

Dust Shaken out of a Book into an Empty Skull?

Higher education culture in Britain and Canada

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Paper Presented at Employment Research Unit Annual Conference, Cardiff Business School, 9-10th September, 1992

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Abstract

The result of two years' Doctoral research into linkages between internal organisational processes and strategy implementation, this paper presents an unique methodology developed, piloted and successfully applied in business schools both sides of the Atlantic.

Surprisingly, although very ready to examine the activities of other organisations, it is only very recently that the academic world has attempted to turn the analytical magnifying glass back on itself. Much of this impetus comes from external pressures, rather than from a visionary flash of introspective fervour. British academics are currently under the microscope of the Academic Audit Unit, set up by the Committee of Vice-Chancellors and Principals to investigate and make recommendations concerning the maintenance and improvement of teaching quality in universities. The Canadian Government are also in the process of undertaking a similar review of higher education in Canada. The timeliness of this study and its implications for education policy and strategic management in both countries should be readily apparent.

Using a methodology integrating conceptual developments in strategy implementation, organisational behaviour, social psychology and political sociology; innovative techniques have been applied combining quantitative methods, projective exercises, ethnography and discourse analysis in a case study situation.

Participant observation, secondary data analysis, face-to-face interviews and feedback Delphi groups provide a triangulated exploration of the issues and processes facing the quality-seeking academic institution. Specific instruments include a Rokeach-type technique especially designed for investigating academics' value systems; the applied cluster analysis of

demographic data, attitudes and values for identifying subcultures within the organisation; and pictorial representation used to enrich verbal data. A dynamic approach is used to enhance understanding of organisational change processes in a university environment.

Ultimately, as well as providing a holistic diagnostic tool of intra-organisational processes, the methodology aims to assist the formulation and introduction of Total Teaching Quality (TTQ) implementation strategies in higher education. Even before the conclusion of this comparative study, lessons drawn concerning the successful implementation of a quality strategy in an unique, complex and often frustrating culture are inescapable. At the very least, if we as academics are to cast our own eyes over the workings of other organisations, we must first try to understand our own.

Introducing Total Quality Teaching

"I am still of the opinion", wrote William Butler Yeats some seventy years ago, "that only two topics can be of the least interest to the studious mind - sex and the dead".⁽¹⁾ Following in the same spirit of reductionism, Ambrose Bierce concluded - quite independently - that education was little more than "Dust shaken out of a book into an empty skull".⁽²⁾ Such consensus, it seems, provides the teacher with very clear guidelines to follow when engaging in the process of higher education.

Managing those who participate in this process is, of course, just as simple. Clark Kerr found, for example, that "The three major administrative problems on a campus are sex for the students, athletics for the alumni, and parking for the faculty".⁽³⁾ Teaching, it appears, has come a long way since the Aristotlean principle of being "An ornament in prosperity and a refuge in adversity".⁽⁴⁾

Yet, to educators concerned with improving the "quality" of higher education, the teaching process is far from straightforward. Current dilemmas faced by academics include defining, measuring and evaluating learning inputs and outputs; determining whether process or outcome is to be focussed upon; deciding how the often conflicting goals of stakeholders are to be balanced; and even which pedagogical school of thought to embrace. ⁽⁵⁾ For the educational administrator, there also remains the tricky problem of actually implementing any quality teaching strategy devised. A substantial part of this issue revolves around the identification of internal organisational processes like culture and politics, and then deciding what to do about them. These are much neglected topics in conventional marketing strategy literature.

Such issues are even more neglected in the field of higher education. Surprisingly, although very ready to examine the activities of other organisations, it is only very recently that the academic world has attempted to turn the analytical magnifying glass back on itself. Much of this impetus comes from external pressures, rather than from a visionary flash of introspective fervour. British academics are currently under the microscope of the Academic Audit Unit, set up by the Committee of Vice-Chancellors and Principals to investigate and make recommendations concerning the maintenance and improvement of teaching quality in universities. ⁽⁶⁾ The Association of Universities and Colleges of Canada have just completed a similar review of higher education in Canada. ⁽⁷⁾ The timeliness of this study and its implications for education policy and strategic management in both countries should be readily apparent.

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Organisational Culture and Strategy

Since the 1960s, organisational strategy has mutated into a variety of forms - including long-range planning, corporate planning, business policy and strategic management. An emphasis has been placed upon rational frameworks for strategy formulation, including SWOT Analysis, Management By Objectives, Boston Consultancy Group matrices and Porter's Structural Industry Analysis. ⁽⁸⁾ These derive from inherent positivistic assumptions about the primacy of "Rational Man". ⁽⁹⁾ However, as Etzioni, March & Simon, Pfeffer and others have argued, organisations in reality often function in a way that at best uses only an incremental, modified rationality: perhaps revealing pluralistic or other non-unitary tendencies. ⁽¹⁰⁾ Some models of humanity contest the rational-economic worldview even more strongly. Schein's "Complex Man" and Levinson's "Psychological Man" are amongst contrasting frameworks which

challenge the fundamental assumption that collections of individuals can be managed, planned and controlled in a mechanistic manner. ⁽¹¹⁾ Various challenges to the rationalist orthodoxy have also come from the "Excellence" movement, initiated by Peters and Waterman ⁽¹²⁾ ; and strategic contingencies theorists, such as Hickson ⁽¹³⁾.

However, despite these efforts, the rationalistic paradigm in marketing strategy has proven difficult to modify. Witness the status still conferred upon Kotler whose marketing and strategy textbooks remain amongst the most influential in the field ⁽¹⁴⁾. The result is the tendency to present strategic management as the largely linear process represented in Fig 1.

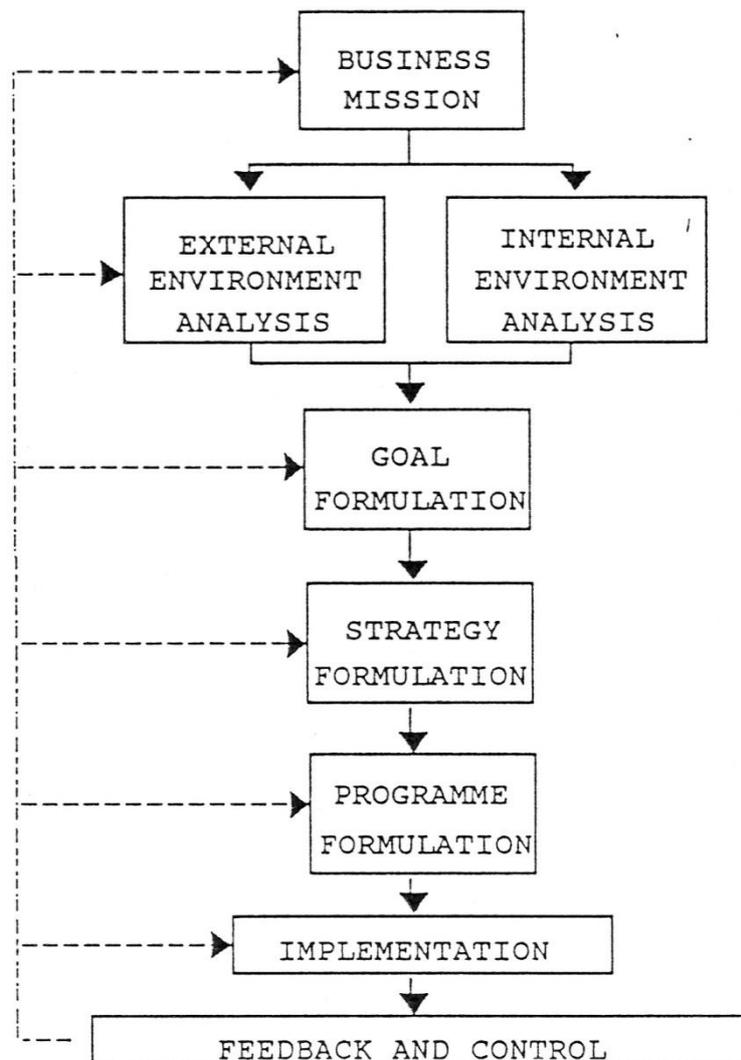


Figure 1: The Rational View: The business strategic planning process (Adapted from Kotler, 1988)

There is some evidence that the challenge to rationalistic strategic management is taking shape, if rather embryonically at present. Stainsby has recently chronicled the emergence in the UK of two distinct groupings of strategy academics: one adhering to traditional rationalistic marketing planning, such as MacDonald; the other around more politically-oriented writers, including Piercy, who argues that planning is not linear but can begin from any point in Kotler's representation. He also argues that politics plays a far greater role in planning than the rationalists would allow. ⁽¹⁵⁾ Whether there is a genuine paradigmatic struggle taking place is debatable. However, it is evidence that some dissatisfaction is being articulated against the rationalist school.

One reason for this might be Peters' assertion that the rate of change in markets is accelerating faster than rational strategic planning can cope with. ⁽¹⁶⁾ Business organisations are, accordingly, finding their decision-making horizons shortening dramatically and their once-reliable analytical tools for market planning, developed in more stable environments, are becoming less tenable. More simply, perhaps, difficulties with implementing elaborately-devised plans in practice might be forcing a refocussing on 'softer' intra-organisational factors, such as organisational culture, power and politics. Whilst it is true that introducing such concepts into organisations may change the nature of those entities by encouraging members to think in these terms, it is unlikely that factors such as politics and culture have been absent from organisational life during the evolution of strategic management. It is conceivable, then, that the marketing profession may simply have understated the importance of soft factors in strategic planning. Yet, if strategic management fails to focus adequately on such realities, in implementing as well as formulating strategies, the successful introduction and maintenance of any strategy - including that of teaching quality - will be infinitely harder.

Organisational culture has been defined in various ways. Indeed much of the current debate around culture is related as much to determining what it is as to how or whether it can be

changed. Deal and Kennedy view it rather euphemistically as, "The way things are done around here".⁽¹⁷⁾ Handy describes it as, "A pervasive way of life, or set of norms"⁽¹⁸⁾; whilst to Hickman and Silva it is simply, "Careful attention to organisational and people needs"⁽¹⁹⁾. In the strategy literature, Johnson and Scholes define it as "A deeper level of basic assumptions and beliefs in an organisation"⁽²⁰⁾ - a view echoed by Schein in organisational behaviour, who also concentrates upon shared meanings and values in organisations⁽²¹⁾. Robbins, in contrast, draws his cultural net wider, identifying ten "components of culture", which he claims include both structural and behavioural factors⁽²²⁾.

Certainly, it is easy to become drawn into a discussion on the relative merits of each definition. Perhaps, as Green so adroitly states, "It is pointless to argue about whether corporate culture is social structure, ideology, assumptions, values and beliefs, webs of shared meanings, or symbolic processes/artifacts - it can be one, some, none, or all of these things, depending on one's frame of reference"⁽²³⁾. It depends on which set of Allison's "conceptual lenses" one decides to wear⁽²⁴⁾. However, as Smircich suggests, culture is itself a metaphor and cultural researchers implicitly or explicitly accept one or more meta-level metaphors derived from anthropology when analysing organisational culture. Culture may be seen as an instrument serving human bio-psychological needs; as an adaptive-regulatory mechanism; as a system of shared cognitions; as a system of shared symbols and meanings; or as a projection of the mind's universal unconsciousness⁽²⁵⁾. What is necessary is to accept some starting point and make explicit one's own metaphorical affiliation. This paper begins the process here.

An Holistic Framework for Organisational Analysis

Gareth Morgan encourages organisational analysts to explore the use of metaphor to try to avoid rationalistic assumptions⁽²⁶⁾. Schein and Morgan both suggest viewing the organisation as a complex multi-layered phenomenon, rather than a simple unitary entity. Schein argues that

an holistic understanding of intra-organisational processes should involve the penetration of successive layers of organisational culture; whilst Morgan urges the analyst to penetrate beneath visible rituals, ceremonies and symbolic routines to discover "Innermost values and assumptions that lend meaning to the outward aspects of the culture" ⁽²⁷⁾. Likewise, turning to concepts of organisational power and politics, Steven Lukes proposes that power can exist in organisations in three dimensions: overt (observable, behavioural, authority-based), covert (hidden exercises of interest involving mobilisation of bias) and latent (contextual influence of inexplicit assumptions) ⁽²⁸⁾. If other organisational processes can be examined in a similar way, this may provide the basis for a synthesis of Schein, Morgan and Lukes.

Such non-rationalistic approaches might help provide strategic management with a conceptual framework to allow the exploration of "deeper" or "softer" layers of the organisation. The conceptual problem is to distinguish between hard/shallow and soft/deep layers. One way of doing this is to focus upon the nature of culture and use the concept as a locus of organisational processes, to which other concepts such as power and politics can be added. Schall states that cultural analysts do share common ground in generally regarding organisational culture as "A relatively enduring, interdependent symbolic system of values, beliefs, and assumptions evolving from and imperfectly shared by interacting organizational members" ⁽²⁹⁾. If culture is associated with shared organisational beliefs, the existence of an hierarchy of human beliefs might provide a vehicle to explore sequentially down through the layers of a neo-Lukesian model.

So, does a precedent exist for the recognition of a hierarchical structure of beliefs? The answer is certainly 'yes' - but not generally from within strategic management or organisational behaviour. Social psychology instead provides a much stronger tradition. Allport's classic 1935 work conceptualised human attitudes in their dual role as a mental aptness and a motor set: "Attitude connotes a neuropsychic state of readiness for mental and physical activity" ⁽³⁰⁾. The

debate at that time, as Allport states, centred around whether attitudes are temporary and specific to only one act, or more generalised. Yet even today, as Reich and Adcock confirm, the issue is far from settled because such mental orientations are not directly observable. Most psychologists now accept 'attitude' as an intervening or mediating concept, but the distinction between attitudes and values has become blurred ⁽³¹⁾. Kelvin believes that "Attitudes are, in fact, the fundamental processes or systems whereby the individual orders his environment and behaviour on the basis of values". Values can thus be viewed as deeper-set beliefs and assumptions, in relation to the more superficial attitudes ⁽³²⁾. Rokeach took this distinction still further and constructed, using substantial empirical data for support, a psychological model postulating a continuum between superficial, changeable beliefs (attitudes) and deeper-set, less-transient beliefs (values). He also devised a ranking-based technique for identifying basic values ⁽³³⁾.

Organisational research is keen to utilise Likert and similar scaling devices to identify attitudes, but - with the exception of analysts such as Furnham, Pine and Innis, and Posner et al, is more reticent about attempting to use ranking-type techniques to pinpoint organisational value systems ⁽³⁴⁾. This is despite Alwin and Krosnick's detailed comparison of ratings and rankings that accords equally favourable status to the latter ⁽³⁵⁾. The only apparent reason for using rating above ranking techniques is that they are more widely understood and applied. Beyond this non-empirical truism, however, there appears to be no solid justification for rejecting a Rokeach-type ranking instrument to measure human values.

If we accept the existence of deeper, shared, guiding values as the core of organisational culture - as Schall insists most analysts do - and also accept the validity of ranking-type techniques to help identify them; then techniques such as Rokeach's values instrument may bring us closer to determining them. It is a values-based definition of culture that provides the focus for part of the third-dimension of the model used here. Likert scales, on this basis, are

used only so far as to inform the analyst about second-dimensional attitudes towards the official or stated strategy of the institution. Fig 1 provides a conceptual means of representing Rokeach's attitudes-values continuum within an holistic cultural framework. Combining the multi-layered metaphor with Lukes' power model, internal organisational processes - including power and culture - can be analysed in a systematic way. When Rokeach's continuum is added - and a time-dynamic built-in to allow, following Pettigrew, a longitudinal interpretation of change (36); the result is an holistic, four-dimensional framework. This is the basis of the methodology which is outlined below: an exploration of organisational processes descending through the overt dimension (attitudes, observable behaviour, readily quantifiable organisational characteristics), via the covert layer (hidden political and social interaction) to the latent dimension (unchallenged contextual and personal assumptions and perceptions) - over a time dimension.

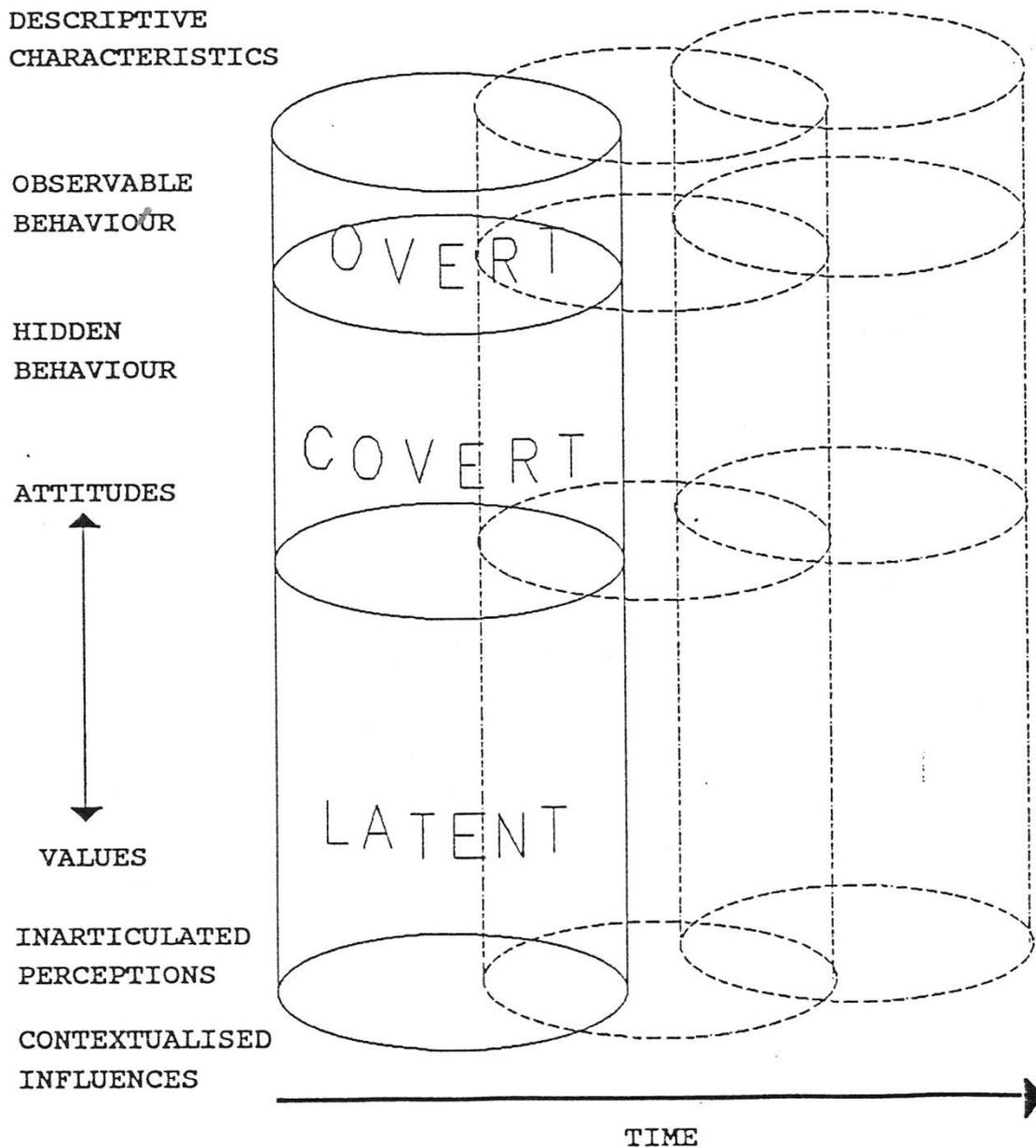


Figure 2: Organisational Processes in 4-D

Inside the Methodology

A detailed explanation of the methodology used in this study is necessary so that the applied nature of the framework developed in the last section can be understood. Data collection and analysis does reflect the four-dimensional model, incorporating both quantitative and qualitative techniques. This will become more apparent below.

An overview of the major aspects of the methodology provides a useful starting point for the explanation, before progressing to a more explicit version. In general, the methodology is structured to incorporate overt, covert and latent dimensions as follows. The fourth dimension - time - runs throughout:

a) The Overt Dimension

- i) participant observation
- ii) analysis of secondary data
- iii) descriptive data

b) The Covert Dimension

- iii) attitudinal data
- iv) verbalised perceptions

c) The Latent Dimension

- v) values ranking
- vi) cluster analysis
- vii) verbal discourse analysis
- ix) pictorial discourse analysis

a) The Overt Dimension

- i) Participant observation

Both participant observation and analysis of secondary data are consistent with Schall's ethnographic approach to the study of organisational culture ⁽³⁷⁾. In keeping with Merton's concept of action research, the Author concludes that only by immersing oneself in the social processes of an organisation as a participant can one possibly hope to obtain an adequate

interpretation of that organisation's culture ⁽³⁸⁾. Rejection of the purely functionalist paradigm in favour of an interpretive stance allows one to analyse culture from an insider's perspective ⁽³⁹⁾. Such participant observation involves personal observations in diary form of reactions to, and interpretations of, the Business School culture. This includes observing and recording the process of TQT strategy formulation within internal working parties on quality, to provide greater insight into the aims, assumptions and group dynamics of the strategists themselves. Diaries are also kept by selected new entrants to the organisation concerning their initial experiences and perceptions of the organisations. This phase provides greater depth to other project data and is run simultaneously with other phases. In practical terms, this has meant a six-week research placement with the Canadian institution; whilst the UK case is based on three years' work at the Business School concerned. This difference in time spent at the respective organisations can and will be compensated for, to some extent, by revisits. However, although the remaining research instruments used are identical for both cases; it must be accepted that the degree of insight obtained from briefer periods of participant observation is probably less than that from longer stays.

ii) Analysis of secondary data

To forge an early link with business strategy, it is important that existing strategic plans for the Business School are analysed. This provides part of the overt aspect of the model. In addition, written documents relating to formal management mechanisms (committee minutes, personnel procedures, formal rules, organisational structure etc.) and publicity material in the School are assessed. Historical archives are examined in keeping with the temporal dimension of the study. Furthermore, any available data relating to strategy and policy derivation and implementation, staff turnover, research contracts, roles and any other information deemed relevant, is viewed. Analysis is also made of documents reviewed or produced by the internal quality assurance

working parties in each institution. Background information on national and regional historical, political and cultural influences is sought from published sources.

iii) Descriptive data

At this point, however, the methodology differs substantially from earlier work: combining both quantitative and interpretive approaches. A formal research instrument is used, which utilises on average 1 1/4 hour face-to-face interviews with Business School participants. The instrument's first section records simple descriptive data relating to such variables as age, sex, grade and previous employment. Although such data is collected as part of the HRM function in many organisations, information is often unsystematic, incomprehensive and out-of-date. This part of the analysis draws an initial sketch of the overt human characteristics of an organisation; with a full list of these variables given in Appendix 1. It is a useful starting point for probing further into organisational processes.

Such data, for example, reveals that one of the Business Schools is heavily male dominated, especially in the area of quantitative methods; has a very uneven grading structure - with an overrepresented Professorial grade; exhibits a distinct emphasis upon Human Resource Management in terms of staff numbers; and is composed of a largely new faculty, with 24% of staff in employment at the School for less than a year and 68% of faculty less than five years. It is also a faculty with limited recent full-time industrial or commercial experience; one whose mean age is 34.7 years old; and whose members are drawn largely from outside its regional boundaries. In addition, 40% have a Doctor's Degree; there is a high median income, but a very skewed income distribution; and a large number of peripheral faculty (short-term or fixed-contract).

b) The Covert Dimension

iv) Attitudinal data

If attitudes are accepted as being more transient than values, the use of Likert scales at this point will reflect part of the second dimension - the covert side of the model. Within the formal research instrument's second section, 3-point Likert scales are used to assess attitudes towards the official, stated objectives of the Business School. Analysis of these data can be very revealing - at least as a second-dimensional 'staging-post' on the way to third dimensional values and perceptions. Simple association tests, such as Chi-squared, also help to illuminate findings.

Illustration of the use of such data can be made by referring to attitudinal information from one of the organisations studied. For example, Recall of the official strategy of the Business School was fairly limited. Initially, 57% claimed to be aware of the strategy document, and 52% claimed to have read it. However, unprompted recall of more than two or three specific major goals in the document was low. Although 60% knew or guessed that growth in student numbers was a main goal, 57% thought that being research-led was a priority, and 41% stated teaching quality as an objective; no other goal was mentioned by more than a fifth of respondents. No one recalled all ten goals without prompting. Those who had read the strategy tended to be male permanent staff, active on committees and had been employed at the institution for at least five years.

v) Verbalised perceptions

Recording more qualitative comments in relation to the organisation's strategy objectives provides additional insightful data. In the case of one of the Schools, the general lack of awareness and ownership of the organisational strategy was underlined. Three spontaneous comments include:

"Is it one of those glossy pamphlets that get handed out?"

"It doesn't surprise me that they've got one, but I've never seen it".

"That's the one that's about three years old?"

As far as teaching quality itself is concerned, there appeared to be a general lack of belief in the real importance of this objective to the most influential strategy-makers. Comments made include increasing quality only

"...by offering increased salaries, so they {lecturers} don't leave and go off to the United States for several years",

"Motherhood statements about being quality er courses, or something".

"Certain other constraints in terms of [pause] achieving certain perceived minimal quality standards in teaching delivery...I don't believe that the Business School has serious research or quality objectives, although it purports to do so".

Attitudinal analysis also helps identify particular areas where strategy implementation may be more problematic because of disagreement over particular goals. When a Likert scale analysis of attitudes towards the specific goals of one of the Business Schools was conducted, four out of ten goals were broadly accepted by interviewees, but the remainder were less accepted. On a 3-point scale, there was almost universal agreement (89% +) with the goals of improving teaching quality, expanding post experience teaching, becoming more international, and the provision of more buildings. However, although 65% agreed with the goals of being research-led and of increasing the scale of the institution, 30% and 22% respectively voiced particular disagreement with these two goals. From cross tabulation data, Accountants and

Marketeers were particularly concerned about the research-led goal, whilst Economists and Marketeers were most concerned about the increasing scale goal. A further 22% disagreed with the Business School's aim to lead regional Business Education. In addition, only 57% agreed with the existing undergraduate degree scheme split, 54% with a concentration upon postgraduate schemes, and 46% with the major goal of growth.

c) The Latent Dimension

v) Values ranking

This the first of the techniques used for examining the more latent aspects of organisational processes. It involves applying the Rokeach value analysis methodology to two original lists of academic values (Instrumental and Terminal) rearranged by each respondent in order of centrality to his/her own working life. These values are listed in Appendix 2 and were generated from a pilot study of 37 academics in the UK institution. It has already been hypothesised (see Appendix 3) that at least 27 different subcultures associated with these values may exist. Cluster analysis using SPSS PC+ will determine whether any of these types actually exist, whether others appear, or whether no patterns are evident.

The modified Rokeach method involves scoring the values on each list between one and eighteen, depending on how the respondent ranks them relative to each other. The most highly ranked value scores 18, the least 1 on each list; whilst any considered "Not at all important" by respondents are scored equally lowest. Where respondents articulated other values not on the list, these are examined separately. Median and Mode scores for each value are then used to manually calculate an overall Values Ranking for the organisation. This is the closest one will get to a statistical profile of the underlying value system of the respondents.

Amongst all academics interviewed, Values analysis reveals that "Achieving excellence in research" is the highest-ranked terminal value (end goal in working life) amongst academics,

whilst "Completing an academic project" is the highest ranked instrumental value (means to end goals). Academics also value their personal lives very highly, as they do teaching. Having complete control over work seems less important than being able to choose methods. Securing high financial reward is not a priority; nor is getting to the top of organisations, nor competitiveness. Academics are highly discipline-oriented, but are neither particularly supportive of the local region nor of the ritualistic side of university life. Involvement in administration is least valued.

Data were also subject to the Mann-Whitney U Test to determine whether there were any significant associations between any of the values and the remaining variables, as a precursor to cluster analysis. Amongst those terminal values selected as suitable for the test (those not ranked similarly by most respondents), there were some significant associations. For example, non-Professors tend to value T4 (Freedom of Method) higher than Professors; whilst those aware of the institution's strategy document rank T4 higher than those who are not. Males tend to value Theoretical Concepts (T6) higher than females; and older faculty (over 40 years old) seem to value theories more than younger faculty. Older faculty also seem to rank T7 - Establishing an Academic Reputation - significantly higher than younger members; and this is even more pronounced for Professors against non-Professors and also active committee members against those not active. Doctors value T7 higher than non-Doctors, whilst permanent staff also gives this value higher regard than short-term faculty.

Amongst instrumental values, Professors and committee activists generally rank I1 (Accept the Authority of Academic Experts) higher than non-Professors and non-activists; Professors, males and activists all rank I2 (Assess Evidence Using Established Methods) significantly higher than their counterparts; non-Professors generally value Using Case Studies (I12) more than Professors; and those under 40, non-Professors and non-Activists prefer small group tutorials - I14 .

vi) Cluster analysis

This is as far as quantitative analysis is able to go in terms of defining clusters - akin to homogeneous groups or even subcultures - from the descriptive data. In fact, this is a prime example of a quantitative technique applied to non-parametric statistics ⁽⁴⁰⁾. Dummy variables are created from the original categoric data and clustered with the attitudinal variables, the Rokeach Values data, and the straightforward interval data. Squared Euclidean distance and average linkage proved superior to other alternatives. The resulting dendograms, agglomeration schedules and icicle plots are then used to determine the number and composition of clusters in the organisation. Internal and external validation procedures followed to ensure clusters were meaningful.

In one institution, three distinct academic clusters were identified, whose members shared reasonably similar characteristics in terms of demographics, attitudes and values. One cluster comprised mainly permanent staff, another short-term faculty, and a third students. Such clusters may be used as the basis for a segmented TQT strategy.

vii) Verbal discourse analysis

More fundamental Discourse Analysis starts here, with any rigid pre-imposed structures rejected in favour of a more grounded approach. However, in keeping with Potter & Wetherell's suggestions, ⁽⁴¹⁾, the following broad principles are followed using interviews transcribed in the form of a conversation between the participants:

A) Patterns are sought in the data relating to i) variability, and ii) consistency between the answers given by respondents to the same question. Variability relates to differences in either the form or content of answers.

B) Hypotheses are then drawn concerning the functions and effects of verbal responses and perceptions.

Unlike content analysis, which assumes that verbal accounts reflect underlying attitudes and dispositions; discourse analysis pays as much attention to the language itself: how it is organised and what it is doing. This is why very detailed transcripts have been made; which include length of pauses, hesitations, word emphasis, overlap between speakers, mannerisms, and verbatim comment by both interviewer and interviewee.

All transcripts are recorded on computer disk, which allows an integrated wordprocessing/graphics/spreadsheet package enormous flexibility in cutting, pasting, annotating and rearranging passages during the analysis. The transcription process used rules based on a modified version of Gail Jefferson's Discourse notation system ⁽⁴²⁾.

Amongst major consistencies identified at one School was the desire to see the institution achieve recognition as a major centre of excellence in research - the main emphasis of the strategy document. Gaining a strong research reputation was often seen as the precondition for other goals to be achieved, such as differentiation from Polytechnics and other institutions, attracting in outside funding and achieving a high public profile for the recruitment of faculty and students. However some evidence also emerged that a growth in student numbers was seen as detrimental to achieving excellence in research and in teaching. Growth was largely seen as a means to an end, rather than an end in itself, with the ultimate goal being "to prosper" or even just "to survive". Comments included:

"We mustn't sort of fall into the sort of mass teaching institution one";

"I think if we are increasing size, and are, er er in cost I think it shouldn't be at er the price of quality";

"I think they need to identify improved selection process. (DS: Right). Um. Especially for Postgraduate courses, especially that's the MBA".

Teaching was also emphasised by eight of the respondents as central to the School's strategic objectives; but of a developmental rather than a training-based variety. Respondents spoke of:

"Well qualified students who are not just well qualified in terms of degrees";

"Something as as not necessarily training, (DS: Yeh) but more developmental. And that is, that er will enrich er ab er analytical skills - ability to think";

"A learning institution. (DS: Right). Not er as a training for management".

ix) Pictorial discourse analysis

This is perhaps the most original part of the methodology, since it explores the use of image in perceptions. Precedents for pictorial representation originate from four sources: psychotherapy, neurophysiology, art theory and qualitative marketing research. Clinical Psychotherapy bases its use of drawing on Freudian theories of repression, which hold that human beings tend to surpress unpalatable thoughts and emotions in a way that internalises tension.

Such internalised latent fears and anxieties can, however, be 'projected' onto external objects, animals and people - and this is what projective techniques aim to reveal. Tests such as the Rorschach inkblot, Thematic Apperception Tests, Szondi, and 'World' Techniques have been specifically designed to permit subjects to reveal fears and anxieties, which can then be identified and treated ⁽⁴³⁾. Neurophysiological research on brain functioning and consciousness indicates that visual, spatial, *arational* thought processes are localised in specific areas of the

brain - the right cerebral hemisphere - whereas verbal, logical, rational processes are localised in the left hemisphere. To ensure complementarity in thinking, both parts of the brain need to be activated, which necessitates using images in addition to words when researching people's perceptions ⁽⁴⁴⁾.

A large part of art theory is, of course, based on pictorial representation. In addition, Edwards links neurophysiological research with drawing techniques in an effort to teach drawing skills in an holistic manner. Some of Edwards' suggestions for drawing 'warm-ups' are used in this methodology ⁽⁴⁵⁾.

Although little is published on the use of pictorial representation in qualitative market research, the author has been personally involved with one major exercise for a UK building society and is aware of two others, which allow consumers to represent their perceptions of the company. Such exercises tend to be conducted in the pre-testing stage of television advertisements, where the imaging of existing perceptions of companies and brands and the exploration of alternative visual treatments is important ⁽⁴⁶⁾.

Two pictorial techniques are included in the methodology: a free drawing exercise based on depicting the organisation as a personality metaphor; and card-selection, incorporating representations of animal characteristics. A list of the latter is given in Appendix 4. To avoid the criticisms of more quantitative psychologists, interpretation of data from both exercises is made by the respondents themselves immediately after they have completed each part: not by the interviewer. No structure, beyond innocuous probes (which are also transcribed in full), is imposed by the interviewer. Analysis of verbal explanations again follows the Discourse method above.

Glimpses of data revealed by the first of these techniques include the neutral or slightly unhappy nature of one of the Business Schools. This was represented in a mouth that was either drawn as a straight line, or downturned. A sense of forced equality amongst academic staff was

also evident. One respondent stressed the distance between the Director of the School (drawn as the head) and the remainder of the staff, who were represented by the rest of the body:

"Er, a big face, (DS: Yes) with the unhappy (DS: Yes) er look, I think, was the centralised er administrative Directorship role within that. (DS: Right). And a sort of the purveyor of unhappiness boosting morale and things like that (DS: Right). But very big. (DS: Right). A long, thin, narrow neck, (DS: Right) because er emphasising the distance between him and the rest of the School in many ways it creates".

Two interrelated consistencies depict the apparel of the personality of one of the Business Schools. Respondents verbally mentioned and depicted the School as wearing a business suit. This might be assumed to portray the reality of a business-oriented institution, but a second, associated characteristic was evident. Several interviewees suggested there was a hidden, mismatched side to this apparel. For example:

"It's really double-breasted, but the double breasts are like in the wrong place! (DS: It's alright. That's great) [Respondent laughs] (DS: So, what sort of personality has he got there?) Well I think he would be reasonably sharp in terms of (DS: Mm) realising that survival depends on appealing to outsiders. You can't just be the seven the '60's/'70's typical academic just locked away in their cocoons, ignoring outside pressures".

And:

"Well, I think it's erm, it's because there there is a business side of it, which is like like a face I think we would like to present. (DS: Right). I think, and underneath (DS: Yeh) is a bunch of sloppy academics, really. (DS: Right). [DS laughs] Trying to dress themselves up. (DS: To be something they're not?) Trying to be hypocritical in many cases, I think."

The animal metaphor cards were chosen to correspond with the major organisational cultural types found in the culture literature. Fig 3 below helps amplify connections between the cards and previous culture classifications.

Handy	Deal & Kennedy	Miles & Snow	Characteristics (Handy)	Animal
Power (Web)	Bet-your-company Tough Guy Macho	Prospectors	Has a strong figure Needs trust Empathy/telepathy Personal communication Rule-less Politically-minded Risk-taking Small-to-medium	Lion Dog Cat Fox Shark Snake Mouse
Role (Temple) (Also Weber's Bureaucracy)	Process	Defenders Analysers	Logical/rational Strong functions Senior elite Role specification Clear hierarchy Rule-bound Stable environment Survival & growth Security Rewards sacrifice	Owl Elephant Ant Snail Ostrich
Task	Work hard/Play hard	Prospectors	Adaptable/fluid Present-centred Team-oriented/integrated Fast reactors/quick workers Sensitive Creative Lacks control Favoured by managers	Chameleon Gazelle Dolphin
Person	Atomised	Prospectors	Individualistic Abhors structure Self-oriented Difficult-to-manage	Mule Eagle

Fig 3: Organisational Cultural Types and Animal Metaphors

Initial analysis appears to indicate that four animals correspond fairly closely with individual's perceptions of the Business Schools studied: the chameleon, fox, ostrich and owl. The chameleon is the single most popular card chosen. Although one might expect this to signify an adaptable organisation, the most-mentioned explanation for choosing this was because a totally different image seemed to be projected externally compared to internally. Typical of such comments:

"Erm, well the image it tries to convey, in its literature and everything is very progressive, very business-like, very efficient, go-ahead. Um, like a sort-of well-run private company. The image it tries to convey.. it's not like that at all (DS: So what's it really like then?) Well it's not efficient, erm, it hasn't always got a clear idea of what it's trying to do".

"Well, the School, I suppose, would try to be a chameleon (DS: Right) in that it puts over one face to other academics, other potential students, (DS: Right) to businesses that it's trying to impress".

The fox metaphor is chosen because the Business School - and especially its leader figures - is often seen as cunning, clever, sly and astute in surviving in the present environment; although some negative perceptions are also apparent as to the degree of politicking and jockeying for position within the institution. Ostriches are associated in respondents' minds with insularity and lack of direction; whilst the owl denotes a sense of wisdom associated with some academics. In illustration of each:

"The ostrich-like characteristic of ignoring all the evidence from the outside world about how things are changing".

"The wisdom I think probably, to some extent; but not - it's still too youthful to be entirely that way, but I'd like to hope there was some wisdom there".

More data is available to illustrate the richness of insight obtained by this technique, but will await detailed publication of the project.

Conclusions: Towards A Four-Dimensional Understanding

In accordance with the Delphi feedback principle, the draft findings for the cultural description are then presented to discussion groups consisting of members of the Business School concerned for their evaluation and suggestions. Unlike more traditional focus groups, and unlike the orthodox use of Delphi in predicting the future, however; the Delphi groups are used to reach a consensus as to the validity of the data obtained ⁽⁴⁷⁾. This may occur sequentially until a consensus is reached that the findings adequately represent a majority view of the organisation's culture.

The final analysis for each institution contains:

- * a descriptive analysis of the Business School in four-dimensions
- * the strategic implications of the project findings for the Business School
- * the wider implications for strategic planning .

Although no detailed results are presented here, the methodology has been successfully piloted and applied subsequently in two 'live' situations. The breadth and richness of data obtained has proven extremely useful to the Total Quality Teaching process in both institutions

The methodology also provides a good example of how a systematic analytical framework can be derived using grounded theory principles and applied to specific organisations in different contexts with some modification. Although conceptually grounded, it is essentially a

practical tool to inform the strategic analyst how to better implement internal organisational strategies.

Although there is an inherent danger in applying several diverse techniques to the same situation - triangulation may not, for example, reveal common data - a carefully chosen 'bundle' does generate rich insights. Discourse analysis, both verbal and image-based, is particularly effective in analysing those processes and perceptions that purely quantitative tools would be unable to do.

When the results from the comparative study are made public, they will be informative not only to those wishing to implement Total Quality Teaching strategies in higher education, but also to those interested in studying organisational culture in general. Ultimately, this methodology brings a four-dimensional understanding of organisations into reach - and will perhaps illuminate Henry Adams' view of academics a little further: dispelling the myth that "Nothing is more tiresome than a superannuated pedagogue" ⁽⁴⁸⁾.

Appendices

Appendix 1: Variables used in quantitative evaluation

Variable	Description
SEX	Gender of interviewee.
GRADE	Academic grade of interviewee.
SECTION	Business School section attached to.
EXTIME	Exact time in years/months spent at Business School.
TIME	Categorical variable derived from EXTIME.
LASTJOB	Previous place of employment/study.
EXAGE	Integer age of interviewee.
AGEGP	Categorical variable derived from EXAGE.
BIRTHPL	Birthplace of interviewee.
NATION	Present nationality of interviewee.
POSTCODE	Postcode of interviewee's home address.
ACADQUAL	Highest academic qualification of interviewee.
PROFQUAL	Whether interviewee holds recognised professional qualification at postgraduate level or above.
CONTRACT	Type of employment contract or student finance status.
AWAREDOC	Whether aware of Business School strategy document.
READ DOCUMENT	Whether read Business School strategy document.
UNREC	(9 variables) Unprompted recall of Business School strategy objectives 1 to 9.
AGREE	(9 variables) Degree of agreement with strategy objectives 1 to 9, from 3-point Likert scales.
AFFINITY	Whether interviewee feels affinity with any particular group of people in the Business School.
COMBOARD	Whether a member of an internal committee/board.
T1 - T18	(18 variables) Terminal values.
I1 - I18	(18 variables) Instrumental values.

Appendix 2: Academic Values Ranked Alphabetically

Terminal Values	Instrumental Values
T1 Achieve excellence in RESEARCH	I1 Accept the authority of ACADEMIC EXPERTS
T2 Achieve excellence in TEACHING	I2 Assess evidence using ESTABLISHED METHODS
T3 Be COMPETITIVE	I3 Be involved in ADMINISTRATION
T4 Be free to choose my METHODS	I4 Be involved with GENERAL BUSINESS STUDIES
T5 Emphasise PRACTICAL TECHNIQUES	I5 Be involved with non-academic PROFESSIONAL BODIES
T6 Emphasise THEORETICAL CONCEPTS	I6 Be paid by MY PERFORMANCE
T7 Establish an ACADEMIC REPUTATION	I7 Complete an ACADEMIC PROJECT
T8 Express my OPINION	I8 Learn from others' BUSINESS EXPERIENCE
T9 Follow a rational SCIENTIFIC APPROACH	I9 MAINTAIN INDEPENDENCE from the Business World
T10 GET TO THE TOP of an organisation	I10 Support the community OF [REGION]
T11 Have a CALLING NOT A JOB	I11 Support UNIVERSITY TRADITIONS
T12 Have a fulfilling PERSONAL LIFE	I12 Use CASE STUDIES
T13 Have COMPLETE CONTROL over what I do at work	I13 Use large-group LECTURES
T14 Promote my INTELLECTUAL GROWTH	I14 Use small-group TUTORIALS
T15 Provide intellectual HELP FOR ALL	I15 Use the LATEST TECHNOLOGY
T16 Secure high FINANCIAL REWARD	I16 View students as CUSTOMERS
T17 Take part in DECISION MAKING	I17 Work in a BUSINESS ENVIRONMENT
T18 Work with COLLEAGUES	I18 Work within my OWN DISCIPLINE

Appendix 3. Hypothesised Clusters (Sub-cultures or Segments for Internal Marketing)

There are 5 main hypothesised clusters and 22 other possibilities identified. The prefix "I" relates to Instrumental Values (concerned with modes of conduct); and "T" indicates a Terminal Value (concerned with end states of existence). Those with +'ve signs are hypothesised to be positively related to the cluster type; those with -'ve signs, inversely related:

Likely Clusters	Associated Values
1. The Administrator	+T4 +T5 +T12 +T16 +T18 -T1 -T6 -T7 -T11+I3 +I17 -I9
2. The Scholar	+T4 +T1 +T6 +T7 +T8 +T9 +T11 +T13 +T14 +T15 +T17 +T18 -T5 -T10 -T16 +I1 +I2 +I7 +I8 +I9 +I11 +I18 -I3 -I4 -I5 -I6 -I16
3. The Teacher (Facilitator)	+T4 +T5 +T6 +T8 +T11 +T14 +T15 +T17 -T1 -T3 -T9 -T10 -T16 +I8 +I9 +I11 +I12 +I14 +I18 -I3 -I4 -I6 -I13
4. The Business Practitioner	+T1 +T3 +T5 +T10 +T15 +T17 -T6 -T9 -T14 -T15 +I4 +I5 +I6 +I8 +I12 +I13 +I15 +I16 +I17 -I1 -I7 -I9 -I11
5. The Business Student	+T3 +T5 +T9 +T10 +T16 +T17 -T6 -T7 T11 -T15 +I4 +I5 +I6 +I7 +I8 +I12 +I14 +I15 +I16 +I17 -I1 -I9 -I11 -I13

Also Possible:

6. The Business Academic
7. The University Academic
8. The New Academic Staffer
9. The Administrator
10. The Accountant
11. The Economist
12. The Human Resourcer
13. The Marketeer/Strategist

14. The Statistician/Qm'er
15. The Undergraduate Business Student
16. The Mba Business Student
17. The Dba Business Student
18. Sex Sub-Cultures
19. Age Sub-Cultures
20. Hierarchical Position Subcultures
21. Type Of Contract Subcultures
22. Birthplace/Nationality Subcultures
23. Personality Subcultures
24. Length Of Service Subcultures
25. Spatial Proximity Subcultures (Ie Whether Occupy Same Room!)
26. Educational Qualification Subcultures
27. Last Job Subcultures

Appendix 4. List of Animal Metaphor Cards Used

Card No.	Animal	Characteristics
1.	Mouse	Small, timid, scurrying
2.	Elephant	Large, powerful, lumbering
3.	Gazelle	Fast, agile, slim
4.	Snail	Slow, self-protecting, slimy
5.	Shark	Vicious, dangerous, cold, sleek
6.	Dolphin	Friendly, intelligent, warm, playful
7.	Owl	Wise, all-seeing, old
8.	Mule	Foolish, stubborn, cantankerous
9.	Fox	Cunning, devious, wily
10.	Dog	Faithful, loyal, obedient, good-natured
11.	Snake	Treacherous, underhand, poisonous
12.	Lion	Proud, strong, magnificent, regal, feline
13.	Eagle	Soaring, independent, sharp-eyed, taloned
14.	Ostrich	Short-sighted, awkward, flightless
15.	Chameleon	Changeable, strange
16.	Cat	Affectionate, telepathic, feminine

Appendix 5. Bibliography

1. Yeats, William Butler, *Letter to Olivia Shakespear*, (October 1927).
2. Bierce, Ambrose, *The Devil's Dictionary* (1881-1911).
3. Kerr, Clark, *Time*, November 17th, 1958.
4. Aristotle, quoted in Laertius, Diogenes, *Lives and Opinions of Eminent Philosophers*, (3rd C. B.C.) tr. Hicks, R.D.
5. Stiles, David R., *The Fractious, Intemperate and Non-Cooperative Academic? Implementing a Quality Teaching Strategy in a UK Business School*, S.I.M.R.U. Working Paper, Cardiff Business School, Vol. 2, No. 7, (February, 1992).
6. Cmnd 1541 *Higher Education: A New Framework*, (May, 1991); Cmnd 114 *Higher Education: Meeting the Challenge*, (1987); Committee of Vice-Chancellors and Principals, *Report of the Steering Committee for Efficiency Studies in Universities*, (The Jarratt Report), (March, 1985).
7. Smith, S.L., *Report Commission of Inquiry on Canadian University Education*, Association of Universities and Colleges of Canada, Ottawa, (1991).
8. For examples of these and other rationalistic techniques, see: Kotler, Philip, *Principles of Marketing*, Prentice Hall, New Jersey, Third Edition, (1986); Kotler, Philip, *Marketing Management: Analysis, Planning, Implementation, and Control*, Prentice Hall, New Jersey, 6th Ed. (1988); Johnson, Gerry and Scholes, Kevan, *Exploring Corporate Strategy*, 2nd Edition, Prentice Hall International, Hemel Hempstead, Herts., (1988).
9. Handy, Charles B., *Understanding Organisations*, 3rd Ed., Penguin, Harmondsworth, (1985).
10. Etzioni, A., *A Comparative Analysis of Complex Organisations*, Free Press, New York, (1961); March, J.D., & Simon, H.A., *Organisations*, John Wiley, London, (1967); Pfeffer, Jeffrey, *Power in Organisations*, Pitman, London, (1981).
11. Schein, E.H., *Organizational Psychology*, Prentice Hall, Hemel Hempstead, Herts., (1980); Levinson, H., *An Effort Towards Understanding Man at Work*, *European Business*, Spring, (1972).
12. Peters, Thomas J. and Waterman, Robert H., *In Search of Excellence*, Harper & Row, New York, (1982).
13. Hickson, D.G. et al, A strategic contingency theory of intraorganisational power, *Administrative Science Quarterly*, 16, 2, (1971).
14. Kotler, P., *Principles of Marketing*, *ibid.*, is probably the most-used marketing textbook at undergraduate level in the UK.
15. Stainsby, Lynn, *Marketing Planning: A Qualitative Review*, Paper presented at the *Marketing Education Group Annual Conference*, Cardiff Business School, July 1991.
16. Peters, Tom, *Thriving on Chaos*, Pan Books, London, (1989).
17. Deal, Terence and Kennedy, Allen, *Corporate Cultures: The Rites and Rituals of Corporate Life*, Ch. 1, Penguin, London, (1988).
18. Handy, Charles B., (1985), *ibid*, Ch.7.
19. Hickman, Craig R. and Silva, Michael, A., *Creating Excellence: Managing Corporate Culture, Strategy and Change in the New Age*, George Allen and Unwin, London, (1985).
20. Johnson and Scholes, (1988), *ibid.*, pp. 37-45.
21. Schein, Edgar, *Organizational Culture and Leadership: A Dynamic View*, Jossey Bass, San Francisco, (1985).
22. Robbins, S.P., "Managing Organisational Culture", Ch. 16, *Organisation Theory*, Prentice Hall, Hemel Hempstead, (1987).
23. Green, Sebastian, "Understanding Corporate Culture and Its Relation to Strategy", *International Studies of Management and Organisation*, 18, 2, pp. 6-28, (1988).
24. Allison, Graham T., in Quinn, J.B., Mintzberg, H. and James, R.M., *The Strategy Process: Concepts, Contexts, and Cases*, Prentice Hall International, Englewood Cliffs, NJ, (1988).

25. Smircich, Linda, Concepts of Culture and Organizational Analysis, *Administrative Science Quarterly*, 28, pp. 339-358, (1983).
26. Morgan, Gareth, *Images of Organization*, Sage, Newbury Park, Calif., (1986).
27. Morgan, Gareth, *Creative Organization Theory*, Sage, Newbury Park, Calif., (1989).
28. Lukes, S., (1974), *ibid.*
29. Schall, Maryan S., A Communication-Rules Approach to Organizational Culture, *Administrative Science Quarterly*, 28, pp. 557-581, (1983).
30. Allport, Gordon W., Attitudes, Ch. 17, pp. 798-799, Murchison, Carl, (Ed.), *A Handbook of Social Psychology*, Clark University Press, Worcs., Mass., (1935).
31. Reich, Ben and Adcock, Christine, *Values, Attitudes and Behaviour Change*, Essential Psychology Series, Methuen, London, (1976).
32. Kelvin, P., *The Bases of Social Behaviour*, p.14, Holt Rinehart and Winston, New York, (1969).
33. Rokeach, M., *Beliefs, Attitudes, and Values: A Theory of Organization and Change*, Jossey-Bass Publishers, San Francisco, (1968).
34. Posner, Barry Z., Kouzes, James M. and Schmidt, Warren H., Shared Values Make a Difference: An Empirical Test of Corporate Culture, *Human Resource Management*, 24, 3, Fall (1985); Pine, Gerald J. and Innis, Gail, Cultural and Individual Work Values, *The Career Development Quarterly*, June (1987); Furnham, Adrian, Work Related Beliefs and Human Values, *Personality and Individual Differences*, Vol. 8, No. 5, (1987).
35. Alwin, Duane F. and Krosnick, Jon A., The Measurement of Values in Surveys: A Comparison of Ratings and Rankings, *Public Opinion Quarterly*, Vol. 49, June (1987).
36. Pettigrew, Andrew M., On Studying Organizational Cultures, *Administrative Science Quarterly*, Vol. 24, pp. 570-581, (1979); Pettigrew, Andrew M., Longitudinal Field Research on Change: Theory and Practice, in *Organization Science*, Vol. 1, No. 3, August, (1990).
37. Schall, (1983), *ibid.*
38. Merton, R. King, *Social Theory and Social Structure*, Enl. Ed., Free Press, New York, (1968).
39. Burrell, G. and Morgan, G., *Sociological Paradigms and Organisational Analysis*, Heinemann, London, (1979); Glaser, B.G. and Strauss, A.S., *The Discovery of Grounded Theory*, Aldine, Chicago, (1967).
40. Aldenderfer, Mark S. & Blashfield, Roger K., *Cluster Analysis*, Series: Quantitative Applications in the Social Sciences, Sage University Paper, Beverley Hills, Calif., (1984).
41. Potter, Jonathan and Wetherall, Margaret, *Discourse and Social Psychology: Beyond Attitudes and Behaviour*, Sage, London, (1987).
42. Jefferson, Gail, An Exercise in the Transcription and Analysis of Laughter, in Van Dijk (Ed.), *Handbook of Discourse Analysis*, Vol. 3., Academic Press, London, (1985).
43. Branthwaite, A. and Lunn T., Projective Techniques in Social and Market Research, in Walker, R. (ed), *Applied Qualitative Research*, Gower, Aldershot, (1985); Semeonoff, B., *Projective Techniques*, John Wiley & Sons, London, (1976).
44. Ornstein, R., *The Psychology of Consciousness*, 2nd Ed., Harcourt Brace Jovanovich, San Diego, (1977); Mintzberg, H., Planning on the left side and managing on the right, in Quinn, J.B., Mintzberg, H. and James, R.M., *The Strategy Process: Concepts, Contexts, and Cases*, Prentice Hall International, Englewood Cliffs, NJ, (1988).
45. Edwards, Betty R., *Drawing on the Right Side of the Brain: How to unlock your hidden artistic talent*, Souvenir Press, London, (1981).
46. This data is commercially sensitive. However, some sense of similar techniques can be gained from the section on metaphorical analysis in Majaro, S., *The Creative Marketeer*, Butterworth Heinemann/CIM, (1991).

47. Paliwoda, S., Predicting the Future Using Delphi, in *Management Decision*, 21, 1, pp.31-37 (1983).
48. Adams, Henry, *The Education of Henry Adams*, London, (1907).