.833	16	0	28
26	10	34	170.333	20	0	32
27	1	2	179.833	18	8	29
28	3	18	190.333	25	21	39
29	1	19	200.976	27	0	32
30	11	50	211.976	0	0	34
31	36	37	222.976	0	0	35
32	1	10	235.533	29	26	36
33	6	32	248.521	22	0	37
34	7	11	261.521	23	30	38
35	5	36	274.654	17	31	36
36	1	5	288.687	32	35	37
37	1	6	303.714	36	33	46
38	7	17	318.786	34	24	42
39	3	35	334.286	28	0	43
40	12	45	350.286	0	0	42
41	9	41	366.786	0	0	44
42	7	12	383.770	38	40	45
43	3	38	402.020	39	0	44
44	3	9	421.770	43	41	47
45	7	29	442.014	42	0	46
46	1	7	463.711	37	45	47
47	1	3	487.479	46	44	48
48	1	13	517.285	47	0	49
48	1	23	557.900	48	0	0

Strategies are products of managerial decision-making process, and the decision making process is heavily influenced by decision makers' cognitive frames (Hambrick & Mason, 1984). Porter (1980) argues that competitive strategy is at the core of business strategy and notes that managers should attempt a fine-grained analysis of their competitive environment, which is very difficult considering the limitations of human mental capacities (Schwenk, 1988). To circumvent some of these limitations, managers resort to grouping a limited subset of their competitors in the form of mental models on certain relevant strategic dimensions, and focusing all their attention on them. Research has also indicated that these model configurations of industry actors (rivals, customers and suppliers etc.) have varying levels of convergence due to the interactive nature of actors mental models (Lant & Baum, 1995; Reger & Huff, 1993; Porac & Thomas, 1990). As noted by Hodgkinson, (1997), a review of literature on cognitive analysis of competitive structures shows that virtually all the studies have focused on convergence levels of mental models of actors within the industry (e.g. managers of competing firms, exception being De Chernatony (1989) and Daniels et al. (1994) who have looked at 'outsiders' i.e. customer mental models). This study extends the theory by incorporating perceived mental models of competitive environment of industry outsiders (e.g. consultants, academics, analysts and shareholders) and also examining similarities/dissimilarities.

The findings of the study empirically validate the 'social constructionist' explanations of competitive structures in markets and industries (Porac et al., 1995; Levenhagen, Porac & Thomas, 1993; Easton, Burrell, Rothschild, & Shearman, 1993; Porac et al., 1989; Bogner & Thomas, 1993). The theory predicates that markets and industries are social constructions that emerge from constant interaction of cognitions between industry actors. Over a period of time, these interactions between buyers, producers, and other industry actors in the form of sales reports of "hot selling" items, newspaper articles, rumours or gossip with connections to past, present, and future courses of action" (Anand & Peterson, 2000) will establish industry events, best practices, rules of the game and terms of conducting business. A two way interactive link of acquiring and disseminating processes is established between the firms of the industry and other actors. This study dealt with three groups of respondents considered 'industry outsiders', there is need to focus on perceptions of other actors like academics, shareholder and business journalists. And studies in future might look at specific processes that might facilitate cohering of beliefs among industry actors and pinpoint in which industry contexts these operate. We believe that our study is an important response to Tyler and Gyanwali's (2009) call to broaden the set of dimensions included in competitor and market cognition research. Likewise, we show that the emergence of industry recipes cannot be fully understood unless we include the mental models of all relevant actors situated both from within, and outside the task environment.

CONCLUSION

Our findings indicate strong support for the homogeneity of perceptions of competitive space between 'industry insiders' and 'industry outsiders'. Two major managerial implications of the study are outlined in this section. Firstly, we show that managers can rely on 'industry outsiders' assessments of competitive space to make sense of ambiguous market fields. This shows that managers should take into account the perceptions of competitive space of 'industry outsiders' in the strategic decision making process. There exists a need for managers to keep track of their consistency of perceptions of the list of their competitors and attributes used to define them and compare these with those 'industry outsiders'. Secondly, the study results supporting the social constructionist viewpoint show that a manager can actively interact with 'industry outsiders' to ensure that beliefs of all industry participants cohere on a similar platform, thus creating less ambiguous market fields. This would help him/her to predict the future competitive scenario much better.

There exist some limitations of this study that need to be highlighted. Firstly, the study though having had an express intention of studying the content part of competitor cognition, had to drop at the analysis stage the data pertaining to respondents rating of constructs on a 1-5 scale, due to the data analysis technique not able to accommodate that data. This we feel would have brought out subtle differences in the definitions of competitors. Nevertheless, we feel that this should not cast grave doubts on the findings of the study as most of the studies in the literature reviewed have followed a similar procedure resulting in valid conclusions. Secondly, the agglomerative hierarchical clustering technique used for data analysis was found to be less than satisfactorily rigorous. The clustering techniques, as a whole, have been attributed to 'imposition of clusters' rather than identifying clusters. Another major limitation of these techniques is different algorithms producing different cluster solutions. In this study, we have used Ward's algorithm and would suspect one to find different cluster solutions if a different algorithm is used.

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