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Managerial cognitions of competitive environments: a strategic group analysis

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Abstract

Purpose – In the field of strategic management, the majority of studies analyse competitive environments from an economic standpoint, based on the implicit notion that business environments are formal and objective. As such, the human element is assumed and the role that managers play in creating and changing competitive environments is neglected. However, given that people take business decisions and drive organisations, to ignore such an important dimension of the competitive landscape is a considerable limitation to developing more holistic understandings about competitive landscapes. This study examines how managers perceive competitive terrains and discusses the impact of managerial cognitions on decision-making, competitive strategies and industry dynamics.

Design/methodology/approach – The research is cross-sectional and based on primary research. It involves semi-structured face-to-face interviews with the sample size near to the sampling frame of the research. The industry examined is the mainstream UK foreign package holidays industry and the investigation occurred between March and August 2003.

Findings – It was found that managers view industries and competitors subjectively and that the social construction of competitive environments as well as the process of competitive enactment both influence managerial perceptions of competition. Consequently, similarities about competitive challenges are formed. Subsequently, such perceptions affect strategic decisions on competitive strategies and resource allocation. As a result, these actions affect industry dynamics and contribute to the evolution of the industry.

Originality/value The study investigates an industry that has not been previously examined in the context of either strategic groups or from a cognitive perspective. Consequently, it provides fresh findings in the field to enable greater generalisation of results since cognition represents only a minor portion of the body of literature in the wider area of strategic management.

Keywords Business environment, Competitive strategy

Paper type Research paper

Introduction

Despite the level of knowledge generated regarding the structure and dynamics of industries, there remains little appreciation about how managers perceive their competitive environment and the impact of managerial cognitions on industry dynamics. Given that managerial cognitions influence decision-making and therefore competitive strategies (Bukszar, 1999), the cognitive aspect of management is integral to understanding how competitive structures develop. Through their competitive activities, managers create and alter the dynamics of an industry.

From the late 1980s, a growing academic interest in cognitive perspectives emerged in literature with studies that sought to understand competitive landscapes and competitive positioning (cf. Porac and Thomas, 1990; Reger and Huff, 1993; McGee *et al.*, 1995; Osborne *et al.*, 2001; Daniels *et al.*, 2002). While cognition has the capacity to provide rich insights into management practices by highlighting the links between management thinking and competitive behaviour (Hodgkinson, 1997), research of this type has been slow to investigate competitive landscapes. As a result, studies on

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cognition represent only a slim body of literature in the field of strategic management (Mintzberg *et al.*, 1998).

Context of the study

The study reported here investigates the managerial cognitions of competitive environments and discusses how managers perceive competition in the industry in the context of strategic groups. Strategic groups provide an intermediate frame of analysis between the individual firm, company or organisation and its industry (Thomas and Venkatraman, 1988). Therefore, by investigating the perceptions of managers as decision-makers within their firm's management structure, a broader framework that includes the individual, the firm and the industry can be developed. Investigations of this type assist in understanding competitive landscapes in a holistic framework.

Strategic groups are those groups of firms within an industry, which are characterised by similarities in their structure and competitive beliefs as well as their tendency to follow similar strategies along key strategic dimensions in a specific operating environment (Panagiotou, 2004). Thus, the concept of strategic groups facilitates the placement of firms based on their similarities of competitive attributes. Consequently, this reduces the complexity of competitive landscapes, while simultaneously permitting a focused and deeper level of analysis of a firm's operating environment. Hence, the notion of strategic groups can be used to evaluate the positioning strategies of firms, thereby, moving beyond the mere analysis of an individual firm. As such, the notion of strategic groups enables a researcher to undertake a broader and arguably more meaningful investigation of both industry dynamics and competitive behaviour. In addition, focusing on strategic groups allows the researcher to summarise the strategies of competitors in those industries that are occupied by a large number of firms that make consideration of an individual firm virtually impossible (Reger and Huff, 1993). Therefore, strategic group theory has the capacity to deliver deeper understandings about competitive landscapes and competitive postures.

Overview of research on strategic groups

Since Hunt (1972) introduced the term "strategic groups", research on the concept has grown substantially (Hodgkinson, 1997; Osborne *et al.*, 2001). Today, a considerable body of theoretical and empirical literature underpins the notion of strategic groups and supports the investigation of different aspects of competitive strategies (Fiegenbaum and Thomas, 1995). Scholars have used strategic groups to analyse the contestability of competitive market structures, industry dynamics, structural evolution and strategic change (Porter, 1980; Hatten and Hatten, 1987; Nohria and Garcia-Pont, 1991; McGee *et al.*, 1995; Porac *et al.*, 1989; 1995; Fiegenbaum and Thomas, 1995). Others have used the concept to examine intra-industry variations in a firm's performance (McGee and Thomas, 1986; Fiegenbaum and Thomas, 1990; Lawless and Tegarden, 1991), competitive behaviour (Smith *et al.*, 1997), mobility barriers (Sudharshan *et al.*, 1991; Harrigan, 1985; Ferguson *et al.*, 2000) and competitive positioning (Fiegenbaum *et al.*, 1990). However, in this process, the majority of research in the field has employed a prescriptive perspective in their methodological approach.

Prescriptive methodologies are closely aligned with the discipline of economics and result in business environments being viewed as objective constructs. The methodology also encourages an "outside-in" approach to strategy development. Thus, such methods are mostly concerned with the current situation. The problem with such

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a methodological approach is that research outcomes focus on "what is", by creating a "snapshot" of industries and markets. The approach fails to explicate the "how" and "why" of competitive environments. Consequently, research findings are divorced from the real issues that have created these snapshots because any snapshot is the aftermath of a competitive situation, which has only been created through a process of competitive interaction. Thus, this type of examination does not adequately accounts for the central role of managers in creating and changing industry dynamics. Subsequently, scholars have critically questioned the narrowness of the prescriptive perspective. Eventually, researchers in the field adopted a descriptive methodology perspective. The descriptive perspective, which is closely allied with the social and cognitive sciences, views business environments as subjective constructs. The perspective has an "inside-out" approach to strategy development and is mostly concerned with "how things are actually done" (Mintzberg *et al.*, 1998). As such, it promotes deeper investigations of industry dynamics in order to explain how and why "things have come to be".

Prescriptive vs descriptive approaches

From its early days, the field of strategic management has been subject to the prescriptive view, which constructs any business environment as an objective and formal entity just waiting to be discovered through formal analysis (Hodgkinson, 1997). Furthermore, the view that managers are rational, utility-maximising individuals dominates thinking in the field (Calori *et al.*, 1992; Paton and Wilson, 2001). Prahalad and Hamel (1994) concur, suggesting that this rational notion has dominated the field of business strategy since its introduction in the 1960s. As such, it is assumed that all managers possess similar knowledge, reason in similar and logical ways, notice the same threats and opportunities in the environment and pursue similar goals (Stubbart, 1989). Indeed, Daniels *et al.* (1994) indicate that the view, which sees managers arrive at coherent competitive strategies by sharing similar conceptions about competition, is widespread within the economic analysis of the firm. Consequently, this perspective led to a preoccupation by managers that strategic management is all about prescribing strategies for positioning a business in a particular industry structure, having first carried out a thorough economic analysis based on the implicit notion that industry structures are relatively stable and easily identifiable (Porter, 1980). As a result, advocates of this viewpoint draw on quantitative methods to analyse secondary data retrieved from existing databases, government statistics and the financial statements of a firm.

In contrast, a cognitive viewpoint supports the argument that industry structures and market boundaries are socially constructed through a process of enactment (Weick, 1995). Consequently, advocates of this perspective favour primary research methods, which tend to be mostly qualitative in nature (Reger and Huff, 1993; Porac *et al.*, 1995; Osborne *et al.*, 2001; Paton and Wilson, 2001). The cognitive model views decision-makers as struggling to generate holistic pictures of their environment, having limited access to information and possessing incomplete knowledge (Beyer *et al.*, 1997; Paton and Wilson, 2001). Such managers in their decision-making roles strive to simplify complex and imperfect models of competition based on their cognitive styles, cognitive capacity and limited access to biased information (Barnes, 1984; Ireland *et al.*, 1987; Miller and Chen, 1996; Smith-Sadler *et al.*, 2000). Consequently, subjectively constructed views of environments, competitors and operations emerge (Grinyer, 1992; Tyson, 1999).

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The assumption economic theory makes about a manager's objectivity and rationality is challenged by studies in cognition, which has the potential to make a substantial contribution to the field of strategic management. Mintzberg *et al.* (1998) concur and add that prior to the cognitive approach, strategic management was concerned more with the conditions of thinking rather than with thinking *per se*. Emphasis was placed on analysis and what needed to be done to ensure success. The multitude of constraints surrounding the actual process of getting things done was also neglected. Decision-makers were also somewhat marginalised by this approach because the managers became a servant of the various types of analytical prescriptions. The cognitive approach brought decision-makers back to the centre stage of the strategy process – as the key players in the activity. What was happening within the mind of the strategist became a central theme in strategy development and, in turn, the prominent analytical techniques became the tools of the decision-maker.

The lack of cognitive approaches in research has been a concern for several years. Even scholars such as Fiegenbaum and Thomas (1987, 1990, 1991) Sudharsan *et al.* (1991), who have investigated the concept of strategic groups from an economic viewpoint, came to suggest that a more cognitive-based approach in the area is recommended (Fiegenbaum and Thomas, 1995) in order to "unlock" the current limitations in theory and advance understandings about the cognitive approach. However, studies within the cognitive perspective tend to re-cycle the findings of previous research on particular industries rather than investigate new settings (e.g. Porac *et al.*, 1989; Calori *et al.*, 1992; 1994; Porac *et al.*, 1995; Paton and Wilson, 2001). Perhaps the resources required and difficulties confronted when conducting primary qualitative research contributes to this state of affairs. Nevertheless, this reuse of data presents a limitation because it is essential to test theories and models in a number of different situations and settings in order to generate sufficient data to ensure the validity of results and enable meaningful and more widely acceptable generalisations to be made.

Implications for managers and decision-making

The role of managers as decision-makers in the strategy area is important for many reasons. While managers can determine organisational strategies, they are also subject to the influence of their own cognitive styles (Calori *et al.*, 1992; Gallén, 1997; Pellegrino and Carbo, 2001). Understanding these processes also requires understanding the differences and interrelationships of such cognitive frameworks as well as the different influences on a manager's cognitive style in the context of decision-making. Clearly, such developments are of paramount importance for strategic decision-making, change management and managing across organisational and national boundaries. Indeed, it is essential for any area of management that requires the reconciliation of cognitive diversity (Hodgkinson and Johnson, 1994).

From an organisational standpoint, it is expected that managers are alert and knowledgeable with the capacity to identify external threats and opportunities, understand their company's strengths and weaknesses relative to competition and match organisational capabilities to external changes in a timely and competent manner (Porac and Thomas, 1990). However, given the fast pace of contemporary competitive landscapes, the proliferation of players, the competitive challenges that abound and the overload of information in the market place, developing effective strategies is a significant endeavour. Thus, understanding the impact of managerial perceptions on how competitive environments are negotiated is crucial to understanding competitive landscapes – individuals certainly perceive things

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differently and make judgements in quite different ways. Therefore, the ways in which managers analyse, make sense of their environment and take decisions about competitive strategies, as either individuals or team members, have considerable implications for the field of strategic management (Beyer *et al.*, 1997; Daniels, *et al.*, 1995; Paton and Wilson, 2001; Weick, 1995).

In line with the cognitive perspective, it is proposed that managers implicitly simplify their competitive environment by categorising competitors as a way of coping with the complexity of an industry and the often-ambiguous nature of the available information. In this light, the following hypotheses were developed:

H1. Managers simplify their competitive environment by considering only a limited number of related competitors in their industry.

H2. There will be a greater degree of perceived similarity about the configuration of competition among managers of firms in the same strategic group than among managers of firms in other strategic groups in the same industry.

Field approach

The industry investigated in this study consists of firms operating in the mainstream UK foreign package holidays industry, which have not previously been the subject of in-depth study in the context of either strategic groups or a cognitive perspective. The investigation occurred between March and August 2003 and involved face-to-face interviews at the respondents' workplace. Each interview lasted about 75 minutes. The type of the research is cross-sectional and the aim of the research was to achieve census in the sample size of this study, that is, to examine all firms in the sampling frame of this survey.

Recent research suggests that the study of strategic groups needs to focus on a single industry in order to pursue and develop a richer understanding of the topic rather than investigating firms from different industries (Hodgkinson, 1997; Peteraf and Shanley, 1997; Mehra and Floyd, 1998). Ferguson *et al.* (2000) extended this line of thinking and applied their research to one sector of a single industry. This study adopted the former approach, but focuses on two specific and distinct strategic groups in order to gather data in a precise manner and achieve valid results. Specifically, the two groups under investigation are the large incumbent firms, referred to as the "Big Four" (TUI/UK, MyTravel, Thomas Cook and First Choice) and the Internet-based new entrants, referred to as the "dotcoms" (e.g. Lastminute, E-Bookers, Expedia, Travelocity). The approach adopted by this study is sympathetic to current trends in research and is supported by a number of scholars in the field (Reger and Huff, 1993; Hodgkinson, 1997; Mehra and Floyd, 1998; Ferguson *et al.*, 2000).

Identifying the Big Four posed few difficulties since it is relatively a simple task to identify firms in this industry sector by market capitalization. However, identifying the Internet-based new entrants was a painstaking exercise. In order to ensure that all relevant players were identified and included in the sample, considerable effort and appropriate secondary research was required. Given the fact that most companies in the industry have adopted the Internet as part of their business model, developed their own websites and began to implement "clicks and mortar" strategies, careful attention was paid when selecting the firms in this industry sector to ensure that each qualified to be in the frame. To this end, only those firms that had entered the market through the Internet were selected, regardless of their nationality, point of origin, or the fact that may have belonged to a parent organisation (given that a strategic business unit (SBU)

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met the criteria of inclusion this study). The parameters of the frame included only those companies operating in the UK mainstream foreign package holiday industry with a licence to sell leisure package holidays. A prerequisite to be included was that each firm had to have a transactional website. Those that had entered the industry, but subsequently suspended operations were excluded. Firms that acquired or merged with another firm were included in the UK firms. All specialist firms that did not fall within the mainstream package holiday industry were excluded. When the list of firms was deemed satisfactory for the pilot stage of the research, verification of the representativeness of the sample was sought through the input of industry experts.

From the 33 firms that comprised the population investigated in this study, 26 firms responded and provided 20 Directors in total. Some Directors had responsibilities in more than one SBU of the same parent firm. Ten respondents belonged to the Big Four and ten belonged to the dotcoms. The equal representation of participants, however, was due to coincidence rather than design.

Research methodology

The study is based on a primary methodology and the data were collected using face-to-face interviews, following Kelly's (1955) repertory grid from the personal construct theory of the minimum context form methodology – employing a dyadic approach of presenting competitors to the participant. The personal construct theory (PCT) and consequently the repertory grid technique (RGT) are predicated on the belief that individuals act on their own perceptions of the objective world, which is filtered through their own constructive system. As such, individuals actively construe their perceptions of their environment; they are not merely passive players. Although there are hundreds of studies using PCT in psychology and related fields (Fransella and Bannister, 1977), its application to studies in strategic management is relatively limited. However, those studies that have adopted this technique recommend it highly because of its capacity to make explicit a respondent's cognitive structure (Reger, 1990; Reger and Huff, 1993; de Chernatony *et al.* 1993; Daniels 1994; Smith-Easterby *et al.*, 1996).

The technique is used to elicit attributes of competition from detailed comparisons of firms drawn at random, until the respondent can no longer identify more bases of competition. Respondents are asked to generate their own dimensions for describing competition and make judgements about the similarities and differences among competitors. Thus, using the RGT to examine how managers group the competitors in their industry and identify whether their perceptions are widely shared or idiosyncratic is appropriate and consistent with common practice in the field (Smith-Easterby *et al.*, 1996). The typical question, based on the dyadic approach, is concerned with how and why the firms presented are similar or different from each other. In order for the repertory grid to be completed, at least seven constructs (attributes of competition) need to be identified (Smith-Easterby *et al.*, 1996). Reger (1990) states that between seven and ten constructs are sufficient for this purpose.

The average number of participant construct identification in this research was nine. In order to achieve a more precise response and, consequently, to ensure a richer level of elicitation that is both quantitative and qualitative, participants were also asked to assign a score on each of the similarities or differences they identified. This was done by using a seven-point scale, according to the perceived level of closeness of the identified attribute of competition to the selected firm. This made the perceived level of firm homogeneity or heterogeneity on each attribute of competition more explicit.

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The attributes of competition identified by the respondents were recorded in terms of a firm's structure, conduct and performance (SCP) variables to achieve standardised areas in which to place the diverse feedback of the participants. The SCP framework (Mason, 1949; Bain, 1951, 1956) was developed in the field of Industrial Organisation in order to contextualise the competitive conditions of industries by examining how the underlying structure of an industry is related to and affected by the SCP of firms (Panagiotou, 2006). Thus, such a classification not only lends itself to the purpose of this study, but is also the most appropriate way of conducting the study. This is supported by the fact that despite the diversity among the respondent's identification of competitive attributes when selecting their competitors, all fell within the SCP categories.

Analysis and discussion of findings

An overall response rate of 79 per cent was achieved based on the census approach of this study, which compares favourably with similar studies in the field. For example, the Porac *et al.* (1989) study was based on a 35 per cent response rate with nine interviewees. Reger and Huff (1993) achieved 77 per cent responses and interviewed 23 individuals (cf. Paton and Wilson, 2001; Daniels *et al.*, 1994, 2002). Nevertheless, despite the good response rate, the relatively small size of the sample necessitated a more stringent alpha value (Bonferroni's adjustment), set at (0.01) in order to give a 99 per cent level of confidence in the quantitative results relevant to the test conducted.

Hypothesis one

H1. Managers simplify their competitive environment by considering only a limited number of related competitors in their industry.

The data collected in relation to *H1* were analysed using relative frequency tables. The data collected are summarised in the tables below (a full disclosure of the analysis is available on request from the author). However, the comments made by the participants are discussed in some detail. Participants' responses are subsequently presented in the form of cognitive maps to portray participants' perceptions of their competitive environment.

Table I summarises the number of competitors in the industry identified by the respondents in order to evaluate the extent of their awareness of competition. In particular, column 1 shows the number of participants who reached similar levels of competitor identification. Column 2 compares such individual responses against the

Number of respondents $n = 20$	Comparison of the number of competitors identified by individual participants in relation to the total number of competitors (20) identified between all respondents (%)	Comparison of the number of competitors identified by individual participants in relation to the total number of competitors (33) in the industry (%)
4	40.00	24.24
3	45.00	27.27
8	50.00	30.30
3	55.00	33.33
1	60.00	36.36
1	65.00	39.39
Average	49.25	29.84

Table I.
Respondent awareness of competition frequency table

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total number of competitors identified by all participants. Column 3 compares individual levels of competitor identification against the total number of competitors in the industry. From the 20 competitors that respondents were able to recall in total, only five identified levels of competition above 50 per cent and 15 identified either 50 per cent or below. Moreover, in relation to the total competitors in the industry (33 firms) the total percentage of respondent competitor identification is substantially lower with an average ratio of almost 30 per cent. This is especially important because it indicates participants use a simplified cognitive framework of competition, despite the fact that these participants were all decision-makers with strategic responsibilities within their respective firm. Furthermore, comparisons based on the participants' gender, level of responsibility, age and years of experience in the industry indicate no significant differences in their abilities to identify higher levels of competition (see Table II). This suggests that all are equally bounded by their cognitions when identifying and categorising competitors in their industry.

If one considers the small number of total players in this specific segment of the travel industry and the fact that all compete fiercely with one another in the market, one might expect that these particular respondents would have identified more competitors. This is especially the case when the respondents' strategic responsibilities within the firms are considered. However, this proposition was not supported, indicating that individuals are bounded by their cognitive map of the competition (cf. Miller, 1956). Moreover, it appears that even within these limits, further simplification takes place through a process of taxonomic categorisation, a process based on reasoning (cf. Porac *et al.*, 1989; De Chernatony *et al.*, 1993). For example, from comments made by the participants while rationalising their selection of competitors, it became evident that they had already formed their core beliefs. Consequently, a mental model of their competitive environment had already been constructed. This mental model was also partially determined through the transactions of the participants with their firm's value system (e.g. influences of the

Table II.
Respondent awareness of competition among specific groupings frequency table

Groupings n = 20	Comparison of the number of competitors identified by individual participants in relation to the total number of competitors (20) identified between all respondents (%)	Comparison of the number of competitors identified by individual participants in relation to the total number of competitors (33) in the industry (%)
Male (n = 15)	50.00	30.39
Female (n = 5)	48.00	29.08
Directors (n = 16)	49.00	29.73
Managers (n = 4)	50.00	30.30
Age 20-29 years (n = 3)	48.00	29.29
Age 30-39 years (n = 8)	48.00	29.92
Age 40-49 years (n = 3)	48.00	29.29
Age 50-59 years (n = 5)	52.00	31.51
Age 60 years (n = 1)	40.00	24.24
Experience		
0-2 years (n = 0)		
3-5 years (n = 4)	49.00	29.54
6-10 years (n = 3)	48.00	29.29
11-20 years (n = 9)	49.00	29.62
21+years (n = 4)	51.00	31.05

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organisational culture as well as various beliefs held about one's competitors, suppliers and customers). Such beliefs are reinforced through various industry interaction (e.g. attending the same industry conferences and exhibitions), through communication exchanges (where there is an element of cross-influencing), through benchmarking activities (where comparisons against each other and imitation occurs) and by consulting the same references (e.g. industry press and market reports). Reger and Huff (1993) also reported a similar phenomenon.

When participants were asked about their motivations for the understanding they possessed concerning their competitors in their industry, they generally acknowledged the influence of all the above-mentioned processes and sources of information on their thinking.

When asked why they had identified specific competitors and discounted others, all respondents based their answers on a player's similarities and differences between organisational aspects and market approaches. In terms of organisational aspects, the comments ranged between structure (structural aspects)–conduct (competitive behaviour)–performance (performance and profitability characteristics) variables. In terms of market approaches comments ranged between segmentation (markets they serve), targeting (customer profiles) and positioning (differentiated, cost and niche strategies) variables.

The main differences between and similarities within the two strategic groups in terms of SCP were vertical integration, company size, business models adopted, strategies employed, market share and profitability. However, in terms of segmentation, targeting and positioning there were mostly similarities between groups, introducing an interesting perspective, which is discussed below.

Figures 1 and 2 illustrate the respondents' perceptions about competition in their industry in the form of cognitive maps. Particular attention was given to ensuring that

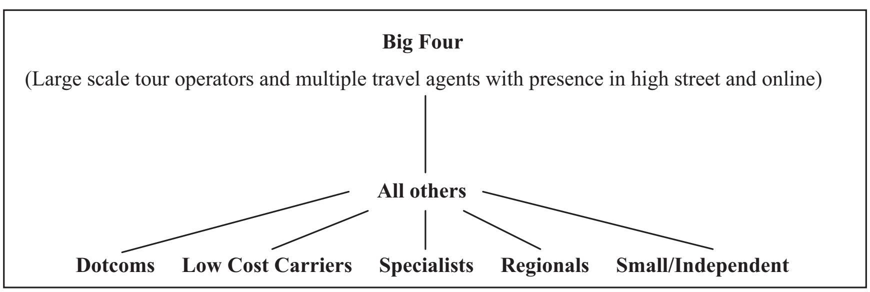

Figure 1. Taxonomic categorisation of the "Big Four" strategic group and competition

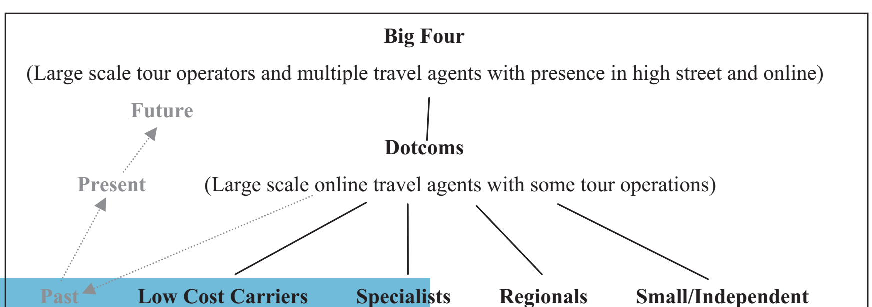

Figure 2. Taxonomic categorisation of the dotcoms strategic group about competition

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the cognitive maps accurately represented the respondents' mental models of competition. During the interview process, a tape recorder was used and extensive notes were made in the form of cognitive maps (similar to the ones presented here) in order to capture the essence of respondents' taxonomic categorisation of competitors. Before the conclusion of each interview, the notes were reviewed with each participant to ensure that the appropriate representation had been made concerning their mental model of the competition.

Although it is clear that in each figure the same type of players in the industry is identified, each group sees itself in a different position. The Big Four see themselves as the dominant group in the industry, both now and in the future. However, the dotcoms no longer see themselves in the "all others" position as the Big Four perceive them to be located. In the early days of the Internet, when the dotcoms were start-ups selling flight only seats, this may have been the case. In recent times, the dotcoms have increased the range of products on offer to the point that they now feel that they compete head-on with the Big Four in both the retail sector and tour operations. Concerning the future, the dotcoms view themselves as being in closer competition with the Big Four because they have continued to develop their own tour operations and distribution strategies. The latter presents an interesting perspective and suggests that despite the differences in perceptions, a certain degree of convergence may be taking place in the industry. This convergence promotes the cross-influencing of perceptions between managers of different strategic groups. This notion is made explicit in the context of the second hypothesis.

Equally important, given the subjective manner in which respondents defined their competition, is that none of the participants perceived the industry in an objective manner as proffered by the prescriptive school of thought. In addition, the relative ease and speed with which respondents selected their competitors indicates that these individuals were not new to the exercise. In this light, they appeared to be recalling simplified groupings from a stored mental categorisation memory pattern (Porac *et al.*, 1989). This recalling suggests that respondents had previously tried "to clarify things in their minds". Consequently, the participants' ideas reported here regarding the competition seem to have "crystallised" – in fact, all respondents agreed with this proposition when prompted. De Chernatony *et al.* (1993) also recorded a similar observation.

Hypothesis two

H2. There will be a greater degree of perceived similarity about the configuration of competition among managers of firms in the same strategic group than among managers of firms in other strategic groups in the same industry.

The data collected for this hypothesis were subjected to principal component analysis (PCA) and independent samples one tail *t*-tests. The data collected have been summarised in tabulations. Again, the complete tables related to the study are not presented here (a full disclosure of the analysis is available on request from the author). As before, a detailed discussion of the findings is undertaken. The responses are presented in the form of cognitive maps to illustrate the participants' perceptions of their competitive environment.

The data collected concerning the firms' structures were subjected to PCA. Prior to performing the PCA, the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of a few coefficients well

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above the recommended level of 0.3 and above. The Kaiser–Meyer–Olkin (KMO) value was 0.73, exceeding the recommended value of 0.6. The Bartlett's test of sphericity reached statistical significance, supporting the factorability of the correlation matrix. The PCA revealed the presence of one strong factor component, explaining 89 per cent of the variance, which was also shown on the scree plot. Given that correlations between the two strategic groups were strong, and in opposite directions from each other, the conclusion is that respondents in each of the two strategic groups see the other's structure differently.

Responses for the conduct element were subjected to a similar analysis. Again, the results indicate that the respondents within each of the two strategic groups see the other's conduct differently (all correlations between them were strong and in opposite directions). Specifically, inspection of the correlation matrix revealed the presence of a few coefficients well above the recommended level of 0.3. The KMO value was 0.71, exceeding the recommended value of 0.6. Bartlett's test of sphericity reached statistical significance, and the PCA again revealed the presence of one strong factor component explaining 87 per cent of the variance, which was also shown on the scree plot. Finally, responses about the performance element were also subjected to PCA. The results are similar; specifically, the correlation matrix revealed the presence of a few coefficients well above the recommended level of 0.3, the KMO value was 0.73, and Bartlett's test of sphericity reached statistical significance. One strong factor component was again revealed, explaining 85 per cent of the variance, which was again shown on the scree plot.

The PCA analysis suggests that managers from different firms within the same strategic group have similar perceptions about the configuration of competition in their industry. Furthermore, these similarities of perceptions are different from managers of firms belonging to another strategic group. This finding is in line with the conclusions of other researchers who also found strong in-group, out-group perceptual bias because of social interaction and the process of enactment (Paton and Wilson, 2001; Porac *et al.*, 1989; Porac and Thomas, 1990; Weick, 1979). However, it stands in contrast to the findings of Daniels *et al.* (1994) who found the existence of more diverse mental models of competition, rather than homogeneous models, between different managers of the same firm. Even so, the authors acknowledged some reservations concerning this finding and suggested further research in the area was warranted to clarify the issue.

Nevertheless, despite the conclusive results of the analysis, when conducting the interviews it became apparent that regardless of the similarities of perceptions between managers of the same strategic group and the differences between managers of different strategic groups, there was also a certain degree of convergence of practices occurring within the industry. For example, when participants were asked if there were any similarities between the two strategic groups, all identified a range of conduct-based variables. This suggests that a convergence of practices is taking place among players from different strategic groups, since conduct is about the competitive behaviour of the firm in the marketplace. Therefore, it was felt that a deeper level of analysis was required to further investigate this issue. To that end, the same SCP variables were subjected to one-tail independent samples *t*-tests in order to analyse the same data from a different perspective. The following summarise the results of the *t*-tests conducted.

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Big Four perceptions of themselves vs the dotcoms

Structure
($a = 0.01$).
BG4 ($M = 6.40$, $SD = 0.516$).
Dotcoms ($M = 3.67$, $SD = 1.803$).
$t = 4.39$, $P = 0.002$, eta squared $= 0.53$ (large effect).

Conduct
($a = 0.01$).
BG4 ($M = 6.40$, $SD = 0.699$).
Dotcoms ($M = 4.60$, $SD = 1.265$).
$t = 3.93$, $P = 0.001$, eta squared $= 0.46$ (large effect).

Performance
($a = 0.01$).
BG4 ($M = 6.00$, $SD = 0.000$).
Dotcoms ($M = 3.44$, $SD = 1.590$).
$t = 4.82$, $P = 0.001$, eta squared $= 0.60$ (large effect).

Dotcoms' perceptions of themselves vs the Big Four

Structure
($a = 0.01$).
Dotcoms ($M = 4.89$, $SD = 1.269$).
BG4 ($M = 2.70$, $SD = 1.252$).
$t = 3.78$, $P = 0.002$, eta squared $= 0.45$ (large effect).

Conduct
($a = 0.01$).
Dotcoms ($M = 5.30$, $SD = 0.823$).
BG4 ($M = 3.40$, $SD = 1.265$).
$t = 3.98$, $P = 0.001$, eta squared $= 0.46$ (large effect).

Performance
($a = 0.01$).
Dotcoms ($M = 5.33$, $SD = 1.000$).
BG4 ($M = 3.25$, $SD = 0.886$).
$t = 4.55$, $P = 0.000$, eta squared $= 0.57$ (large effect).

The results of the *t*-tests concur with the results of the PCA. Again, this shows that there is a greater degree of perceived similarity about the configuration of competition among managers of firms from the same strategic group compared to managers of firms from other strategic groups in the same industry. However, closer examination of the means of each SCP element from either group's perception of the other enables additional observations to be made. The shortest distance between all means is at the conduct element. Conversion of the data into graphical illustrations, using the means of the *t*-tests employed, as depicted in Figures 3 and 4 shows the two groups' perceptions for each other and is a basis for further discussion.

It is evident from Figures 3 and 4 that both groups feel that their conduct is more similar with each other in comparison to the structure and performance elements. Participants from both groups clearly stated that over the years, firms from both groups have become more alike because they have seen the benefits of each other's business model and the advantages that can be gained through similar positioning. Respondents from the dotcoms acknowledged the fact that they are currently developing their own brand tour products to increase their product range in the foreign

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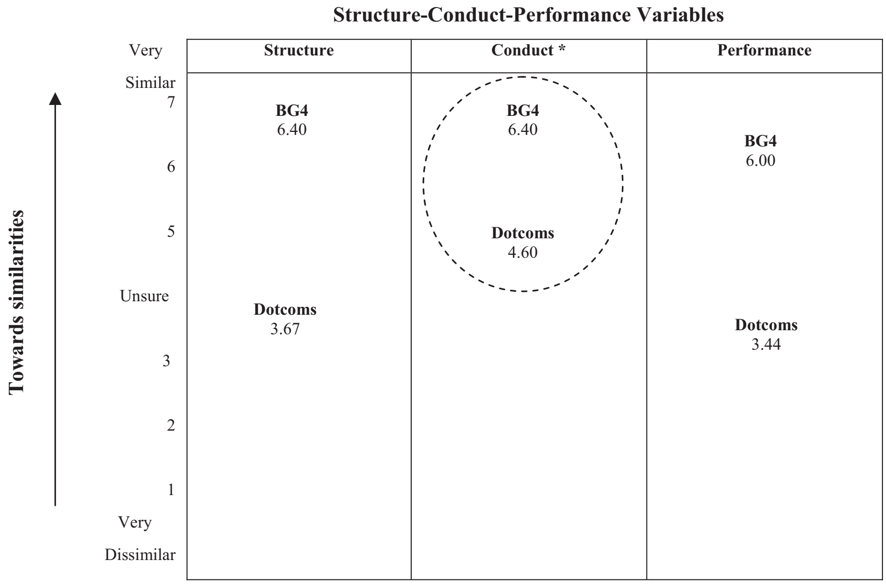
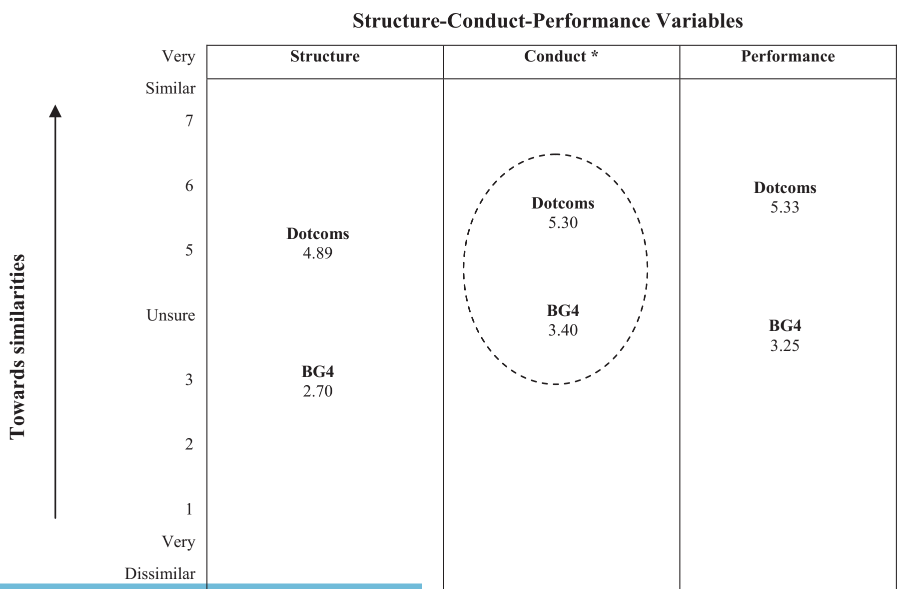


* Distance 1.8. The shortest distance between all SCP variables

Figure 3. Perceptions of the Big Four vs dotcoms

package holidays sector. This is an attempt by the dotcoms to compete directly with the Big Four in their market. In addition, the dotcoms have intensified distribution strategies since they all have developed Call Centres and are currently in the process of creating selective high street presence in order to facilitate face-to-face sales in key locations for those customers who prefer purchasing in this manner.



* Distance 1.9. The shortest distance between all SCP variables

Figure 4. Perceptions of the dotcoms vs the Big Four

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All of the Big Four respondents admitted that they are actively seeking ways to improve their Internet strategies and reduce unnecessary high street presence in order to achieve a more balanced distribution. In addition, these respondents indicated that they are currently in the process of streamlining their firms' organisational structure to increase flexibility. One outcome here is the development of dynamic packaging capabilities (large-scale tailor made holidays), which is already being achieved by the dotcoms.

The level of agreement between the respondents of the Big Four about their own group's similarities in conduct is 89.08 per cent given that the coefficient of variation (standard deviation over mean) is 10.92 per cent. Regarding the dotcoms' conduct similarities in relation to their own group's level of agreement reaches 72.50 per cent. The level of agreement among the dotcoms about their own group's similarities in conduct is 84.48 per cent. Regarding the Big Four conduct similarities in relation to theirs, their level of agreement reaches 62.80 per cent. In this case, there appears to be some differences in opinions between the dotcom respondents regarding the extent of similarities in conduct between the two groups, but only because they see the Big Four as structurally inflexible, and therefore, slower to move. However, the dotcoms clearly acknowledged the efforts of the Big Four to streamline and re-organize their firms and believe that in time, the two groups will become more alike as mobility barriers in the industry are reduced. Such a finding is in line with Reger and Huff's (1993) notion of "transient" firms (firms whose strategies are changing from one position to another, but along dimensions common to other firms in the industry). However, the concept of transient firms can be extended further to "transient groups" (strategic groups whose strategies are changing from one position to another, but along dimensions common to other groups in the industry), to reflect a potentially larger scale of repositioning in an industry as was found in this study.

The findings of this study also support Weick's (1995) concept of competitive enactment as well as Spender's (1989) notion of industry "recipes". In addition, the findings are in accordance with Porac *et al.* (1989) in terms of the ways in which the structure of an industry is influenced by managerial perceptions, communications and interaction. Finally, the findings agree with Reger and Palmer's (1996) finding that cognitive structures have a significant impact on strategic management because they influence strategic choice and form the basis for competitive strategies.

Limitations and suggestions for further research

This examination was based on a cross sectional type of a research. New studies in the area could adopt a longitudinal type of research in order to examine similar issues over a far longer period. A fruitful direction could be to investigate the differences and similarities of managerial cognitions in the different stages of the industry life cycle. In addition, given that only UK based participants of firms with an international presence were examined by this study, new research could investigate their counterparts in the same firm who operate in another country. The exploration of the influence of cross-country cultural differences and similarities on managerial perceptions and management practice within the same organisation also need to be fully explored.

Conclusions

From a socio-economic perspective, the fact that managers simplify their competitive environment in a subjective manner suggests that individuals are bounded by their cognitive frames and consequently redefine their world into smaller and more

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manageable chunks in order to contextualise it and operate effectively within this space. Thus, both managers and firms operate in smaller mental segments rather than on one big frontline, where all companies operate and compete. While this frontline notion reinforces the oligopolistic characteristic of markets, a cognitive standpoint introduces the notion of a "mental oligopoly" or a "mental segmentation", since players appear to operate within such cognitive boundaries.

From a perspective of an individual firm, the fact that managers from the same strategic group have perceptions that are relatively similar with each other, and that these differ from those of managers in firms from another strategic group suggests that over time, managers from the same strategic group become more like-minded as a consequence of interaction and cross-influencing. Consequently, these managers form a "school of thought" that subsequently reinforces this frame of mind. The potential of this like-mindedness has serious repercussions because managers may become locked into a similar way of thinking and practising. As a result, it may become harder for these managers to see outside the parameters of these mental boundaries. In such an environment, imitation becomes the group's norm. Therefore, differentiation and creative thinking, tailored-made to the specific needs of a particular firm, may fall by the wayside. In such settings, a failure to recognise relevant threats and opportunities in the wider competitive landscape can jeopardise the alertness and competitive performance of the firm. Certainly, this was the case with the Big Four during the early days of the Internet when they miscalculated the threat of the new entry of the dotcoms in the market. In addition, they also misjudged the dotcoms when they repositioned themselves in the foreign package holidays market.

One way for firms to counteract the undesirable effect of stagnant thinking is to promote and maintain diverse management teams. The cross-fertilising of management teams with recruits from other groupings or industries can help ensure that creative problem solving can become part of the firm's approach. From an educational perspective, the way in which business strategy is currently taught in business schools may not deliver appropriate outcomes for learners. This is because a bias toward the prescriptive approaches in strategic management can be identified in today's business school curriculum. It is suggested that this bias can be overcome by including more holistic approaches to the topic, where a learner's full appreciation of the diverse and interdependent variables that operate in the field of strategy can be fully explored. Therefore, management cognition needs to be embraced more by curriculum developers in our business schools as well as by textbook authors. If future decision-makers are to become more aware of the complexity of competitive landscapes and continuously transforming industry sectors, the understanding the nature of management cognitions must be an integral part of this process of building awareness.

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