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Botha, Faith Elizabeth

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STRATEGIC OPTIONS FOR PROFESSIONAL FIRMS

Faith Elizabeth Botha

A thesis submitted to the
Graduate School of Business Administration,
University of Witwatersrand,

in fulfilment of the requirements for the degree of
Doctor of Philosophy

Johannesburg 1991

DEDICATION

Dedicated to the memory of my mother,

Elizabeth Gilowey

(22-01-11 - 30-05-90)

Always a true professional.

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ABSTRACT

The purpose of this thesis was to investigate the effective strategic options available to professional service organizations in the face of the challenging and changing South African environment.

Since these organizations are viewed as integrated archetypes of organizational form, strategy and the personal characteristics, perceptions and values of their top management, they were researched from this perspective.

The professions are also viewed as progressing along a continuum of industrialization, as theoretically defined, and the progress of the organizations along this route was examined to establish their position as a predictor of possible future trends. A model of the effectiveness of professional service organizations in the face of the environmental challenges is also tested.

The research was conducted with the assistance of the partners and clients of 56 prominent organizations from six professions in South Africa, covering three different industrial sectors, the commercial sector, the building and construction sector and the health care sector.

Theory indicated certain possible adaptive options available to organizations in general, but due to the lack of specific theoretically researched models for professional organizations, an inductive approach was taken to the research problem. In this way, the research findings would dictate the eventual correspondence to the theory. Multiple operationalism was used as a

research approach in different stages of the research process, as was triangulation of research methods to arrive at the research results.

The findings indicate that there are five groups of professional organizations representing different configurations of adaptation to the South African environmental circumstances. Using the model developed in the research to measure organizational effectiveness, it was found that three of these groups appear to be effective, while the other two are less effective. Some of the attributes of these five groups were contingent on the type of industry and the type of profession. The profiles of the partners provided a particularly fertile area of theory development and a number of propositions were generated which can be tested in future research.

It was concluded that an integrated typology of five groups of strategy, organization and the profile of the top management team did exist and that three of the options proved to be more effective that the other two. Further guidelines for the management of professional organizations, included the examination of the consequences of co-operative strategies, particularly in the light of a possible increase in consolidation within the industries, are given.

DECLARATION

I declare that this thesis is my own, unaided work. It is being submitted for the Degree of Doctor of Philosophy at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other university.
The information contained in this thesis has been obtained by me while registered as a student at the University of Witwatersrand. Financial assistance from the Human Sciences Research Council and the University of the Witwatersrand are herewith acknowledged. Opinions expressed in this work and conclusions that are drawn are those of the researcher and do not reflect the views of these organizations.

Faith Botha
.....
Faith Elizabeth Botha

Signed at Johannesburg on this 22nd day of October 1991

ACKNOWLEDGEMENTS

The list of people who gave their support to this research is indeed a long one. However, some individuals must be singled out for particular thanks.

Firstly, I am indebted to my first supervisor, Dr G.S.(Andy) Andrews who always found the time, while Dean of the Wits Business School, to discuss the research with me. Secondly, my particular indebtedness goes to my second supervisor, Prof. Mark Orkin who patiently guided me through the re-calculation and integration of the data; the re-interpretation of the central findings; and a presentation of the sequence of inquiry in its correct mode, while I was engaged in this sometimes tedious and confusing quest. His exhaustive and exhausting supervision extended far beyond the call of duty and also contributed the only joke in the whole thesis, in the first paragraph of Chapter 9.

Some of the staff of the Wits Business School were particularly encouraging; namely Dean Keith Yeomans and particularly Dr Michael Bendixen; as were ex-staff members Dr. Peter Pirow and Dr. Linda Human.

For unstinting support in the typing of letters and questionnaires and data capture, I am indebted to Johan and Dalene van Rensburg. For assistance in data manipulation, my thanks also go to John Mansfield of the Department of Statistics and particularly to Ana Ferreira of the Computer Department, both at the University of the Witwatersrand.

For the production of the final document, I must thank Mr Vic Ryan for his initial editing and particularly Mrs Pam Thornley for the editing of the final document, and Mrs Marie Yeaman for her professional word processing services.

Finally, my thanks go most particularly to my family for their enduring patience, their financial, emotional and intellectual support throughout.

Research of this nature is an expensive process and would not have been possible without the funding provided by bursaries from the University of the Witwatersrand and the Human Sciences Research Council, and my thanks also goes to these organizations for their assistance.

Without the co-operation of the hundreds of partners of the professional firms involved in the research and of their clients, this research would not have been possible and it is hoped that the results will be of value to them.

CHAPTER 1

INTRODUCTION

1.1 Problem definition

Professional service organizations are facing certain issues in the 1990s which necessitate changes in their traditional frameworks and "modus operandi." These issues include sociological changes, economic factors, political factors, the impact of technology and increasing competition from non-professional firms. Professional service firms previously relied on doing more of what they did well in order to operate profitably, and traditionally found "commercialism" to be abhorrent and contrary to the professional ethic. Now, however, a new paradigm is required which will allow the professional service firm to survive and prosper in these changing and challenging business conditions, while retaining and accommodating the spirit and ethic of professionalism.

Along with and probably as a consequence of these contextual forces, the professions show signs of reaching a mature stage of their evolution, such as declining profits, increased competition and consequent increased marketing activity. Professional firms have traditionally not found it necessary to receive formal training in the principles of business management, since the buoyant economic conditions and protection provided

by the monopolistic structure and ethical constraints of professions ensured a secure framework from which to operate so that an acceptable standard of living was assured. However, the dichotomy which exists between the ethical ideals which form the structural framework of the professions and the need to become more overtly competitive adds to the already uncertain environment.

Professional service organizations have unique characteristics which differentiate them from industrial, manufacturing or even consumer service organizations. Although various strategic typologies have been researched which are applicable to industrial and other service organizations (Miles and Snow, 1978; Porter, 1980; Miller and Friesen, 1977; etc.), these characteristics may change the nature of the professional service organization to the extent that these typologies need not necessarily apply. The problem is further compounded by the dearth of published research information on professional firms. This is no doubt due to the difficulties of gaining sufficient information on organizations which deal with sensitive and confidential matters, thus preventing the drawing of any substantive conclusions. This, therefore, further confirms the complexity of the research task. For instance, the definition and consequent estimation of the "success" of a professional firm is notoriously difficult to establish, and since it is necessary to confirm the success of the strategic types, once identified, this then becomes part of the problem.

1.2 Objectives of the research

The body of knowledge about industrial organizational behaviour is continually growing. Conceptual and empirical literature has covered such areas as

structure, strategy, culture, the interface between organizations and their environments and aspects of the dominant coalitions who make decisions which influence the subsequent behaviour and adaptation of the organizations.

Various researchers have arrived at configurations of organizations based on how organizations adapt within the constraints of certain environmental conditions, as described above, and arrived at typologies of strategic types, based on the effective posturing of the organization within certain markets. Adaptation is also influenced by an organization's inter-dependencies with other organizations competing within the same environment.

Research in this area has once again been limited to industrial organizations about which information is more readily available and no findings specific to professional organizations have been published.

The above mentioned factors are some of those which contribute to the effectiveness of organizational adaptation. The determination of organizational effectiveness is a subject of debate and remains an aspect of organizational behaviour on which consensus has not been reached. However, the measurement of the effectiveness of professional service organizations is particularly difficult due to the lack of information on this type of organization.

Since the professions are being subjected to fundamental change as a consequence of the environmental pressures described above, it is postulated that they are undergoing a process of industrialization during which certain attributes and orientations become more prominent.

As a consequence of the above related problems facing professional service organizations, and the dearth of research on this type of organization, the following research objectives were developed. The first objective was to attempt to arrive at a typology of professional service organizations, which is a holistic, integrated set of attributes, describing what the organization consists of in terms of its form, its strategic posture in the environment in which it operates, and the profile of the top management team who determine its strategy. Secondly, the research will attempt to arrive at a method of determining how effectively each of the above integrated types of professional organization has adapted to the environmental circumstances.

1.3 The research methodology

Powell (1987) has described markets and formal organizations as the two pillars on which much of contemporary business-oriented social science rests, and the two alternative mechanisms for the allocation and control of resources. Carroll (1987) has similarly distinguished between approaches to strategy research, describing them as economic approaches, such as that by Porter (1980), which concern themselves with the efficient posture of a firm in the face of a given structure of competition, and organizational approaches which rely on institutional and organizational behavioural observations. These are the two of the research approaches which are integrated in this research through the propositions later developed to encompass both economic and organizational aspects and interplay between the two approaches.

Due to the unique people-intensive nature of professional firms, a third aspect, that of the "upper

echelons", or characteristics of the partners of the firm, needs to be included. This triad of aspects therefore characterizes the research approach, and encompasses the integration of markets, organizations and management of these firms.

Use is made of multiple operationalism, as proposed by Denzin (1970), Harrigan (1983) and Jick (1979), whereby a number of research stages is used to arrive incrementally at, and confirm, the findings; and of triangulation (Denzin, 1970), whereby quantitative and qualitative data are used in complementary fashion. The data is collected through the measuring instruments developed; is then purified, analysed and presented for discussion; and is considered in concurrence with the fine-grained, case study material obtained through the extensive interviews. The professional organizations are, therefore, studied from a number of perspectives, both from within and from various sources outside the firms.

1.4 Relevance of the research

Most research in the area of management has been undertaken for the needs of industrial organizations or consumer service organizations. Since professional service organizations manifest the confluence of two major world-wide trends, namely, the move towards service industries and the move towards knowledge technologies, the research undertaken here will be of considerable relevance in the contribution it makes to the body of knowledge of this type of organization.

Although the move towards the "post-industrial" economy experienced in the USA may be somewhat delayed in South Africa, where industrialization is still taking place,

professional service organizations represent this "post-industrial" concept. In any event one may anticipate a growth in this trend. Wilson (1984) has stated, "Perhaps the extent and speed of change will not be as great as some observers have forecast, but in any event, preparing for alternative scenarios is the only prudent course for anyone with a concern for the future." This research is, thus, likely to be of both academic and practical importance from the following points of view.

Firstly, it makes a contribution to the thin body of academic knowledge of professional service organizations, this form of organization not having been the object of much research of this nature.

Secondly, it serves as a guide to professional service organizations in identifying which strategies appear to be present in their particular profession, and which of these appear to be most effective. In the light of the increasingly turbulent environmental conditions under which South African firms operate, this could provide a very useful framework within which to operate.

Thirdly, the research results could act as a predictive model for professional organizations in aligning the profiles of the partners who constitute the top management team with their organizational forms and with the desired strategic types, and could suggest the promotion or development of certain partners for certain strategic objectives. Firms contemplating mergers or other co-operative strategies may examine the values of likely firms for such joint association for compatibility.

Fourthly, the research attempts to arrive at a method for determining the effectiveness of professional service organizations, and in this way makes a contribution to the greater understanding of professional organizations.

Fifthly, since some of the professions studied are involved in defending basic human rights, and others in aspects of socio-economic development or institutional advancement, any developments in these areas are of importance to the enhancement of the social fabric, no matter what the future political developments may be in South Africa.

1.5 Key assumptions and limitations of the research

Since the scale of economic activity in South Africa is relatively small, the number of professional service organizations of any size is limited. In view of the unavoidable limitations of the participation and likely response rate, the research is, therefore, of necessity exploratory in nature, and thus certain assumptions will have to be made in interpreting the results. The assumptions may be outlined as follows.

Firstly, it is assumed that the six professions chosen for the research, i.e. architecture, quantity surveying, consulting engineering, accounting, law and medicine, are sufficiently diverse in relevant respects to be representative of all the professions and that validity of the findings is externally justified.

Secondly, since the professional service organizations operate on the basis of trust and confidence, the research is dependent upon the amount of trust built up by the researcher and the consequent degree of confidential information which is shared.

Thirdly, the assumption is made that the identities of the organizations, their top managements and their associated strategies, are reasonably constant and stable over the period during which data were gathered (Mintzberg, 1979 (ii)).

Fourthly, the assumption is made that geographic variations in perceptions will not contribute significantly to the basic identities of the organizations, so that the limitation of the research to a sample of professional service organizations centred in the economically concentrated area of the Pretoria, Witwatersrand and Vaal triangle area of South Africa will not prejudice the results being construed more widely.

1.6 Outline of chapters

Chapter 2 gives an historical and sociological background of the professions and the process of professionalization. The economic justification for self-regulation and the consequent traditionally monopolistic form of competition of the professions are also discussed. The environmental changes which have had an impact on the professions and resulted in the need for more overtly competitive behaviour are outlined, leading up to a statement of the consequent research problem.

Chapter 3 is devoted to the contributions made by various strands of theory to the research problem. Firstly, the concepts of organizational archetypes and strategic typologies are discussed, and contributions from previous research in these areas are critically examined.

Organization theory is then discussed, and the differences between industrial organizations, service organizations and professional organizations are highlighted. The topic of organizational strategy and the various streams of research in this area which contribute to the development of the model, are reviewed. The theoretical background on organizations is further extended to elaborate on the interface between organizations and environment, which is critical for professional organizations.

The relationship of the top management team and their characteristics, including their values and perceptions, to the organizations and to their role in the concept of strategic choice in particular is discussed.

A consideration of organizational effectiveness and the various theories regarding this concept conclude the theoretical inputs of this chapter.

The chapter ends with the development of an integrated model of a professional organization, its strategy and its top management, and with statements of certain general expectations which flow inductively from the model.

In Chapter 4, the research approach, conceptual design, contingencies and sampling techniques are elaborated, followed by a description of the research process, including the development and testing of the research instruments and the statistical techniques used.

Chapter 5 presents the results of the primary data reduction analysis of the questionnaires. This constitutes the first level of analysis process and the results are presented in tabular, graphic and descriptive form.

The integration of the results of the first level of analysis into the second-level, more complex analysis is presented in Chapter 6. The resulting model generated from this analysis is also presented in this chapter.

At this stage, the analysis of further qualitative information is included to complement the quantitative aspect of the research process. The results and conclusions of this stage of the research process are related to the theoretical bases from which the models were derived. This is summarised in Chapter 7. Some discussion of the post-coding of the interview information is also integrated at this stage, and such issues as bias, validity and interpretation are discussed.

In Chapter 8 the theoretical model and generalized expectations stated in Chapter 3 are assessed, and the results interpreted in relation to the derivation of these statements. A number of propositions are derived based on the results of the research which may be tested in future research.

The final chapter, Chapter 9, is devoted to the conclusions drawn from the research in terms of the specific findings, relative to other findings and relative to the research framework. Recommendations for future research areas which flow from these conclusions, are made, as well as recommendations to professional service organizations for a better understanding of their unique types of organizations.

CHAPTER 2

THE PROFESSIONS UNDER ENVIRONMENTAL CHALLENGE

2.1 Historical and sociological background

Throughout history, individuals with expert knowledge and skills in certain matters have played an important role in providing services to society, and society has become more and more dependent on their services (Lynn, 1963). More and more occupations have attempted to gain professional status and recognition, as the trend towards professionalism has accompanied industrialization and urbanization (Hughes, 1963). The increase in the number of professions and the growth of professionalism has been accepted as a major, if not defining, characteristic of industrialized societies (Johnson, 1972).

The formation of recognized professions can be traced to the eleventh century, when the movement towards the formation of professional associations, or guilds, became commonplace among all classes of people. In all these guilds it was the rule that each member should have a formal licence to practise his craft. The possession of a university degree was also a licence to teach (Carr - Saunders and Wilson, 1964).

The coming of the renaissance saw the beginning of free and original enquiry and scientific research. This led

to the proliferation of new professions. As the industrial revolution progressed, the guild system broke down and the producer privileges of mercantilism declined, resulting in rapid economic advance and greater equality of opportunity (Lees, 1966). The guild system was replaced by trade unions for the workers of the new industrial age, but the professions managed to maintain their privileges, becoming organized and legalized at a time, in the late 19th century and early 20th century, when the liberal and anti-monopoly ideologies were dominant. The professions managed to maintain the ideals of conservatism, status and privilege, which it was the main thrust of 18th century thought and 19th century capitalism to destroy (Dussault, 1985).

Two classic studies of the sociology of the professions have been made by Parsons (1939) and Hughes (1958). Parsons presented professionalism as the historically-achieved resolution of the principles of rationality and morality, the application of objective science to everyday experience. Hence the institutional power of the professional over the client is immediately legitimized by the form it takes, namely expertise, i.e. authority derived from scientific knowledge.

This knowledge was acquired through higher learning and utilized "pro bono publico," or in the public interest, but also with the additional rider of "credat emptor," or "trust in my superior knowledge." The professional relationship in this way distinguished itself from the "caveat emptor" approach of the marketplace for goods and other services (Hughes, 1958).

The professions, therefore, became recognized as bodies of independent people who, through the application of

their specialized knowledge and skills, maintained the altruistic ethic of public service above self-interest (Dingwall and Lewis, 1983). Consequently, professional people have been ascribed the highest level of social status in most societies (Millerson, 1964).

There have been many attempts at defining a profession, the concept of professionalism and the process of professionalization. One view of professionalization is that it is a dynamic process in which an occupation comes to exhibit a number of attributes which are essentially professional and which constitute the core elements of professionalism (Cogan, 1953; Greenwood, 1957). Two approaches to the definition of professions have evolved: the "trait" model, which comprises attributes said to represent the core elements common to professions, and the "functionalist" model, in which the elements are said to have functional relevance to society.

Two alternate approaches to defining the trait model have also been described. A lack of consensus in definition illustrates the dynamic nature of the process of professionalization and accentuates the dilemma of definition. Millerson (1964) points to three problems accounting for the confusion and uncertainty: firstly, the semantic confusion due to the excessive and indiscriminate use of the word "profession"; secondly, the structural limitations, where definitions depend on the authors (who may influence each other) and are moulded to fit their arguments; thirdly the requirements of dynamic realism, that the idealistic image of the traditional professions is modified to concepts closer to reality.

Bennion (1969) has made the following contribution to the "trait" approach to defining what he termed the "consulting professions". According to him, the professions have six attributes: an intellectual basis, a foundation in private practice, an advisory function, a tradition of service, a representative institute, and a code of conduct.

It can be seen that this list of attributes excludes the traditional divinity and military professions, as well as such occupations as teaching and nursing, as these do not generally have a foundation in private practice (although they were included in the well-known study of the professions by Carr-Saunders and Wilson, 1964).

Based on this definition, Bennion further classified the consulting professions as those which give expert advisory services on matters requiring expert intellectual knowledge concerning three areas of human welfare, closely allied to the human rights of health, rights and property. (Property was further subdivided into land and buildings, money and securities, and goods and chattels.)

The functionalist approach can be illustrated by the four essential attributes of professional behaviour, as outlined by Barber (1963):

a) a high degree of generalized and systematic knowledge;

b) a primary orientation towards community interest, rather than to individual self-interest;

c) a high degree of self-control of behaviour, through codes of ethics, internalized in the process of work socialization and through voluntary associations organized and operated by the work specialists themselves;

d) a system of rewards (monetary and honorary) that is primarily a set of symbols of work achievement, and thus ends in themselves, not means to some end of individual self-interest.

These attributes of professional behaviour give the professions "powerful control over nature and society and as such it is important to society that such knowledge be used primarily in the common interest" (Barber, 1963).

Since only professions fully understand the implications of their practices, only they can accurately judge professional performance. A system of autonomy and self-control through their associations, i.e. collegial control, developed and the professions achieved freedom of control by outsiders. In return, society rewarded the professions not only with money but also with honour. "Businessmen, being self-centred, make do with money only" (Johnson, 1972).

This self-regulation also includes the setting of standards for entry, accreditation and licensure, and codes of practice such as the prohibition of self-laudatory advertising, the setting of a schedule of fees, and a code of ethical conduct. The high level of altruism and social responsibility which characterizes the professions placed them in a higher social class than other occupations, with the consequent development of elitism (Freidson and Rhea, 1965).

Current sociological views on the development of professional status reflect two main trends. Firstly, the emergence of professions is seen as the outcome of a process of closure, which Weber describes as "the process by which social collectivities seek to maximize rewards by restricting access to resources and opportunities to a limited circle of eligibles" (Parkin, 1979). This results in a monopolization of work opportunities and closure is achieved by excluding outsiders. Formal qualifications provide credentials, but these are only effective if legally enforceable; therefore, state support is necessary to maintain monopoly privilege (Dussault, 1985).

Legal closure provides members of a profession with distinct competitive advantages, such as the protection of the law, legitimacy, and privileged access to financial, administrative and political positions of power. Any potential competitors are denied recognition and either disappear, practise illegally or are granted limited rights and recognition, subject to the dominance of the accredited profession. This view of the professions rejects the view that occupations become professions by virtue of acquiring certain attributes, and emphasizes the co-operation of the state in the legal enforcement of the system of professional monopoly, which reigned from about the middle of the 19th century until the 1960s.

Secondly, the Marxist view of professionalism, as expounded by Johnson (1977), accentuates the role of the professions in the capitalist process of production. This is seen as a dual process: the creation of real value, or labour value; and the production of surplus value, specific to capitalism. Dussault (1985) also

refers to the dominant contribution of the professions to the global function of capital and "reproduction of labour power".

In terms of classic microeconomic theory of monopoly and competition, Pareto-optimality of consumer welfare is a desirable state which can only be achieved if free competition exists and a perfect market is allowed to exist. In the "public interest" economic approach to legislation, the ideal and actual function of legislation is seen to be the increase of economic welfare by correcting market failure, as opposed to the "interest group" approach, where legislation is seen as a good which is subject to supply and demand as any other good, and the net benefit of legislative protection to a group is the cost of effective political action (Posner, 1982).

According to the "public interest" view the conditions necessary for perfect markets to exist and for the market mechanism to work, are as follows.

a) There are numerous buyers and sellers in the market, so that the activities of any one economic actor has only a negligible effect on the total market.

b) There is free entry into, and exit from, the market (low entry and exit barriers).

c) The commodity sold in the market is homogeneous - that is, essentially the same product is sold by each of the sellers in the market.

d) All economic actors in the market have complete information about the nature of the commodities traded.

e) All the costs of producing a commodity are borne by the producer and all the benefits of a commodity accrue to the consumer - that is, there are no externalities.

If one or more of these conditions necessary for the optimal functioning of competitive markets is not fulfilled, corrective intervention and regulation is said to be justified to correct the market failures. Each of these conditions needs to be examined relative to the markets for professional services.

Concentration: Most professions tend to be highly fragmented, with a tendency to have a large number of small firms and a small number of large firms. However, the tendency towards agglomeration into larger firms has been observed in recent years, where merger activity is motivated by rising costs or where client requirements demand a broad geographic distribution or depth of expertise. This has been particularly evident in the large accounting firms and in the specialized medical firms of pathology and radiology, as exploratory interviews with members of these professions indicated. Little horizontal collusion occurs between firms, except for the membership of professional organizations.

Barriers to entry: This obstacle to the existence of perfect markets is inherent in the nature of the professions. The high barriers to entry are the extensive study period and apprenticeship necessary for accreditation, resulting in a long response time to the existence of excess demand. This condition clearly

demands some form of regulation of the market for professional services. Secondarily, the high investment in the subsidization of the education of the professions by the state necessitates regulation in the overall manpower planning of any state. Barriers to entry have, however, been lowered through diffusion of information provided by technology and the media, as described, although accreditation is still reserved for registered professionals.

Product heterogeneity: Greenwood (1957) has described professionalism as the application of general systems of knowledge to the particular circumstances of the individual client. This illustrates the non-standard nature of professional services and the heterogeneity of the "product". Although some services can be described as homogeneous, e.g., uncontested divorces, routine X-ray examination of a chest, standard audit procedures and the design and construction of mass housing projects, professional services generally are customized to the requirements of each client.

The information problem: The condition that all economic actors in a market should have complete information about the nature and value of the commodity being traded has caused a certain amount of confusion. It is generally accepted that the nature of the commodity is not the area about which consumers of the commodity need to have complete information. Few people, for instance, have all the technical knowledge required to understand modern medical technology used in, for instance, non-invasive radiological techniques, or the principle of computer manufacture and consequent information processing and the implications of information systems control.

However, the determination of the value of professional services has been the subject of much investigation and debate (Arrow, 1963; Benham and Benham, 1975). The value to consumers of the service is obviously related to the benefits perceived to accrue from the service.

Third-party externalities: Third-party externalities in the production or consumption of services exist when not all the costs or benefits of the transaction remain with the provider or consumer of the services. The need to protect third parties in a transaction is important in, for instance, engineering and architecture, where faulty construction could result in costs to innocent third parties. Similarly, in accounting services shareholders and employees of a company may bear the costs of poor services delivered by the accounting profession (Trebilcock, Tuohy and Wolfson, 1979). It is in this aspect of third party externalities that the strongest argument for intervention and self-regulation in the "public interest" has been justified.

In summary, therefore, since imperfections exist in the market for professional services, intervention and regulation are widely held to be justified. As professions have historically maintained that only other professional colleagues understand the nature and complexity of their services, and the spirit and ethic of professionalism, self-regulation in preference to state intervention and regulation has been practised (Kissam, 1983).

The self-regulation of the professions by the professional associations has operated to restrict competition by regulating the behaviour of members of the group with respect to professional standards, fees, advertising, etc., and also to limit the availability of

substitutes for professional services (Lees, 1966). Whether the monopolistic restrictions on professional practice have resulted in excess profits accruing to the professions, as economic theory would suggest, is difficult to prove, since comparative returns on the financial investments in human capital of professional and other similar services are not available.

The self-regulation of the professions also includes a code of ethics. Berlant (1978) states that the most important impact of ethical codes has been the creation of a paternalistic relationship towards clients. According to Berlant, this has helped to undermine the creation of consumer organizations and the maintenance of fragmentation of clients of professional services through the inducement of trust.

Durkheim (1957) was, however, convinced of the importance of the professions in maintaining the moral and ethical ideals in society, since the professions had assumed the role of authority figures after the power and influence of the church declined. Hazard (1978) argues in similar vein: "The weight of public responsibility falling on these elites has become heavier in proportion as the task of defining and resolving issues of common interest and welfare has increasingly devolved upon professional specialists."

Historically, the codes of ethics of most professions included restriction on advertising or touting for business, on the form of organization which professional firms could take, restrictions on supersession, i.e. taking over a client from a colleague, and on multi-professional practice. These restrictions were in keeping with the spirit of professionalism and the brotherhood and exclusivity of professional people.

Generally, the codes of ethics acted as a protective mechanism for the exclusive right to provide certain services and facilitated the monopoly mechanism.

In assessing the views of Berlant and Durkheim on professional ethical codes, it would appear that their views may have been plausible and justified during a certain period in history. These mechanisms which had developed as a consequence of social, historical and economic reasons have, therefore, served as a framework for the operation of the professions. However, certain forces have had an impact on these traditional mechanisms which have resulted in the need for a new paradigm for the professions.

Dussault (1985) states that in order to maintain their monopoly privileges, professions need the support of four groups, namely powerful and credible associations acting as pressure groups, a clientele, influential social groups and institutions, and the state. Any loss of support from any of these sources would lead to a weakening of professional monopolies. Changes have occurred, both endogenous and exogenous, which have had an impact on the professional dominance of certain services, reduced the extent of the support from some of these groups, and which now require a new paradigm. These changes, as they relate to the professions in South Africa, are listed below.

2.2 Endogenous environmental changes

Certain endogenous changes within the professions have occurred which are likely to weaken the professions' capacity to resist external threats to their power position. An example of this is the increasing occurrence of internal segmentation into sub-groups

within the professions, with their own associations, schools, journals, etc. This segmentation has occurred because of the increase in size of the profession and as a result of specialization within the professions, as well as recruitment of people of differing sexual, racial and cultural groups, resulting in a decrease of homogeneity within the profession and, consequently, decline of consensus. The formation of trade union-like associations within the professions, such as in the medical profession, representing the different interest groups, has increased this internal division.

Apart from segmentation, many of the professions have become overcrowded in some Western countries, such as the USA, owing partly to the slower population growth rate in these countries, and the changing nature and volume of demand for professional services. Consequent to this overcrowding, symptoms such as over-servicing, diversification into other services and overt "touting" have been observed in some instances, and pressure has been exerted by professions to relax restrictions on competition (Dussault, 1985).

Overcrowding is not generally evident in South Africa, owing to the emigration of large numbers of professionally qualified people, and because of the creation of a limited supply of professions through the stringent educational requirements. However, a degree of overcrowding is evident in the medical profession in the large urban areas of South Africa, where the doctor/patient ratio is 1:400, while in the country areas it is 1:2000. In this profession the above-mentioned symptoms of over-servicing and diversification are experienced.

2.3 Exogenous environmental changes

Apart from the endogenous changes within the professions, there have been various environmental trends and forces which have propelled the professions towards a mature phase of evolution.

2.3.1 Sociological trends

A first major sociological tend is a growing crisis of confidence in the professions. In the special issue of Daedelus devoted to the professions, Lynn (1963) stated: "Everywhere in American life the professions are triumphant." This observation encapsulated the height of power for the professions, after more than a century of unopposed domination. There was a shortage of professional people world-wide and an escalating demand for professional services as the problem and crises facing society increased in complexity.

However, there were already some disquieting comments being made, which have increased in volume and frequency, and which led to the questioning of the professions as the ultimate authorities in their field. Barzan (1984) states that "part of the animus comes from the general unrest and impatience with authority in the Western world, coupled with the belief that anything long-established is probably corrupt". This phenomenon is confirmed by the increase in the use of alternative or substitute suppliers of services.

Hazard (1978) remarks on the ambivalent attitude of the American public towards the legal profession: "The public attitude is more deeply distrustful and the profession itself has ceased to be secure in the conviction that its vocation is indeed a learned art

performed in the spirit of public service." He further states that this attitude is one aspect of a widespread distrust of institutions, power, authority or duty in general, and that it encompasses other professions. They find themselves in the invidious position of having to shoulder greater and greater responsibility without the protective "mystique" which they previously enjoyed. Schon (1984) echoed these observations, pointing to the social and political events which led to the increased complexity of the problems of society which professions were expected to solve, and increased scepticism about the adequacy of professional knowledge to solve them.

Secondly, there is a trend towards increased consumerism. Consumers of professional services have become generally better informed as the explosion of knowledge, the media, information systems and improved communications generally have accelerated the perfusion of knowledge to a larger number of people. "Information in the hands of the many is challenging the old source of power, money in the hands of the few" (Rakowski, 1988). The proliferation of self-help groups can be gauged by the number of do-it-yourself or teach-yourself books available and the number of support organizations advertised in the media. Consumers of professional services are also more critical, more demanding and less compliant, as the world-wide escalation of malpractice cases testifies (Evans, 1982; "The Times", 1986). Multiple alternative choices to the professions are available which are both credible and acceptable, and the attitude of the clientele of professional services has changed from that of clients who entrusted themselves to experts, to that of customers who buy a "product" and want value for money (Haug, 1980).

Changing value systems are a third trend. It has been stated that there have been shifts in the structure and value systems of Western cultures (Hickok, 1984). Such changes include a decline in respect for authority (as mentioned above) and the "revolt of the subordinates" (Dussault, 1985). Naisbitt (1982) related some major trends or shifts in the structure of American life, including the movement from the industrial towards the information age, the shift from centralization towards decentralization in all aspects from politics to urban planning, the trend towards self-help, entrepreneurialism, participative management and networking, as opposed to centralized, formal hierarchical systems of government, work and living. The occurrence of multiple options and flexibility in consumer choices, in ways of living, loving, worshipping and working, was also described.

Lasch (1984) attributes the decline of authority to the kind of change which promotes the appearance of democracy without its substance, and ascribes this to part of a shift to a manipulative, pluralistic and non-judgmental style of social discipline that originated with the rise of the professional and managerial class in the early 20th century.

These changing values can also be seen in the South African environment as a consequence of urbanization, improved educational standards, an ageing society, economic improvement, and the impact of technology such as television. A differentiation can be made between values found in the communal societies in rural areas, and the values found in urban industrialized societies. The increased urbanization of the rural population, both white and black, has changed traditional values and, therefore, the social fabric over time.

Previously clearly defined boundaries, identities and structures are being replaced by flexible and changing norms and forms, and similar trends to those described by Naisbitt are observed in many areas of South African life, by all South Africans, irrespective of race, language, religion and culture.

2.3.2 Economic changes

A rapid increase in international communications, travel and trade has been experienced, transforming the global economy. There has also been an increase in industrialization, and an increased interdependence between nations. The previous economic leaders of the world have been replaced by new leaders, from smaller countries in the east, and with rapidly increasing economic growth from developing countries. South Africa's dependence on trade relations with these countries has increased. An understanding of these global developments and their implications and the ability to operate on an international level has become essential for the success of professional firms in South Africa (Naisbitt 1982; Sunter 1987).

It has been suggested that long-term socio-political change can be seen in terms of changes in the control of critical economic resources, with the four stages being hunting societies, agrarian societies, industrialized societies and post-industrial societies. Although the transition from an agrarian to an industrial society is still on-going in South Africa, the aforementioned trends described by Naisbitt of participation, a long-term perspective, self-help, networking, information technology and communication appear to be ideal for the management of the unique South African conditions (Spies, 1987).

A second major economic change is that in the South African economy. Theoretically, the challenging combination of First World skills and knowledge with Third World opportunity makes South Africa an ideal country for professional firms to operate in, and a substantial contribution has been made to the economic growth experienced in South Africa. The demand for professional expertise was often high and in some professions, such as architecture, quantity surveying and engineering, necessitated the employment of expatriate professionals from other countries to assist in satisfying this demand for professional services during the economic boom years of 1960-1980.

However, the declining economic conditions which have been experienced since the early seventies in the Western World have been slowing growth and productivity rates, and have increased debt in many countries, including South Africa. Double-digit inflation and interest rates, rising tax rates, and a declining gold price and unfavourable currency values and exchange rates have exacerbated this decline in South Africa. The South African industrial sector has also been less able to provide employment for the rapidly growing population.

All these factors have resulted in structural changes in the markets, a decrease in the demand for some types of professional services and an increase in demand for other services. Increased merger and acquisition activity has been experienced in some industrial firms, with a consequent increase in the concentration of economic power. This has also provided legal and accounting firms with opportunities for providing professional advice in these areas.

This development has had the further implication that maintaining good relationships with one or more of the power groups in South Africa by major professional firms has become more important. South Africa is no longer an attractive proposition for immigrant and expatriate professionals from other countries and, in fact, a reverse trend has been experienced in the 1980s.

In line with world trends, the economic policies of the government have also undergone a shift towards a more market-related economy. The principles of devolution of power and consequent privatization and deregulation of certain industries, including the professions, have been espoused. There has been an encouragement of the small business sector of the economy and a rapid growth in the informal sector of the economy. A breaking-down of traditional barriers has resulted, resulting in challenging opportunities to examine and redefine the roles of the professions and their services in relation to the requirements of the rising informal sector.

The rising cost of capital and interest rates has had the effect of escalating the overhead costs of professional practices, such as rentals and salaries. This has contributed to the shrinking profit margins experienced by these firms. A further additional cost has been the necessity for investment in technology in order to improve the efficiency of the operations and partner productivity and thus improve profitability.

Another reason for the implementation of a technological imperative has been the lack of skills in the professions in South Africa. It has been said that South Africa consequently leads the world in the use of technology in architecture. More highly skilled

technically qualified personnel, demanding higher salaries and fees, have had to be employed and consulted to operate and maintain these investments in technology.

The small scale of the economy and limited investment and financing options have provided professional firms operating in the corporate financial markets with the opportunity to assist clients in raising capital through listings. The boom on the Johannesburg Stock Exchange, prior to the crash of October 1987, saw a large number of new companies being listed, particularly on the Development Capital Market.

The increased cost of capital has also resulted in the increased importance of the time value of money and the money value of time, and clients have become more selective in their investment criteria and choice of professional consultant. This has been particularly evident in the professions engaged in the construction industry, where many professional firms have experienced an increasingly stringent trade-off between time cost and the quality they can deliver as a consequence of these financial priorities. It has, however, also provided additional opportunities for engineers and quantity surveyors, for instance, to extend their roles within the construction industry to those of project manager, financial and property economist.

The rapidly rising inflation rates have resulted in an escalation of wages and prices, and the salary component of professional firms' costs has been adversely affected. The opportunity to assist and advise clients on inflation-related issues in the business environment has also arisen. An additional area of service has been created for advice on retirement and pensions planning.

The small tax base and consequent high tax structure have spawned a growth industry in tax advice by legal and accounting firms, and provided the opportunity for professional advisers to assist clients in creating off-shore structures as well as providing and advising on the internal mechanisms for tax relief.

2.3.3 Political changes

During the 1980s there was a hardening of political attitudes towards South Africa and both threats and the application of sanctions, boycotts and disinvestments escalated. These measures have been particularly strong from some of South Africa's major trading partners and suppliers of goods, such as the United States and, more recently, Japan. The possibility of disinvestment by international accounting firms was also mooted.

The external political policies had an important negative consequence for professional firms, namely disinvestment by the international branches or associates of the South African firms which had expanded their operations overseas, in line with the behaviour of firms in a mature industry. In spite of the negative effects on clients of professional firms, these political measures have also provided opportunities for those professions engaged in financial and legal advice to international and South African clients on assisting the disinvestment process, advising on management buy-outs, financial restructuring, and the establishment of new mechanisms to counter these actions.

A second political trend has been observed in the internal policies and climate within South Africa. Owing to the high degree of heterogeneity and interdependence of the various population groups, the

increased political aspirations of disenfranchised groups and various other factors, an increase in political instability was experienced during the 1980s, which led to the emigration of large numbers of South African professional and business people. This has resulted in a negative business climate and reduction of confidence in the political and economic future of the country. The problem of a lack of sufficient skilled resources in South Africa was thus exacerbated, and a reduction of the already thin crust of professional competence has resulted. This has reduced the service quality level, as well as placing additional strains on the previously-mentioned problems of the management of professional firms.

Following a world-wide trend, the South African Government's policies have changed from rigid racial and economic separation towards a more flexible, co-operative and concessionary relationship between races. During the late eighties these changes were accompanied by an escalation of political unrest, urban violence and terrorism, a reactive increase in the activities of more radical left- and right-wing organizations, and the consequent increase in severe political control measures in an attempt to counter these incidents, reaching their height just before the resignation of P.W. Botha.

Once again, although these changes were traumatic to the country, they afforded many opportunities for the provision of additional services by professionals in such areas as the design, construction and financing of black housing schemes, legal consulting in the area of labour law, and the general increase in the demand for financial and legal services from clients who required a reduction in their perceived risk and uncertainty.

2.3.4 Legislative changes

As has been stated in the introduction to this thesis, a wave of anti-monopoly feeling pervaded the social, legal and economic thinking of the Western countries from the middle of the 20th century from which the professions were not excluded. As a consequence, numerous commissions of investigation were instituted and the professions became the object of scrutiny.

"The last decade has been a period of considerable turbulence for the professions. The growth of the consumer movement, the increase in the scale of Government activity and jurisdictional disputes between and among professional and paraprofessional groups themselves, have led to increasing public scrutiny of the professions, and in many cases legislative changes." (Trebilcock et al., 1979.)

This type of scrutiny was experienced in Canada through the Professional Organizations Committee in Ontario, in the United Kingdom through the appointment of the Monopolies Commission, in the United States of America through the Federal Trade Commission and the Justice Department, as well as in Australia and other Western countries. The effect of this on South Africa was that a commission of enquiry into the Regulation of Monopolistic Conditions Act resulted in the Mouton Report in 1977.

The conclusions and recommendations of the Mouton Report were implemented, the Competitions Board was established, and the professions became the object of investigation in South Africa as well. Consequent to recommendations by the Competitions Board to professional bodies regarding horizontal price

collusion, amendments to the fee structures of the professions to allow for a recommended fee, and to the ethical regulations to allow for the advertising of professional services, resulted in some professions. Thus, a certain amount of deregulation of the professions has occurred in South Africa in the 1980s, resulting in a more flexible approach to fees. This has allowed those professions who had previously operated from the basis of a fixed fee for service or percentage of the value of the consideration, some leeway for negotiation with clients on the issue of fees (Botha, 1988).

2.3.5 The impact of technology

One of the most dramatic environmental impacts on both the professions and their clients has been that of technology. Although improvements in the freedom of people have resulted as a consequence of technology, there have also been some negative social implications of technology, such as pollution and ecological disturbance, exploitation of natural resources, over-population and unemployment. Lasch (1984) maintains that on a sociological level, our growing dependence on technology which no one seems to understand or control has given rise to a widespread feeling of powerlessness and victimization.

Telecommunications and computers, both mainframe and particularly micro-computers, have become the medium through which information and knowledge have rapidly been disseminated. This has further been compounded by the renewable and self-generative characteristics of the information age, which therefore allows the new wealth generation from non-resources to resources through the addition of information (Rakowski, 1988). Quinn and

Gagnon (1986) report that 80 per cent of the computer, communications and related information technologies equipment sold in the USA in 1982 went to the service sector, with a comparable figure of 70 per cent in the United Kingdom.

The advent of computer aided drawing and computer aided management in architectural practices in South Africa has relieved the chronic shortage of technically skilled people, and also greatly facilitated the design function. The same effect is experienced in engineering firms. However, because of the ease of information transfer, the technique can be used by non-professional firms such as property developers offering "turnkey" services, i.e. a complete and comprehensive package of property services, in competition with these professions.

Similarly these organizations may use the same or similar systems as quantity surveyors to calculate budget estimates, bills of quantities, perform discounted cash flows and any other financially related functions normally performed by this profession. Similar situations can be identified with software programs which perform accounting functions and which facilitate these functions within a client company. In the telecommunications area, the use of fax machines by both the professional firms and their clients has increased the speed and accuracy of information flow.

In sum, technology has three major areas of impact on organizations, namely changes in the industry structure, new competitive methods and new services (Porter and Millar, 1985).

The way Porter (1980) has conceptualized the forces which drive an industry, is illustrated in Figure 2.1.

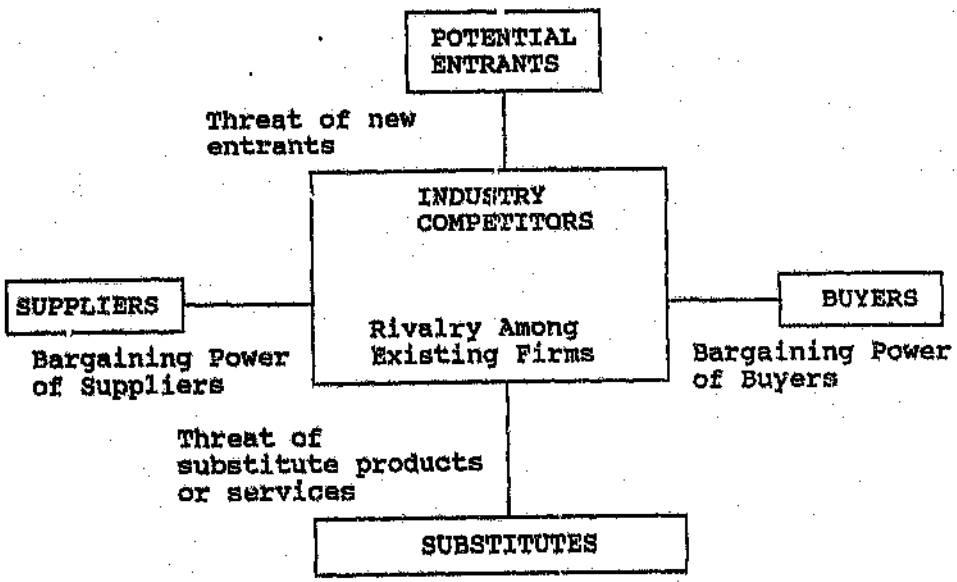

Figure 2.1

Forces Driving Industry Competition. (Porter, 1980)

Through the use of technology, competitive barriers to entry have been broken down between traditional functional organizations within industries with consequent changes in industry structure. The comfortable oligopolies and monopolies in such industries as financial services no longer exist, allowing for the entry by new competitors and the development of a more competitive environment with higher risks. This impact of technology has been extended in many instances to include the specialized

knowledge of the professions, which has increasingly become common knowledge. The power previously provided by these barriers to entry to the knowledge exclusively held by the professions, could become further eroded by the exploitation of such applications as artificial intelligence and expert systems. The diagnostic function of medical services is a case in point. Such systems are already in operation in the United States, allowing not only for the automated diagnosis of illness, but also for suggested treatment (Sackman, 1988).

Barriers to entry have been raised by the high costs involved in the investment in hardware and software technology and only those firms which have access to capital resources are, therefore, classified as competitors of one another. In some cases excess capacity is utilized to gain competitive advantage through securing a lock-in situation with clients and, therefore, raising switching costs. Further factors which impact on industry structure are the effects of, for instance, CAD/CAM on the threats of substitution, and the effect on increasing rivalry and, consequently, on bargaining relationships. The increased flexibility provided by this type of application has precipitated a number of opportunities for customization for specific market segments.

Economies of scale and scope can be achieved through the application of new technologies and the cost of the service greatly reduced, leading to new ways of competing. Examples of this effect in the professions are the use of word processors by legal firms for the

production of standard documentation for large-scale conveyancing, and the use of CAD in the design of schools, filling stations and other standardized construction designs. In many instances this has resulted in increased concentration in the professions as firms have merged in order to achieve the critical mass required for economies of scale and scope to function effectively.

Differentiation may also be enhanced through the use of technology as existing and new services may be bundled to provide additional customization and differentiation to existing clients. New levels of complexity may be achieved through technology in research activities as, for instance, legal firms in their background research may access more information more quickly. Speed and accuracy of response to client requests are reinforced by the ability to provide more information as well as more complex information without great additional cost. This added value provides clients with a competitive advantage in the industries in which they operate and tends to favour the professional firm which provides it.

It has already been stated that additional services can be generated at minimal cost through technology. This has enhanced the ability for innovation which is deemed to be essential in high technology industries (Abernathy and Utterback, 1978). An illustration from the professions is that of a consulting engineering firm which can provide architectural, quantity surveying, financial management and project management services.

Another example is an accounting firm which can provide computer consulting services, client accounting, project management and financial management services. It can, therefore, be seen how the previously distinctly

different professions begin to overlap as technology causes the barriers between them to be broken down.

Derived demand is another way in which new businesses can be created, such as the speed with which fax machines can transfer information, including architectural plans. Excess computer capacity and other slack resources such as human expertise which accompany the technology, can be sold as an additional new service, as can information generated as a by-product of the core service.

The ability of technology to lower barriers and cross boundaries, therefore, provides professional firms with the option of increasing the scale and scope of their service range, and the ability to access increasingly complex information more quickly through global networks of information. However, the professional firms become more dependent on technology for survival, as their processes and external relationships become more complex (Hoffman, 1988).

2.3.6 Competition

Owing to the free dissemination and accessibility of expert knowledge, which has traditionally been the exclusive domain of the professions, new entrants into their arena of work have been experienced. Additionally, competition from non-professional firms who do not operate under the same ethical constraints has been encountered by professional firms who have utilized the opportunities for diversification into new service areas.

As professional indemnity premiums and excesses have dramatically increased, and the incidence of litigation

claims has risen, more professionals are opting for employment by corporate bodies with limited liability, where their professional risks are less and financial rewards often more. "Litigation is a growth industry, fostered by a growing awareness of legal rights" ("The Times", 1986). This results in a situation where clients of professional firms often have sufficient in-house expertise to perform many of the functions of an external consultant, thus reducing the volume of work. This also has the effect of increasing the clients' bargaining power and the external professional consultant no longer operates from a position of ultimate authority.

Technology itself, and the suppliers thereof, have proved to be competitors to professional firms in some instances, as client companies can perform many of the functions of an outside consultant through the use of the appropriate hardware and software. For example in the legal profession, competition is evidenced by the profusion of self-help books and services to assist clients in non-litigious cases. In the more competitive commercial areas of law, competition is experienced from merchant banks, trust companies and stockbrokers and accounting firms, who all employ legally qualified professionals, and from clients themselves as they are increasingly employing their own legal consultants.

In the United Kingdom, the monopoly over conveyancing services has been broken by a private member's bill allowing non-solicitors to undertake house conveyancing. The real threat to the profession is the extension of conveyancing to the big lending institutions ("The Times", 1986). This has caused some concern among South African attorneys and at the Conference of the

Association of Law Societies in South Africa in 1987, a whole session was devoted to this matter.

The accounting profession has experienced a shrinking in the market for audit work, as has been described in the section on economic changes and, consequently, has diversified out of the audit area to include a variety of non-audit services, some of which are related financial services and others which are non-related corporate services. Some of these new services stem from the above-mentioned facility provided by technology, while others are derived from opportunities generated by the environment. However, in the non-audit areas, competition is experienced from non-audit firms who are not constrained by the professional ethical code and who have the expertise, experience and financial resources to market their services more effectively.

The consulting engineering profession, in its diversification into other services, has received competition from project management firms, various engineering management firms and turnkey projects offered by construction companies who do not operate under the professional code of ethics. Competition is also encountered from quantity surveying firms who offer project management services. A similar situation exists in the architectural profession, which has more competition and a cognitive make-up which is less amenable to the financial and competitive aspects of a project.

The medical profession has received increasing competition from pharmacists, from para-medical services, and all forms of alternative suppliers of medical services such as homeopaths, chiropractors, the movement towards health consciousness and from the

media. In the context of the multicultural nature of South African society, competition has also been encountered from herbalists and "sangomas" ("witch doctors"), who have used pressure groups such as trade unions to gain accreditation and recognition by medical aid societies as part of employee benefits.

All the above environmental factors have had an impact on the nature of the relationship between professional firms and their clients. The consequences are that client expectations have become raised, their priorities have changed, their requirements of their professional consultants has changed, alternative choices of suppliers of services are available to them, their bargaining power has been increased "vis-a-vis" the professions, and they have become more inclined to resort to litigation for negligence. Where multiple professions are involved, clients may choose the profession with the highest professional indemnity cover as the target for claim.

It has been suggested that the increase in the incidence of claims for negligence may be related to the diversification into non-traditional services and that the formation of separate limited liability companies for this purpose is essential (Rakowski, 1988). This has already been seen in some of the professions in South Africa.

The engineering profession, for example, appears to be in a dilemma, since it has been accused of over-designing in an attempt to reduce the possibility of claims, which then increases the cost of the structure, making it less attractive to property investors.

2.4 Statement of the research problem

The major structural shifts caused by the above environmental factors have precipitated the professions into a mature phase of evolution in terms of the life cycle concept (Porter, 1980) and, consequently, their monopolistic power positions have been reduced. The symptoms of industry maturity, an area which will be discussed more fully in Chapter 3, include new entrants into the work arena previously reserved for professions, resulting in a higher intensity of competitive activity, a higher level of marketing activity in the face of the increased competition, and a decline in the profit margins as costs escalate and turnovers drop.

The professional ethical codes of independence and the profession as a brotherhood have previously prevented them from overt competitive activity within their own profession, co-operative strategies with other professions or other firms in the service or industrial sector. Such behaviour has previously been regarded as anathema to the spirit of professionalism.

In some instances, however, there have been modifications to the ethical codes of the professions to assist them in becoming more competitive. The dilemma in which the professions now find themselves centres around the fact that models of alternative strategic options have not been researched, and since by their very nature, as realized above, professional firms differ from industrial firms, the strategic typologies which have been researched for industrial firms need not necessarily apply.

CHAPTER 3

SURVEY OF THE THEORETICAL LITERATURE AND MODEL DEVELOPMENT

3.1 Introduction

The lack of an integrated model which encompasses the particular nature of professional service organizations, their strategic options in the face of environmental challenges and the profile of the top management team which makes the strategic decisions affecting the organization, has provided the research problem. It will therefore not be possible to derive precise hypotheses from an existing literature. Rather, the empirical elaboration and explanation of a model of options is the primary objective of the research. The establishment of some method of determining the effectiveness of possible alternative options is the second objective of the research, and the final objective is the predictive model which demonstrates the process of industrialization of the professions.

However, even in the absence of explicit hypotheses one needs some focus to delimit the enquiry. Thus, in order to arrive at a tentative model which could act as a basis for the development of a set of generalized expectations which the research could examine empirically, this chapter firstly examines previous

research into archetypes of other organizations and associated typologies of strategies, and their possible relevance to professional service organizations. The existing literature on three strands of theory relating to the research problems is discussed.

Aspects of organization theory which contribute to the development of the model are elaborated, including strategies, structure, culture and organizational change. The interface between organization and environment, which includes the top management team who act as boundary-spanners of professional organizations, as well as other stakeholders in the environment, are also discussed, and further modifications which make this interface unique are brought into consideration.

Current theories on organizational effectiveness are reviewed and a conclusion is drawn regarding modifications of the theories for applicability to professional organizations. A model for the testing of organizational effectiveness will also be derived to satisfy the second objective of the research.

The third objective of the research is the demonstration of the process of industrialization of the professions. The theory of industrialization is discussed and the applicability of the theory to the process of change to which the professions are being subjected is highlighted.

3.2 First research objective - an integrated typology

3.2.1 Organizational archetypes and strategic typologies

The view that the strategy of an organization is an artful alignment of environment, resources and values, as postulated by Andrews (1971), dominated strategy literature for some time. However, this view did not allow for generalizations and did not encourage further theory building.

The contingency theory of strategy (Hofer, 1975) triggered the attention of scholars of strategic management towards the thinking that business-level strategies could be classified into generic groups, either on a broad basis, applicable to a wide range of business-level situations (Abell, 1980; Miles and Snow, 1978; Porter, 1980), or for various contingency situations (Hofer, 1980; Harrigan, 1983, 1985; Woo and Cooper, 1981; Robinson and Pearce, 1984).

Just as strategies have been classified into generic groups, organizations have similarly been classified into transitional archetypes of adaptation, or "gestalts" in Filley and Aldag's (1978) typology and the studies by Miller and Friesen (1977, 1980). Filley and Aldag's typology of craft, promotion and administrative types, was arrived at through research on manufacturing and retail organizations, and included managerial characteristics. Miller and Friesen's studies of archetypes of transition were conducted on industrial organizations in the USA and Canada; therefore neither of these were done purely on service organizations.

It has been pointed out that a large number of organization variables are involved in characterizing the adaptive process (Chandler, 1962; Sloane, 1985; Hedberg et al., 1976), and in both the areas of strategy and organization, the necessity for a classification system which reduces the large number of potential variables to a manageable but powerful few has been emphasized (Hambrick, 1983). Such a system should allow strategies and organizations to be classified according to their commonalities in order to facilitate understanding of broad strategic patterns and their relative organizational dynamics. It must be seen to be broadly applicable across situations and thus become generic. Such generic strategies therefore become a categorization of strategic choice and reflect the "grand strategy" within which contingencies allow for variation according to pre-determined criteria (Herbert and Deresky, 1987).

Classification schemes of strategies may be of the linear type, which regards strategies as the integration of decisions, actions or plans designed to achieve organizational goals (Chandler, 1962), or of the interpretive type, where strategies are viewed as orienting metaphors or frames of reference (van Cauwenbergh and Cool, 1982). Both of these attempts are stipulative and limited in their application, and it has been pointed out that one can only approach, but not achieve, an optimal classification system (Bock, 1973).

None of the above-mentioned organizational archetypes and strategic typologies has been arrived at for professional organizations. Since professional organizations have different structures and systems to other organizations, and the nature of professional work differs in way that will be expanded on later, the

archetypes of organizational adaptation as well as typologies of strategies are consequently subject to possible revision.

The objective of this research is therefore a holistic integrated "gestalt" of professional service organizations, their strategic stance in the markets in which they operate, and characteristics of the top management teams who act autonomously to scan the boundaries of the professional service organization and as strategic decision-makers of these organizations. These archetypes therefore represent a dynamic interaction between these ingredients comprising the theoretical model. Each of these three approaches and their contributions to the building of a theoretical model are discussed below.

3.2.2 Organizations, service organizations and professional service organizations

An organization may be defined as the "planned co-ordination of the collective activities of two or more people who, functioning on a relatively continuous basis and through division of labour and a hierarchy of authority, seek to achieve a common goal or set of goals" (Robbins, 1983). Organizations of all sizes are found everywhere in social life. In the context of the systems perspective (Churchman, 1969) they may be viewed as open systems with a continuous flow of interactions between their members and between their different interdependent functional areas, and between the organization and its external environment, as illustrated in Figure 3.1.

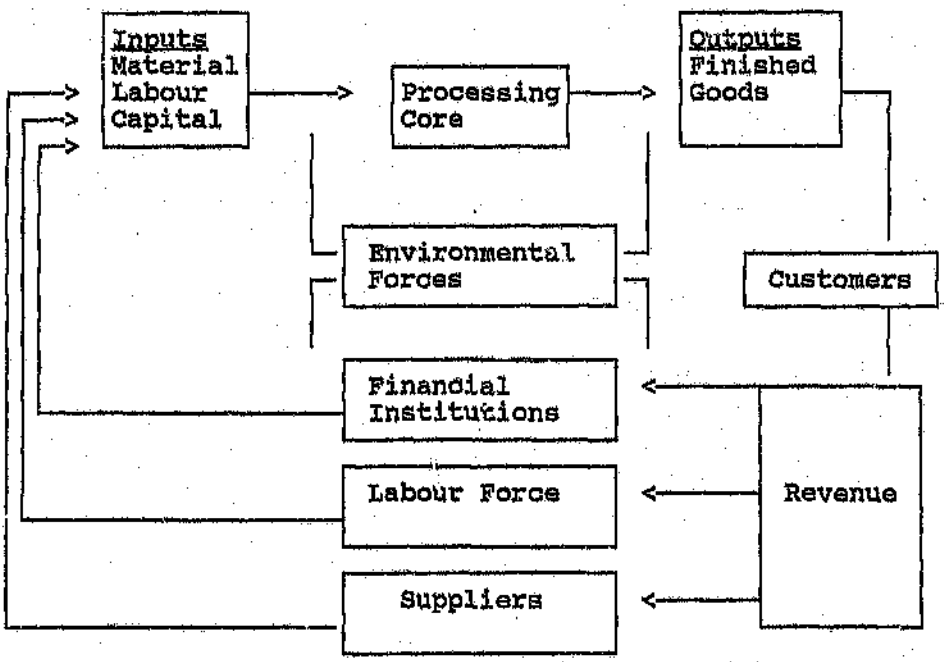

Figure 3.1

Systems view of organizations

(Adapted from Robbins, 1983)

These dynamic interactions need to be satisfactory for the long-term survival and growth of any organization. Open systems have certain characteristics which differentiate them from closed systems, such as environmental awareness, a cyclical character, negative entropy, a steady state, a movement towards growth and expansion, a balance between maintenance and adaptive activities, and equifinality.

These characteristics ensure that there is a balance between the tensions which exist in organizations, between inputs and outputs, growth and stagnation (Robbins, 1983). This characterization accords with the view of organizations as organic "wholes" or "gestalts" which is adopted in this research.

The organization is also seen to have a boundary, which can be likened to a semi-permeable membrane, with some of the members of the organization spanning the boundary, filtering and processing information from the environment (Thompson, 1967; Aldrich and Herker, 1977). This is demonstrated in Figure 3.2.

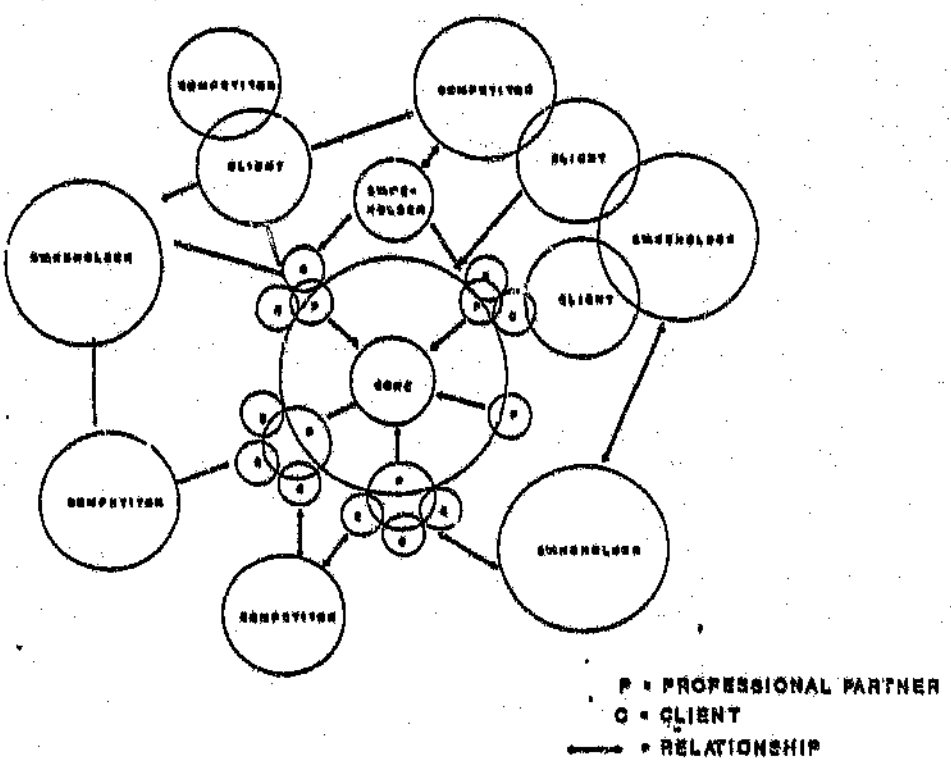

Figure 3.2
Boundary spanning in organizations

Service organizations (or in-house services) have certain characteristics in common which differentiate them from other organizations or in-house divisions. The intangible nature of the service results from the inability of a service to be inventoried and the immediate consumption of the service. The perishable nature of services renders the service organization vulnerable relative to manufacturing organizations, as it reduces its ability to buffer itself to environmental uncertainty through the building up of inventories.

The intangible nature of the output of service organizations results in a second characteristic of these types of organizations, namely the closeness of the interaction with the client in order to deliver the service. The employees of service organizations are consequently involved in producing and delivering the service simultaneously. As knowledge industries, service industries are primarily involved in the processing of information in order to deliver the service. This involves direct interaction with clients of the service to obtain the information, and the client becomes part of the service production process.

A typology of service organizations, based on this critical relationship at the interface between the service organization and its clients, has produced three types of service organizations. These are the maintenance-interactive type, such as a bank, where the focal point is building trust or confidence in order to sustain the relationship indefinitely; the task-interactive type, such as an engineering organization, where the focus is on the task to be performed; and the personal-interactive type, such as

legal and medical organizations, where problems of a personal nature are brought to the service organization's decision unit (Mills and Margulies, 1980).

Professional service organizations differ from industrial organizations in a number of ways. Firstly, they are characterized by a high degree of self-management, since the tasks encountered are unique and require search, evaluation and judgment (Van de Ven et al., 1970), and professionals apply their specialized skills to this situation (Freidson and Rhea, 1965; Bucher and Stelling, 1969). Secondly, there is collegial control in professional organizations, since only other professionals are in a position to evaluate their peers (Freidson and Rhea, 1965; Goode, 1960; Hall, 1968). Thirdly, there is a great deal of personal autonomy in defining problems and generating their solutions without pressure from non-members of the profession (Hall, 1961; Scott, 1965).

Professional organizations are characterized by an open-systems coupling with their client organizations necessary for the service production process (Mills et al, 1983). The client becomes a temporary employee of the professional firm, since the information he provides is the "raw material" in the information processing system of a professional organization (Barnard, 1948; Gartner and Reissmann, 1977; Parsons, 1956). The client is, therefore, a primary external resource of a professional organization and a major source of external dependence.

This suggests that co-optation is necessary to reduce the high level of uncertainty generated by this situation, where both task uncertainty and work-flow

uncertainty are high. The interface between the professional organization and that of its clients is therefore flexible and its boundaries are extended to include their client organizations. This interface has been shown to be critical (Mills and Margulies, 1980), and therefore important to consider in constructing the model to be tested. The unique type of structural form for professional organizations further strengthens the suggestion that modifications to any previously researched strategic types are imperative if the link between structure, strategy and environment has any validity.

The differences between professional service organizations and industrial service organizations, which are also important in considering the affects which these may have on the organization, its members, and its strategies, are illustrated in Figure 3.3.

	Professional Service Organizations	Other Service Organizations
Type of Product	Non-standard, High Knowledge content/skill	Standard Low knowledge content/skill
Organization Structure	Flat, unstructured, loosely coupled systems	Rigid pyramid standard operating procedures top down
Transaction volume per time period	Low	High
Value of Individual transaction	Large	Small
Locus of Profit	Individual	Operating unit
Type of client contact	Medium to long term	Short term
Quality control	Peer review	Training programs and random inspections
Client loyalty	To individual provider	To firm, or to concept
Initial sale	Referral, personal contact.	Advertising and promotion
Repeat sale	Through satisfactory service delivery by professional	Employees deliver service
Motivation	Self-motivated, motivated by pride in professional work	Lower, unskilled, motivated by status and money

Figure 3.3

Differences between professional and other organizations

From the above discussion and figure it can be seen that professional service organizations have unique characteristics which do not permit generalization to conventional organizational theory. Modifications to the theory need consideration.

3.2.3 Contributions of theories of organizational structure to the model

The contingency approach to organizational research includes an organization's relationship with its environment (Burns and Stalker, 1962; Lawrence and Lorsch, 1967). This view contends that an organic organizational structure is appropriate for turbulent environments, while a bureaucratic structure is more effective in stable environments.

The main contributors to research in the deterministic approach to structural linkages attempted to demonstrate linkages between structure and strategy (Chandler, 1962; Miles and Snow, 1978), structure and environment (Child, 1972; Lawrence and Lorsch, 1967), structure and size (Blau and Schoenherr, 1970; Hickson et al., 1969; Meyer, 1972) and structure and technology (Woodward, 1965; Perrow, 1967; Thompson, 1967).

Other researchers, notably Weick (1969), however, maintain that the structure of an organization is created or enacted by the social reality of its members and is not independent of them as the above proposed linkages may suggest. The operationalization of the structural dimensions has also been criticized, and support for Weick's thesis comes from Pondy and Mitroff (1979), and Reimann (1977) among others.

Mintzberg (1979, (ii)) describes the structure of the professional organization as bureaucratic by nature, due to the fact that universal standards and rules set by professional associations predetermine the co-ordination and design of professional work. These external rules also influence the relationship which the professional has with clients. In spite of the high degree of individualized client problems, more often than not these may be categorized into a standard set of problems, allowing a standard set of solutions to be described for each type of problem, and allowing one professional easily to be able to take over the work from another.

Because of the open-systems nature of professional service organizations and consequently the high degree of co-optation of elements of the environment and the role of the highly autonomous professional partners as boundary-spanners, Weick's approach to structure as being enacted by the organization's members appears logical. However these two approaches are clearly complementary rather than mutually exclusive, and aspects of both approaches are incorporated in the definition of the structure of professional organizations.

Consequently, for the purposes of this thesis, professional service organization structure is defined as being simultaneously enacted by its members and determined by both internal and external environmental forces.

3.2.4 Contributions of the theories of organizational culture to the model

Although the concept of culture is not a new one and has been part of anthropological and sociological study for some time, its importance in the interpretation of organizational behaviour and its relationship to strategic processes has only recently surfaced, as if it were a new organizational variable to be considered in the study of organizational dynamics. The decade from the beginning of the 1980s has seen the proliferation of interest in the concept of culture, and Tunstall (1986) has suggested that business historians may view the 1980s as the age of the "cultural revolution".

Definitions of culture are as varied and profuse as the definitions of strategy. One of the reasons for this clearly lies in the vagueness and indistinctness of the concept, particularly in the context of business. Kilmann et al. (1986) emphasize that most managers' knowledge of the culture of their organization is "even fuzzier than their definitions", and contrasts with their knowledge of the more tangible aspects of their organization, which is understandably clearer than the "soft behavioural underpinnings" of business.

Their definition of culture is that it is the shared philosophies, ideologies, values, assumptions, beliefs, expectations, attitudes and norms which bind a group of people together. These shared qualities, which constitute the culture of an organization, form a common frame of reference and provide the internal cohesion in an organization, and integrate and propel the activities and behaviours of the members of the organization.

Another perspective of organizational culture defines it as the pattern of basic assumptions which actually underlies the values that a group has discovered or developed in coping with adaptation. This pattern of assumptions has been found to work well and is, therefore, used in this thesis (Schein, 1983). Organizational culture is dynamic and adaptive and reflects the interaction between the assumptions and theories that the founders of the organization bring into it, and what the organization subsequently learns from experience.

Culture may be classified from two points of view - the one which views culture as an observable pattern of behaviour, and the other which views culture as being shared in the minds of organizational members. This last view is further subdivided into a view of culture as an organizational variable, and culture as a metaphor (Smircich, 1983). This is illustrated in Figure 3.4.

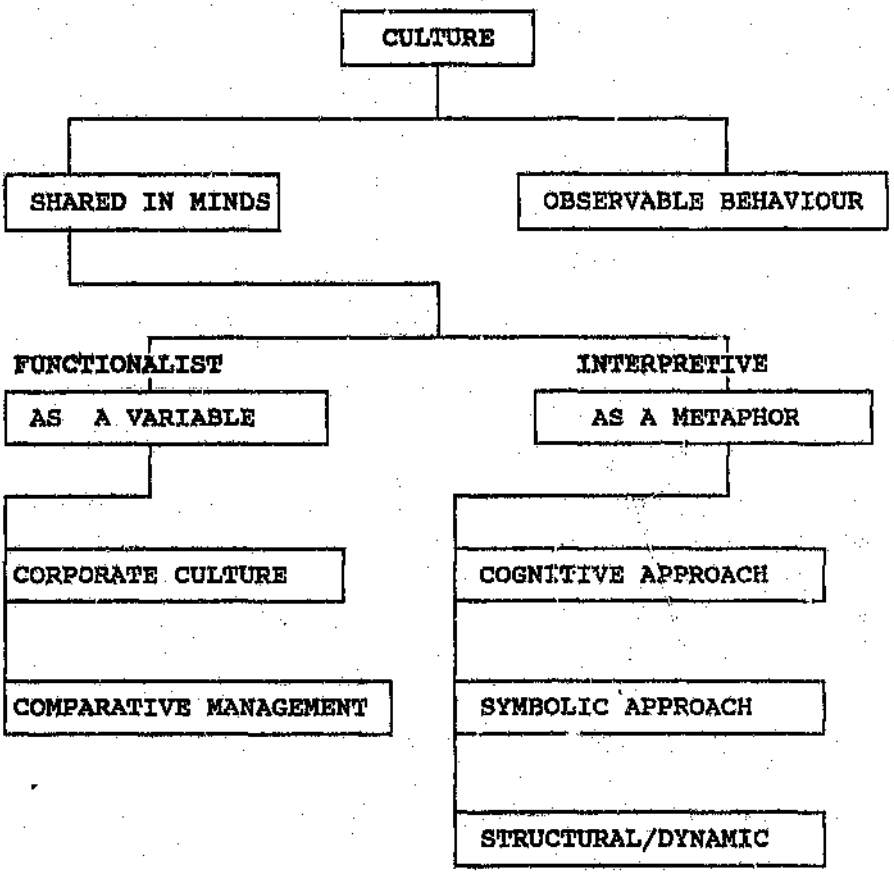

Figure 3.4

Views of corporate culture

(Adapted from Smircich, 1983)

The notion that organizational cultures affect organizational performance has been explored by authors who investigated the "strong culture" hypothesis (Ouchi, 1981; Peters and Waterman 1982; Deal and Kennedy, 1982; Dennison, 1984). Saffold (1988) has proposed that attention should be given to the appropriate measures of the impact of culture, such as Louis' (1985) concept of cultural penetration, the use of contextual analysis and attention to multiple causal interactions. Examples are Clark's (1980) hypothesis that organizations that relate to multiple external constituencies may be more effective if they have a socially diverse rather than highly cohesive culture, and Schein's (1984) proposition that strong cultures may be appropriate for young organizations, whereas older organizations may do better with a weaker culture.

The cultures of professional service organizations are undoubtedly similar in their basic professional service ethics, but intra-profession and inter-profession variations may occur, as the group norms, values and attitudes influence each individual profession, industry and organization. Another contingency may be the stage of development of the organization and the type of leadership. McGoldrick's (1984) account of the culture of an investment bank confirmed the importance of the strength of the culture.

Maister (1984) has described one type of successful professional firm, the "one-firm firm", as having certain characteristics regarding its internal culture, its management, leadership, human resources policy and strategy. This account of one type of successful professional organization describes the culture of the

organization as having the shared values of loyalty, teamwork, unselfishness, firm identity, pride in the firm, long hours, hard work, client-driven and downplaying stardom.

For the purposes of this thesis, therefore, the concept of the culture of professional service organizations is defined as being shared in the minds of its members, both as underlying assumptions and as observable patterns of behaviour. The socialization which takes place during the education of professionals and the ethical codes of the professions undoubtedly provide the underlying assumptions and contribute to the observable patterns of behaviour. Maister's model is therefore introduced as one possible set of shared values which could be found in professional organizations.

3.2.5 Organizational change

Lawler et al. (1985) have posed the question of whether one can do research on organizations without studying change. In their view, good research and change can be said to be mutually exclusive. It is known that organizations change over time and that this change may be viewed as either a gradual adaptation or evolutionary change, or as a sudden, revolutionary discontinuous change (Greiner, 1972; Miller and Friesen, 1980, 1984; Scott and Bruce, 1987).

The population-ecology perspective of change is that of natural selection or "phyletic gradualism" (Carroll and Delacroix, 1982), while the community-ecology theorists contend that organizational evolution occurs through episodic rather than gradual change, or "punctuated equilibrium" (Eldredge and Gould, 1972). It is also

contended that an open environmental space, or ecological opportunity, must exist for evolution to take place (Astley, 1985).

Organizations are also known to resist change and tend to an equilibrium state and maintenance of the status quo (Mintzberg, 1978; Staw et al., 1981). In the first type of change, logical incremental adaptation is made through what is called "single-loop" learning without affecting the basic nature of the organization (Fiol and Lyles, 1985; Argyris and Schon, 1977; Quinn, 1978, 1980). These changes have been termed first-order changes (Levy, 1986) managed change (Tichy, 1983) or planned change (Bennis et al., 1976).

In contrast to reactive adaptation, changes involving paradigm changes, new frames of reference, deliberate, explicitly and purposefully devised changes by the organization members, and changes requiring "double-loop" learning, alter the basic nature of the organization. Smith (1982) has utilized the biological terms of morphogenesis, to describe the irreversible change in the basic core of an organization, and morphostasis, in which changes enable things to look different without changing the core.

Various theories make their contribution to the concept of the transformation process involved in change, and are summarized by Levy (1986) in Figure 3.5:

Scientific Revolutions (Kuhn)	Dissipative Structures (Prigogine)	Historical Determinism (Marx)	Creative Process (Adams, 1974)
Normal science	Fluctuations within defined bounds	Steady state	Preparation
Growth of anomalies	Fluctuations past a threshold	Growing dis-satisfaction	Incubation
Crisis	Crisis	Conflicts	Illumination
Revolution	Higher new order	Revolution	Verification
Normal science in new paradigm		New order	

Figure 3.5

Illustration of the change process in different fields.

(Adapted from Levy, 1983)

The first section of the figure illustrates the development of science, as described by Kuhn (1970), in which normal science experiences anomalies, crises, revolution and consequently a new paradigm. In the second section of the figure, catastrophe theory (Zeeman, 1976) suggests that discontinuity of continuous processes may cause a stable system, confronting an instability threshold, to undergo radical change, culminating in a new structure; and living systems theory contributes the concept of "order through fluctuation" and the theory of dissipative structures (Prigogine and Stengers, 1984). The third section of the figure illustrates the analogy of historical determinism

as described by Marx (1969), whereby growing dissatisfaction with a steady state of affairs progresses until conflict escalates, revolution takes place and eventually a new order results. The final section describes the creative process, where a discarding of conventional assumptions occurs; there is a period of preparation and of incubation before illumination and verification follow (Adams, 1974; Watzlawick et al., 1974).

The transformation process of second-order change may, therefore, be seen as a process of "unfreezing, moving and refreezing" the organization into a new "gestalt" (Lewin, 1983) - a process which requires qualitative changes in context rather than content, changes in effectiveness rather than efficiency and in all aspects of organizational culture, as opposed to changes in a few components or behaviours. It is likened to the autopoietic systems which are systems capable of creating and sustaining themselves, as described by Jantsch (1980). These systems are capable of self-transcendence. This involves creating or discovering a new reality beyond the existing paradigm, and deliberately choosing a reality with new meta-rules which suit the organization's needs (Levy, 1986).

In order to be able to effect the necessary processes described in second-order change, organizations must have the ability to learn, unlearn and relearn (Lawrence and Dyer, 1983; Mitroff and Kilmann, 1976; Hedberg, 1981).

This requires new organizational frames of reference (Shrivastava and Schneider, undated). Shrivastava and Mitroff (1983) have identified four managerial frames of reference by which organizations may be classified,

according to how they interpret or enact their environments (Daft and Weick, 1984). These are the entrepreneurial, bureaucratic, professional and political frames of reference, each with a characteristic set of elements.

In view of the environmental forces which the professions in South Africa have been experiencing, as discussed in Chapter 2, this discussion on organizational change is particularly relevant, since the discontinuous change precipitated by these forces has created a hyperturbulent environment for professional firms in South Africa, and poses a particular challenge to their management.

3.2.6 Organizational strategy

In spite of volumes of research which have been generated on the topic of organizational strategy, consensus on the definition of strategy has not been achieved. The area has been approached primarily from two perspectives, namely economic approaches such as those of Porter (1980), which are concerned with the successful positioning of the organization within a particular market or industry structure, and organizational approaches which rely on institutional and organizational behaviour observations (Carroll, 1987).

Classic economic theory of the firm suggests that an organization has goals which it attempts to achieve and towards which it moves in a rational manner while transforming economic inputs and outputs. The organization also has a specific structure which enables it to achieve this objective (McGuire, 1964; Tosi, 1975). This view of strategic formulation presupposes a

set of goals and the means by which to achieve these goals, and assumes that the goals have deliberately been selected by the dominant decision-makers in the organization.

Both organizational theory literature (Andrews, 1971) and industrial organization economics literature (Hatten et al., 1978) have advanced the concept of a fit between the environmental trends and organizational structure, with distinctive competences being critical to organizational effectiveness. A similar match has come from the organizational theory literature (Burns and Stalker, 1962; Lawrence and Lorsch, 1967) which suggests that environmental forces impacting on an organization's structures, processes, practices and outcomes, will modify the managerial choice and organizational effectiveness according y. Mintzberg (1978) likewise distinguishes between strategies which have been deliberately planned in advance and strategies which have emerged as a result of interactions of the members of the organization with the strategic plan, or unintended strategies which have developed as a consequence of the impact of organizational or environmental forces, without overt planning.

Mintzberg further posits that the notion of strategy as a single integrated pattern of decisions common to organizations is modified in the professional bureaucracy, since each professional establishes his own network of close client relationships and loose working relationships with his colleagues. Each professional within the professional organization therefore creates his own strategy for his particular client base.

For the purposes of this research the above approaches are once again not regarded as mutually exclusive. The

strategic choice of the dominant coalition may play a strongly determining role in setting the intended strategies of professional service organizations, resulting in a certain stance in the market-place.

However, environmental forces may modify the organization and deliberately intended strategy and significantly influence the strategic outcome or realized strategy.

A distinction is also made between corporate-level strategies, business-level strategies and functional-level strategies. In this research the accent will be on business-level strategies, which are concerned with the choice of how to compete within a specific industry structure in terms of product or service lines, market segments, organizational form, systems and manpower requirements.

3.2.7 Contributions from the theories of strategic typologies to the theoretical model

Porter (1980) has proposed a generic strategic typology, which he has stated is equally applicable to manufacturing and service industries. This typology consists of three alternative mutually exclusive types, namely cost-leadership, differentiation and focus strategies.

The cost-leadership, or low-cost producer type, with accent on productivity and cost control, is characterized by scale facilities, tight cost control, avoidance of marginal accounts, minimum R & D, minimum advertising and high relative market share. The differentiation strategy, with accent on brand image, service or technology, is characterized by quality,

innovation, unique service, higher price, customer service, technology, lower market share and higher marketing expense. In the third type of strategy proposed by Porter, the focus strategy, either of the above strategic types is focused on a specific geographic market, a specific client group or a specific service.

Porter has further described the causes of fragmented industries, and the possible methods of overcoming and coping with fragmentation, such as formula facilities, increased value added, forward integration, and a predominance of the various types of specialization included in the focus type of strategy. This aspect of the low-cost producer is modified to allow for partner productivity and efficiency, through gearing achieved by technology or low staff/partner ratio, and scale facilities through greater distribution via number of branch outlets.

Although the Porter model has recently been subjected to some criticism (Chrisman et al., 1988; Murray, 1988; Hill, 1988), and although a new agenda for management in the 1990s has been proposed which questions the concept of generic strategies, as has been described above (Hamel, 1988; Hamel and Prahalad, 1989), this model will nevertheless be used as the anchor of the proposed typology for professional firms, since it has been based on well-researched and documented concepts (Bain, 1968; Mason, 1939).

Another landmark strategic typology is that of Miles and Snow (1978), who proposed a typology of four strategic types, based on the rate of change in the products or markets of an organization, or the degree of risk taken by the organization in its strategic choice.

The type which they called the prospector is that in which the organization searches for new opportunities and experiments with potential responses to environmental change. This type is often the creator of change, taking the highest risk, by prospecting new markets and being the innovator in products or services. Such organizations are usually not completely efficient. The second type is the analyser, the organization which first examines the success of the prospector in its pioneering efforts before venturing into new markets, products or services. It operates in two market domains, one relatively stable and one changing. The third strategic type is that of the defender, the organization which defends its entrenched position and does not venture into new markets, products or services easily. These organizations are committed to stability and efficiency, control secure niches in their industries, and compete on price, quality, delivery or service. Miles and Snow also describe a fourth type, that of the reactor, the type of organization which is not as successful as any one of the other three types and which reacts to developments in the market-place, rather like a late adopter.

The deregulation of the professions has been mentioned in Chapter 2. The process of deregulation of any industry presents a new environmental challenge, and changes the structure of the industry in which the fi compete which may influence the strategic stance described in Porter's economic model. Bleeke (1983) has suggested that three developments arise within an industry following deregulation, namely the proliferation of new product or service combinations, the arrival of new low-cost producers and the intensified introduction of new technology. In the first development, complex product or service combinations

previously sold as a package, become "unbundled", allowing greater customizing of client needs. Where prices and services were both relatively uniform and undifferentiated under regulation, deregulation removes the restraints on price and service competition, broadens the range of services and allows a greater variety of trade-offs of both price and service standards. Under regulation prices are insensitive and structural costs are built up over years. However in the second development new low-cost competitors enter the industry, competing for price sensitive clients. New entrants of this type add capacity and drive prices down. In the third development technologies are generally used to attract clients through providing better service in a regulated industry, and little use is made of technology to reduce cost. However, increased competition accelerates the application of cost reduction and service technologies.

The above changes have a major impact on the economic profile of an industry, and five consequences of deregulation result, namely excess capacity is introduced or increased, price competition develops in profitable markets, cost-cutting programmes develop, divergence in profitability between firms widens, and, finally, many firms need to invest heavily in technology.

From these considerations, Bleeke develops four strategic types subsequent to deregulation, with the following structures as illustrated in Figure 3.6:

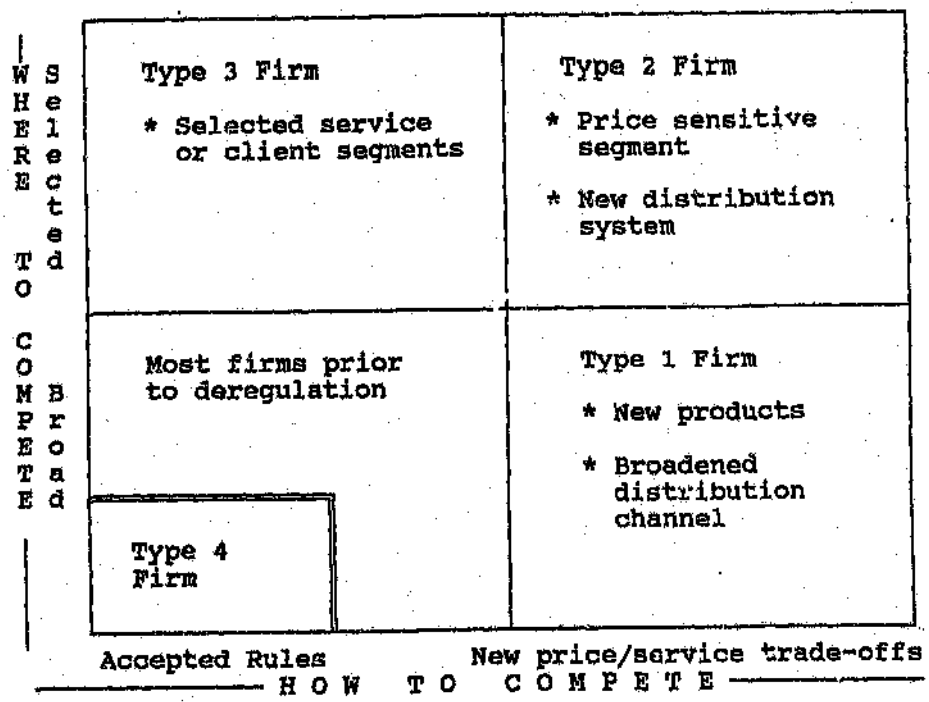

Figure 3.6

Competitive repositioning after deregulation.
(Source: Bleeke, 1983)

The first type covers national distribution companies, which have a full line of differentiated products or services across a broad geographic area, and their systems and operations have been upgraded and integrated on a national basis. They have relied on internal growth, rather than expansion by acquisition and have also built up their marketing capabilities.

The second type are low-cost producers. This type generally consists of new entrants to the industry. These firms take business from established firms, offer a narrower range of services at lower prices and thus may replicate the low cost system in selected new markets.

The third type is the speciality firm, and consists of those firms which could not maintain their Type 1 identity, and consequently retreat to specific market or service needs with new high fee services. They identify new service or client segments and grow through aggressive targeted competition.

The fourth type are the community firms, and are those which are characterised by providing a broad service line in a specific geographic area, and consequently have high local client loyalty.

Their pricing is accurate and there is evidence of increased productivity and cost cutting. They undertake joint ventures and expansion into markets vacated by larger firms. There is a high personal service content and these firms maintain a long-term perspective.

The organizational characteristics of these four types are given as indicated in Figure 3.7:

Type	Style	Structure	Systems	Staff/skills
Type 1 National distribtion company	Established but alert and responsive	Strong functional support for decentralized network	Emphasis on marketing, planning & cost systems	Broad spectrum of management skills required
Type 2 Low Cost Producer	Entrepreneurial; aggressive; lean.	Centralized, with few functional departments; line-driven	Minimal systems orientation; emphasis on cost control	Operating capability is primary attribute
Type 3 Speciality Firm	Creative and Flexible	Usually centralized with targeted functional departments	Moderate systems orientation; emphasis on market information and creative planning.	Service orientation and tailored training important
Type 4 Community Firm	Entrepreneurial, but stable	Centralized with entrepreneurial control	Minimal systems orientation; emphasis on productivity	Broad service capability oriented towards local customer loyalty

Figure 3.7

Organizational characteristics of four strategic types
(Bleeke, 1983)

One may deduce that the above typology may well be applicable to the professions following deregulation and increased competition from "non-professional" firms.

However, it must be pointed out that the Type 2 firms are described as new entrants in the market-place, and may constitute "non-professional" organizations which operate in the same market. The other three types are used as contributing elements in the subsequent model to be examined empirically.

Schmenner (1986) has proposed that service industries in general may survive and prosper by becoming less labour-intensive, with less customization and less client interaction. He states that professional services may also move in this direction as a consequence of the impact of technology, the need for specialization and, thus, less customization. He emphasizes that successful firms may maintain high labour intensity and customization and client interaction, which tends to correspond with a differentiation type of strategy. These two alternatives suggest, therefore, a correspondence with the types in the Porter model, where lower labour intensity and less customization and more specialization occurs in the cost-leadership type strategy, and the higher customization and interaction, with high labour intensity, occurs in the differentiation type of strategy.

From his personal experience as a consultant, Maister (1985) has described one type of successful professional firm, the "one-firm firm", as having certain characteristics regarding its internal culture, its management, leadership, human resources policy and a strategy which corresponds to a differentiation and focus strategy. The culture of the partners of such ar archetype is described as exhibiting loyalty, good teamwork, unselfishness, a firm identity, a pride in the firm, long hours of work, being client driven and downplaying stardom.

A culture of elitism is fostered through high standards of recruiting, with intensive training and constant evaluation. Challenging assignments are given early and rewards tied to collective results.

The human resource strategy of this archetype is to grow its own staff rather than buy them and also to retain the staff. The strategy of the archetype is one of controlled growth through selective business pursuits and a homogeneous client base, with the avoidance of mergers. The strategy also involves the firm's being aggressive marketers, investing heavily in R & D and retaining its staff. The management of such a firm is by consensus, with strong leadership and continuity, with a culture which outlasts the tenure of the leader. The above description is likely to be typical of one type of strategic/organization/top management team archetype.

According to Shostack (1987), professional services are characterized by the fact that the process is the product, and he describes processes in terms of their complexity and divergence. A change in either of these aspects of the service process will lead to strategic repositioning of the firm as follows.

Reduced divergence: This will lead to uniformity and reduce costs, indicating a shift to a volume-oriented positioning, based on economies of scale. This results in uniform service quality and greater service availability. The downside of this type of strategy is conformity and inflexibility. This type corresponds to the cost- leadership type of Porter, and these attributes may therefore be added to those which describe the cost-leadership type.

Increased divergence: This will lead to greater customization, flexibility and higher prices and corresponds to a niche strategy. This strategy is difficult to control, manage and distribute. It corresponds to the differentiation type of strategy of the Porter typology and these attributes of service organizations may therefore also be added to those which describe this type in the Porter typology.

Reduced complexity: This indicates a specialization strategy, and resources are focused on a narrower service offering. Distribution and control are easier. This corresponds to a focus type of strategy of the Porter typology.

Increased complexity: This indicates a market penetration strategy as more services are added or present ones enhanced. This can improve profitability by maximizing revenues from existing clients. This includes vertical integration, coalitions and joint ventures and also corresponds to a focus type of strategy.

The above theoretical typologies are all germane to the development of the integrated model comprising strategy, professional service organizations and top management team, as will be demonstrated later.

3.2.8 The interface between organization and environment

Since the professional organization has a critical interface with its external environment in the service production process, the literature on this interface is examined in this section for its relevance to the development of the integrated model of strategy, professional organizations and its top management team.

Two schools of thought on organizations and their relationships with their environments have produced various streams of research on the interface between organizations and their environment. Firstly, in the deterministic or contingency school, organizations are seen to be dependent on, and reactive to, changes in the environment (Dill, 1958(ii); Emery and Trist, 1965; Lawrence and Lorsch, 1967; Perrow, 1967; Thompson, 1967; and Duncan, 1972). Secondly, in the interpretive school, which includes the concept of managerial choice, the environment is considered to be enacted and created by members of the organization. This school is represented by Weick (1969), Child (1972) and Montanari (1978).

Both of these schools tend to define the environment in terms of the organization as the focal point and to perceive the relationship between the organization and its environment in the context of the level of resources and sources of uncertainty (Bourgeois and Singh, 1983; Dess, 1987).

An interactive view of the adaptation process in organizations, which combines the strategic choice with the natural selection perspectives in a typology of organizational populations, has been proposed, and the types of strategic options which would be found in each type, have been suggested as a dynamic equilibrium attained between organizations and their environments (Hrebiniak and Joyce, 1985). This is illustrated below in Figure 3.8:

Strategic Options	Environmental Determination: High	Environmental Determination: Low
High	Quadrant 2 Large, multi-specialist	Quadrant 3 High risk, innovators
Low	Quadrant 1 Cost leaders	Quadrant 4 No identity

Figure 3.8

Typology of organizations according to strategy and environment

The first quadrant of this model represents high environmental determination with low strategic choice and illustrates organizations working under perfectly competitive markets with limited options. This quadrant represents the assumptions underlying the population ecology model, with a natural selection approach to adaptation. This segment would include small organizations selling commodity-type products and large organizations with undifferentiated services, with low entry and exit barriers, and no way of achieving a lasting competitive advantage. The strategies found in this quadrant are those of the cost-leadership type of Porter's typology, or the defender type of Miles and Snow's typology.

The second quadrant represents high environmental determination with high strategic choice, where differentiated choice has been made and adaptation is within environmental constraints. This represents the situation of large organizations in highly regulated industries. Differentiated or focused niches may be chosen within the constraints through advertising, lobbying and marketing. The highly regulated nature of the industries in this quadrant suggests that professional organizations may well be found in significant numbers in this quadrant. This represents the differentiation and focus strategies of the Porter typology, or analyser strategy of the Miles and Snow typology.

The third quadrant represents low environmental determination and high strategic choice, with adaptation by design. Differentiated or focused choice may be made. Organizations in this situation enjoy power over others in their task environment, and innovation and proactive behaviour are easier. They also represent differentiation and focus strategies of the Porter typology, but are the prospector types of the Miles and Snow typology. This quadrant represents the position of many professional firms prior to greater environmental determination. Some professional organizations may fall into this type of situation by virtue of their having been proactive enough to sustain a high choice or niche position in the face of increasing environmental determination.

The fourth quadrant represents low environmental determination and low strategic choice. These organizations work under placid environmental conditions and their strategies appear to be of the unstable reactor type with no clear membership of any strategic group. It is possible that some professional organizations may well fall into this group.

There have also been attempts to redefine the relationship between organization and environment by moving from this individual organizational level, and the business and corporate level strategies of this perspective, towards the population-ecological perspective of organizations and their interdependencies, or the level of industries and markets, and the collective strategies (Thorelli, 1977; Weick, 1969; Hannan and Freeman, 1977, 1984; Pennings, 1976; Perrow, 1979; Fombrun and Astley, 1983). Within the population-ecology perspective, the notion of open environmental space draws attention to the receptivity of environments to accommodate organizational forms in a process of enactment. This contradicts the argument that niche constraints pre-exist in environments and are filled by organizations and suggests that organizational variability becomes the central dynamic of change (Astley, 1985).

The analogy between organizational science and biological science has been extended to include the community-ecology perspective, and a discussion of the central issues of structural inertia, species definition and environmental selection in the birth, adaptation, growth and long-term survival of organizations has been made by Carroll (1984), Astley (1985), Betton and Dess (1985), and Beard and Dess (1988).

Central to both the population-ecology model and the contingency theorists' model is the concept of a successful alignment or "fit" between organizations and their environments (Katz and Kahn, 1966; Thompson, 1967; Chandler, 1962; Chakravarthy, 1982); and a conceptual typology of "fit", proposed by Venkatraman and Camillus (1984), has classified the schools of thought on the concept according to the conceptualization and domain of the fit. However the subject of the environments of organizations is conceived, it is acknowledged that different types of environments may exist (Emery and Trist, 1965; McCann and Selsky, 1984), and that different patterns of management methods may be appropriate for different environments (Burns and Stalker, 1962). Certainly environments may change, and there may be differences between the actual and perceived environment (Downey et al., 1975) and between the perceptions of the same environment by different members of the organization (Starbuck, 1976).

Environmental uncertainty appears to be the most salient and all-encompassing attribute of the environment, and the perception of the uncertainty in the environment by the managers of the organizations will, therefore, influence their strategic decision-making. In support of the interpretive perspective which states that strategic choice has an influence on the relationship between organization and its environment, the perceptions of the environment by the management of the organization, and the measurement of that uncertainty, have provoked numerous research directions (Lawrence and Lorsch, 1967; Duncan, 1972; Downey and Ireland, 1979; Snyder and Glueck, 1982; Downey and Slocum, 1975).

Milliken (1987) has proposed that there are three types of environmental uncertainty - state uncertainty, effect uncertainty and response uncertainty - which may be the reason for the discrepancies experienced in the attempts to measure this construct.

Certain members of the organization have boundary-spanning roles, whereby they gather, select filter and process information and other inputs and outputs between the organization and the environment, frequently to result in innovation and change within the organization (Aldrich and Herker, 1977; Leifer and Delbecq, 1978). These boundary-spanners are attributed power in proportion to the level of importance of the information to organizational survival. Boundary-spanning activity is seen as an intervening variable between organizational structure and perceived environmental uncertainty, and has been shown to increase with an increasing degree of organizational system openness (Leifer and Huber, 1977). The ability to cope with the perceived uncertainty is also a source of power for these members of the organization (Hambrick, 1981; Cogan, 1971). Since professional service organizations have open systems with client organizations, as well as organic structures, it is expected that a high degree of boundary-spanning behaviour will occur.

Once management has acknowledged the uncertainty, the ability to manage this uncertainty constitutes the central task of successful management of the organization. Various methods, both intra-organizational and inter-organizational, have been used to reduce the uncertainty.

Intra-organizational strategies, which use the organization as the focal point, and which the organization uses internally to minimize excess demand and protect its technical core from uncertainty, include buffering, smoothing, forecasting and rationing. Buffering may be accomplished through building up inventories of both stock and human resources, e.g., professional organizations may employ or retain excess staff during a recession. Smoothing is a technique which attempts to reduce the impact of fluctuations in a cyclical industry, e.g., a legal firm may offer both merger and acquisition services as well as liquidation services. By accurately forecasting demand organizations can plan ahead and minimize uncertainty, e.g. an engineering firm may plan to gain certain contracts. Excess demand is managed by rationing the supply situation, e.g., a medical practitioner may be available for consultation only at certain hours.

Inter-organizational strategies are those in which the population-ecology model and inter-organizational networks model predominate, and where the organization seeks to reduce uncertainty by controlling the organization on which it depends. The following types illustrate the concept. Through contracting, a long-term fixed contract to supply certain goods and services may reduce either input or output uncertainty, e.g., a construction project for an engineering firm to build a road or bridge which will take a number of years to complete, allows it to plan ahead.

Advertising may create a perception of uniqueness of a product or service in the minds of clients or potential clients, thereby reducing uncertainty. This technique

has not yet been fully exploited by professional organizations, since the previously-mentioned techniques have proved to be sufficient.

Another alternative which is open to organizations in order to reduce uncertainty is a shift of the domain or niche through divestment or diversification, or moving to a completely new market position. This option has been utilized by many professional firms such as accounting, engineering and quantity surveying firms who have diversified into related and unrelated areas (Robbins, 1983).

Various forms of strategic alliances, networks, joint ventures and other forms of co-operative strategies which reduce perceived environmental uncertainty may also be utilized to reduce uncertainty. This option has received some attention from strategy researchers in the past few years (Thorelli, 1986; Gerlach, 1987; Powell, 1987; Harrigan, 1988; Ohmae, 1982). Although much of the literature has concentrated on overseas expansion of an organization's domain, the use of these options has been cited as being particularly relevant in service industries, where technology transfer and information exchange are involved (Thorelli, 1986), and particularly craft and professional service organizations (Powell, 1987).

Joint ventures are seen as transitional strategies, found in deregulated industries with blurred boundaries, and may be of a non-equity sharing nature in people-intensive knowledge industries, in order to restrict personnel to one generation of knowledge per agreement (Harrigan, 1988). However, other authors have questioned the transitional nature of these types of

options, and posited the development of a new organizational form (Powell, 1987).

Examples of this type of uncertainty reducing mechanism are co-opting, coalescing and third party soliciting. In the co-opting process an individual or organization in the environment which poses a threat to the stability of the organization may be co-opted to the board of directors of the organization, or vice versa; e.g., the partner of an accounting firm may act on the board of a non-client company, and in this way gain a modicum of control over it.

Coalescing, on the other hand, includes various forms of horizontal collusion such as price fixing, domain choice agreements, mergers, joint ventures and other reciprocity agreements, both overt or covert. This is seen in professional firms as, for example, joint ventures between two architectural firms, or consortiums of engineering firms; and in a temporary arrangement, such as preparation for a listing, between legal, accounting, stockbroking and merchant banking firms. Third party soliciting includes all forms of lobbying, professional associations, state control boards, etc. It has been suggested before that professional regulation is not necessarily done in the public interest, but has been used to retain monopoly power and, thus, reduce uncertainty.

In view of the obvious environmental changes which professional firms have been experiencing, the responses to these environmental changes and the methods of dealing with the uncertainties detailed above are very relevant. The extent to which professional firms embrace the environment and co-opt their client companies are further contingent factors in their ability to manage

their uncertainty and certainly any model of professional organizational archetypes must include aspects of the interface between organizations and their environment.

The interface between professional service organizations and their environment is therefore conceptualized in terms of the population-ecology model, with the organization variability enacting its environment. Characteristics of the top management team, their perceptions of both the internal and external environment of their organizations, as well as the perceptions of the organization by other populations such as clients and other stakeholders in the organization's environment, are considered in this critical interface.

3.2.9 The top management team

The choice of appropriate strategies, methods used to reduce uncertainty and manage the changing environmental circumstances, undoubtedly lies with the dominant coalition (Cyert and March, 1963), or top management team (TMT) of any organization. Although there has been some scepticism from sociologists and psychologists as to whether leadership matters (Bass, 1981; Lieberson and O'Connor, 1972; Salancik and Pfeffer, 1977), and whether other factors have a greater impact on organizational effectiveness (Hannan and Freeman, 1977), there have been a number of studies which have concerned themselves with the linkage between organizational leaders and strategies. These have varied between those which have focused on managers as general managers (Mintzberg, 1973; Kotter, 1982; Hambrick and Mason, 1984); as leaders (Selznick, 1957; Argyris, 1976); as

entrepreneurs (McLelland, 1965; Brockhaus, 1980); as decision-makers (Simon, 1960); and as gamesmen (Maccoby, 1976).

a) Characteristics of the top management team

Since the structure of professional service organizations is generally flat and organic, with loosely coupled systems internally and with open systems coupling with their clients, the characteristics of those members of the organization with boundary-spanning and decision-making functions become an important consideration. Some studies have concentrated on the behaviour of managers (what general managers do), rather than the characteristics of managers (what general mangers are) (Leontiades, 1982; Wissema et al., 1980). The latter studies have suggested that general managers should have certain characteristics which fit a specific strategy.

Miller et al. (1982), Gupta and Govindarajan (1984) and Gupta (1984) have suggested certain personality characteristics of the TMT and their linkages to specific strategies and their impact on organizational effectiveness. Hambrick and Mason (1984) have once again emphasized the dichotomy of approaches between sociologists and psychologists, and between strategically-oriented and economically-oriented researchers, but have taken the view that top executives do matter, and, basing their study on Child's (1972) strategic choice paradigm, have proposed that under conditions of bounded rationality selective perceptions and values will influence the strategic choice decision. They developed a number of propositions which relate to age, functional track, other career experiences, education, socio-economic background, financial

background and group heterogeneity. ... "Upper echelons" model, which is used as a contributing theory to the development of the model of archetypes of professional organizations, further suggests that the characteristics of the top management team influence the strategic choices such as innovation, diversification, acquisition and strategic alliances. These authors further contend that the interaction of these characteristics with the organization will also inevitably influence the effectiveness of the organization, as reflected in its growth, morale, profitability, etc. The testing of some of these propositions will be an inevitable outcome of the research process, however which specific propositions emerge as relevant to this research will only become clear on completion of the process.

b) Perceptions

One of the basic concepts contained in Child's (1972) paradigm of or ..izational choice is that of the collective perc ..ons of the environment by the top management team, or upper echelons of the organi tion. Different people perceive things or people differently, according to personal values, past and present experience and motivational state. This may result in distorted perception. Perceptions may also further be influenced by needs or fears and selective perception may occur whereby one will perceive what one wants to perceive.

The environment was conceptualized by Duncan (1972) as consisting of "a totality of physical and social factors that are taken directly into consideration in the decision-making behaviour of individuals in the organization". According to this definition a

distinction is made between the internal environment, within the boundaries of the organization, and the external environment, outside the organization. He identified five sectors of the environment for industrial organizations and emphasized that different external environments may vary for other types of organizations.

c) Values

The concept of corporate culture has been described as complex and difficult to define in a previous sector (Kilmann et al., 1985; Lorsch, 1986), but according to Wiener (1988) most researchers agree that shared values, or an organizational value system, constitute a key element in the definition of corporate culture and also provides a narrower focus of culture than the broader view as proposed by anthropologists (Gregory, 1983; Smircich, 1983). Value systems may offer a unique meaning and perspective to the understanding of organizational phenomena, and not just act as a proxy for organizational culture.

There are distinct differences between values, beliefs and attitudes. Rockeach (1973) developed a scale to measure values and also made a distinction between instrumental values and terminal values. His research proved the distinct differences between value systems of people of different occupations and professions.

The scale developed by Rockeach to measure values has been used by Ruh et al. (1975), together with other background factors, as an indication of job involvement, and by Phelps (1982) to examine the relationship between executives' personal values and their selection of corporate strategy. However, the differences in value

systems between professions, as indicated by Rockeach, have not been linked to the selection of corporate strategy. Guth and Tagiuri (1965) used the Personal Value Scale as developed by Allport et al. (1960) to show that strategic choices are dictated by personal values. England (1967) maintained that a personal value system was a relatively permanent perceptual framework which shaped and influenced the general nature of individual behaviour. This was proved by Lusk and Oliver (1974), who found that personal values remained relatively stable over time and by Hofstede (1980), who illustrated differences in values between different countries.

Wiener (1988) has suggested a typology of four value systems and their implications for organizational effectiveness, based on the focus of values and the source of values. These are functional- traditionalist, functional- charismatic, elitist-traditional and elitist-charismatic. Not all types are stable, but the elitist-traditional type is one which sustains a stable, long-term elitist dimension. Legal firms and management consulting firms (and presumably other professional firms), are the types of organization which fall into this classification. He also suggests that organizational value systems may change and evolve over time, depending on their stage of development. Shared organizational values may, therefore, be regarded as a useful focal area of an organization's culture and may be stable for the elitist-traditional organizations such as professional organizations. However, the relationship between the particular organizational value system and the choice of a particular strategy has not yet been explored within these types of organizations.

3.2.10 Development of the integrated model of strategy, professional organization and top management team

It can be seen from the previous sections that the strategic choice paradigm of Child (1972), as illustrated in Fig 3.9, links to the organizational adaptation paradigm of Hrebiniak and Joyce (1985) illustrated in Figure 3.8. It is my contention therefore that, according to a systems view, a third contingent dimension to that of Hrebiniak and Joyce exists: certain managerial profiles will influence the strategic choices made by the top management team. There would be an interplay between the environment and the top management teams, through the latter's perception of and interactions with constituent members of the environment such as their clients, co-operative organizations, and competitor professional and non-professional organizations.

In other words, it is proposed that the characteristics of the top management team, whose perceptions of the internal and external environment of their organizations play a critical role in their strategic choices, add additional contingencies to the proposed integrated model of strategy and professional organization.

In view of the preceding review and discussion of the literature and the characteristics of professional service organizations as elaborated, I would propose the following integrated model. It is a dynamic interactive system, whereby the strategic choices of the top management team interact with the organization, its strategy, structure and culture, as well as with certain members of the environment, to produce various configurations of organizational effectiveness.

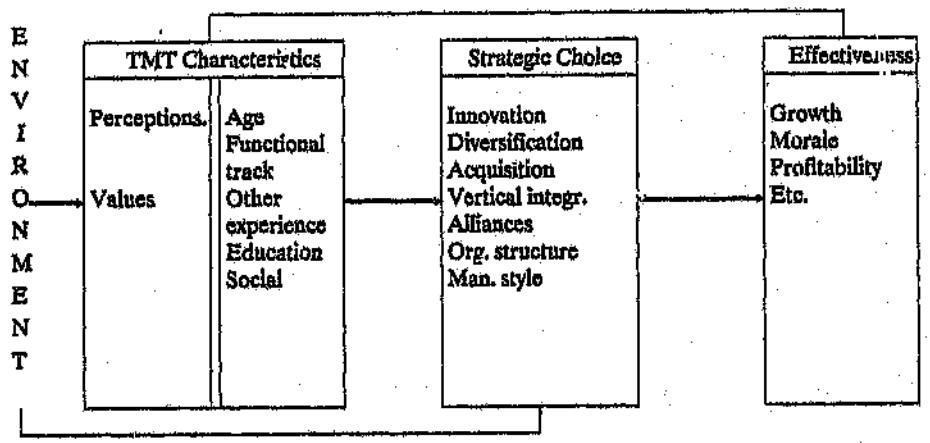

Figure 3.9

The upper echelons model of organizational effectiveness
(Adapted from Hambrick and Mason, 1984)

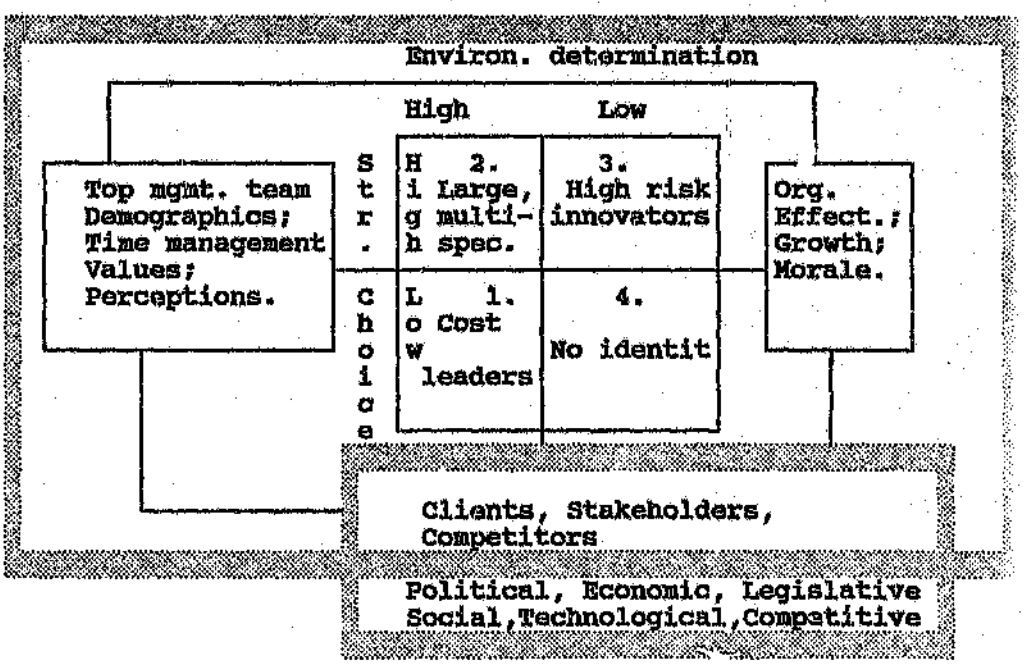

Figure 3.10

Systems view of integrated "Gestalt" comprising strategy, organization and top management team

The shaded area surrounding the various interacting units represents the integration of strategy, organization and the profiles of the top management team as a whole, at times also including those components of the environment who are closely involved in the service production process. These may be clients, other stakeholders such as contractors, other professional organizations, or other competitors such as merchant banks, construction companies or private hospital groups with whom the professional organization has a co-operative arrangement, whereby these organizations become temporary members of the professional organization.

The Proposed Model

The integrated typology of professional organizations, their strategies and the specific profiles of the top management teams which influence their strategic choice, is illustrated by the central section of Figure 3.8. This is elaborated in detail in the light of the previous discussion as follows:

Environmental Determination

Strategic Options	High	Low
High	Quadrant 2 Large, multi-specialist	Quadrant 3 High risk, innovators
Low	Quadrant 1 Cost leaders	Quadrant 4 No identity

Figure 3.11

Model of integrated strategy and organization

Cost leaders: Quadrant 1 has been described by Hrebiniak and Joyce as corresponding to the cost leadership type of strategy, operating under perfectly competitive markets with limited options, and the standardized type of the Schmenner typology. In terms of the Shostack model, this quadrant will exhibit reduced divergence, offering a limited service line. It is likely that the conditions of competitive markets suggested by Hrbeniak and Joyce may have precluded professional organizations from membership of this quadrant in the past, but it may be possible that some organizations may well fall into this group.

Large, multi-specialist (differentiated or focus): According to the Hrebiniak and Joyce model, Quadrants 2 and 3 were described as being the differentiated and/or focus type of strategy of the Porter typology. Quadrant 2 is described as containing large organizations in regulated industries or organizations in multiple niches, and is probably also similar to the national distribution company of the Bleeke typology following deregulation. This quadrant will also contain organizations from the specialist type of the Bleeke typology, the customized type of the Schmenner typology, and the Maister archetype. It is likely that a number of professional organizations will fall into this category. In terms of the Shostack model, organizations in Quadrant 2 will exhibit increased divergence of services, leading to the customization and higher prices which will be found in the differentiated type of strategy. Organizations in this quadrant may also exhibit reduced complexity, or the focus type of strategy.

High risk innovators, (differentiated or focus): Quadrant 3 contains the more risk-taking, innovative and proactive organizations, and represents the prospector type of strategy of the Miles and Snow typology. Increased complexity corresponds with a widening of the service offered to existing clients, a market penetration strategy. This is likely to be found in organizations in this quadrant. Reduced complexity corresponding to a focus type of strategy, where specialization occurs, will also be found in organizations in this quadrant.

No identity: Since the fourth quadrant represents organizations without a clearly defined strategy, organizations which may fall into this quadrant are not regarded as having a characteristic "gestalt" of strategy, organization and top management team. This quadrant represents the reactor group of organisations according to the Miles and Snow typology. It is possible that some professional organizations may fall into this category.

On attempting to integrate the various, relevant contributions from the theoretical literature, one thus finds that there are three clearly identifiable possible options, as indicated by the first three quadrants, plus a fourth possible type of organization with undifferentiated strategic, organizational and top management profile.

The above "gestalts" represent the likely options which professional organizations may take in response to environmental determination and top management profile which influences strategic choice, and which will be empirically examined in the research.

3.3 Second research objective - organizational effectiveness

A large proportion of research on organizations and organizational effectiveness has been undertaken on large, diversified, publicly-held companies. In the case of privately-held organizations, of which professional organizations are representative, the lack of accessible objective quantitative measures of organizational effectiveness has precluded specific research ventures, which depend on these measures, into this type of organization.

The concept of organizational effectiveness has been the subject of extensive empirical and conceptual investigation but remains among the most elusive and controversial in organization theory literature (Reimann, 1975; Goodman and Pennings, 1977; Dalton et al., 1980; Lenz, 1981; Steers, 1977).

There appears to have been disagreement as to what criteria and indicators of performance or effectiveness should be employed, who should set the criteria or do the assessing, and what characteristics of organizations or other variables should be used (Connoly et al., 1980; Hannan et al., 1976; Child, 1977; Lenz, 1981; Cameron and Whetten, 1983). The concept remains a complex and multi-dimensional phenomenon and its operationalization is inherently difficult.

A further confusion exists between the definitions of organizational performance, organizational effectiveness and organizational efficiency, with some authors suggesting that effectiveness plus efficiency equals performance, while others suggest that organizational

performance focuses on the economic indicators and is a subset of organizational effectiveness, which includes the broader satisfaction of stakeholder expectations and societal demands (Chakravarthy, 1986; Mendelow, 1983).

Certainly recent studies have suggested that multiple factor models, or composite measures of organizational effectiveness are more appropriate and present a more holistic approach to the measurement of the construct (Bagozzi and Phillips, 1982; Benson, 1974; Keats, 1983; Chakravarthy, 1986; Dess, 1987; Dess and Robinson, 1984; Robbins, 1983; McCormick, 1974).

Robbins (1983) contends that there has been a movement towards consensus on the concept and in spite of the fact that up to thirty different criteria were identified in the 1960s and 1970s (Campbell, 1977) (no doubt due to the diversity of organizations being studied, and the interest of the evaluators), everyone has some concept or other and operational definition of the construct. The policy researcher may choose return on investment, whereas the industrial psychologist may choose employee satisfaction, as the ultimate criterion of effectiveness (Kirchoff, 1977).

For the purposes of this dissertation the holistic perspective of organizational effectiveness is adopted, while organizational performance is viewed as the economic subset, whether measured by financial or market methods or accounting methods (Chakravarthy, 1986).

There have been four approaches to the study of organizational effectiveness. The approach of Etzione (1964) assumes that organizations pursue identifiable goals and that effectiveness is a measure of the extent to which these goals are attained. However, the

underlying assumptions which validate this approach have caused problems in the exclusive use of the goal attainment criteria for organizational effectiveness. Such questions as whose goals (only the top management team's goals, or those of other organizational members as well); what goals (short-term or long-term); official or operative goals (Perrow, 1961); the prioritization of goals, and by whom; have resulted in a search for alternative approaches to effectiveness.

In the systems resource approach, as proposed by Yuchtman and Seashore (1967), the organization's relationship with its environment is stressed and effectiveness is defined in terms of its ability to secure scarce resources. Where the goal attainment approach accentuated output, this approach defines effectiveness in terms of input, process and outputs. In this respect the accent is on means, not ends, although Price (1972) has argued that this is just another version of the goal attainment model, where ends goals are replaced by means goals. Further criticisms of the model are related to the measurement of process variables and the issue of whether means matter.

The strategic constituents approach, as suggested by Friedlander and Pickle (1968), proposes that organizations are faced with multiple and often conflicting expectations or performance criteria from society and from organizational stakeholders in particular, and the power which they may have over the organization (MacMillan, 1978). This approach introduces a multi-dimensional perspective to the concept, similar to the population-ecology perspective of organizations.

The problems encountered in this approach relate to the dynamic nature of the stakeholder environment and the conceptual identification and prioritization and measurement of the expectations.

The competing values approach is an integrated framework for assessing organizational effectiveness, and in this an attempt has been made to bring together different approaches to organizational effectiveness, based on the premise that the current values of the various stakeholders and the top management team will determine what variables should be used in specific circumstances in determining organizational effectiveness (Quinn and Rohrbaugh, 1983). Robbins (1983) maintains that effectiveness, like beauty, is in the eye of the beholder and, therefore, contingent on the perspective taken, involving competing values, interests and multiple goals.

Three basic sets of organizational values, which relate to structure and control, means and ends and organizational focus, have been identified, through which eight cells of a typology of competing organizational values can be classified (Quinn and Cameron, 1983). This has posed the question of when each model of effectiveness is appropriate, and the tentative answer that the stage of the life cycle may provide the contingency. As with other approaches this approach to organizational effectiveness is not without problems, the main ones being the accurate identification of the stage of the organization's life cycle, and the lack of empirical research which validates the model.

Schollhammer and Kuriloff (1979) have suggested that small organizations rely on managements' successful use of planning for performance. This dubious use of the

unspecified word, "success" to indicate effectiveness or performance, is common in research into smaller organizations (Trow, 1961; Chambers and Gold, 1963; Potts, 1977; Smith, 1978). However, this is an indication of the difficulty of obtaining more specific performance measures.

As has been described in the discussion on organizational strategies, Mintzberg (1978) has distinguished between strategies which have been deliberately planned in advance (intended strategies), and strategies which have emerged as a result of either interactions of the members of the organization with the strategic plan, or unintended strategies which have developed as a consequence of the impact of organizational or environmental forces, without overt planning (realized strategies). I would propose that in professional service organizations where the boundaries include client organizations, the intended strategies are closely related to the realized strategies. A high correlation between the perceptions of the professional service organization of its strategy and the perceptions of the clients of the same organization will be an indication of the effectiveness of the organization in translating its strategy to its stakeholders.

Since services are intangible, I would further argue that only the perceptions of the service experience can serve as a measure of the quality of that service. If one assumes that the elusive concept of the quality of the service is one measure of the effectiveness of the organization in satisfying strategic stakeholders, then some of the research into the measurement of this concept makes a contribution to the strategic stakeholder approach to organizational effectiveness.

Parasuraman et al., (1985) have described the importance of the perceptions of the service relative to expectations by strategic stakeholders and have argued for various measurements, as the following model in Figure 3.12 shows.

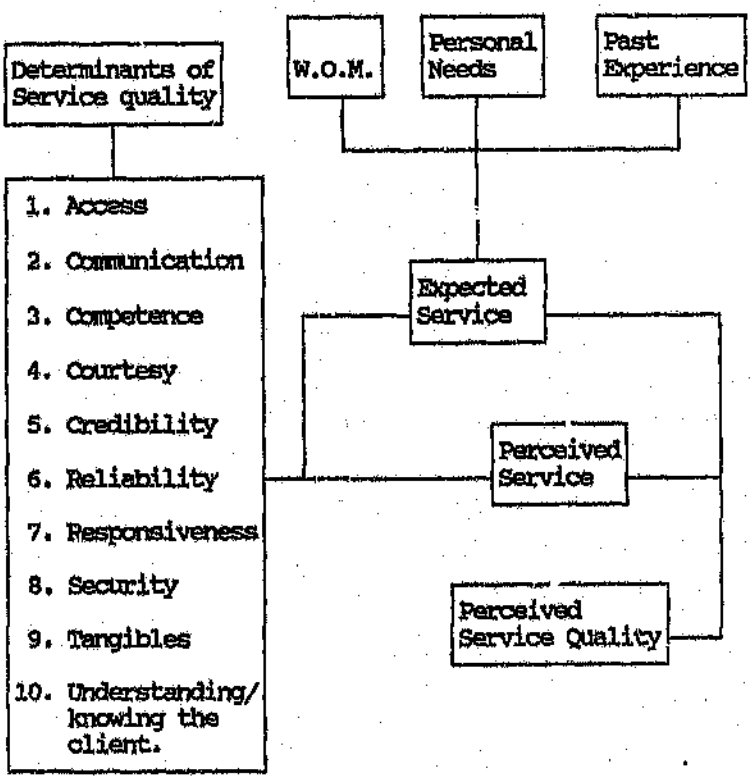

Figure 3.12

Model of service quality

(From Parasuraman, Zeithaml and Berry, 1985)

It has been shown that a strong correlation exists between subjective, self-report types of measures, and objective measures, but that these are not a substitute for objective measures (Dess, 1984).

The evaluation of effectiveness in professional firms is notoriously ever more difficult to establish, since such dimensions as satisfaction derived from professional work, etc, need to be considered. This view is further supported by authors such as Campbell (1977), who lists 30 different variables which may contribute to the organization's effectiveness. The first variable he suggests is "obtaining overall ratings or judgments from persons thought to be knowledgeable about the organization on as many criteria facets as possible".

Other variables suggested are growth, morale, role or norm congruence (values), evaluations by external entities, achievement emphasis, value of human resources, participation and shared influence, training and development influence, staff turnover, conflict versus cohesion, and stability.

Within these limitations and suggestions for the measurement of performance, effectiveness or success of the privately-held, small firm, the criteria for performance or effectiveness of the professional organizations will comprise a composite of measures, some of which have been suggested from the theoretical base discussed above and others which will be generated by the research process. From the theoretical base, the composite will include the following:

1. The congruence between self-image and image in the eyes of clients (i.e., intended strategy versus realized strategy, measured by the sum of the differences between the means).

2. The congruance between the image in the eyes of clients and the ideal of the clients (measured by the sum of the perceptual gaps between the means).

3. Quality of service (measured by the rating of the services provided by the organization, in the eyes of their clients).

4. The perception of the "success" of the organization.

5. Growth of the organization.

6. Morale or job satisfaction.

7. Cohesion versus consensus of values.

8. The perception of stability.

9. The value of human resources.

10. Training and development.

11. Participation.

12. Achievement emphasis.

To the extent that these constructs to measure the effectiveness of professional organizations emerge from the research process, their validity is enhanced according to the interpretive perspective, in that they represent the perceptions of the realities of the members of these organizations and their stakeholders who at times become organization members during the service production process.

3.4 Third research objective - industrialization, post-industrialization and the professions

The concept of industrial development has been the subject of considerable literature in economic history (Hamilton, 1970; Gras, 1969; Harvie, 1971; Ross, 1975). The process of industrialization is defined by Harvie as characterized by changes in technology (technology, machinery, sources of power and raw materials); changes in economic organization, in the way such production is financed and in the organization of the market it caters for; and changes in the industrial structure, in the kind and volume of goods and services produced to meet the demands of society which is itself changing.

Economic growth and the process of industrialization have been described by Kerr et al. (1960) as occurring through the diffusion of technology, particularly knowledge technology, from countries that are key centres of research and development. The same concept is seen by Whiteley and England (1977) as the process of transition of a country from an agrarian society to forms of social and economic organization characterized by high levels of resource consumption, an increased emphasis on education, and an emphasis on research and development activity.

The above definition encompasses many of the properties identified by both Kerr et al (1960) and by Stinchcombe (1965). Whitely and England (1977) listed indicators of industrialization as energy consumption, steel consumption, median level of educational attainment, percentage of GDP in agriculture and in total industrial activity and research and development expenditure.

Kerr et al (1960) further propose that as industrialization proceeds the values of the managers become similar, and Whitely and England (1977) showed that management values were similar in USA and Australia, but that managers in Eastern countries such as India, Japan and Korea had different value systems, although there were certain values which Japanese managers shared with USA managers.

The process of industrialization involves the utilization of more complex technology, capable of raising the productivity level and therefore increasing the welfare. The impact of technology on industrial structure results in changes in the basic structure of industries, the division of labour, including the professionalization of management, the need for placement and training structures, educational systems, stratification systems and a growth in the scale of society (Brown and Harrison, 1978).

Five new power elites emerge from the process which controls industrialization. Further, a new value system is created, based on a higher value being placed on knowledge, change being valued as progress, social flexibility, a higher value being placed on achievement instead of traditional values, and a belief in the value of hard work. This value system is described as the industrial ethic, and together with the characteristics

of the industrialization process, and the different types of elites, will be used to prove that the professions are undergoing a process of industrialization.

Bell (1976) has contributed to the literature on this topic by discussing the transition from an industrial to a post-industrial society, which is characterized by a shift from manufacturing activities towards service activities. (This has been modified by Naisbitt (1982) to a shift not only towards service activities but also towards information activities.) This shift has resulted in an increased importance of the knowledge elite in the stratification of society, with the possession of knowledge increasingly replacing the possession of property or political power as the basis for high status in the social structure. Knowledge is further used for social control and the direction of innovation and change.

"What has become decisive for the organization of decisions and the direction of change, is the centrality of theoretical knowledge - the primacy of theory over empiricism, and the codification of knowledge into abstract systems of symbols that, as in any axiomatic system, can be used to illuminate many and varied areas of experience" (Bell, 1976).

The proponents of this view argue that a new intellectual technology is developing with the aid of computers and information systems, which alters the division of labour and control of physical technology, management and national economies. The post-industrial society is characterized by the substitution of an intellectual technology based on algorithms, for intuitive judgements based on ideologies and reflecting

emotional and expressive values. The growth of knowledge also brings an awareness of the future and an increased interest in attempts to plan and forecast the future, as well as fundamental changes in the central value systems of society.

While the private firm remains a dominant institution in Western economic society, it is increasingly giving way to new knowledge-based institutions such as universities, research divisions of governments and the professions, which all express the logic of post-industrialism in their espousement of knowledge as a guide to action. A conflict is particularly evident in the universities and the professions where the tension between the rationality and technological requisites on the one hand, and personal autonomy and self-control on the other, is particularly acute. A further source of tension exists between government authorities, who are the chief providers of financing of research, and the stated characteristics of self-control and personal autonomy (Brown and Harrison, 1978).

The emergence of technology is also seen as a dominant social force, resulting in a change from a society of exploitation to a society of alienation and the development of new social groups with new value systems motivated by an ethic of social service. Since this is the ethic espoused by the professions, it represents a movement towards the professional ethic, implying greater competition on this front from "non-professional", knowledge-rich social groups.

It can therefore be seen that the emerging post-industrialism places greater emphasis on knowledge technologies, and possessors of knowledge such as the professions, and may well provide the impetus for these

knowledge élites to be revitalized from the mature phase of evolution, but with the additional rider of increased competition from "non-professionals". The unique, seemingly-dualistic socio-economic conditions under which the professions operate in South Africa pose an additional challenging dimension to the changing paradigm.

3.5 Development of research propositions

The preceding three sections discuss and outline the theoretical background to the three research areas which were delineated in Chapter 2. Following from each of these sections, three broad expectations can be induced. (I call them "expectations" rather than "hypotheses " for two reasons. Firstly, as noted earlier in the chapter, in considering professional organizations, I am traversing largely uncharted terrain; so that the literature has only been able to supply me with general expectations of what my explorations of the data may uncover, rather than precisely operationalized hypotheses to test. Secondly, in involving taxonomies, or the interplay among several variables, each expectation is more intricate than a typical hypothesis.) I express them in the form of propositions.

Proposition 1

Based on the discussions in Section 3.2, it may be expected that there will be three clearly identifiable strategic/organizational/top management team archetypes or gestalts applicable to the environmental adaptation of professional organizations, also of their effectiveness and the extent of their industrialization. These will be similar to the types suggested by Porter, Miles and Snow, Bleeke, and Hrebiniak and Joyce, but

with the modifications I have proposed. It is possible that a fourth group will be present which does not have a clearly defined identity, in which some professional organizations may fall.

Proposition 2

From Section 3.3, one surmises that the effectiveness of the above archetypes in professional organizations will be determined by a number of factors, some of which are suggested by the literature and others which will probably be generated by the research process. Organizational effectiveness will combine different approaches to the estimation of this concept.

Proposition 3

On the strength of Section 3.4, one may anticipate that the characteristics of the established archetypes will be identifiable with stages in the process of industrialization as defined above, i.e., a higher value placed on knowledge, change being valued as progress, social flexibility, a higher value placed on achievement instead of traditional values, and a belief in hard work.

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

4.1 Philosophical approach to the research

Among philosophers of science the search for the foundations of knowledge of a positivist nature has been represented by, among others, Locke (1961) and Hume (1955). However, the feasibility of their search for certainty have been questioned and arguments for less rigid adherence to method have been made by such philosophers as Burke (1950), Wittgenstein (1969), Kuhn (1970), Lakatos (1976), Polanyi (1962) and Rorty (1979), who likened the search for knowledge by the positivist philosophers to "the triumph of the quest for certainty over the quest for wisdom". In common to their positions is an emphasis on the role to the community of enquirers in validating what counts as knowledge. Likewise, research on organizations has been stated to be a social process, as opposed to exercises in technical rationality (Pettigrew, 1985), with elements of the artistic and the subjective being applied in a craft process of individual judgement as opposed to the application of a formal set of techniques and rules. It follows, as Morgan and Smircich (1980) have noted, that it is important to examine the assumptions regarding the nature of knowledge and the methods through which that knowledge can be attained, as well as the

assumptions about the nature of the phenomena being investigated.

These approaches question the presumption that the only desirable approach to research is objective and detached. The notion of an informal, yet patterned reflection in action being used in the artful inquiry and management of large amounts of information, under uncertainty, complexity and uniqueness (as is often experienced by researchers) has been contributed by Schon (1984).

Since social organizations constitute complex processes, it is wise to consider the current debate on complexity (de Beer, 1988), particularly the contention that rationality is no longer synonymous with certainty and probability with ignorance. Organizations are also not seen as static entities but as continuously undergoing disorganization and reorganization, rigidity and decomposition.

It has been stated that the distinguishing feature of field studies, as opposed to laboratory research, is that whatever phenomena are brought to light through the field study type of research process already exist in reality, and therefore the proof of their existence does not constitute a contribution to knowledge. This has led to a call for more quantitative, empirical and rigorous research on organizations by some (Schendel and Hofer, 1979; Schwenk, 1982), as well as the counter argument that research should focus on in-depth field and case studies, rather than laboratory research, which is said to be too artificial and neither representative of the real world (Durkheim, 1950), nor appropriate for either organizational or strategic management research (Mintzberg, 1977).

The need in a newly emerging discipline such as strategic management for the definition of the appropriate variables, the generation of hypotheses, theory building and inductive research, rather than for hypotheses-testing or deductive research, has been stressed, and the opinion expressed that laboratory studies eliminate the very richness and complexity on which strategy research is based.

In any event, the necessity for good methodology has been emphasized, for the combining of both theory and practice in relevant research, and the value of research which bears on common sense or "conventional wisdom", as opposed to research which produces counter-intuitive, non-obvious findings (Lawler et al., 1985). This view has been echoed by Mitroff (1985), who suggests that research should strive towards having both academic and "street knowledge" of organizations, but points out that this would require different conceptions of the terms "theory" and "knowledge".

Since my objective in this thesis is theory building, the comments by Dubin (1969) regarding the interaction between theory and empirical research are relevant, with the objective being to test the adequacy of a given model and improve on it. The research approach adopted therefore accords with the views of Mintzberg (1977) and Pettigrew (1985) rather than those of Schwenk (1982) and Schendel and Hofer (1979); it is supported by the philosophical views of Rorty (1979) rather than those of Popper (1959).

4.2 Research design

The question of how research in the area of strategic management should be approached has elicited

considerable debate in organizational literature (Anschen and Guth, 1973; Mintzberg, 1977; Schendel and Hofer, 1979; Schwenk, 1982; McGrath et al., 1982). The use of qualitative methods to complement quantitative methods has been encouraged by Harrigan (1983), Jick (1979) and Astley (1985), among others.

Further, the importance of an integrated approach to strategic management research has been emphasized by Jemison (1981) who, among other concepts, stresses the importance of the cross-fertilization of research findings in inter-organizational analysis. The importance of rigour and relevance, internal validity and external generalizability, the integration of field research and laboratory study, have all been underlined in action research on organizations.

Multiple operationalism, consisting of the use of different methods in different phases of the research design, according to the situation, has been recommended. Denzin (1970) has also advised the triangulation of research methods, where the use of complementary methods allows for the compensation of the weakness of one method by the strength of the other as a research strategy of choice, rather than defending the merits of one method over another.

In deference to these many recommendations, the conceptual design of this research process attempted to integrate multiple aspects and approaches and the scheme as outlined in Figure 4.1, was followed.

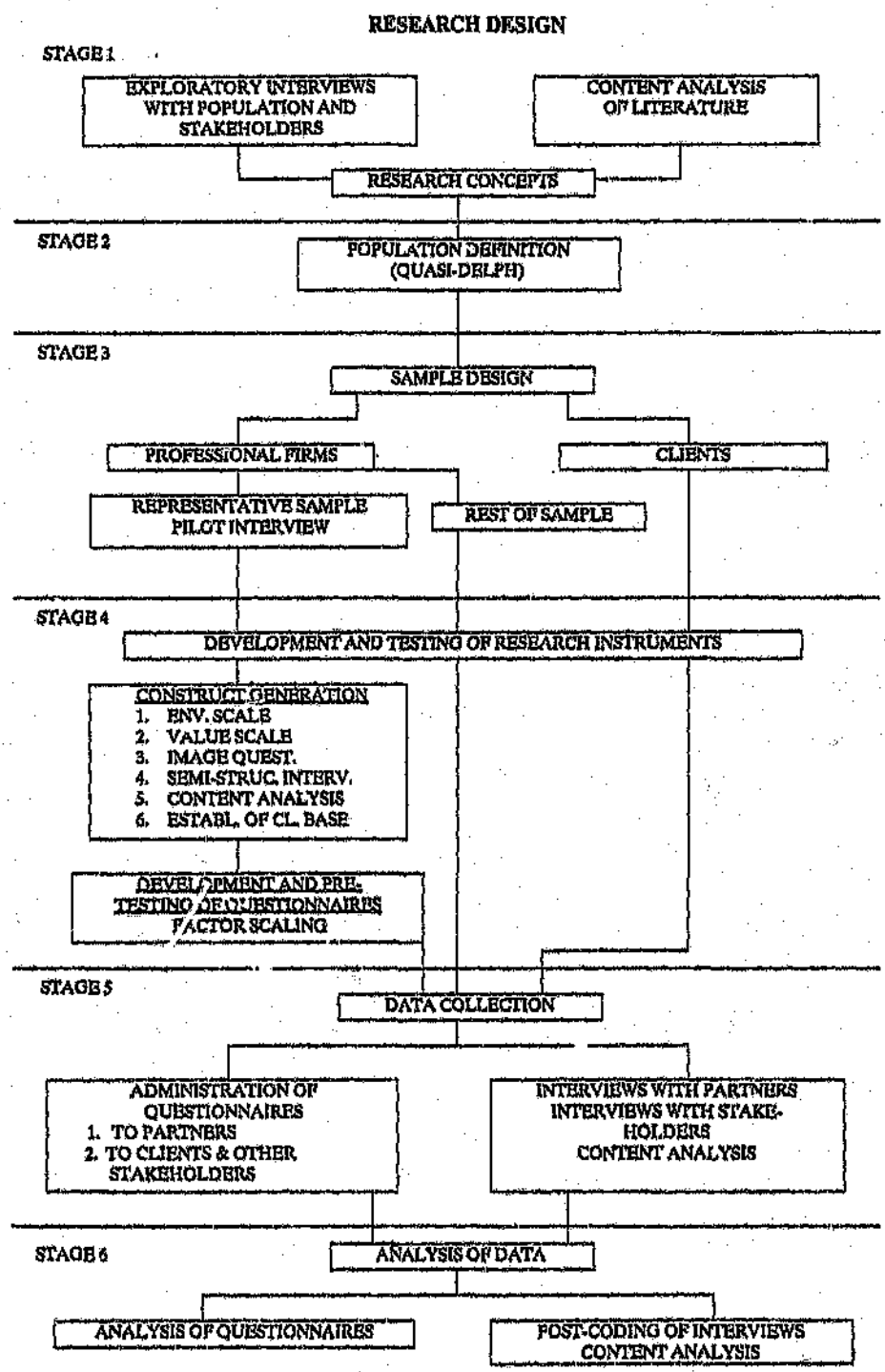

Figure 4.1

Research Design

In Stage 1, the exploratory interviews with members of the research population and stakeholders, and the content analysis of literature, constitute a preliminary informal qualitative approach, as recommended in multiple operationalism. In this stage, the realities of the research population and their stakeholders are identified and certain research themes are generated.

In Stage 2, the opinions of experts in their industry were used to generate the research population by means of a quasi-Delphi technique.

In Stage 3, the sample design was generated in accordance with well precedented procedures in the literature. The development and testing of the research instruments in Stage 4 was achieved through both qualitative methods during the interviews, and through analytical development, testing and refining of the scales.

In Stage 5, the data collected through questionnaires was supplemented through information gathered during the interviews with both partners and clients of professional organizations. This represents a classic case of triangulation, where the coarse-grained questionnaire data is supplemented with fine-grained case study and interview material.

Similarly, Stage 6 constituted another example of triangulation of methodologies, where both the logical empirical analysis of hard data was supplemented by the qualitatively oriented content analysis of brochures and the post-coding of interview information.

These stages are elaborated at some length below.

4.3 Contingencies of the research

It is accepted that there is no perfect research process, and no matter how well conceptualized the research may be in theory there are generally exigencies which result in a variation from the planned ideal, which results in a compromise between the theoretical ideal and the practically realizable reality. In this research, the limitations which were briefly mentioned in Chapter 1 are expanded as follows:

a) The number of professions, the number of firms of any size, and the geographic scope of the research were limited by practical constraints, including time and cost. Six professions were chosen and the assumption is made that they would be representative of other professions. The issue of external generalizability is, therefore, relevant here. Firms with head offices, or with a considerable presence in the PWV area, were chosen for the sample frame.

b) Since professions deal with confidential, sensitive information, there was an understandable reluctance on the part of some firms to reveal information about their firms or to allow the researcher to approach clients, and the extent of participation and co-operation was, therefore, limited to the amount of information transfer which could be effected within these constraints. The common phenomenon in social research that respondents say what they want the researcher to hear, or what they think the researcher wants to know, is also acknowledged as a contingency in this category.

c) Since professions in South Africa are part of the highly stressed top levels of society, the time and motivation to participate in the research is another limitation to be considered, which resulted in a less than ideal response in some cases. The issue of non-response as a type of error resulting in research bias is discussed in Chapter 5.

d) Repeated calls have been made for longitudinal studies of organisations and their strategies. This was not possible owing to the constraints of time and cost, and consequently the data collection period of the research process was confined to the time frame of April to September 1987. This placed limitations on the research, as has been described, and it constitutes a "snapshot" of each organization during the specified time frame.

4.4 Responses to contingencies

In consideration of the above, the research is of necessity exploratory in nature, constituting largely a theory-building exercise, in which a theoretical model developed for professional organizations by analogy with other organizations, and with associated broad propositions rather than precise propositions being developed and refined relative to the data within the constraints described.

The multiple operationalism in the research design has been described, as has the triangulation of methods. The research was also done on multiple professions which operate in multiple industries. The concept of

triangulation is therefore extended further to this stratified sampling of the universe. Diverse types of questionnaires which measure the same concept were used, as well as both quantitative and qualitative methodologies. This approach to the research constitutes an attempt to achieve the artful reconciliation of qualitative and quantitative approaches in empirically explicating and sophisticating a tentative model.

4.5 Research stages

Based on the theoretical expectations for strategy and professional organization and for organizational effectiveness, it was planned that two questionnaires would be designed which would be used to measure the concepts generated. The first questionnaire would be directed to partners of the professional organizations, and would measure the quantifiable attributes of the partners, as well as the perceptions of uncertainty of the environmental components which influence their decision-making in the professional organization, and the personal values which are regarded as important for the partners. This was called the **partner questionnaire.**

The second instrument, called the **image questionnaire,** was designed to measure the perceptions of strategy and professional organization, both by the partners themselves, and by their clients and other stakeholders in the environment who become "temporary employees" of the professional organization during the service production process. During the process of constructing these instruments, it became clear that not all of the organizational attributes which it was desirable to measure, had been included in these two questionnaires,

and an additional questionnaire was therefore designed which would cover these additional attributes. This was labelled the strategy and structure questionnaire.

4.5.1 Stage 1: Generation of research themes

In the initial stages of the research, the major relevant themes were identified through a combination of content analysis of the available literature and through exploratory pilot interviews with members of the target population, i.e. members of the professions, their clients, other stakeholders and academics. Twenty-five such interviews were conducted in total. Academics from three different universities who represented five different professions, and MBA students representing six professions, were included among these interviews. The other interviews were conducted with executive members of the Transvaal Law Society, the Association of Consulting Engineers, the Association of Architects, the SA Medical Association, suppliers to the medical profession, the president of the Johannesburg Stock Exchange, and with some chairmen or senior partners of professional organizations.

In the exploratory interviews, a non-structured and informal approach was taken, allowing the respondents to develop their own arguments, acknowledging the subjective realities of the research population and thus increasing the construct validity. Examples of the research themes which were generated were as follows: there had been an increase in the level and intensity of competition from non-professional organizations, profit margins were declining as costs escalated, and some professional organizations were regarded by some of their colleagues as displaying behaviour bordering on the unethical in their efforts to sustain profitability

while being threatened by competition and rising costs from various sources.

These initial interviews also generated references to published documents which were included in the subject matter for content analysis. A literature search of previous empirical research in the area of professional organizations was done with little success. Two theses, one by Bigler (1982) and the other by Phelps (1982), were studied in terms of service industries and the link between managerial values and strategic choice, and theses, articles and books on the marketing of professional services, both in South Africa and overseas, were studied (Bobbert, 1985; Webb, 1982; Wilson, 1972; Kotler and Bloom, 1984; Gummeson, 1978; Wittreich, 1966; Jackson, 1983; Moren, 1985; Adelbert, 1982; du Plooy, 1985; Green 1984).

Content analysis is a useful research tool for the quantification of printed data, and in this instance, media reports and research papers were used. The content categories may be chosen on the basis of the nature and purpose of the research, which assumes that a priori categories exist, or by examining the documents for commonalities, at the risk of a certain researcher bias (Bailey, 1982). Various recording units have been suggested (the word, the sentence, the character, the theme), but for the initial purpose of concept generation, the theme was judged to be most suitable (Holsti, 1969). From the content analysis, such themes were elicited as competition and marketing; the optimal gearing structure of professional organizations; the role of the professions in society; the impact of technology on the professions; the receptivity of clients to marketing by their consultants.

4.5.2 Stage 2: Population definition

Once the research concepts had been defined, clearly delineated and clarified, the population needed to be defined. Firstly, the choice of professions for inclusion in the research was considered. As has been discussed previously, Bennion (1969) stated that the consulting professions could be said to have the characteristics of an intellectual basis, a basis in private practice, an advisory function, a tradition of service, a representative institute and a code of conduct. His thesis further stated that there were sound reasons why the public good required that certain services be provided on the above basis.

Bennion classified the consulting professions in England at the time under three broad headings, those of health, rights and property, with the main membership of each group as follows:

a) Health: dentist, optician, pharmacist, physician, surgeon.

b) Rights: barrister, notary, parliamentary agent, patent agent, solicitor.

c) Property:
a) land & buildings: architect, auctioneer, building surveyor, civil engineer, estate agent, heating & ventilation engineer, land agent, land surveyor, landscape architect, mining engineer, quantity surveyor, structural engineer, town planner, valuer.

b) money & securities: accountant, actuary, insurance broker, loss adjuster, mortgage broker, stockbroker.

c) chattels: chemical engineer, mechanical engineer, naval architect, ship broker, valuer, veterinary surgeon.

I used the above three categories of professions as a primary stratifying criterion for the selection of professions. The professions chosen for the research were from each of the three categories, as follows: the physician in the health category, the attorney in the rights category, the accountant from the money category. of property. Owing to the close interaction and overlap between architecture, quantity surveying and engineering in the property industry, firms from all three of these professions were included. Further, only multi-disciplinary engineering firms were selected, so that this would include engineers in the chattels category. This sample of professions represented three industries, namely the business and financial industry, the property and construction industry, and the health industry.

The choice of firms was limited to the larger firms within these six professions, since these were presumed to be more likely to be run in a formulated business-like manner and to have progressed some way along the stages of organizational development (Greiner, 1972). In the medical profession this resulted in only the specialized areas of pathology and radiology being included in the research, since these specializations were the only ones where firms of any size were found.

Consulting engineering firms were restricted to multidisciplinary firms, which eliminated firms which specialized in purely civil, electrical or mechanical engineering.

The population in each profession was determined through the use of a quasi-Delphi technique, whereby the opinions of "experts", or knowledgeable individuals in the industries in which the profession operated, were used. The Delphi technique, which is generally associated with forecasting (Dalkey and Helmer, 1963; van de Ven and Delbecq, 1974; Wheelright and Makridatis, 1965), is also used for strategy formulation. Normally the process involves three to four rounds of consensus building, but in this instance, where a simplified procedure was required for the purposes of gathering the opinions of knowledgeable people in the specific industries, this was confined to one round.

The aid of knowledgeable individuals at the professional associations was solicited to assist in the initial identification of the major firms. Where directories of professional firms were available, these were used as a reference point, and the major firms selected from these directories with the assistance of the individuals mentioned (e.g. Hortors, for the legal profession, the directory of the Institute of Architects for the architectural profession, the directory of the SA Association of Consulting Engineers for the consulting engineering profession, etc.). Where no directory was present, such as in the medical profession, the opinions of suppliers, clients and other stakeholders were used to arrive at a list.

The process of obtaining expert opinion was repeated with a number of other knowledgeable individuals, including the members of the selected firms, until a final list of 96 firms in the six professions was obtained for the research population.

This quasi-Delphi type of technique for selection of a target population has the advantage that, by relying on the opinion of experts taken independently of each other, the bias which would occur if only the researcher's opinion of suitable firms was used is reduced.

4.5.3 Stage 3: Sample design

Once the target population for research had been established, it was found to be impractical to approach the total research population because of cost and time constraints. Thus a portion of the population was sampled in order to make inferences and generalizations about the total population (Babbie, 1975).

Sampling procedures may be of various types, and fall into two basic classes, namely probability samples, where each member of the target population has an equal chance of being included in the sample, and non-probability samples, where the choice of sample is made on some subjective basis. Both types of sampling procedure were used in the research.

A probability sample of professional firms from each profession was made, for three reasons: to ensure that constructs were generated and used which represented all six professions; to eliminate the use of six different questionnaires; and to enhance the possibility of external validity and generalizability.

A proportionate, random stratified sample was accordingly selected from each profession, using a random number table. Table 4-1 indicates the sample drawn from the target population.

The advantage of stratification is that the relative homogeneity of the strata implies that a smaller proportion per stratum is required to yield a given level of accuracy (Bailey, 1982) and ensure lower sampling error (Goode and Hatt, 1952).

Table 4.1

Stratified, random sample of target population of professions for generating constructs.

PROFESSION	TOTAL	%	SAMPLE	%
Accounting	15	15.6	4	16
Law	24	24.0	5	20
Medicine	15	15.6	4	16
Architecture	20	20.8	5	20
Quantity Surveying	7	7.3	3	12
Consulting Engineering	15	15.6	4	16
TOTAL	96	98.9	25	100

It will be seen that, in a universe of appropriate firms, legal firms are rather more numerous and quantity surveying firms rather less numerous than the number of concerns in the other four categories. This variation is accordingly reflected, though less strongly, in the stratified sample. This suggests a bias towards the legal profession and away from the quantity surveying professions, but this was in proportion to the size of the profession and the number of firms judged to be in the target population. The sample thus has the advantage, with respect to prospective comparisons among categories of partners, that no stratum is represented by less than two companies or by more than five.

The chairman, managing partner or senior executive of these firms was approached by letter and requested to participate in the research. A follow-up telephone call was made to confirm the participation, where a postal reply was not received, and appointments for interviews made with these leaders of the firms. All twenty five firms agreed to participate at this stage, sustaining the adequacy of the sample.

Written permission was obtained from the participating professional firms to approach their clients for the purpose of establishing the image of the firms. Understandably, not all the firms agreed to this, but some firms co-operated by supplying lists of clients from which samples of clients were taken, while some contacted their clients to request their assistance, thereby increasing the likelihood of their co-operation and participation.

From these lists a data base of clients was built up for each profession, which was representative of the possible client base which the participating firms could have. This was used as the sample frame. There was some duplication, particularly in the property industry, because of the limited number of major institutional clients. A frequency count of the client firms was carried out to arrive at a stratified sample frame for each profession, with the most frequently mentioned firms forming the top layer, the second most frequently mentioned forming the second layer, and the client firms mentioned only once forming the base layer.

The sample frame for each industry was tested for adequacy of representation against an external source. For accounting and legal firms, the sectors of the Johannesburg Stock Exchange Listing and state and

para-statal organizations were used. For clients of the pathology and radiology firms, the medical sections of the telephone directories of Johannesburg and Pretoria were used.

For those firms who agreed to supply client lists, a proportionate stratified sample was selected for the purpose of interviews, and secondly for the administration of the questionnaires. The numbers of clients resulting from this procedure was larger than the number yielded by those firms who preferred to contact their own clients on my behalf. There was thus a degree of bias away from the latter.

4.5.4 Stage 4: Development and testing of research instruments

The research instruments

As mentioned in Section 4.5, three research instruments were ultimately developed to measure the different aspects of the model which had been proposed and which it was the objective of the research to test. These are described in more detail here.

The partner questionnaire. Child's (1972) strategic-choice paradigm constitutes one of the dichotomies of the model as described in Chapter 3. The model proposed by Hambrick and Mason (1984) of the attributes of the top management team which will influence their strategic choice, consists of such attributes as age, functional track, tenure in the firm and other work experience, apart from their perceptions and values.

In order to test certain other attributes of the model, such factors as educational record and time management were also included in the questionnaire. In this way, the concepts of the socialization process during education; and the concepts contained in the Maister model, described in Section 3.2.3, of hard work, client contact and marketing would be measured.

The image questionnaire was developed with the objective of estimating the perceptions of the image of the professional organizations by their partners and by the other stakeholders in the environment. This questionnaire consisted of elements which would describe the general image of these organizations and their strategies, as well as the ratings of specific professional services provided by the different professions. It provided for an evaluation of what clients and other stakeholders expected from an ideal professional organization, as well as an evaluation of the perceptions of each of the organizations on the list, which were known to the clients or stakeholders.

In this way, the intended strategy, as defined as the self-perception of partners of their own organization, could be compared with the realized strategy, defined as the perception of the professional organization by its stakeholders. Similarly, the expectations of the professional organization could be compared to the actual perceptions of that organization. The results of both these comparisons could be included in the model of organizational effectiveness.

The strategy and structure questionnaire was designed to cover the other aspects of the theoretical model which were not already covered by the other two questionnaires. It was planned that only one structure

and strategy questionnaire would be sent to each professional organization, whereas the partner and image questionnaires would be sent to each partner.

A description of the development and testing of the scales which were to be used in the questionnaires, is given below.

Construct generation

During interviews with the leaders of these firms a rapport was established by explaining the research procedure. This was followed by the semi-structured interviews to elicit case study material, the firm's structure, strategy, values and environmental influences. Simple quantitative, non-threatening questions were asked at the beginning of the interview, leading to those requiring more sensitive and lengthy responses later (Babbie, 1982). The interview themes used as a guideline are given in Table 4.2. A complete interview schedule is attached in Appendix 1.

Table 4.2

Interview themes

1. Size: number of partners, total number of employees, number on each level
2. Management team: number, how selected
3. Geographic dispersion: number of branches, including overseas and international links
4. Diversity: range of services offered
5. Complexity: type of services offered, diversification, joint ventures
6. Management style
7. Use of technology
8. Recent developments in the firm's strategy

9. Values of the firm
10. Desirable values for partners
11. Environmental influences

The senior partner or chairman was requested to provide a list of all current partners and branches to assist in confirming the address list for questionnaires. The names of other partners were also requested for further interviews, and additional appointments made for interviews with them, both to confirm the information given as well as to elicit the constructs for the image study. These interviews proved to be very informative and the senior partners of the firms were generally co-operative.

The generation of constructs for use in the image questionnaire followed the repertory grid technique (Kelly, 1955; Fransella and Bannister, 1977). In order to create some simplified order with which to cope with the over-communication of information to which he is exposed, a person organizes it into images and reacts or responds according to these images. The image which a person has of something depends on his perceptions, values and past experiences. This view is in accordance with the interpretive perspective of organizations as propounded by Weick (1969).

This technique is designed to enable one to form mathematical relationships between constructs and construe social behaviour in a multi-dimensional way. It has been employed by various researchers to elicit constructs for use in measuring images, and enables respondents of the target population to define their own perceptions and interpretations of reality which have meaning for them (Dolovin, 1975; Polkinghorne, 1976; Cogill, 1981; Botha, 1984).

During this procedure respondents were presented with cards with the names of the firms, three at a time, and requested to state in which ways two of the firms differed from the third firm. This procedure was continued, using different triads of firms, until all combinations of firms had been presented. It was found that between twenty-three and twenty-five interviews were necessary in order to make an exhaustive list of attributes, and since there were twenty-seven interviews with senior partners during which this procedure was conducted, this was assumed to be sufficient. A total of sixty-two construcots were generated during these interviews. Figure 4.2 illustratee the technique as well as some of the constructs which were generated.

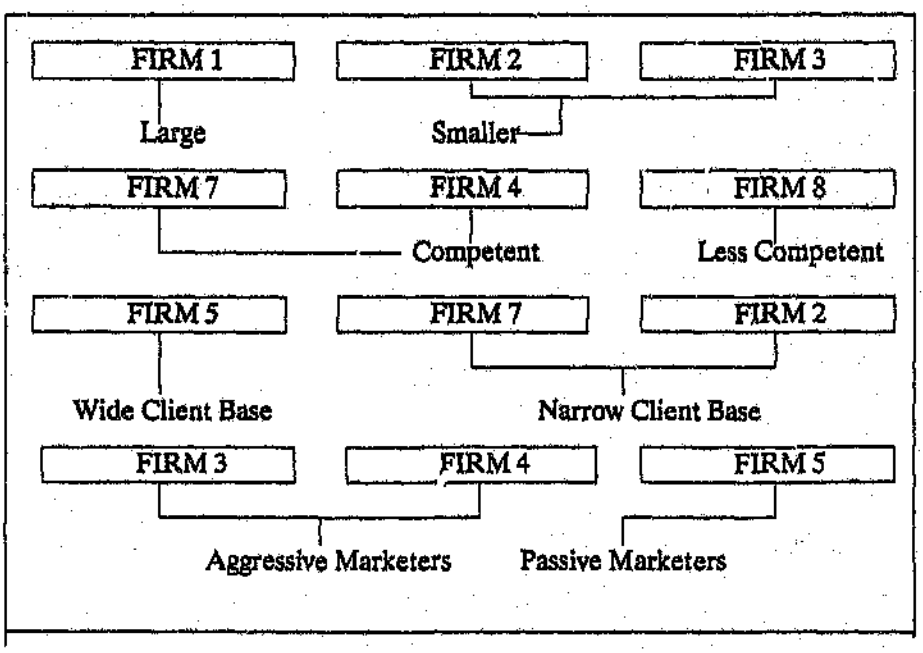

Figure 4.2

Illustration of Kelly repertory grid technique

The number of interviews per firm varied between two and four, according to the size of the firm. In this way multiple sources were used to arrive at a list of valid constructs for use in the scales to be constructed to measure personal values, components of the environment, and the image of the firms, as well as the interview information obtained relating to other aspects of the firm.

Development of scales, design and pre-testing of questionnaires

a) **Partner questionnaire**

Based on the suggestion of Hambrick and Mason (1984), a mixture of quantitative and qualitative data from the partners of the firm who represented the top management team was used. Since some firms had only four partners, while others had as many as ninety, it was decided to ensure consistency by sending questionnaires to all partners of all the firms. Simple demographic, quantitative information was placed at the beginning of the questionnaire, followed by a short list of questions relating to time management.

A list consisting of thirty-four statements regarding the environmental components and fifty statements regarding the values was made, and sixty-seven respondents from the sample of twenty-five firms were requested to indicate agreement or disagreement on a five-point scale (Appendix 2). The response was sixty out of sixty-seven, giving a response rate of 89,6 per cent for this phase of the research. The questionnaires were anonymous and coded by the type of profession only.

The distribution of responses between the different professions is given in Table 4.3 as follows:

Table 4.3

Distribution of responses between the professions

Profession	No. sent	No.received	% Response
Medicine	7	5	71
Law	17	17	100
Accounting	11	9	82
Architecture	11	11	100
Quantity surveying	8	6	75
Consulting engineering	13	12	92
TOTAL:	67	60	89

In order to arrive at the underlying meaning and reduce the number of scale items, and thus to construct scales to measure the perceptions of the environmental uncertainty and the values of the partners, the respective matrices consisting of the observations of the thirty-four environmental items and fifty value constructs which were generated during the interviews, were subjected to factor analysis, of the principal component variety (The implications of this technique will be discussed in more detail below).

In this procedure each item is correlated against all other items and assessed for the overall strength of its influence. Varimax rotations were performed to assist in delineating the underlying concepts. The procedure also yields a correlation matrix, which facilitates the identification of the underlying components (Appendix 3).

The principal component analysis of the environmental items produced a solution of thirteen factors with eigenvalues greater than one. This has been called the Guttman-Kaiser criterion for the selection of the number of factors to retain and has frequently been used. Cattell's Scree Test, which is a scree plot of these eigenvalues values, was done and the "kink" indicated that this was indeed a likely cut-off point, as shown in Figure 4.3.

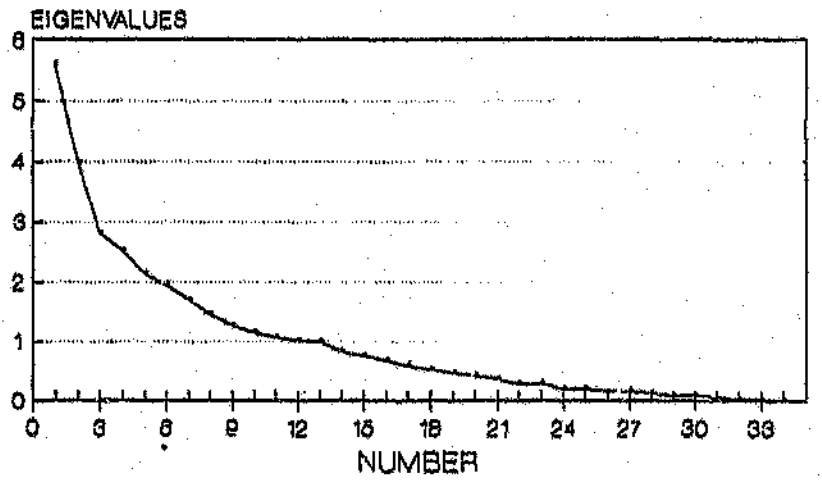

Figure 4.3

Scree plot of eigenvalues of perceptions of environmental uncertainty scale

However, thirteen factors would have defied sensible conceptual interpretation. However, the scree plot also had a "kink" after the third factor, indicating that there are three important factors underlying the environmental components, which will be confirmed later.

The intuitive meanings of these factors were clear from the items that loaded onto them, and an adequately comprehensive but concise scale could be constructed, using the thirteen items concerned.

There has been some debate as to which type of scale is most suitable for the measurement of attitudes (Taylor, 1984), but it was decided to use the semantic differential scale as suggested by Osgood et al. (1957), and elaborated by Summers (1970) to measure the perceptions of environmental dynamism. It has been found that the semantic differential scaling system yields valid results when used for comparative studies, but should not be used as a method for evaluating a single entity. Since it is an interval scale, it also lends itself to more sophisticated statistical application. The scale was thus constructed to measure the environmental uncertainty, based on Miles and Snow (1978) and Snow and Hambrick (1980). This was placed after the time management section of the questionnaire.

The initial analysis of the fifty items dealing with values produced a sixteen factor solution with eigenvalues greater than one. A scree plot of eigenvalues against the number of components confirmed this, but it has been suggested (Yeomans and Golder, 1982) that this criterion may overstate the number of common factors in certain situations. Cattell's scree test plot is illustrated in Appendix 4.

From the scree plot it can be seen that there is also a cut-off at nine eigenvalues. However, examination of the loading of the variables contained in both the nine and sixteen factor solution did not suggest usable underlying meaning to the components, as is illustrated

in the nine factor solution in Table 4.4 below, in spite of further oblique rotations of the factor scores.

This was possibly due to the fact that the numbers of directors in the sample was not much larger than the number of constructs, and also due to possible variations in values between sectors, between different professions and between organizations. For this reason it was decided that a drastic reduction in the number of variables at this stage was not feasible, but that factor analysis at a later stage when the sample size was greater might reveal factors with more meaning which were common to all professions.

Table 4.4

Nine factor solution to the 32 item value scale

Factor Number	Description	Loading
1.	teamwork	0.8309
	happy home life	0.7053
	bring in work	0.7042
	nice people	0.7357
2.	academic excellence	0.6888
	set priorities	0.7845
	broad vision	0.5428
3.	enjoy a challenge	0.8495
	competent	0.8158
4.	sensitive	0.7552
	good judgment	0.9693
5.	common sense	0.8424
	eye for beauty	0.6326
6.	show initiative	0.7432
	moral values	0.8947
7.	delegative	0.9582
8.	unselfish	0.8481
	compassionate	0.7102
9.	loyalty	0.9733

So as not to exhaust the patience of the respondents, the thirty items with the highest loadings were chosen out of the fifty items. This number of items would allow for possible variations of values between professions and between firms. Two additional values which were not highly correlated were included to act as a check on the internal validity of the scale.

In order to measure the values, the value items chosen were used to construct a six-point Likert scale, five of which were to measure attitude and a zero to allow for uncertainty of response. Since this was the more complex part of the questionnaire, it was placed at the end. The level of reliability of these two attitude scales has been reported to be high (Fishbein and Ajzen, 1975). The final partner questionnaire appears in Appendix 5.

b) The image questionnaire

On the presumption that the factor analysis of the values scale in the partner questionnaire did not provide a clear solution probably because there were not enough respondents at this stage, relative to the number of variables, the same stricture was assumed to apply for the image scale. Similarly, therefore, the constructs generated through the repertory grid technique were subjected to a frequency count procedure to arrive at a final list of items for inclusion in this questionnaire, and thirty-eight of the sixty-two constructs with the highest count were retained. They appeared to be categorized into four areas, namely general image of the firms, leadership, marketing and characteristics of the partners.

Three of these four groups compare with the groups identified in previous research on the image of firms (Botha, 1984). A semantic differential scale was used for this questionnaire too, for the same reasons as given above. The constructs were arranged in a random order with favourable/unfavourable attributes randomly distributed between left and right-hand poles, in order to reduce any the possibility of a "response set". This was followed by a section in which respondents were asked to evaluate the various processes and aspects of each profession's services on a semantic differential scale, and to rank those firms which were known subjectively in order of perceived success. Space was also provided for subjective comment.

A list of participating firms was included with the instructions, and respondents were requested to give their perceptions of their ideal firm, as well as their perceptions of their own firms and competitor firms, in the case of the professional firms, and of their consultant firms, in the case of clients. In this way a perception of each firm by itself, by its competitors, and by its clients, as well as the ideal for each profession would be generated. Since the image of the firms is said to be reliable only if measured relative to others, this served as a check on the self-image. The self-image would reflect the intended strategy, while the image by clients would reflect the realized strategy. The image questionnaire appears in Appendix 6.

c) Strategy questionnaire

This questionnaire was designed to elicit additional information which had not been covered in the other two questionnaires, to elaborate on the various aspects of the firms' strategy, structure and organizational

behaviour relative to the theoretical model. In some instances confirmation of information obtained from the image and partner questionnaires and from interviews was achieved. This once more constituted an example of a highly triangulated methodology.

The aspects of the organization on which information was requested, and their relationship to the theoretical model, were as follows.

1. Services - number and type. (This would measure the diversity of the services offered, as described by Shostack, 1987.)

2. Branches - number and distribution. (This would give an accurate indication of the geographic distribution, as related to the Bleeke's (1983) contribution to the theoretical model.)

3. Customization, standardization. (These attributes of the organization would measure those components of the Shostack (1987) and Schmenner (1986) model which contributed to the theoretical model, using a scale developed by Glisson (1978) to measure routinization.)

4. Marketing activity - promotional expense, success rate, extent. (These measures would give a reflection of the marketing activity and thereby constituted those components of the Porter (1980) model and the Maister (1984) model.)

5. Gearing - labour intensity; staff/partner ratio; partner/second-level ratio. (From the Schmenner (1986) model, and also the Maister (1985)

reference to the gearing of professional organizations. The staff turnover was also requested in order to gain an indication of the morale of the firm.)

6. R & D - percentage of expenses used on this activity; time allocated; how much was spent on technology. (This would give a measurement of this aspect of the Maister (1985) model, and is one of the attributes of industrialization.)

7. Organizational type. (This dimension was included to give an indication of the degree of sophistication of the professional organizations.)

8. Environmental tracking (Miller & Friesen, 1980).

9. Boundary spanning (Bigler, 1982). (The last two dimensions were included to establish the degree of sophistication of the management of the professional organizations.)

The strategy questionnaire is attached in Appendix 7.

The value of pre-testing the developed questionnaires has been underlined by Bailey (1982) and Simon (1986) who draw a distinction between piloting, which involves a complete run through the whole research process, and pre-testing, in which only a particular aspect or stage of the research is tested. These authors point out that refinements of the research instruments can be made with repeated testing.

The questionnaires were therefore all pre-tested on a separate randomly selected sample of twenty-five

partners from six organizations, one from each profession, to enhance validity, understanding and clarity. Suggestions for improvements were incorporated in the final questionnaire where these were feasible and appropriate. In some cases meetings were held with the partners of the firms in order to clarify the constructs and the procedure.

4.5.5 Stage 5: Data collection

a) Administration of questionnaires

Once the questionnaires had been completed, they were distributed to all the partners of the original sample of firms, and the rest of the sample frame was approached to participate. Of the seventy-one remaining firms, thirty-one agreed to participate, and a final sample of fifty-six firms out of the original ninety-six identified firms, took part. This represents 58,3 per cent of the identified sample frame, which is regarded as representative of the professions chosen.

The questionnaires were coded with the profession and the firm name, but were otherwise anonymous. Only one strategy questionnaire per firm was sent out (to the senior partner or chairman), together with an instruction sheet for each of the partner and image questionnaires, with a reply date. Image questionnaires were also sent out to the sample of the clients, with a similar covering letter, instruction sheet and reply paid envelope. After a few weeks a reminder letter was sent out, which was repeated after the time period had elapsed. This was done to increase the response rate (Bailey, 1982; Simon, 1986). Telephonic queries were also replied to.

b) Interviews and content analysis

Because of the limitations of questionnaire data, it was decided to complement the quantifiable information gathered in this way with the richness given by interviews and content analysis. This procedure represented the within-stage triangulation in Stage Five of the research procedure.

Apart from the initial twenty interviews to generate the research themes and the hundred-odd interviews conducted with the partners of the professional organizations, it was decided to conduct further interviews with the clients and other stakeholders of the professional organizations.

There are many kinds of interviews, but the data-gathering type of interview which is used for research purposes is characterized by three interacting variables, each of which may influence the results, namely the researcher, the respondent and the interview schedule (Oppenheim, 1966). The following are some of the advantages which interviews provide over structured questionnaires:

The interview is more flexible, providing the opportunity for probing, resulting in greater elaboration, explanation, clarity and understanding, and thus providing richness, completeness of response and a better response rate.

A personal interview also provides the researcher with the opportunity for observing non-verbal behaviour of organizational members as well as the physical location and environmental attributes which may influence

organizational members and contribute to the identification of the culture and image of the organization.

There is greater control over such aspects as privacy, the guarantee of unitary response, and the opportunity to build researcher confidence through rapport with the respondent.

There are, of course, disadvantages; the time and cost of interviews, researcher bias, and lowered anonymity. In addition, in view of the subjective nature of value systems, perceptions and images, there is more opportunity for the researchers own values to intrude. Finally, the Hawthorne effect (Roethlisberger and Dickson, 1959) and other forms of reactivity also present in the interaction between researcher and respondent, inevitably alter the perceptions of reality of both parties.

Many authors suggest that researcher bias should be kept at a minimum through maintaining as impartial an interaction as possible during interviews, and rigidly adhering to a structured interview schedule which has been determined a priori. However, this has been said to produce a biased response towards these a priori constructs, without allowing for respondent realities. The view also exists that in building an empathetic rapport, a good, participative interaction and greater richness are obtained without sacrificing research rigour and ethical integrity, and the encouragement of creative individualism which will result in less bias and a better understanding of the realities of the respondents.

The sample of clients chosen for interviews was approached by letter requesting participation, and appointments were telephonically confirmed. The extent of agreement and co-operation from the clients was good, considering the time pressures under which all South Africans of executive level are working. Since the response to the questionnaires sent to clients of the medical firms (who were medical practitioners, not patients) indicated a lack of understanding of the concepts in the questionnaire, it was decided for economic reasons not to interview them. The numbers of clients interviewed were as indicated in Table 4.5.

Table 4.5

Distribution of client interviews

PROFESSION	NO. CONTACTED	NO. INTERVIEWED
Accounting	54	51
Law	46	38
Architecture	97	75
Quantity Surveying	-	-
Consulting Engineering	-	-
TOTAL	197	164

This represented 83.2 per cent of the sample chosen, and illustrates the high response rate achieved through personal interviews.

During these interviews a semi-structured format was used, and respondents were requested to comment on developments in their industries or organizations, their consequent expectations of the relevant professional consultant and their perceptions of the firms which they knew, relative

to these expectations. Some respondents were reluctant to comment on their professional consultants, as could be expected in view of the sensitive, confidential relationship between them, and were not pressed to do so. The interview information was post-coded, using the categories suggested by the questionnaires and the results were used to confirm the questionnaire findings.

Content analysis is a technique mentioned as one which is appropriate for this type of research and was used on a number of occasions during the research process. It is an example of the interpretive or contextual type of research procedure, where the content of a message is analysed within the particular context in which it is stated, and which requires the technique of empathy for interpretation (Babbie, 1985).

Content analysis is generally used to generate hypotheses and the units of analysis could be words, themes, ideas or phrases (Simon, 1986). However, it has been used in research on professional firms, where the copy strategy of advertisements was investigated (Upah and Uhr, 1981).

The assistance of the Institute for Contemporary History at the University of the Orange Free State was requested for a copies of press reports for the three-year period during which the research was undertaken. Unfortunately, this produced little data on the individual firms, and only general conclusions regarding the professions could be drawn. These were used as a qualitative complement of the results produced (Appendix 8).

The use of content categories suggested by the documentation, content analysis of the firms' brochures

and of recruitment advertisements, produced a better result. These were used in confirmation of the results produced (Appendix 9, Appendix 10).

4.5.6 Stage 6: Analysis of data

The choice of method of analysis depends on the nature of the data, the type of scales used, the propositions to be tested and the parameters set, e.g., the underlying assumptions of the data regarding the population distribution and the randomness of the sample (Winer, 1970). In this instance a census survey was attempted on the defined target population of professional firms. However, since the response rate was not 100 per cent, the responses received do not necessarily reflect a random sample of the defined population. Similarly, although a stratified random sample was chosen from the data bases of clients which conformed to the criteria for representativeness of the population, the responses could not be said to be random, and could be biased towards those members of the population who responded.

Response rates for the various questionnaires are given in Table 4.6. It can be seen that the response to postal questionnaires by clients was not very good, in spite of two reminder letters, but probably adequate in terms of the proportional stratified sampling procedure and the homogeneity of the sample which this produced (Simon, 1986).

Table 4.6

Response rates to questionnaires

Partner and image questionnaires sent to partners:

Profession	Sent out	Returned to sender	Returned	Response rate
accounting	518	26	181	36.78%
law	217	2	58	26.98%
medicine	56		22	39.28%
architecture	115		51	44.35%
quantity surveying	67	1	31	46.97%
consulting engineering	325	4	99	71.22%
Total	1116	33	432	39.89%

Image questionnaires sent to clients:

Profession	Sent out	Returned to sender	Returned	Response rate
accounting	230	17	53	24.88%
law	177	15	53	32.72%
medicine	463	32	46	10.67%
architecture	61	7	28	51.85%
quantity surveying	19	2	6	35.29%
consulting engineering	138	18	39	32.50%
Total	1088	91	225	20.6%

Inferences from the sample to the tot. population would thus have to be undertaken with great caution. The type of statistical analysis is therefore largely confined to descriptive statistics, and the multivariate statistics of factor analysis, cluster analysis, and analysis of variance which are adequate for this exploratory research where theory-building is the main objective.

a) Data capture

Prior to data capture the questionnaires were examined for any obvious bias, such as respondents' answering all questions with the same response, or not responding to most of the questions. A total of seventeen image questionnaires were discarded for this reason. A coding system was devised for the responses to the educational qualifications and the employment records of the partners in the partner questionnaires. The responses were then captured and checked for error by both double entry and visual means.

The data bases w > loaded on to an IBM mainframe computer and arranged into a f...at suitable for analysis by the SAS statistical package Version 5, and also analysed a personal computer, using the Number Cruncher statistical package, Version 5.0.

b) Construction of data sets

Partner questionnaires

Using the SAS statistical package, means and standard deviations of age and perceptions of environmental uncertainty, and frequency distributions of the educational qualifications, employment history, the perceptions and values were extracted. Values for these variables for each profession were calculated, and compared with the respective means for the sample as a

whole. From these results a new data set was constructed, which summarized the findings and which was used as input to construct the theoretical types.

Each item of the demographic data was treated separately. In the case of the educational background, the percentages of responses with overseas and post-graduate education and the percentage with educational background from English oriented and Afrikaans oriented universities were calculated. In the section on work experience, the percentage of responses from private sector, public sector, other organizations and tenure were calculated. The mean time spent on each activity and the mean number of seminars attended were also recorded for each organization.

The perceptions of environmental uncertainty scores consisted of mean scores and standard deviations. The means were totalled to give what was termed a Total Uncertainty Score (Bourgeois, 1985).

A "weighted mean" of the value scores was calculated, and divided by the number of partners to arrive at a Mean Person Score for each value. The scores for the two redundant variables which had been deliberately, the scores were checked for abnormally high values.

The values of each of these composite variables were entered into a new data set which was then subjected to further statistical analysis. A rank order of the environmental uncertainty scores and of the value scores was constructed for each profession and for each firm, and the mean scores for the other variables such as age, tenure, education, etc., were recorded.

The data for the means of the scale which measured the perceptions of environmental uncertainty and the mean person scores for the values were entered into separate data sets on a personal computer, using the double entry system, where the "mirror-image" of each observation is also entered. This procedure is used for correspondence analysis (Greenacre, 1978), which was applied to the bipolar data set in order to test the internal consistency of the scales.

A summary of the data set appears in Appendix 11. A summary of the scores for each profession and differences between professions is discussed in Chapter 5.

Image questionnaires

Responses for each variable were entered into data sets and means for each variable were calculated for Self-image, Image by clients, Image by members of other professional firms, Ideal by clients, and Ideal by profession.

Firstly, the two sets of means described as Ideal by clients and Ideal by profession were examined for significant differences. It was found that there were no incidences of significant differences between these two sets of means, and these two data sets were therefore merged. This applied to all professions, and is illustrated graphically in Appendix 12.

Secondly, Kruskal-Wallis One Way Analysis of Variance by ranks was conducted between the sets of means representing Self-image and Image by clients, and also between the Image by clients and the Ideal. This showed that there were significant differences on only two of the variables at the 99 per cent confidence level and that these data

sets could be merged with relative confidence. The results of this analysis are summarized in Appendix 13.

The data sets for each firm were then merged to form one data set for each firm and one ideal for each profession. A second data set was constructed from the merged image data set for each firm (once again using the double entry system for application of correspondence analysis), both to test the internal consistency of the scale, and to highlight differences between firms, confirm the cluster analysis and strategic and organizational typology.

Data set to measure organizational effectiveness

As was described in Chapter 3, the construct of organizational effectiveness is an important component in research in the field of strategy. Its multi-dimensional nature and operationalization, particularly in the absence of economic dimensions, present a challenge to the researcher.

The evaluation of effectiveness in professional firms is even more difficult to establish, as other dimensions need to be considered in the case of this type of organization. However, the model suggested in Chapter 3 is proposed as a basis for the estimation of this construct. Since the twelve measures used in the composite are generated by the research process, it is proposed that this will assist in achieving the second research objective.

The rankings of each firm along the twelve variables was entered into a data set. Rank order correlation analysis was performed on this data set.

Data set to measure industrialization

In order to test Proposition 3, which relates to the process of industrialization of the professions, the following constructs were examined, which have been said to be characteristic of the process of industrialisation:

1. Knowledge - the scores for the mean number of years' study per partner were used, plus the mean time spent on seminars and conferences.

2. Change regarded as progress - for this construct the perception of innovation of a firm was used.

3. Social flexibility - here the incidence of a multicultural identity in a firm was indicative of this construct.

4. High achievement - the score for value placed on achievement, i.e. ambition, was used.

5. Hard work - the score for the total hours worked per week was applied.

6. R & D - the percentage of turnover invested in R & D was used.

Since the proposition states that firms will represent stages along a continuum, the total scores for each firm were plotted along a one-dimensional scale, to indicate their respective positions along the continuum. A total for each profession was also arrived at, and each profession's position plotted on a continuum, to give the relative degree of industrialization of each profession.

Data set to test Maister model

Since there is a proposition which relates to firms which exhibit the characteristics of the Maister model, the characteristics which typify this model are listed and each firm is tested against this checklist for the presence or absence of the stated characteristics. The characteristics listed under the headings of culture, elitism, strategy and management in Chapter 3 are identified through both quantitative and qualitative methods.

c) Statistical techniques used

It has been stated that the objective of the research was theory building and that the parameters of the data preclude the use of extensive inferential statistical tests. Consequently the quantitative analysis was confined to descriptive statistics and various multivariate statistics.

Simple descriptive statistics such as frequency distribution, mean mode and median were used for the initial analysis of the questionnaire data. The Spearman rank order correlation procedure was also used to arrive at a correlation between the ranks of firms in each profession between industrialization and organizational effectiveness.

Factor analysis and principle component analysis

Factor analysis is a generic name given to a group of statistical techniques which have the purpose of data reduction and summarization. The techniques determine linear combinations of the variables in a large correlation matrix, and their interrelationships. The

techniques do not divide the data into predictor and criterion sets, but are concerned with grouping the variables into their underlying constructs which form a pattern, structure or order in multi-dimensional space. The raw scores are presented as a matrix from which a correlation matrix is computed. Thus factor analysis serves as an aid in interpreting this large correlation matrix.

Principal component analysis is one of the factor-analytic procedures for extracting a set of associated variables in terms of a set of orthogonal, mutually uncorrelated linear combinations of the variables so that each component accounts for a decreasing proportion of the total variance in the original variables.

Principal component analysis involves computing a full set of principal components, factor loadings and factor scores. Subsequently, rotation of the factor loading matrices may be performed, through orthogonal or oblique rotations. In varimax rotation, which is an orthogonal rotation, a new set of uncorrelated axes are produced which keep the sum of squared loadings for each row of the factor-loading matrix intact.

The subjectivity of the researcher is involved in the selection of the number of components to retain, and the underlying meaning of the variables which have been grouped together. A general guideline to the retention of the number of factors is the eigenvalue, and those factors which have an eigenvalue greater than 1 may be retained as contributing to the most variance.

Principal component analysis and factor analysis were used in the construction of factor-based scales for use in the questionnaires, as has been described, and for the extraction of the underlying constructs of the values and image of professional firms (Kim and Mueller, 1978). The SAS procedures, PROC PRINC COMP and PROC FACTOR were used, as well as the factor analysis procedure of the program Number Cruncher.

Cluster analysis

Cluster analysis is a procedure for grouping objects into a number of classes so that the members of each class have similar attributes and differ from the members of other classes (Everitt, 1974). Cluster analysis is particularly useful as a method of pre-classifying data and can be used for initial data exploration, which may lead to subsequent data reduction, for hypotheses generation, hypotheses testing or for typology derivation. The SAS program PROC CLUSTER is used to compute Cartesian distances between points in n-dimensional space, and group the points according to their closeness to one another.

In the area of strategy research, cluster analysis has been suggested as a promising technique for the classification of strategies into a typology, if strategy is viewed as a holistic set of attributes (Miller, 1978; Woo and Cooper, 1981; Hambrick, 1983; Harrigan, 1985).

Various types of cluster analysis are possible, e.g. maximum likelihood hierarchical clustering, average linkage, centroid linkage and complete linkage, but the basic objective remains the same. Some problems of cluster analysis have also been listed, such as the

definition of a cluster, deciding how many clusters are present, and the assessment of the stability and validity of the clusters (Everitt, 1974). Further, problems arise in the analysis if there is missing data.

In order to establish whether different configurations of partner perceptions and values existed which might be associated with a specific combinations of strategy and organizational type, as proposed, the cluster analysis procedure was applied to the factor scores of the twelve factors chosen for the perceptions of the environment, values and the consolidated responses to the image questionnaires. The number of clusters chosen allowed for the best possible grouping of organizations, bearing the theory in mind.

Analysis of variance

The analysis of variance procedure, or ANOVA, is a technique which investigates the differences between sets of variables along different independent observations of the variables. For each observation the ANOVA predicts the response, and the difference between the predicted and actual response is given by the residual error. The procedure fits parameters to minimize the sum of squares of residual errors and is called least squares. The variance of the random error is estimated by the mean square error.

This procedure is a parametric test which assumes that the data is measured along an interval or ratio scale and has a normal distribution of the error term. (Iverson and Norboth, 1976). In cases where the design is balanced, ANOVA is used. In cases where analysis of

more than one set of variables per observation is necessary, a multi-variate analysis of variance, or MANOVA procedure may be performed.

The analysis of variance procedures calculates the variance within sample means, (Sw) and between sample means, (Sb), and calculates the F ratio. (Sb/Sw). A null hypothesis can then be accepted or rejected according to whether the probability of being greater than F is more or less than 0.05.

Since ANOVA is sensitive to the distribution of the error term, and results based on the assumption of normality may result in erroneous conclusions, a non-parametric, assumption-free equivalent test is available, whereby the data is ranked before the ANOVA procedure is performed. The output from the SAS NPAR1WAY procedure is then equivalent to the Kruskal-Wallis test for any number of levels.

The above procedure was performed on both the summarized partner data set and the consolidated image data set, to establish where differences between the means of variables existed. The analysis of variance programs contained in the Number Cruncher program were also used.

Correspondence analysis

This is a type of multi-dimensional scaling technique, in which a graphical representation can be made of the rows and columns of a matrix of multivariate categorical data. It is generally regarded as an exploratory data analysis technique, and has recently become regarded as a useful tool in market research, since it may reveal relationships which may otherwise not be detected through pairwise comparisons of variables. The

requirements of the data are highly flexible: they need only be non-negative and constitute a rectangular matrix. The basic objective of the analysis is to obtain a graphical display of the original matrix in terms of as few dimensions as possible (Hoffman and Franke,1986).

The data can be entered into a data set in a bipolar form, dependent on the polarization of observations around the average of the scale. Hence, on a seven point scale with a midpoint of 4, an observation of 3.5 is also entered as 4.5, the "reflection" of the observation.

The procedure then consists of normalizing the frequency matrix, finding the singular value decomposition of the resulting matrix and then defining the row and column coordinates. These coordinates define the position of the final output on a two dimensional space (Carroll, Green and Schaffer, 1986).

Although it has been stated that hypotheses testing is not possible through the use of correspondence analysis, the various decompositions of the total inertia, together with the principle co-ordinate values make a complete interpretation of the correspondence analysis data possible. The technique is related to the multi-variate methods of canonical correlation, principle component analysis and discriminant analysis, but differs in the type of transformation applied to the original data matrix.

Greenacre (1984) has demonstrated that the internal stability of a data matrix may be investigated using correspondence analysis, when some outlying data point has caused the plane to swing around excessively to include this point. Removal of this outlying data point

will alter the orientation of the plane dramatically. This technique was therefore also used to test the internal consistency of the scale by highlighting outliers. This was particularly relevant in the values scale, where two irrelevant variables had deliberately been included.

Greenacre (1984) similarly shows how correspondence analysis is related to cluster analysis and can be use to enhance the interpretation of cluster analysis. This technique was used to test the perception of environmental dynamism scale, the value scale and the image scale for internal consistency, as well as to illustrate graphically the correspondence between the various attributes of each group of professional organizations once they had been identified.

In sum, although the variety of scales and the several questionnaires required that a number of statistical techniques were used, they all served a necessary purpose, whether in the screening of the data, the simplification of the scales, or the testing or the confirmation of the propositions.

CHAPTER 5

RESULTS AND ANALYSIS - PART 1: DATA REDUCTION

5.1 Introduction

In this chapter the results of the analysis of each of the questionnaires are presented and discussed. Firstly, the response rates to each questionnaire for each profession are examined to establish whether they were adequate to include the profession in further analysis and draw conclusions from further results.

Secondly, the analysis of the data from each questionnaire is discussed individually, preceded in each case by the testing of the measuring instruments contained in each questionnaire with reference to validity and internal consistency.

5.2 Analysis of response rates

The number of responses from the professions and the ratios of responses to items in each scale are indicated in Table 5.1 below.

Table 5.1

Number of responses for each scale

		PEU *	Values	Image
Number of items in scale		12	32	38
Profession	Number of Responses	Ratio of Responses to Variables		
		PEU *.	Values	Image
Architects	51	4.25	1.59	1.34
Quantity Surveyors	31	2.58	1.03	0.81
Consulting Engineers	99	8.25	3.09	2.61
Accountants	181	15.08	5.66	4.76
Attorneys	58	4.83	1.81	1.53
Doctors	22	1.83	0.69	0.58
TOTAL:	442			

* PEU = perceptions of environmental uncertainty

Factor analysis requires that there be more observations than items being reduced. It can be seen from the ratios of the number of responses to the number of items in the scale, which are presented in the three columns on the right of the table, that sufficient responses were received in most instances from the partners of all the professions for this condition to be met. There were exceptions in the case of the medical professions for the values and image scale, where the table shows ratios of responses received to questionnaire items as 0.69 and 0.58 respectively, and in the case of the quantity

surveying profession for the image scale, where the ratio was 0.81. But when the data sets of the image questionnaires were merged, yielding larger aggregated responses, an adequate ratio was achieved.

Even so the variance in the number of responses would indicate that the results for accountants, and to a lesser extent consulting engineers, where a higher number of responses existed, are likely to be more valid than for the other professions where a lower number of responses was recorded.

5.3 The partner questionnaire

This questionnaire consisted of demographic and time management data, a scale which measured the perceptions of environmental uncertainty, and a scale which measured the values of the partners.

5.3.1 Analysis of demographic and time management data

A summary of the demographic variables across each profession is given in Table 5.2 on the following page.

The comparison between the different professions is revealing in the following respects. The engineering profession showed the highest mean age, and the second highest percentage of post-graduate education. This is probably a reflection of the extent of specialization which is demanded in this profession. The engineering profession, together with the architectural and quantity surveying profession, also spent more time socializing with clients than the other professions. This may be an indication of the importance of socializing on a personal level in this industry.

Table 5.2

Summary of demographic data for six professions

	ARCH	QS	ENG	LAW	ACC	MED
% Response rate	61.0	69.0	69.3	30.2	45.2	48.0
Mean Age	47.9	43.1	49.5	42.9	42.1	41.7
%						
Post graduate education	28.7	16.1	32.0	18.7	14.5	100.0
Overseas education	27.4	20.1	13.9	5.2	4.	31.3
English education	48.4	62.2	51.2	39.2	71.4	10.4
Afrikaans education	43.8	34.8	33.4	55.6	46.0	58.3
Public service experience	1.1	2.3	9.5	4.3	7.0	24.7
Private sector experience	1.7	6.2	3.6	2.7	5.9	0.0
Academic experience	11.0	0.9	3.2	2.4	0.2	16.3
Experience in other firm	20.2	31.3	11.1	11.0	11.8	5.2
Experience in own firm	76.7	58.7	70.4	79.0	82.4	36.5
Hours						
Client work	7.5	8.4	6.2	15.8	15.7	18.6
Client social	4.7	4.1	4.9	2.6	3.9	1.4
Management	15.8	12.7	11.6	7.8	10.3	8.4
Technical work	19.2	22.1	14.6	25.2	14.0	32.2
Total time	47.2	47.3	48.0	51.3	43.8	55.7
No.						
Local Conferences	1.9	2.5	3.0	2.9	4.3	2.4
Overseas Conferences	0.0	0.0	0.2	0.2	0.6	0.6
Hours						
Professional assistance	1.4	3.0	3.5	4.9	3.2	2.2
Giving lectures	2.5	0.2	1.2	1.1	1.5	1.4

The medical profession had the highest percentage of experience in the public sector, probably because doctors prepare for their specialism in state teaching hospitals, while the quantity surveying and accounting professions had high percentage experience in the private sector relative to the other professions.

The medical profession showed the highest percentage of experience in academic positions, followed by architects. The professions which had high experience with firms other than their own were quantity surveying and architecture, whilst the accounting and legal professions showed the highest tenure.

The section on time management reflected the three categories of activities which Maister (1984) stated were found in professional organizations, namely "finding, minding and grinding". The medical, legal and accounting professions spent the highest percentage of time on client contact in a work situation, while the architectural, quantity surveying and engineering professions spent more time on managing their organizations than the other professions. The first observation is a reflection of the nature of the work in these professions, while the second observation is relatively interesting, and may reflect the absence of an administrative manager in organizations in these professions, necessitating that partners spend time on managing their firms.

Partners of the medical profession, followed by the legal profession, spent most time on technical work, relative to other professions. These two professions also worked the longest hours per week. This observation

is probably due to the fact that in these professions, the expertise lies with the individual and the technical expertise cannot be delegated.

Attendance at local conferences was highest in the accounting profession who, together with the medical profession, also attended the most overseas conferences. The partners of the legal profession spent most time on professional organizations, while the partners of the architectural profession spent most time giving lectures.

The demographic data for each professional organization was entered into a new data base for further analysis.

5.3.2 Perceptions of environmental uncertainty

a) Internal consistency of the scale

In order to test the internal consistency of the scales which were developed and included in the questionnaires, each was subjected to the correspondence analysis procedure as described in Chapter 4. A two dimensional display of the rows and columns of a data matrix obtained by correspondence analysis can be demonstrated to be internally stable if there are no data points which cause the principal plane to swing around excessively to include that point. In this way any deviation of data points from the average condition can be highlighted and accounted for in the discussion of the results of the analysis.

Throughout this and the subsequent analyses of the internal consistency of the scales, two eigenvalues are retained irrespective of the amount of variance accounted for by the retention of these first two

eigenvalues. This was done both for the sake of simplicity and in order to ensure consistency throughout. In all cases the impact of the retention of additional eigenvalues was examined, and it was found that this did not significantly influence the variance and number of clusters or groups, and only highlighted one or two additional variables which either belonged to the existing clusters or were outliers. In all instances, the testing of the internal consistency of the measuring instruments proved that the scales were both concise and comprehensive since the technique used delineated the underlying constructs and highlighted outsiders and irrelevant variables satisfactorily.

In the analysis of the perceptions of environmental uncertainty scale it was found that 49.4 per cent of the variance was accounted for by the retention of the first two axes (Appendix 14). If the percentage of the inertia is equal to or greater than 8.33 per cent (100 divided by 12) for the variables, then that variable was considered to make a significant contribution to that axis. (Since there was not much difference between the positive and negative values for the contributions, only the positive values are listed in the Appendix).

According to this criterion, the first (horizontal) axis was described as the politico-economic axis and the second (vertical) axis as supply and quality of professional staff. It can be seen from the graphical display of the analysis in Figure 5.1 that there are three groups of variables, with their corresponding mirror images, which represent the poles of the axes. There were no variables which appeared to be outliers and the scale was therefore taken to be internally consistent. This interpretation was supported

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consequently by the discovery that the initial principal component analysis gave a clean solution.

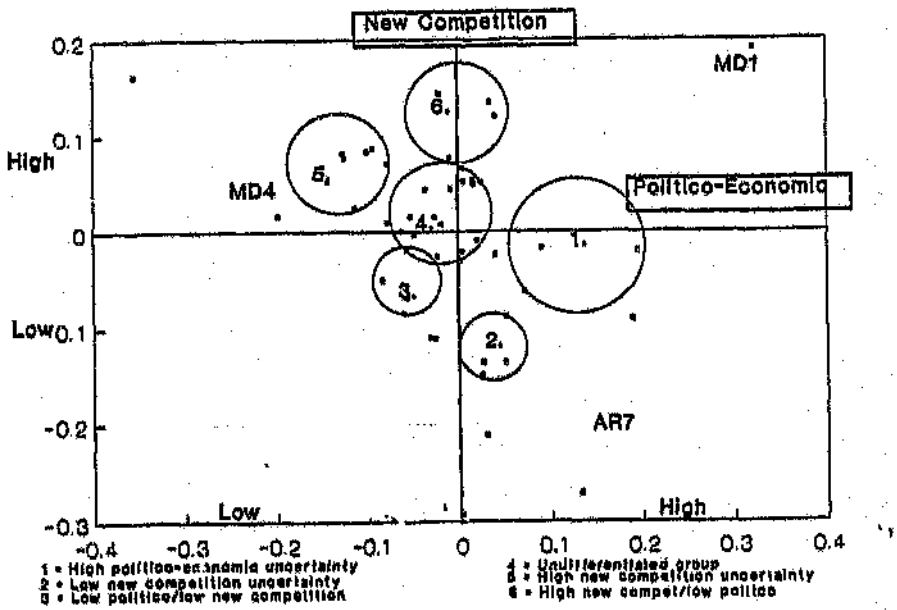


Figure 5.1

Correspondence analysis of perceptions of environmental uncertainty

The three groups are represented by the following variables:

Group 1
(P1, P2 and P3)

P 1 = Internal socio-political conditions
(contribution = 6.4 per cent)
P 2 = Govt. regulations
(contribution = 19.8 per cent)
P 3 = Economic factors
(contribution = 17.3 per cent)

As Appendix 14 shows, the perceptions of the uncertainty exhibited by the partners was highly positive on these three variables which contributed highly to the horizontal axis.

Group 2
(P6,P7,P8,P9,P11)

The perceptions of uncertainty of the partners were all high on the following variables:

P 6 = Competition from non-professional firms
(contribution = 6.8 per cent)
P 7 = Nature of competition
(contribution = 4.1 per cent)
P 8 = The supply of professional staff
(contribution = 12.7 per cent)
P 9 = The quality of professional staff
(contribution = 12.1 per cent)
P11 = Demand for new services
(contribution = 4.8 per cent)

Once again, Appendix 14 indicates the high level of uncertainty perceived for this group of variables, which then contributed to the second axis.

Group 3
(P4, P5, P10 and P12)

The third group of variables, which did not contribute to either of the two axes due to the low inertia, was as follows:

P 4 = Technological changes
(contribution = 1.8 per cent)
P 5 = Competition from professional firms
(contribution = 4.0 per cent)
P10 = Demand for existing services
(contribution = 1.2 per cent)
P12 = Level of risk
(contribution = 2.3 per cent)

This third group of variables constitutes the variables on which less uncertainty was perceived than on the other eight variables. They are constructs which are known to the professions and with which the firms have successfully dealt in the past, therefore less uncertainty was perceived to arise from these sources.

It appears therefore that there are two major sources of uncertainty of the task environment, namely the politico-economic factors, and the competition from non-professional firms which is encountered as professional service organizations diversify out of their traditional service offering, together with concern about the quantity and quality of the resources required to meet this competition.

The factor analysis of this data will be considered below. If one examines the scree plot of the eigenvalues obtained in this analysis, the connecting lines drawn along the first and second set of points indicate an intersection at three factors. This would appear to suggest that there are three factors which describe the underlying meaning adequately. This is illustrated in Figure 5.2 below.

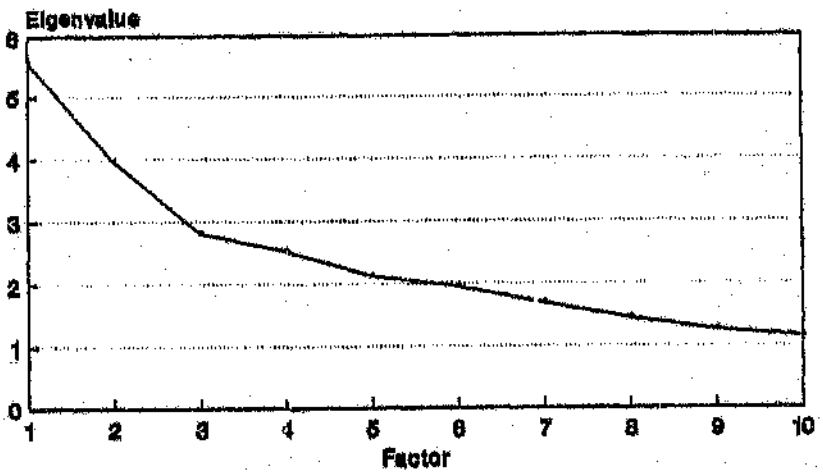


Figure 5.2

Perceptions of environmental uncertainty
Scree plot of eigenvalues (2)

b) Analysis of perceptions of environmental uncertainty scale

The mean values for the components of this scale as well as the score for the total uncertainty perceived by each profession were as indicated in Table 5.3 and the rank order of the perceptions for each profession is given in Table 5.4 below.

Table 5.3

Mean perceptions for each profession

	ARCH	QS	ENG	LAW	ACC	MED
Socio-political	4.6	4.5	4.9	4.8	5.1	5.4
Government regulations	3.7	3.1	3.3	3.5	3.5	4.5
Economic factors	4.2	4.2	4.1	3.7	3.9	4.6
Technology	3.3	3.2	3.1	2.9	2.9	3.2
Competition from prof.	3.2	2.9	2.9	2.5	2.8	3.3
Competition from non-prof	4.1	4.0	4.1	3.6	4.0	3.9
Nature of competition	3.8	3.3	3.8	3.5	3.4	3.2
Supply of staff	4.1	3.9	3.8	3.7	4.0	3.1
Quality of staff	4.2	4.4	3.7	4.0	3.7	3.0
Demand for existing serv.	3.7	2.7	3.6	2.9	2.7	3.2
Demand for new serv.	4.1	3.9	4.4	3.7	3.9	3.8
Risk	4.5	4.0	4.0	3.8	3.9	4.1
TOTAL UNCERTAINTY	47.5	44.3	45.6	42.5	43.7	45.4

Table 5.4

Rank order of perceptions for each profession

Architects:	Quantity Surveyors:	Consulting Engineers:
Socio-political factors	Socio-political factors	Socio-political factors
Risk	Quality of professional staff	Economic factors
Quality of professional staff/ Economic factors	Economic factors	Competition from non-prof. firms
Supply of professional staff/ Demand for new services	Competition from non-prof. firms	Economic Factors
Competition from non-prof. firms	Risk	Risk
Demand for existing services	Supply of professional staff	Supply of professional staff
Nature of competition	Demand for new services	Nature of competition
Government regulations	Nature of competition	Quality of professional staff
Technological development	Government regulations/technology	Demand for existing services
Competition from prof. firms	Competion from prof. firms	Government regulations
	Demand for existing services	Technological development/ Competition from prof. firms
Accountants:	**Attorneys**	**Medicine:**
Socio-political factors	Socio-political factors	Socio-political factors
Competition from non-prof. firms	Quality of professional staff	Economic Factors
Risk	Risk	Government regulations
Supply of professional staff	Demand for new services	Risk
Demand for new services	Competition from non-prof. firms	Economic factors
Economic factors	Supply of professional staff	Demand for new services
Quality of professional staff/ firms/nature of competition	Competition from non-prof. firms	Competition from prof. firms
Government regulations	Government regulations	Technology/nature of competition/demand for existing services
Nature of competition	Demand for existing services	Supply of staff
Technological development	Technological development	
Competition from prof. firms	Competition from prof. firms	Quality of staff
Demand for existing services		

Five of the six above professions can be placed into two groups as they occur in their respective industries, namely the commercial industry containing the accounting and legal professions and the building and construction industry containing the architectural, quantity surveying and consulting engineering professions. This ranking indicated that distinct differences exist between professions in their perceptions of the various components of environmental uncertainty. For example, it can be seen that architects as a profession perceived greater uncertainty for risk than the other two professions in that industry, and together with engineering firms, perceived greater uncertainty from competition from non-professional firms. The perception of the uncertainty of the supply and quality of staff to meet this perceived competition was also high.

Accountants perceived the second highest uncertainty from socio-political factors of all the professions. They also perceived greater uncertainty from competition from non-professional firms than did attorneys. Attorneys were the profession with the lowest total uncertainty score and were more uncertain about the quality of professional staff than the accountants.

The medical profession perceived the highest uncertainty from socio-political factors, as well as the highest uncertainty from economic factors, and government regulations affecting the professions. This last factor is most likely due to the medical profession's lack of control over such issues as their own fee structure and over the provision of state and provincial hospital service where they may deliver their services.

It was also interesting to note that those consulting engineering organizations who were more involved in building engineering construction perceived greater risk than those who were more involved in civil engineering. This appears to be the area where the risk is more likely to be carried by the engineering consultant in the team.

The principal component analysis used to develop the scale had successfully reduced the number of variables to a manageable number for use in a scale as described in Chapter 4, which was confirmed through the test for the internal consistency of the scale. The scree plot illustrated in Figure 5.2 suggested that there were probably three factors which accounted for most of the variance. In order to confirm this and therefore both to validate the scale items and to understand and reduce most of the underlying variance in as few factors as possible, a factor analysis of the summary of the data for the perceptions of environmental uncertainty was performed across all the firms. The principal component method of factor analysis, with a varimax method of orthogonal rotation of the factor scores to clarify the relationship between the variables, was applied. This produced a four factor solution using the minelgen criterion, accounting for 68.17 per cent of the variance. The eigenvalue summary was as follows:

Table 5.5

Factor analysis of perceptions of environmental uncertainty scale

Factor Number	Eigenvalue	% Variance	Cum. % of Variance
1	3.1537	26.31	26.31
2	2.2808	19.01	45.31
3	1.6475	13.73	59.04
4	1.0949	9.12	68.17

A scree plot of the above eigenvalues is illustrated in Figure 5.3, once again suggesting a three factor solution.

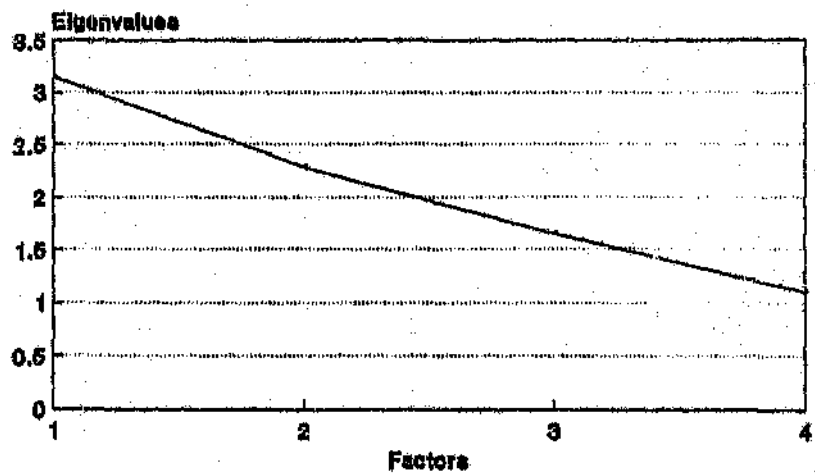


Figure 5.3
Scree plot of eigenvalues of PEU, (2)

The rotated factor pattern for this analysis was examined to assist in the interpretation of the factors and reduction of the data. This factor pattern can be found in Appendix 15. In deciding how many factors to retain, Youngman (1979) has specified that at least three loadings are necessary for a factor to be included, and a correlation coefficient of approximately 0.5 or more for orthogonal rotations is necessary for the inclusion of that variable as contributing to the factor. Therefore, where a factor had sufficient variables loading onto it for meaningful interpretation, the loadings were examined to see whether these were high enough to be included to assist in the interpretation of another factor. Where the loadings were between approximately 0.3 and 0.5, these were also considered where this assisted in the interpretation of

the factor and added to the number of variables required for retention of that factor. The following loadings and factor descriptions were decided upon:

Table 5.6

Factor loadings for perceptions of environmental uncertainty scale

Factor 1:	Known Factors, including known competition	
Variable No	Description	Loading
	Technology	0.8172
	Competition from professional firms	0.8509
	Nature of competition	0.6984
Factor 2:	**Unknown competition**	
Variable No	Description	Loading
	Competition from non-professional firms	0.6748
	Supply of staff	0.7467
	Quality of staff	0.7984
	Demand for new services	0.3517
Factor 3:	**Politico-economic risk**	
Variable No	Description	Loading
	Socio-political factors	0.8055
	Government regulations	0.7116
	Economic factors	0.7567
	Risk	0.6262

One variable was left with the high loading of 0.8831 in the fourth factor, namely demand for existing services. Demand for new services also loaded fairly highly onto this factor, as did nature of competition, and one could be tempted to decide on a fourth factor, called nature of demand. However, the number of variables in the first factor would then have been reduced to two, which would be

too few for inclusion, and the loadings on these two variables in this first factor were too high to ignore. It was therefore decided that this variable did not contribute sufficiently to environmental uncertainty to be included and thus the fourth factor could be excluded. This was confirmed on examination of the rank order of the scores of the variables as described in Table 5-4, where this variable was ranked one of the last three by all the professions.

The three factor solution, accounting for 59.04 per cent of the variance, therefore accounted for eleven of the twelve variables in the original scale. One may therefore confidently take the scale items as validated.

5.3.3 Values scale

The values generated through this research process are broadly generic across six professions. Various levels of values may be conceptualized as a cascade of values in Figure 5.4 as follows:

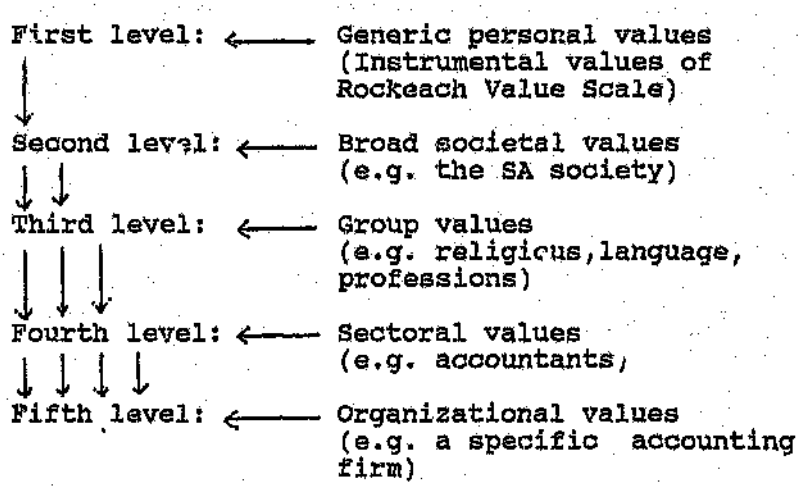


Figure 5.4

A cascade of values

In the context of this model the values from different levels will be found progressively in the next level, so that at the fifth level the values measured will contain elements of the first, second, third and fourth levels. The values generated by this research were at the third level and contained generic personal values, societal values and group values, and were therefore not specific to a particular profession or organization.

In the questionnaire development phase, principal component analysis was used to attempt to delineate the underlying meanings and construct a concise scale. However, as has been explained, this procedure was not successful owing to the fact that there were probably too few responses for the number of variables, resulting in the principal component analysis procedure not giving a clear factor solution. Consequently a thirty-two item scale was used to allow for the possibility of variations between professions and between organizations. It was hoped that the higher response rate from the total sample of firms, together with the effect of the central limit theorem which would apply to the mean person scores as calculated, would provide a better factor analysis solution at a this later stage.

a) Internal consistency of the scale

A similar procedure to that applied to the testing of the scale used to measure the perception of environmental uncertainty was adopted for the testing of the scale used to measure the values. The correspondence analysis of the data showed the pattern indicated in Figure 5.5.

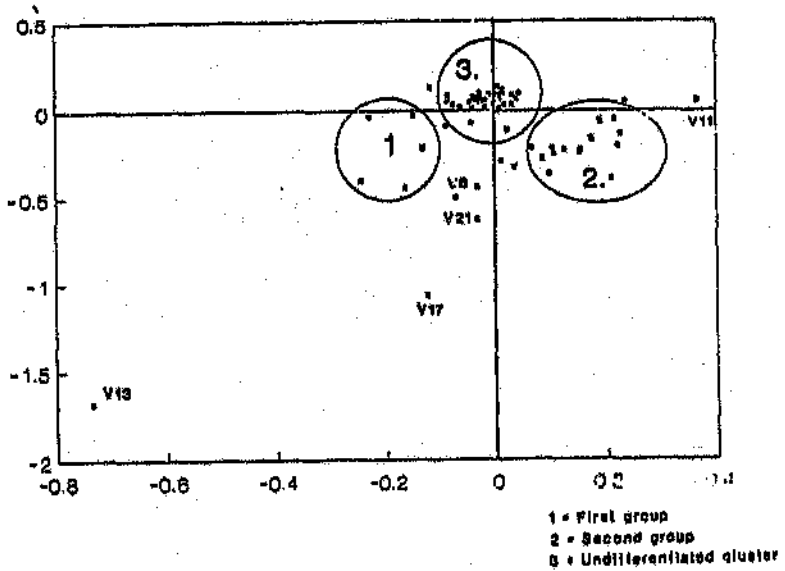


Figure 5.5

Correspondence analysis of values (1)

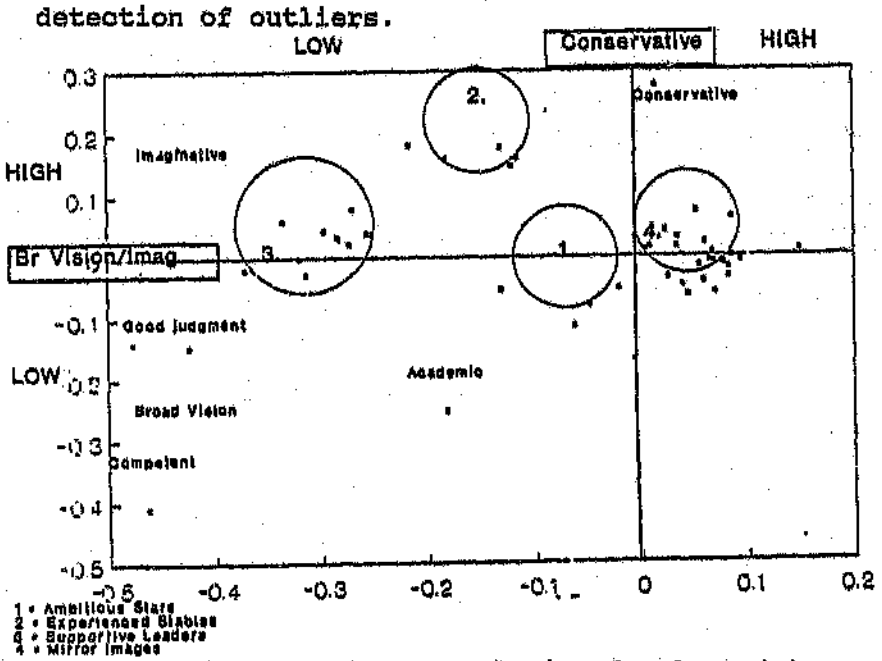
In this instance, 48.2 per cent of the variance was accounted for by the retention of the first two axes. On examination of the first axis, the two values V13, honesty, V17, loyalty, and to a lesser extent the value V21, moral values, appeared to contribute very significantly to the inertia. These values represent what could be termed "motherhood" values for the professions, and are not values which would discriminate between firms or professions.

On examination of the second axis, those additional variables which were included in the scale as a check on the internal consistency, namely V11, eye for beauty and V31, religious, as well as V25, sensitive, were highlighted as making a significant contribution to the inertia (Appendix 16). Once again only the positive values for the contributions are listed.

These findings indicate that these variables were outliers and could have been omitted from the questionnaire, thereby reducing the length of the scale. It can be seen that the majority of the variables are clustered around the intersection of the axes, indicating that they do not vary from the average condition and no discrimination can be detected between these variables.

The variables which accounted for the high variance of this first analysis were therefore removed in order to allow for greater differentiation between the remaining variables and a second correspondence analysis was done on the remaining variables.

The results of this second analysis, represented in Figure 5.6 show how a more useable spatial distribution of the values occurred, compared to the first analysis, vindicating this use of correspondence analysis for the detection of outliers.



Correspondence analysis of values (2)

According to this second analysis, 40.05 per cent of the variance was accounted for by the retention of the first two axes (Appendix 14). In this instance, an inertia greater than 100/32 or 3.13 per cent was considered to be significant.

According to this criterion, the first axis was represented by the following values:

Axis 1

V32 = Unselfishness
(contribution = 9.3 per cent)
V 4 = Broad vision
(contribution = 7.5 per cent)
V14 = Imagination
(contribution = 7.1 per cent)
V12 = Good judgement
(contribution = 5.5 per cent)
V19 = Management skills
(contribution = 5.4 per cent)
V29 = Supportive
(contribution = 5.1 per cent)

and to a lesser extent by:

V23 = Positive/optimistic
(contribution = 4.3 per cent)
V24 = Self-disciplined
(contribution = 4.0 per cent)
V28 = Strong personality
(contribution = 3.6 per cent)
V15 = Interpersonal skills
(contribution = 3.6 per cent)
V 5 = Competent
(contribution = 3.3 per cent)

The second axis was represented by the values:

Axis 2

V 7 = Conservative
(contribution = 18.4 per cent)
V 4 = Broad vision
(contribution = 10.6 per cent)
V 3 = Academic/intellectual
(contribution = 8.9 per cent)
V 5 = Competent
(contribution = 7.1 per cent)

and to a lesser extent by:

V30 = Tolerant
(contribution = 4.7 per cent)
V16 = Broad interests
(contribution = 4.5 per cent)
V 1 = Adventurous
(contribution = 4.3 per cent)
V27 = Stable home life
(contribution = 3.3 per cent)

the axes thus stipulated, three clearly defined ps of vari bles and their mirror images can be ia.tified at opposite poles of the axes.

Group 1
(V2, V6, V9, V26)

V 2 = Ambitious
V 6 = Compassionate
V 9 = Courteous
V26 = Specific skill

Group 2
(V1, V10, V16, V27, V30)

V 1 = Adventurous
V10 = Experienced
V16 = Broad interests
V27 = Stable home life
V30 = Tolerant

Group 3
(V15, V18, V19, V22, V23, V24, V29, V32)

V15 = Interpersonal skills
V18 = Leadership qualities
V19 = Management skills
V22 = Nice people
V23 = Optimistic
V24 = Self-disciplined
V29 = Supportive
V32 = Unselfish

These groups are well differentiated, indicating the internal consistency of the scale.

b) Analysis of values scale

The variables which were shown to be outliers by the test for the internal consistency of the scale were deleted, and the mean scores for the remaining twenty-six values for each profession were then listed in Table 5.7 below. The rank orders of the values with the ten highest scores for each profession were made, and summarized in Table 5.8.

Table 5.7

Mean scores for values for each profession

	ARCH	QS	ENG	LAW	ACC	MED
Adventurous	3.9	3.8	3.7	3.4	3.4	3.8
Ambitious	4.1	4.1	4.1	4.0	4.1	4.0
Academic	3.7	3.4	3.8	4.1	4.0	4.0
Broad vision	4.2	4.4	4.1	4.1	4.4	4.2
Competitive	4.6	4.7	4.7	4.8	4.7	4.7
Compassionate	3.4	3.0	3.5	3.5	3.5	4.0
Conservative	2.8	3.1	3.2	2.9	3.2	2.9
Co-operative	4.2	4.5	4.2	4.3	4.0	4.4
Courteous	4.1	4.3	4.3	4.1	4.3	4.4
Experienced	4.2	4.4	4.5	4.0	4.2	4.2
Good judgment	4.3	4.4	4.5	4.6	4.5	4.1
Imagination	4.3	4.1	4.3	4.0	4.2	4.1
Interpersonal skills	4.0	4.3	4.3	4.0	4.2	4.1
Broad interests	3.6	3.3	3.7	3.3	3.6	3.7
Leadership	4.2	4.5	4.3	3.8	4.2	3.9
Management	4.1	4.6	4.0	3.6	4.2	4.1
Methodical	3.7	4.2	3.9	3.9	4.0	3.8
Nice people	3.8	3.6	3.5	3.8	3.7	3.8
Positive/ Optimistic	4.0	4.1	3.9	3.7	4.0	4.1
Self-Discipl.	3.8	4.2	4.2	4.3	4.3	4.1
Specialized skill	3.9	3.8	3.9	4.1	3.7	4.2
Stable	3.9	3.8	3.9	3.7	3.7	3.9
Strong personality	4.0	4.0	3.8	3.6	3.8	3.8
Supportive	4.1	4.0	3.7	3.9	3.9	4.1
Tolerant	4.0	3.9	3.8	3.9	3.8	4.0
Unselfish	3.8	3.8	3.7	3.7	3.4	3.6

Table 5.9

Rank order of values for each profession

Architects	Quantity Surveyors	Consulting Engineers
Competence	Competence	Competence
Imagination/leadership/ co-operation	Leadership	Imagination/IP Skills, leadership/courteous
Ambition/courtesy/management supportiveness	Broad vision	Judgement/experience/ co-operation/self-discipline
Positive/optimistic/ strong personality	Courtesy/IP skills	Broad vision
Attorneys	**Accountants**	**Medicine**
Competence	Competence	Competence
Judgement	Broad vision	Courtesy/co-operation
Self-discipline/co-operation	Courtesy/self-discipline	Broad vision/experience
Academic/broad vision/ imagination	Experience/IP skills	Judgement/imagination/ IP skills
Ambition/experience/IP skills/ imagination	Ambitious/methodical/ positive	Ambitious/academic/ compassionate

Competence was judged the most important value by all professions. It can be seen that architects ranked imagination as more important than the other professions did, while quantity surveyors ranked leadership and management skills more important, and engineers ranked the values of experience and good judgement higher. This illustrates their respective task roles in a project team.

Attorneys ranked judgement, co-operation and specific skills of higher importance than did accountants, for whom broad vision and imagination were ranked more important. It was also interesting to note that attorneys did not rank management and leadership skills as among the ten most important values. The medical profession typically ranked compassionate as one of the more important values, and also ranked courtesy and co-operation as more important than the other professions did.

These rankings therefore illustrate the distinct differences between the professions in their value systems. This procedure also highlighted certain variables which were considered to be important by the partners of the professional organizations but which ultimately were not found to contribute significantly in the factor analysis. These additional variables are leadership qualities, interpersonal skills, ambitious, courteous, methodical and experienced.

The factor analysis procedure was performed on the remaining twenty six variables, with the objective of finding the major factors underlying professional values. The principal component method of factor analysis was once again used. This reduced the number of dimensions and rotated the data on the reduced set of

dimensions through a varimax rotation of the factor scores.

Using the mineigen criterion, an eight factor solution was arrived at with eigenvalues greater than one. This accounted for 76.34 per cent of the total variance (Appendix 17). The relative importance of these eight factors is illustrated in the proportion of the total variance accounted for by each factor in Table 5.9.

Table 5.9

Factor analysis of values scale

Factor Number	Eigenvalue	% Variance	Cum. % of Variance
1	8.8069	33.87	33.87
2	2.3811	9.17	43.03
3	1.8860	7.25	50.38
4	1.8358	7.06	57.35
5	1.4604	5.62	62.96
6	1.2757	4.91	67.87
7	1.1984	4.61	72.48
8	1.0032	3.86	76.34

However, the scree test, whereby the eigenvalues were plotted against the number of factors, illustrated that two major factors, accounting for 43 per cent of the variance, appeared to be responsible for much of the variance. (This percentage variance is similar to that arrived at in the correspondence analysis procedure.) This is illustrated in Figure 5.7 below.

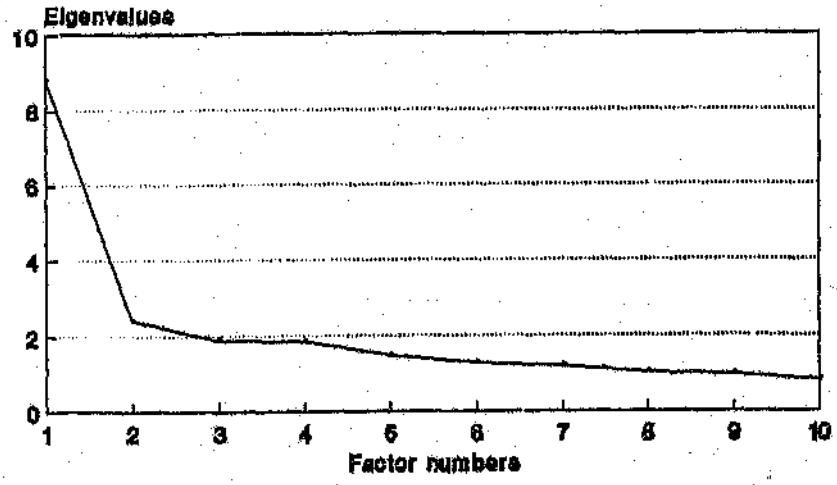


Figure 5.7

Scree plot of eigenvalues, values (1)

The problem, therefore, is that the mineigen criteria recommended an eight factor solution and the scree plot recommended only two. A compromise is needed, which accounts for much of the variance and delivers intelligible meaning, without swamping one with trivial detail.

The rotated factor pattern was examined, and once again the variables with loadings higher than approximately 0.5 were automatically included in a factor. Where the loading was greater than approximately 0.3 and the variable contributed to the interpretation of the factor, it was also included. Where there were not sufficient variables which loaded onto the factor for inclusion, the variables with high loadings were

examined for alternative factor membership and this factor was deleted. Where a variable loaded onto a factor which had sufficient variables, and it also loaded onto another factor with few variables, this variable was examined to establish whether it added to the meaning of the second factor and could be grouped together with the other variables in the second factor in order to include this factor. This means of "allocating" factor loadings to optimize coverage and minimize redundancy follows Youngman (1979). Following this procedure, the final number of factors selected was five. The allocation of the variables, their loadings, and the final selection of factors is illustrated in Table 5.10.

Table 5.10

Factor loadings for values

Factor 1:	**Service orientation**	
Variable No.	Description	Loading
V 5	competent	0.5506
V 6	compassionate	0.3654
V 8	co-operative	0.8073
V14	imaginative	0.7938
V22	nice people	0.8021
V24	self-disciplined	0.6052
V29	supportive	0.7258
V30	tolerant	0.6175
V32	unselfish	0.7912
Factor 2:	**Strength and stability**	
Variable No.	Description	Loading
V 1	adventurous	-0.5037
V16	broad interests	-0.5538
V23	positive/opt.	-0.5190
V27	stable home life	-0.7355
V28	strong personality	-0.6525

Factor 3:	Credibility	
Variable No.	Description	Loading
V 2	ambitious	0.3256
V 3	academic	0.8962
V10	experienced	0.4494
Factor 4:	**Leadership**	
Variable No.	Description	Loading
V 4	broad vision	-0.7655
V18	leadership qualities	-0.7780
V23	positive	-0.3365
Factor 5:	**Interpersonal skills**	
Variable No.	Description	Loading
V 9	courteous	0.7657
V12	good judgement	0.5098
V15	interpersonal skills	0.5168
V20	methodical	0.6400

To validate these constructs and confirm that this five factor solution was in fact justified, the scores for the twenty four of the original thirty two variables, which contribute to these factors for each professional organization, were entered into a second data base and the factor analysis repeated (Youngman, 1979). The mineigen criteria gave a six factor solution, accounting for 71.05 per cent of the variance (Appendix 18). A scree plot once again indicated that the first two factors accounted for much of the variance. On examination of the rotated factor pattern, the meanings of the five major factors, and the loadings of the respective variables onto them, were nicely confirmed (the only differences were that variables 24 and 29 no longer loaded onto factor 1, and variable 26 replaced variable 23 on factor 4 - indicating satisfactory stability in the factor solution.)

In conclusion, although not part of the research objectives, it was observed that a lower ranking of uncertainty of internal socio-political factors and a higher consensus of values occurred among firms of a predominantly Afrikaans language and cultural orientation. This would appear to suggest that the cultural socialization process engenders a tradition of greater unity of spirit among people of this group which provides a cohesiveness and strength, and might account for the lower perception of uncertainty of the socio-political environment.

5.4 The image questionnaire

5.4.1 Internal consistency of the scale

Correspondence analysis of this scale indicated that variable I2, conventional/unconventional, could have been discarded from the scale, since both positive and negative values are very close to the intersection of the axes and therefore the variable did not contribute to the discrimination between firms (Figure 5.8). The quality of this variable in the calculation of the co-ordinates for observations was also low (about 0.014).

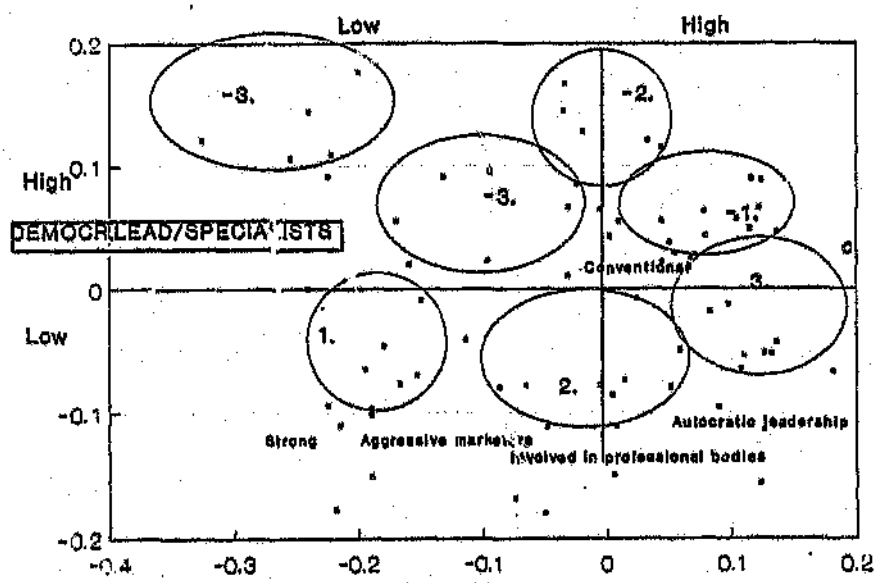


Figure 5.8

Correspondence analysis of image scale

The first two eigenvalues accounted for 41.9 per cent of the variance. In the case of thirty eight variables, the significant contribution to inertia is 100/38, or 2.63 per cent.

As is illustrated in Appendix 19, the first and second axes are represented by the following variables:

Axis 1

I 1 = large
(contribution = 2.8 per cent)
I 7 = growing
(contribution = 2.7 per cent)
I10 = strong
(contribution = 3.2 per cent)
I16 = good leadership
(contribution = 3.9 per cent)
I26 = strong client base
(contribution = 4.0 per cent)

The second axis is represented by the variables:

Axis 2

I10 = strong
(contribution = 4.1 per cent)
I17 = autocratic leadership
(contribution = 4.2 per cent)
I23 = involved in professional bodies
(contribution = 4.8 per cent)

Once again three groups of variables appear which are well discriminated from each other and which are reflected in their mirror images, thus constituting the positive and negative poles of three axes. The variables accounted for by these three groups, together with the variables which contribute to the axes, constitute most of the variables in the questionnaire.

There were only a few variables which could have belonged to Group 1 or Group 2, such as I23, involved in professional bodies or teaching; I24, aggressive marketers; and I29, give good service. Some others could have belonged to Group 2 or Group 3, such as I9, have specific language or cultural identity; I22, succession problem if leader leaves; and I34, high morale.

Group 1
(I3,I5,I9,I15,I28
I19,I21,I27,I31,I32,I33)

I3 = large
I5 = good reputation
I9 = growing
I15 = strong
I28 = well managed
I19 = good leadership
I21 = high credibility
I27 = wide geographic distribution
I31 = competent
I32 = depth of expertise
I33 = good technical knowledge

Group 2
(I1,I4,I7,I10,I13,I16
I35,I36,I37,I38)

I1 = innovative
I4 = ethical
I7 = specific language or cultural identity
I10 = specialists
I13 = strong in certain markets
I16 = good communicators
I35 = good understanding of business
I36 = have gained good people
I37 = have well-known stars

Group 3
(I6,I11,I14,I18,I20,I25,I26)

I6 = stable
I11 = old established firm
I14 = progressive
I18 = aggressive leadership
I20 = high visibility
I25 = wide range of services
I26 = strong client base

5.4.2 Analysis of image questionnaires

There had not been sufficient respondents in the initial sample of organizations to give a satisfactory principal component solution and reduce the number of variables to arrive at a concise questionnaire. At this stage, however, a factor solution was assumed to be a viable procedure to illustrate the underlying dimensions of the data, particularly since once again the effects of central limit theorem would apply to the mean scores for each variable for each firm. The principal component method of factor analysis was therefore applied to the consolidated data set and a varimax method of orthogonal rotation applied to assist in delineating the underlying meaning (Appendix 20).

81.9 per cent of the total variance was accounted for by the nine factors. A scree test indicated that three of the factors accounted for 53.66 per cent of the variance. Once

again the loadings of the variables in the rotated factor pattern were examined to establish the number of factors with more than three variables with high loadings which could explain the underlying meaning. The criteria of at least three high loadings and a minimum loading of approximately 0.5 were once again adhered to. This yielded seven factors.

This factor analysis, however, did not succeed in reducing the number of variables, since thirty-six of the thirty-eight variables in the scale had loadings of more than 0.5 and were therefore included in this seven factor solution.

In order to reduce the number of variables and the associated number of factors, a more stringent requirement was set: only those variables with factor loadings higher than 0.6 were considered. This left twenty-two scale items which were entered into a second data base and the factor analysis procedure repeated, using the same principal component method of factor analysis and the varimax method of orthogonal rotation. This procedure was therefore equivalent to a scale construction procedure.

The factor analysis of these twenty-two scale items produced a six factor solution using the mineigen criterion for the retention of factors (Appendix 21). This solution accounted for 76.51 per cent of the total variance which was satisfactory. The summary of the eigenvalue scores for this solution is as follows in Table 5.11:

Table 5.11

Factor analysis of image scale

Factor Number	Eigenvalue	% Variance	Cum. % of Variance
1	6.49	29.53	29.43
2	4.89	22.21	51.75
3	1.53	6.95	58.69
4	1.50	6.84	65.53
5	1.37	6.23	71.76
6	1,04	4.75	76.51

The scree plot of the above eigenvalues was done and is shown in Figure 5.9 below:

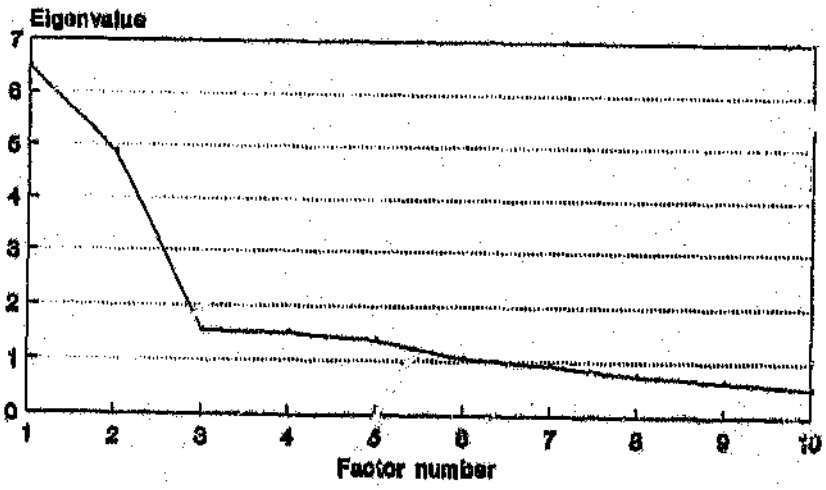


Figure 5.9

Scree plot of eigenvalues, image (2)

This suggested a three factor solution which would account for 58.69 per cent of the total variance. However, the rotated factor pattern was examined and the previous judgemental process of variable allocation and factor retention repeated, with the criteria as stated by Youngman (1979) being applied.

Because of the requirements of five to six scale items for each factor, and by subjecting possible contributory items to each factor in the light of the integrative model in Chapter 3, it was concluded that there were four factors which summarised the underlying twenty-two variables adequately. These are described as follows in Table 5.12:

Table 5.12

Factor loadings of four image factors

Factor 1:	Quality service	
Variable No.	Description	Loading
I16	good leadership	0.6942
I21	good connections with clients	0.7448
I29	good service	0.7990
I32	depth of expertise	0.8289
I33	technical knowledge	0.8620
Factor 2:	**Broad, multi-specialist**	
Variable No.	Description	Loading
I17	autocratic leadership	0.5225
I30	many specialist services	0.8007
I34	high morale	0.9510
I 5	ethical	0.6180
I25	wide range of services	0.7645
I 9	specific language/ cultural identity	0.5015
I 6	stable	0.8862
I12	uniform identity	0.7284

Factor 3:	Reputable professionals	
Variable No.	Description	Loading
I 7	growing	0.6362
I 4	good reputation	0.7489
I24	aggress. marketers	0.3389
I23	involved in the profession	0.7961
I38	well-known stars	0.7244

Factor 4:	Innovative specialists	
Variable No.	Description	Loading
I 3	innovative	0.8098
I14	progressive	0.4509
I28	strong in certain markets	0.5026
I15	specialists	0.4561

The above four factors describe the four categories of professional organizations, with the specific strategic attributes which best describe them.

5.5 Analysis of strategy questionnaire

Responses were received from thirty-three of the forty-eight professional organizations which constituted the membership of the groups in the previous section. The results of the questionnaire could not therefore be included in the overall analysis for each firm, but some of these results were incorporated in the discussion of the final model.

The response rate by profession for this questionnaire was as follows in Table 5.13:

Table 5.13

Response rate for strategy questionnaire

Profession	Number	Response rate %
Architecture	9	100.0
Quantity Surveying	2	66.7
Consulting Engineering	5	55.5
Accounting	6	66.7
Law	5	40.0
Medicine	6	75.0

The only profession with a response rate less than 50 per cent was the legal profession, which the table shows at 40 per cent. The above response rates places some doubt on the generalizability to the wider legal profession from the sample. However, the better response rate from the other professions suggests that generalizations may be made regarding these professions in the sample.

The analysis of this questionnaire consisted of visual inspection of the data, with comparisons being made of each firm relative to others in that profession. The responses for each organization were categorised into high, medium and low, relative to the other organizations in that profession. This manual method was necessitated by the relatively low number of questionnaires returned, compared with partner and image questionnaires. The highlights are noted here.

The number of services gave an indication of the diversity of services, while the type of services was indicative of the complexity, i.e. the extent of diversification outside of the type of service which could be regarded as standard, such as architecture for

architects, audit for accountants, civil engineering for consulting engineers, building surveying for quantity surveyors, conveyancing for attorneys, and routine X-rays for radiologists and pathological tests for pathologists. A high number of services would be seven for all professions, while a low number would be one.

The number of **branches** was indicative of the geographic spread or conversely, the geographic focus of the firm. It was found that those organizations which provided services to public sector or to major corporate clients required a large number of branches. This was found in organizations in the construction and building industry, as well as in accounting firms. In medical firms, a large number of collection points was found in some pathology firms, but a wide geographic distribution outside the major urban areas was only observed in one organization in the sample which serviced the country areas of the Transvaal. There was some discussion about the probability of the development of joint ventures between medical organizations in different provincial areas to reduce the heavy overhead.

The highest number of organizations with a relatively high percentage of **customization** was found in the architectural and legal professions where specific customized service is necessary.

High **standardization** was found in firms with a wide geographic distribution, as well as in the group which was equivalent to the standard, reputable firm. In some architectural organizations, standard plans, such as those for a filling station or provincial school, gave rise to standardization. Similarly, in accounting organizations where a large percentage of fee income was

derived from the audit procedure, or in legal organizations where a large percentage of fee income was derived from standard conveyancing of, for instance, mass housing projects, this measure was high.

High routinization was frequently found together with high standardization, as expected, in the examples described above.

There was generally a medium to low expenditure on marketing promotion in three out of four groups, with the architectural profession spending the most and the medical profession the least.

The gearing or staff/partner ratio for accounting firms was generally between eight and nine, whereas for legal firms it was between five and eight. The ratio of partner to second-level was generally between five and eight for accounting firms, whereas for legal firms this varied between 0.7 and 1.7. This reveals the higher "people" gearing of accounting firms, relative to legal firms. In the architectural and quantity surveying professions, the staff/partner ratio varied between three and eleven.

The staff/partner ratio was relatively high and medium in the reactor and reputable, slightly innovative groups of organizations, whereas both the service quality innovative group and the broad-based innovative group did not exhibit high people gearing.

In the medical profession, labour intensity was very low in radiology (0.2 - 0.7), and slightly higher in pathology (0.9 - 6.0). There was also a higher staff/partner ratio in pathology (21.0 - 32.0).

In all professions the amount of budget allocated to research and development was 1 per cent. The amount of time allocated varied between 1 and 12 per cent, and the percentage spent on technology between 1 and 80 per cent. It appeared that this area of activity was not as highly developed in professional service organizations as it may be in other organizations. There may be various reasons for this, including the fact that much of the research and development work is done overseas.

Bearing in mind the observations in the above section regarding people gearing, the highest research and development expenditure on technology was predictably found in the service-quality innovative group.

With few exceptions the organization type in accounting, legal and medical firms was generally a partnership, with or without a service company to provide a vehicle for pension schemes, financial and tax arrangements. In the construction professions there were more incidences of such sophisticated organization types as incorporated company, closed corporation, and one instance of a limited liability company. There were companies in which the partnerships had equity, which were limited liability companies.

These were involved in related diversified activities such as project management, interior design, landscape architecture and town-planning among the construction professions.

Environmental tracking was found to be low among attorneys, relative to other professions. This reflects the fact that attorneys are probably the least threatened by changes in the environment such as competition.

Boundary spanning was high in organizations of both the reputable, mildly innovative organizations and the innovative organizations.

Conclusion

The analysis of the three questionnaires has resulted in a degree of simplification of the underlying concepts and has categorised the professional organizations into four or five groups according to their specific characteristics along these concepts. In the next chapter, the integration of the different aspects of the professional organizations is attempted.

CHAPTER 6

RESULTS AND ANALYSIS - PART 2:

INTEGRATION INTO GROUPS - ORGANIZATIONAL EFFECTIVENESS, INDUSTRIALIZATION AND THE MAISTER MODEL

6.1 Introduction

Firstly, this chapter contains the integration of the results of the preliminary data analysis of Chapter 5 into a consolidated and integrated set of quantitative attributes of each group of professional organizations.

Secondly, the outcome of this integration are discussed relative to the theory base of the research, and any variations from the theory are considered in so far as these could be explained as a consequence of the identified attributes of the professional service organizations.

Thirdly, those variables which contributed to the proposed model of organizational effectiveness and industrialization are examined for each of the integrated groups, and the findings assessed relative to the integrated groups of professional organizations.

6.2 An integrated configuration of profiles comprising professional organization, strategy, and top management team

6.2.1 Contribution of the attitude scales

In Chapter 5, each of the attitudinal scales in the questionnaires was subjected to factor analysis in order to reduce the variables to a number of factors which could best describe the underlying meaning. This resulted in a three factor solution for the perception of environmental uncertainty, a five factor solution of the values, and a four factor solution of the image of the professional firms.

The factor scores from each of the above factor analyses were saved, and a cluster analysis of the factor scores of these twelve factors was performed, with various possible cluster solutions being examined, from four clusters to seven clusters (Appendix 22). (It will be recalled from Chapter 4 that cluster analysis is an exploratory technique, which sorts individuals into groups according to their distance from each other in a multi-dimensional space defined by their scores on specified attributes. The technique shows the improvement in variance that is achieved as individuals are added to clusters, or clusters are split in order to be amalgamated with others. It is therefore a matter of theoretically inrormed judgement to establish how many clusters comprise the most insightful solution.)

The number of firms in each cluster for these four possible cluster solutions is illustrated in Table 6.1 as follows:

Table 6.1

Various possible cluster solutions

	Four	Five	Six	Seven
% Variance	24.37	30.70	37.43	40.29
Cluster 1:	32	8	23	17
Cluster 2:	5	14	10	5
Cluster 3:	7	18	1	16
Cluster 4:	4	4	5	2
Cluster 5:		4	4	3
Cluster 6:			5	4
Cluster 7:				1

Since the theory had suggested a four part taxonomy, it was tempting to choose this solution. The actual applicability of available theory to the particular case of professional firms was an open issue, and it had therefore been resolved that an inductive approach would be adopted, in which the data would ultimately shape the interpretation.

As can be seen from the above table, a four cluster solution, on the one hand, resulted in thirty two of the professional organizations falling into one cluster, and with the remaining organizations falling into much smaller clusters: five in a second cluster, seven in a third cluster and four in the fourth. On the other hand, both the six cluster solution and the seven cluster solution resulted in one cluster which contained only one firm, with a large number of firms falling into two clusters.

By contrast, a five cluster solution promised to be reasonably close to what the theory had to offer; and avoided consigning some firms to outliers on the one hand, or clumping them into vast and undifferentiated groupings on the other. This seemed to be the most

balanced and any additional clusters only served to highlight differences between cluster solutions which made some firms outliers. Thus, although the five cluster solution accounted for somewhat less of the variance than the six or seven cluster possibilities, it was the most satisfactory according to a plausible mix of criteria.

The five cluster solution, based on the three plus five plus four simplified factors indicating the perceptions, values, and images of the firms respectively, was taken as the foundation for further integration. The next step is to uncover the nature of each group according to the respective sets of simplified factors.

Beginning with the three factors extracted from environmental uncertainty, the simplified factor scores are given in Table 6.2. The differences between the five groups are illustrated graphically in Figure 6.1.

Table 6.2

Factor scores of perceptions of environmental uncertainty for five groups

	Group 1	Group 2	Group 3	Group 4	Group 5
Known Factors	-1.07	0.21	-0.02	1.33	0.17
Competition	-0.65	0.26	0.06	0.66	-0.55
Politico-economic factors	0.82	0.37	-0.32	0.21	-1.70
TOTAL:	-0.90	0.84	-0.28	2.20	-2.08
MEAN:	-0.30	0.28	-0.09	0.73	-0.69

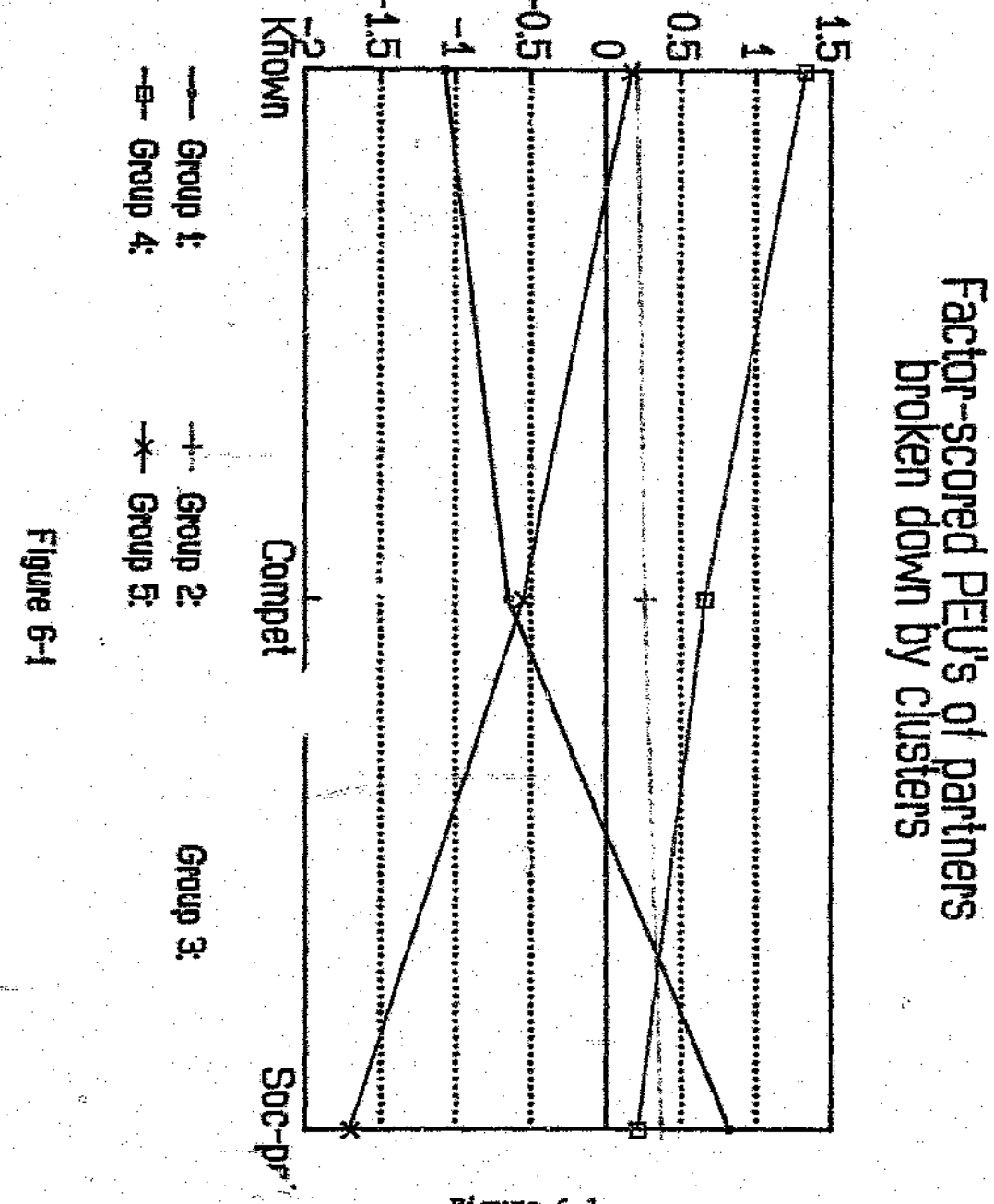


Figure 6-I

Figure 6.1

Factor-scored perceptions of environmental uncertainty, broken down by groups

The graph is especially helpful. It shows that Group 3 (the yellow line) is fairly neutral in its perceptions relative to the other groups, running close to the zero line in all three respects, namely known uncertainties, including known competition, unknown competition, and socio-political uncertainties. Above it are Group 4 (the red line) which exhibits the most environmental uncertainty overall, compared to the other groups; and Group 2 (the green line), which is also above the zero reference line in all three respects.

Looking below the line, one sees that Group 1 (the blue line) exhibits the lowest aggregate uncertainty, being well below zero in two of the three respects; but, interestingly, being the highest of all in the third respect, socio-political uncertainty. Group 5 (the black line) presents a neat contrast to Group 1, in that it is also below the zero line in two respects, but it lowest of all on socio-political uncertainty.

Turning now to the second set of simplified factor scores, those for values similarly presented in Table 6.3, and graphically in Figure 6.2.

Table 6.3

Factor scores of values of five groups

	Group 1	Group 2	Group 3	Group 4	Group 5
Service Orientation	-0.14	0.00	0.07	1.18	-1.22
Interpersonal Skills	0.61	-0.93	0.50	-0.15	-0.04
Leadership	-1.06	0.07	0.17	0.60	0.50
Credibility	-0.56	0.38	0.17	-0.45	-0.54
Strength	0.45	0.20	0.16	-0.10	-2.24
TOTAL:	-0.70	-0.28	1.07	1.08	-3.54
MEAN:	-0.14	-0.06	0.21	0.22	-0.71

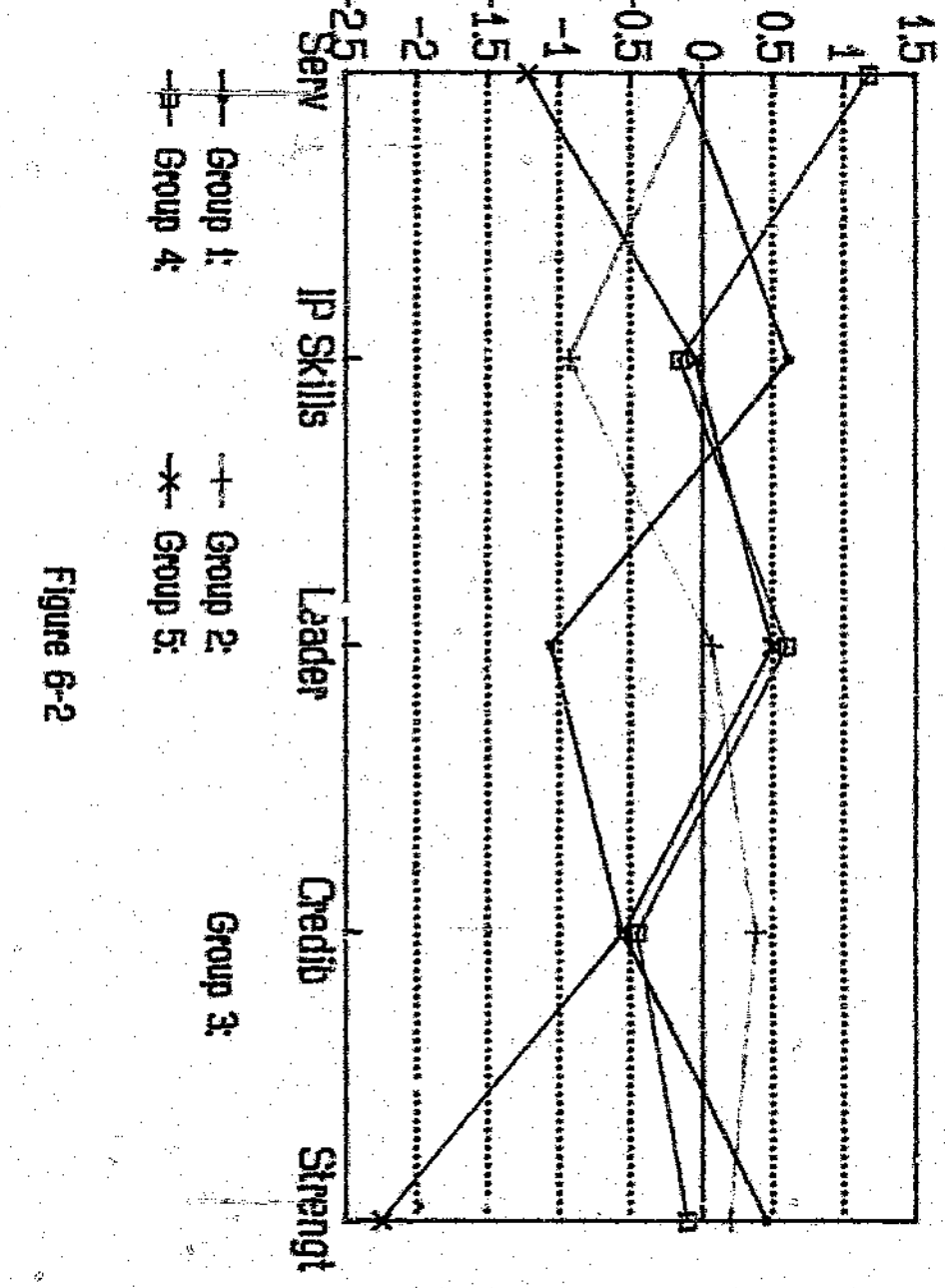


Figure 6-2

Figure 6.2

Factor-scored values of partners, broken down by clusters

Once again, it is only really possible to make some sense of the results with the help of the graph. It shows, firstly, that organizations in Group 3 and 4 (yellow and red respectively), share a higher overall positive value relative to organizations in the other groups. This is particularly true of organizations in Group 3, which have positive attributes on all the value factors, relative to the organizations in the other groups. In the case of the values Group 2 (green) is again close to Group 3, with the exception of the second respect, interpretive skills.

Firms in Group 1 (blue) are distinguished from the other four groups by the greater importance placed on the values of interpersonal skills and strength, and the lesser importance of leadership. Firms in Group 2 rely more on credibility than the other groups, place less importance on interpersonal skills and have a rather neutral attitude towards the other three values. The firms in Group 3 have rather neutral values overall, without any particular value system which characterizes it. This is also the case with the perceptions of this group discussed under the previous section. Group 4 firms place a high value on service orientation and a lesser value on leadership, but are fairly neutral towards the other values. Firms in Group 5 do not regard the values of service orientation, credibility or strength as impor ant, are neutral towards the value of interpersonal skills, while the only value which is regarded positively, relative to the other groups, is leadership.

Attending now to the third set of simplified factors concerning image, the sign of the factors obtained in the factor analysis of the image variables was examined, and the sign corrected from negative to positive as

demanded by the conceptual sense. The resulting factor scores for the four image factors is shown in Table 6.4, and is presented graphically in Figure 6.3.

Table 6.4

Factor scores of images of five groups

	Group 1	Group 2	Group 3	Group 4	Group 5
Service Quality	-0.14	0.42	0.23	-2.28	-0.05
Multi-Special	0.04	0.41	-0.04	-0.90	-0.39
Reputable	-0.27	-0.64	0.76	0.18	-0.80
Innovative	-0.19	0.41	-0.28	0.30	-0.05
TOTAL:	-0.56	0.60	0.67	-2.70	-1.29
MEAN:	-0.14	0.15	0.17	-0.68	-0.32

The above table indicates that organizations in Groups 2 (green) and 3 (yellow) have a positive image overall, though Group 3 is lower on reputability than Group 2 but that organizations in Group 4 (red) have a particularly negative image relative to the other groups. Organizations in Group 1 (blue) have a mildly negative overall image without any clearly defining characteristics, i.e. the scores are near to the zero line. Organizations in Group 2 are characterized by providing a quality service, are multi-specialist and are also innovative, relative to the other groups. Group 3 organizations are characterized by being highly reputable and also fairly characteristically provide a good service. Organizations in Group 4 are innovative but are least likely to provide a good service relative to the firms in the other four groups. The organizations in the fifth group are negative on all image factors, relative to the other firms. Organizations in Group 5

(black) are especially negative on the reputability factor, lower than most on multi-specialism, and near average - around the zero line - in the other two respects.

It is interesting to note, when one draws comparisons back with the values on Figure 6.2, that although the value of service quality was regarded as highly important for organizations in Group 4, their image did not reflect that this value was being carried out on an organizational level. Similarly, organizations in Group 2, who espouse credibility as a value system, are shown to be the least reputable. Group 3 organizations, who rely on interpersonal skills as the dominant value, are perceived to be the most reputable group. This may indicate that it is precisely those values which are lacking in an organization's value system which are regarded as the most important.

Since graphical analysis had proved to be helpful in considering separately the three sets of factors which differentiated the groups, correspondence analysis was performed on all twelve factor scores simultaneously in order to try and inspect the overall relationship among the five groups. The results are indicated in Table 6.5.

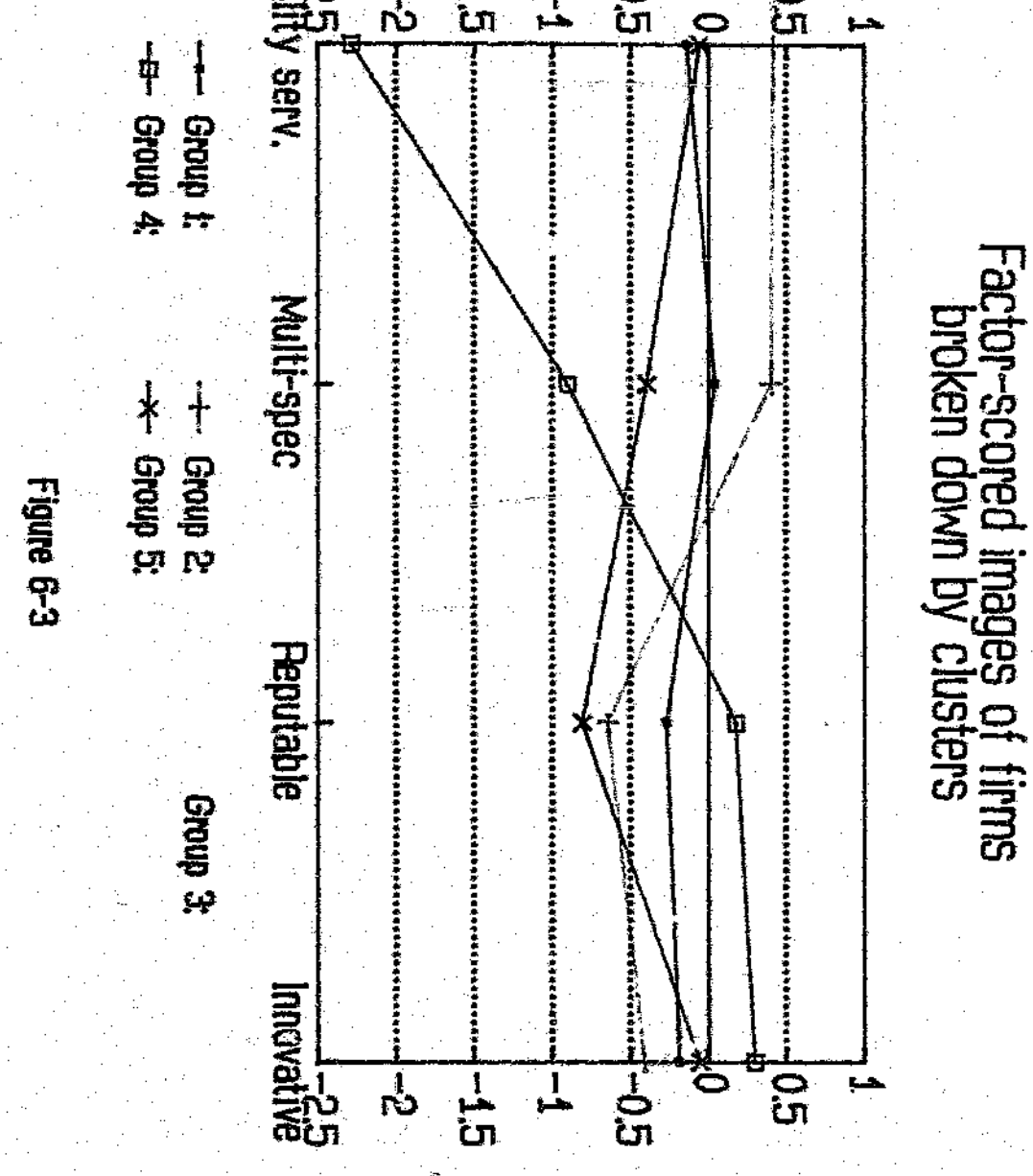


Figure 6-3

Figure 6.3

Factor scored images of firms broken down by clusters

Table 6.5

Correspondence analysis of five groups

Co-ordinates	Eigenvalue	Individual	Cumulative
1	0.02080	42.81	42.81
2	0.01984	40.83	83.64
3	0.00571	11.75	95.40
4	0.00223	4.60	100.00

It can be seen from the above table that the first two co-ordinates between them delineate 83.64 per cent of the variance, the third covers another 11.75 per cent. The first two co-ordinates account for similar proportions of the overall variance, indicating that these axes are potentially unstable, although the plane defined by both of them is stable.

The contribution of the variables to the axes is presented as follows:

Axis 1

P:Socpol = perception of politico-economic factors (contribution = 21.3%)
V:Streng = value of strength (contribution = 29.7%)
V:Servor = value of service orientation (contribution = 10.1%)

Axis 2

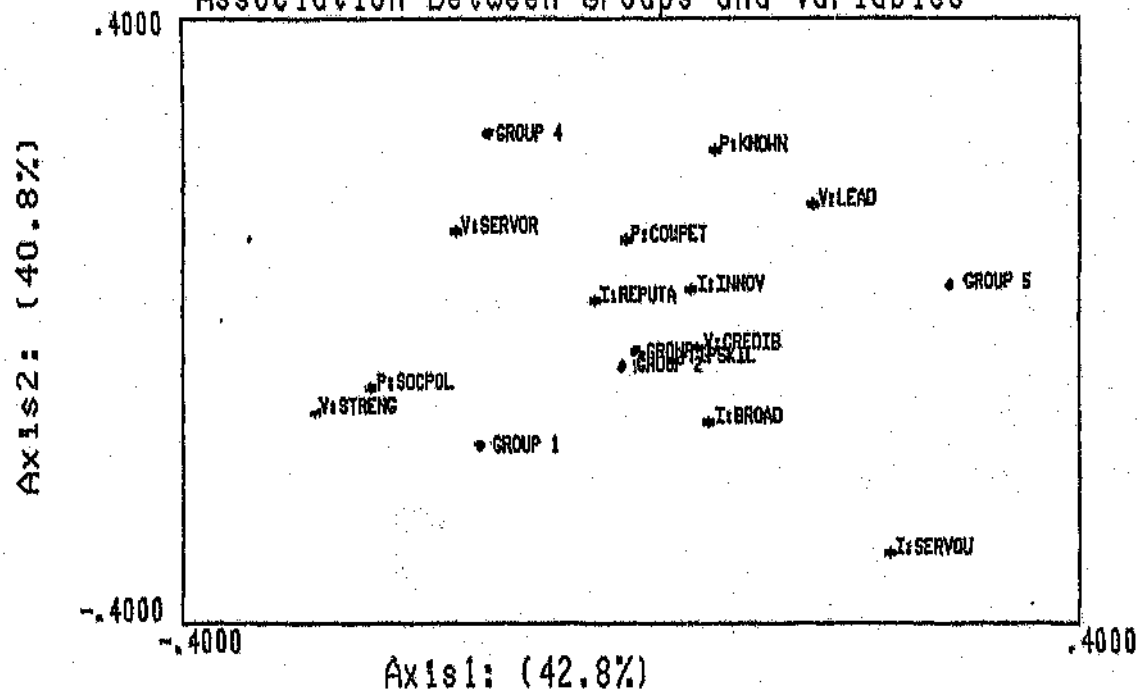
I:Servq = image of service quality (contribution = 36.3%)
I:Broad = image of broad services (contribution = 7.6%)
P:Known = perception of known factors (contribution = 23.05)
V:Lead = value of leadership (contribution = 10.6%)

Axis 3

I:Reput = Image of reputable (contribution = 21.5%)
V:IPsk = Value of interpersonal skills (contribution = 58.9%)

The association between the variables and the five groups is illustrated in the three graphs shown in Figure 6.4 below.

Figure 6-4
Association Between Groups and Variables



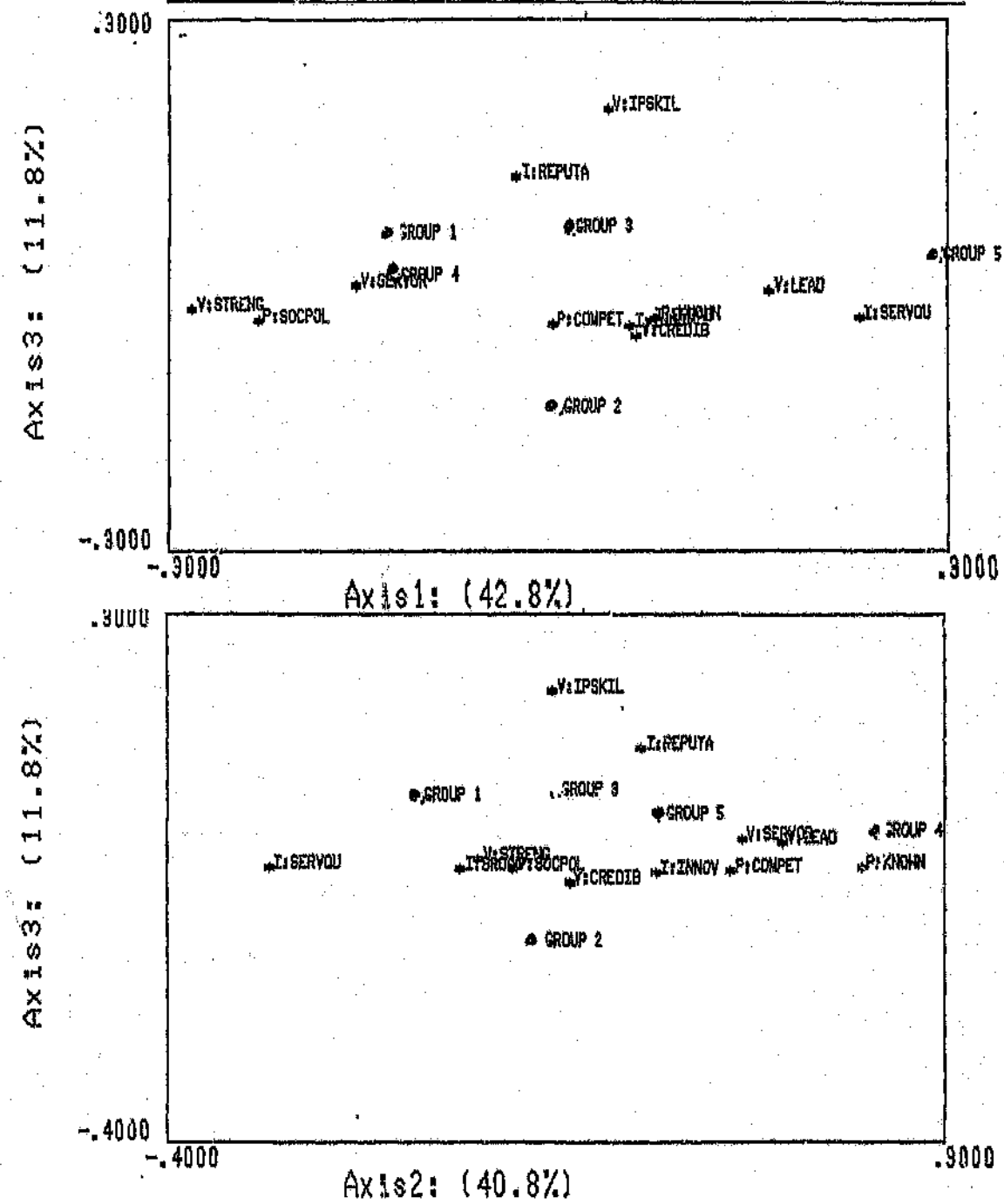


Figure 6.4

Association between groups and variables

The first graph which plots Axis 1 against Axis 2 shows that organizations in Groups 2 and 3 are very similar when seen from this perspective, and, in both falling near the zero point or "barycenter" of the two axes, do not differ much from the average across all the groups. This squares with our consideration of the three separate sets of simplified factors: in Figure 6.1, both were close to the zero line; in Figure 6.2, both only deviated appreciably from the zero line by being high or low on interpersonal skills respectively; and in Figure 6.3, the deviation from the zero line was in respect of reputability. These deviations are also captured by the correspondence analysis: for Groups 2 and 3 are seen to be separated from each other on the third dimension, and we notice on the previous page that this third axis is indeed defined by the image of reputability and the value of interpersonal skills! This coincidence among the different forms of display is a remarkably sensitive corroboration of the patterning in the data.

This first graph also shows that Group 1 and Group 4 are alike, in line to the right of the diagram, here variables P:Socpol (perception of political uncertainty), V:Streng (value of strength), and V:Servor (value of service orientation). However Group 1 is differentiated from Group 4 by the vertical axis, in that Group 1 is very high on - i.e. close to - I:Servq (image of service quality) an attribute from which Group 4 is very distant. This differentiation was seen previously at the left hand edge of Figure 6.3.

As regards that vertical axis in the first plot, Group 5 is not very different from Groups 2 and 3. However, it lies well to the left along the horizontal axis, which

associates it for example with higher V:Lead (value of leadership) than those two groups, as seen separately for example in Figure 6.2.

Being near the origins, it follows that Groups 2 and 3 organizations are closely associated with a number of variables, but particularly closely to those of the perception of uncertainty of competition, the value of interpersonal skills and the images of multi-specialist, innovative and reputable.

We have already noted how the second graph serves to differentiate Groups 2 and 3 , which are otherwise close to each other in the primary plane. The second graph illustrates the relationship between the Groups and variables along the first and the third axes. On these axes, it can be seen that Groups 1 and 4 are similar and close to the perception of uncertainty of politico-economic factors, the value of service orientation and the value of strength.

The third graph illustrates the relationship between the groups and variables along the second and third axes. From this viewpoint the particularity of Group 4 becomes evident with respect to variables P:Known (perception of known uncertainty), as was evident on Figure 6.1.

Since it is difficult to conceptualize the positions of the five groups of organizations in the multidimensional space representing all of the twenty eight variables, their positions on the first three dimensions only, those of perceptions of environmental uncertainty, value and image, as represented by their factor scores, is illustrated in Figure 6.5 below.

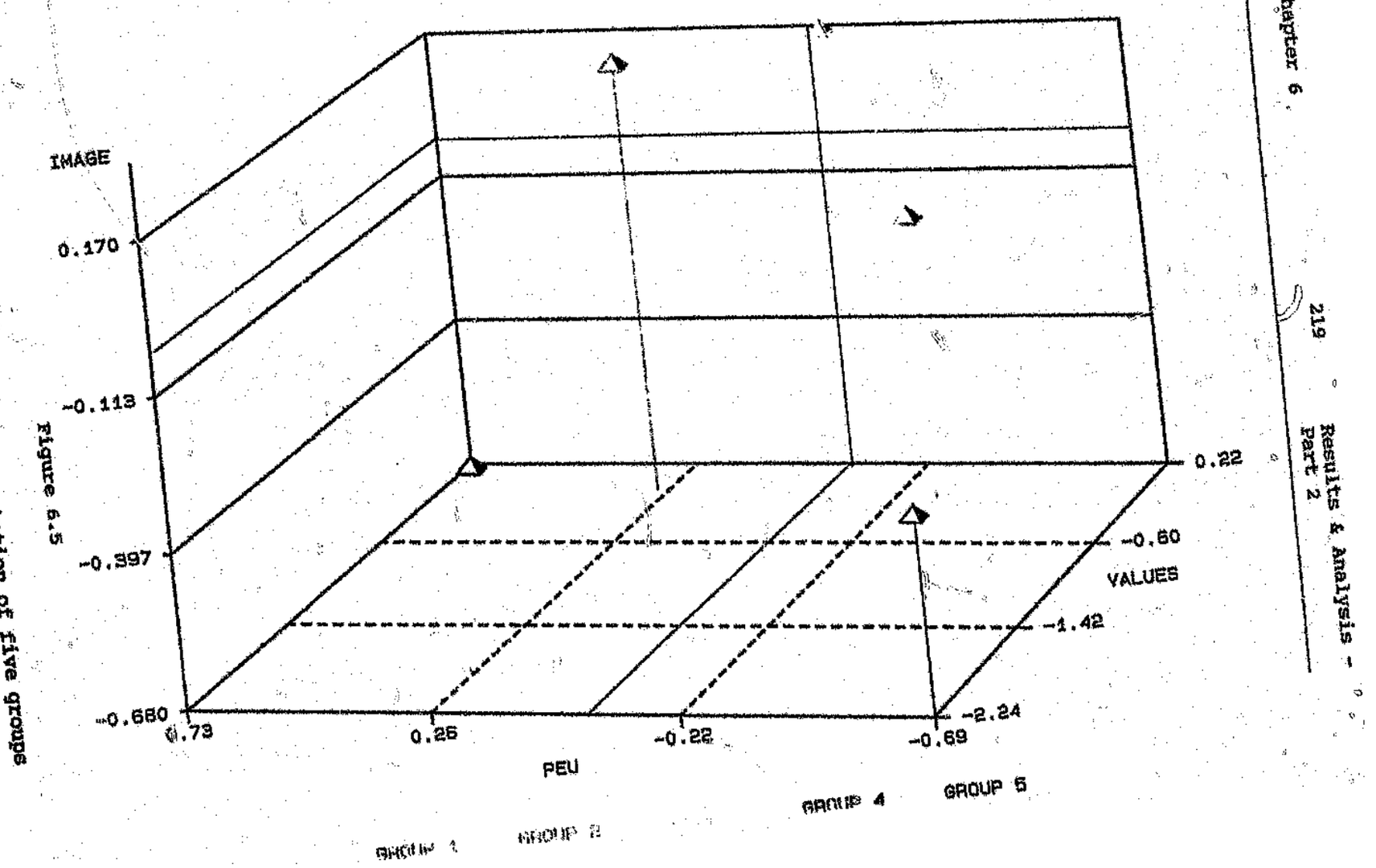


Figure 6.5 Three dimensional presentation of five groups

6.2.2 The influence of the demographic variables

It was further decided to examine the relationship between professional organizations - these having been grouped by their images, values and perceptions of environmental uncertainty - and the remaining information to hand, namely the values of the demographic variables for the separate groups. In addition there remained the variables in the additional strategy questionnaire, which will be examined in the following section.

In order to examine this relationship, the clustering of the cases into five groups was used as the basis of a discriminant analysis, which would indicate relative importance of, and the associations among, the nineteen demographic variables in relation to the clusters.

The results of this statistical manoeuvre are given in Appendix 23, and show that the demographic variables achieve an 84 per cent reduction in class error, with an overall Wilks Lambda of 0.0091, confirming a high predictability between these variables and cluster membership. The variable selection report shown in Appendix 23, indicates that there were ten of these demographic variables which had an F-probability of less than 0.1. Differences between these ten variables therefore discriminate between the five groups of firms. These ten variables are age, the experience profiles of the partners, some of the variables which indicated the time allocation, and time spent on overseas conferences and on giving lectures. The details of the variable selection report of these ten variables are outlined in Table 6.6.

Table 6.6

Variable selection report of ten discriminating demographic variables and cluster membership

Variable	R^2-Ad	F-Value	F-Prob	R^2-Xs
Age (yrs)	0.299	2.6	0.0644	0.6429
% Experience in public sector	0.389	3.8	0.0153	0.7515
Experience in academia	0.291	2.5	0.0720	0.8302
Experience in other firms	0.387	3.8	0.0158	0.4528
Experience in own firm	0.436	4.6	0.0065	0.6244
Hours. Client socializing	0.317	2.8	0.0495	0.6347
Technical work	0.440	4.7	0.0060	0.8249
Total work	0.437	4.7	0.0063	0.8811
No. Overseas conferences	0.340	3.1	0.0350	0.4693
Hours Giving lectures	0.350	3.2	0.0276	0.5084

A check was carried out on whether a four cluster solution would have given a better solution. This was done by performing a discriminant analysis procedure between the cluster identity group membership of the four cluster solution and the demographic variables. This did not give a satisfactory solution, which was a reassuring confirmation that the theoretically and intuitively formed choice of a five cluster solution was suitable.

A further check on which of the demographic variables discriminated between the groups was done by using one-way analysis of variance procedure between the demographic variables for the respective groups. The results of this test are summarized in Appendix 24, where the variables which show a high variance between the cluster, as indicated by the probability greater than F of less than 0.1, are highlighted with an asterisk. It can be seen that the same ten variables are shown to discriminate between the five groups.

For each of the ten demographic variables, the mean value across the clusters, as well as the Z- scores for each cluster, were calculated. This is analogous to the calculation of factor scores in the course of factor analysis of the attitudinal scales, and indicate the extent to which each cluster varied from the mean. The point of the exercise is to allow one to assess the salience of one or other demographic variable in differentiating or likening the various groups. These Z-scores are listed in Table 6.7 below, and illustrated graphically in Figure 6.6.

Table 6.7

Z-Scores for ten discriminating demographic variables

Variable	Group 1	Group 2	Group 3	Group 4	Group 5
Age (yrs.)	-0.46	-0.53	-1.10	1.28	1.11
% Experience in public sector	0.04	-0.61	-0.76	-0.60	1.92
Experience in academia	1.48	-0.25	-1.57	-0.14	0.49
Experience in other firms	0.41	1.83	0.19	-0.53	-1.08
Experience in own firm	0.14	0.24	0.72	0.84	-1.93

Hours Client socializing	-0.61	0.98	1.13	0.06	-1.55
Technical work	0.49	0.60	-0.44	1.09	-1.74
Total work	0.49	0.41	0.28	0.79	-1.97
Overseas conferences	-0.36	0.28	1.81	-1.00	-0.72
Hours Giving lectures	1.33	-0.69	-0.50	1.05	-1.18

Relying again on the graphical representation, one sees, working from left to right, that organizations in Groups 4 and 5 have the highest age, while organizations in Groups 2 and 3 have a relatively lower mean age. Group 5 organizations have the highest experience in the public sector, with those in Groups 2 and 3 having the lowest experience in this sector. Group 1 organizations have the highest experience in the academic environment, followed by Group 5, with Group 3 having the lowest experience in this sector. Organizations in Group 2 have the highest experience in organizations other than their own, with Group 5 organizations having the lowest experience in alternative firms. Organizations with the highest tenure appear in Groups 3 and 4, with low tenure being found among organizations in Group 5.

Organizations in Groups 2 and 3 spend more time socializing with clients than organizations in other groups, with organizations in Group 5 spending the least time socializing. Group 1 and 4 organizations spend more time on technical work and more total time, relative to organizations in the other groups. Organizations in Group 3 attend more overseas conferences than those in other groups, while Group 1 and 4 organizations spend more time giving lectures.

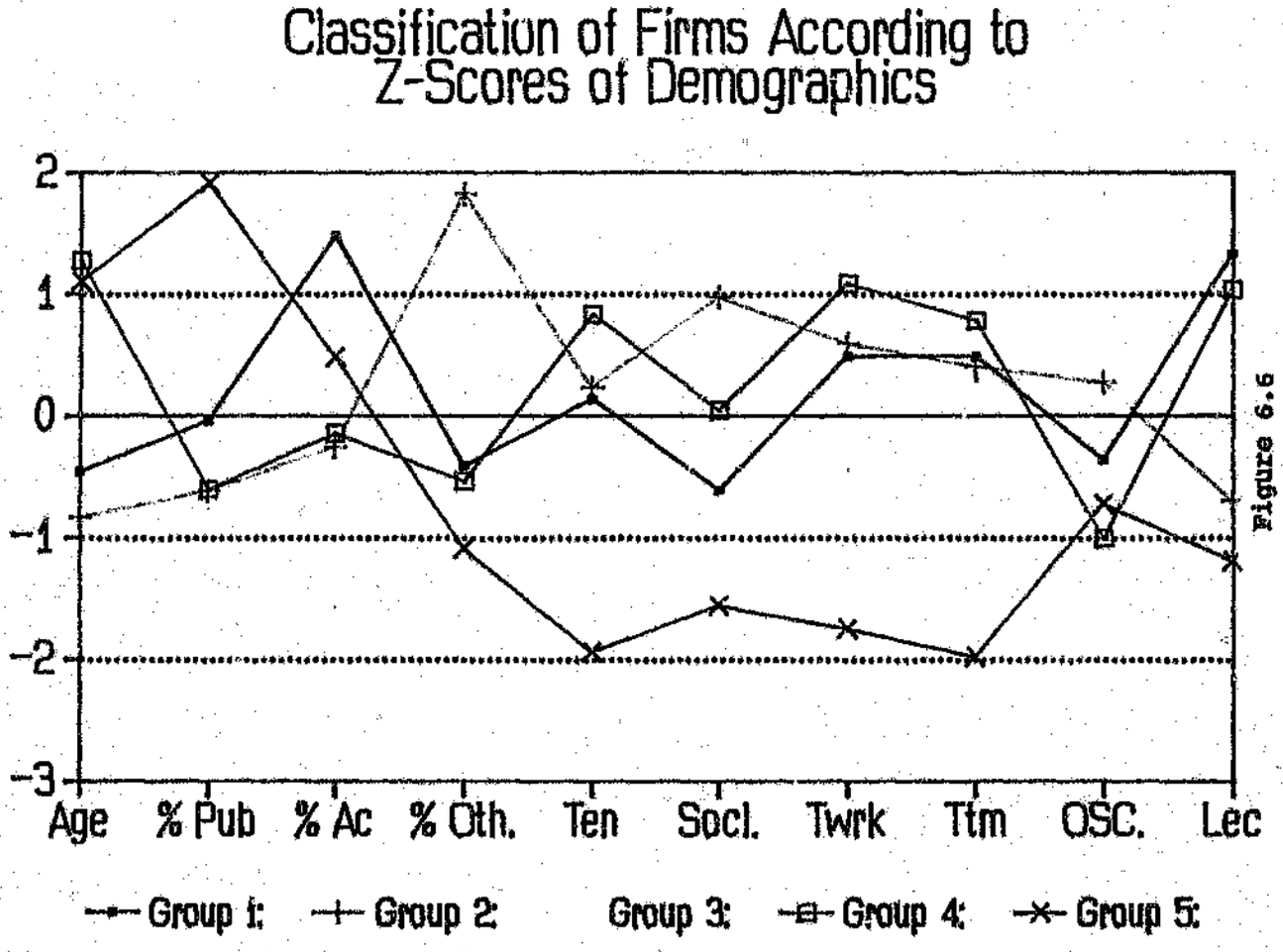


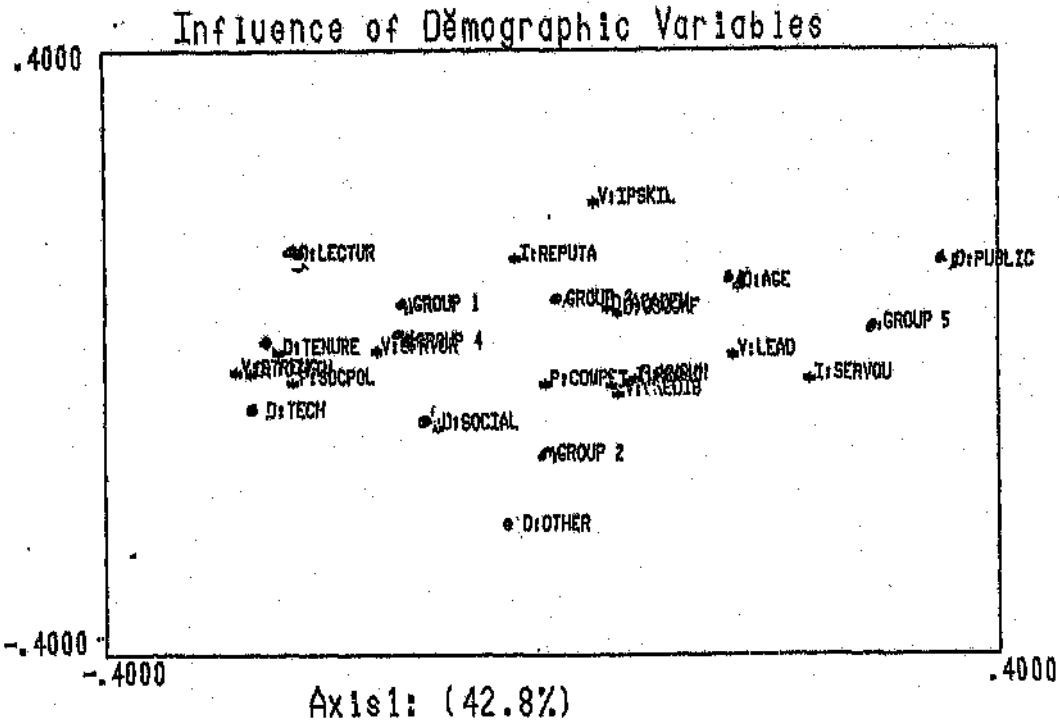
Figure 6.6

Classification of firms according to Z-scores of demographics

Figure 6-6

In summary, organizations in Group 1 are more academically oriented and hard working, while those in Group 2 have broader experience in other organizations and socialize more with clients. Organizations in Group 3 have a high tenure, spend the most time socializing with clients and attend more overseas conferences. Organizations in Group 4 have the highest age and tenure, are the hardest working and also give lectures.

The previous correspondence analysis, which displayed the patterning pertaining between the five groups and the three sets of simplified factors, can now be complemented by the addition of the above ten demographic variables as supplementary variables. The import of treating variables as supplementary is that they do not contribute to the initial analysis by which the axes and the distribution of the five groups is obtained, but that they are then superimposed upon that presentation to show their relationship to the mutual disposition of initial variable and groups. This is illustrated graphically in Figure 6.7, with the numerical manner in Appendix 25.



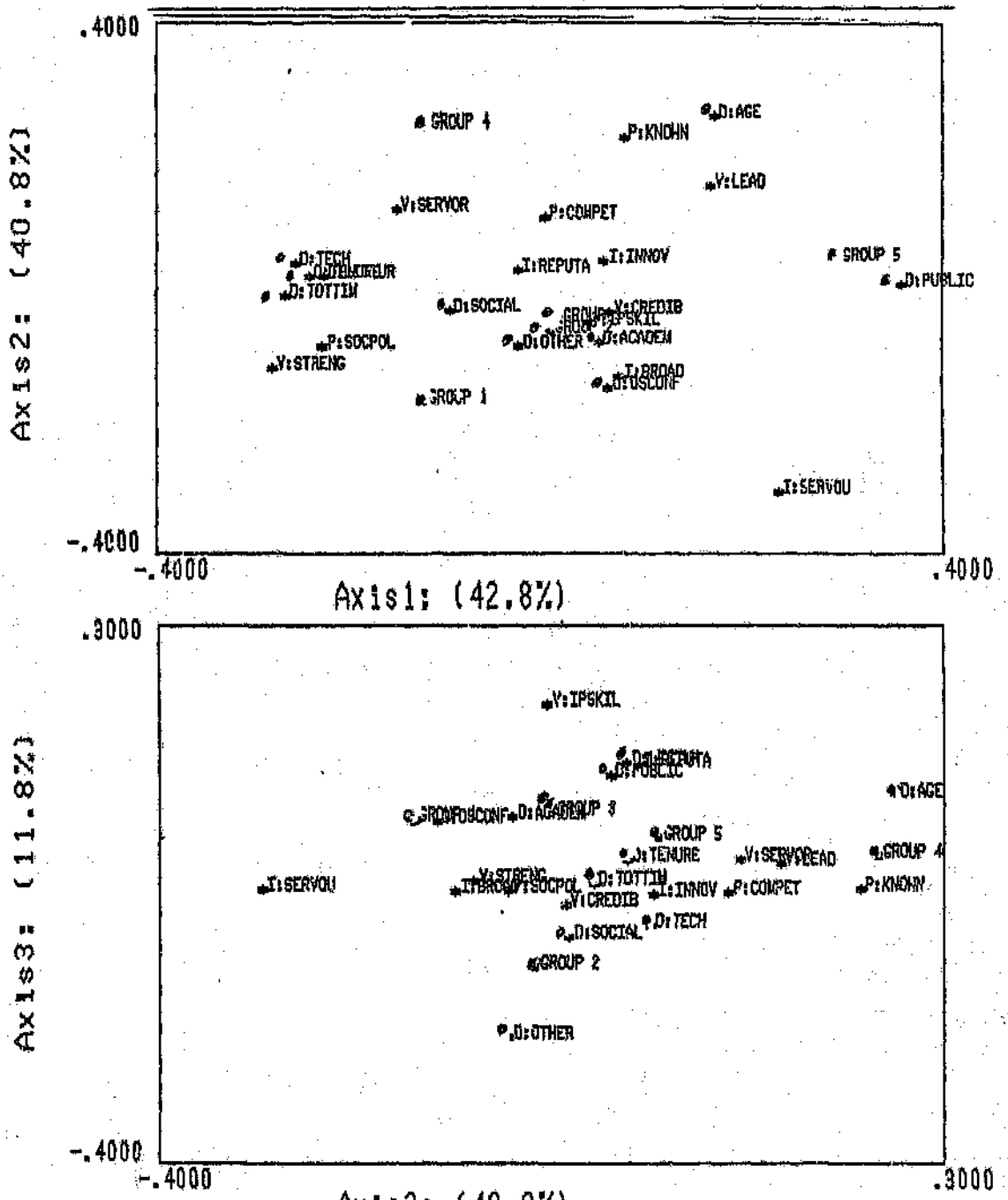


Figure 6.7

Correspondence analysis with demographic variables as supplementary variables

The results of this analysis show the addition to the previous graph of the demographic variables as supplementary variables. This shows that when plotting Axes 1 and 2, experience in the public sector is associated with Group 5, and academic experience, experience in other firms and socializing with clients is associated with Groups 2 and 3.

When plotting Axes 1 and 3, experience in the public sector is still associated with Group 5, socializing with clients and experience in other firms is associated with Group 2, and tenure and giving lectures with Groups 1 and 4. Group 3 is associated with academic experience and overseas conferences.

When Axis 2 is plotted against Axis 3, Group 4 organizations are associated with age, Group 5 organizations with tenure and total work time, Group 2 organizations with socializing with clients and experience with other firms and Group 1 with age.

6.2.3 The influence of the variables from the strategy questionnaire

As was stated in Chapter 5, the strategy questionnaire was returned by only thirty-four of the firms. The raw scores of this questionnaire, where present, were also subjected to a discriminant analysis procedure, using the cluster group membership as the dependent variable. This analysis did not give a satisfactory solution and there were no strategy variables which contributed significant extra discrimination between the cluster groups. This is shown in Appendix 26 where it can be seen that there

were no variables which had an F-probability of less than 0.1, although the overall reduction in class error due to X's was 85.5 per cent and the overall Wilks Lambda was 0.0135.

It may be mentioned that during interviews with the partners of organizations in different professions it became evident that the type of profession was having an influence on some of the variables such as the technological gearing or people gearing, the diversity of branches and services. For example, accounting firms had many more audit managers and audit seniors at the second level of the organization than legal firms had managers; medical, legal and architectural firms seldom had an extensive national distribution, relative to accounting and engineering firms; and there were differences between radiology and pathology firms in their gearing, within the same profession.

On the basis of this qualitative insight, discriminant analysis was attempted using the type of profession rather than the group clustering as the dependent variable. As can be expected, there was a much higher predictability between certain variables using the membership of the profession as the predictor variable. The reduction in class error due to X's was 100 per cent, there were no mis-classified variables, and the overall Wilks Lambda was 0.0002. Six of the variables in this questionnaire had an F-probability of less than 0.1. The results of this analysis are shown in Appendix 27. The six strategy variables which have an F-probability of less than 0.1 and which therefore discriminate between the six professions are illustrated in the variable selection report for these six variables in Table 6.8.

Table 6.8

Variable selection report for six strategy variables which discriminate between professions

Variable	R^2-Ad	F-Val	F-Prob	R^2-Xs
No. of branches	0.580	2.8	0.0808	0.6928
Diversification	0.798	7.9	0.0030	0.8558
Staff/partner	0.654	3.8	0.0351	0.9420
Sec.lev./partner	0.675	4.2	0.0264	0.9091
R & D	0.598	3.0	0.0668	0.4888
Bound. spann.	0.687	4.4	0.0224	0.6736

The import of these two discriminant analyses, one unsuccessful and one successful, is that similarities among professional firms across the different professions is sufficient in respect of perceptions of environmental uncertainty, values, image and certain demographics for them to form significant trans-professional groups, as a matter of empirical fact. However, in regard to importantant strategy variables, the differences between the professions are more noticeable, so that the relevant empirical groupings respect rather than transcend professional boundaries. However, given the prior differentiation of the trans-professional groupings, it remained possible to investigate how they might vary for the six strategy variables that were found to be noteworthy during the latter discriminant analysis.

Accordingly, the mean values for the six variables for the organizations belonging to each cluster were calculated, and the Z-scores for each of these six variables also calculated for each cluster. (The reservation must be noted that the strategy data were

available for only thirty four of the forty eight professional firms, the following strategic characterizations should be treated with circumspection.)

Although the complete data were not available and assumptions regarding the generalizations for the clusters had tc be made. A plot of these Z-scores is illustrated in Figure 6.8 below.

From this plot it can be seen that Group 1 and 5 organizations have a high percentage of standard services while Group 2 and 3 organizations and particularly Group 4 organizations are much more diversified. Group 3 organizations have more branches relative to those in other groups, while Group 1 organizations are highly geared with people and Group 4 organizations not highly geared with people. Groups 1 and 4 organizations have a high percentage of R & D relative to the other groups, while Group 5 organizations exhibit high boundary spanning activity.

Once again correspondence analysis was performed on the twelve factor scores of the five groups of organizations, but now with the six strategy variables rather than with demographic variables being introduced as supplementary. The graphical superposition of the six strategy variables on the relationship between the groups and the twelve factor scores is illustrated in Appendix 28 and serve to corroborate the separate analyses.

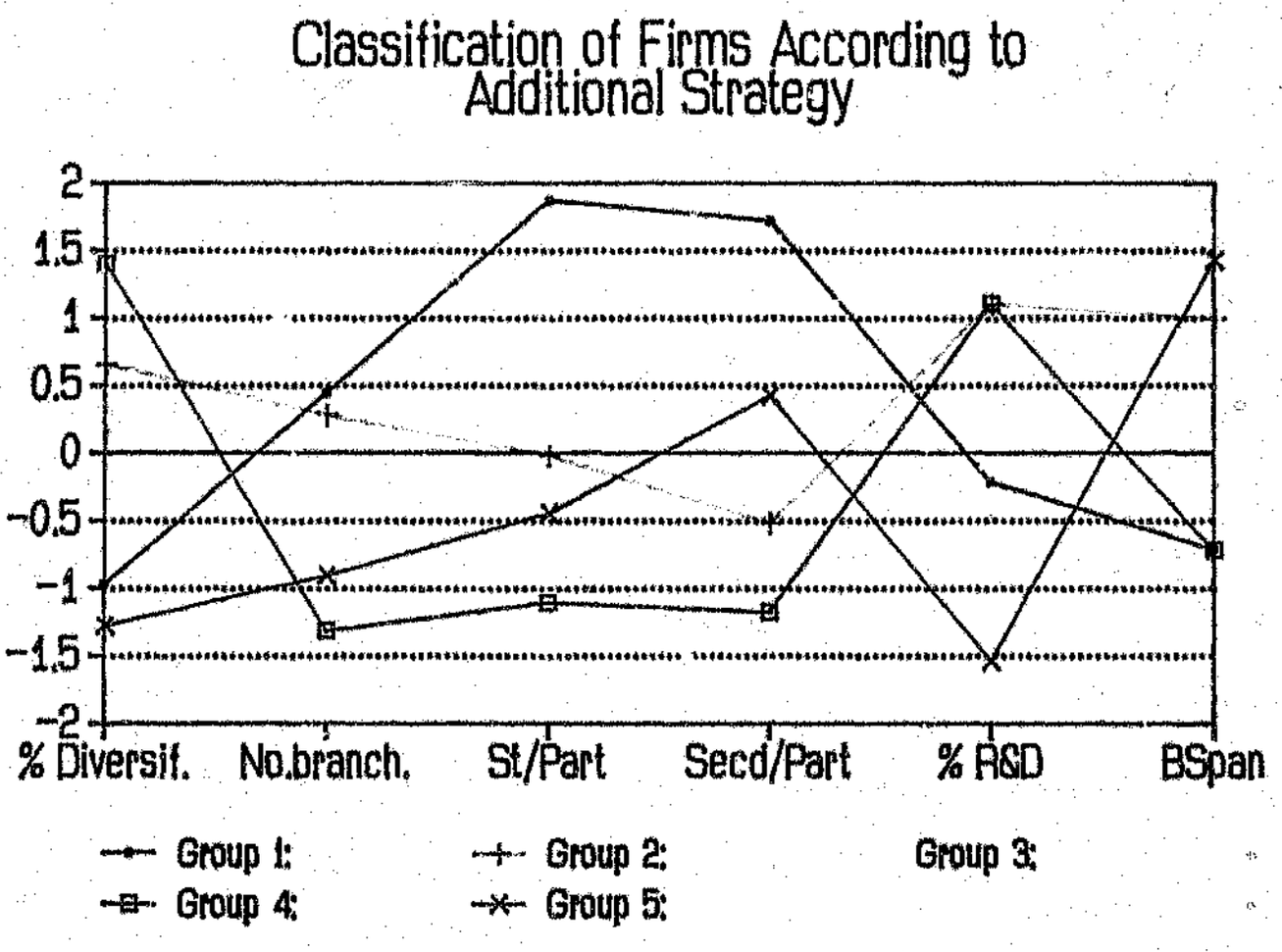


Figure 6.8 Plot of z-scores of additional strategy variables

Figure 6-8

The graphical presentation of Axis 1 plotted against Axis 2 shows that Group 1 organizations are associated with high gearing and a high number of branches; organizations in Groups 2 and 3 are not associated with any of the strategy variables; Group 4 organizations are associated with diversification outside of standard services, and those in Group 5 are associated with high boundary spanning behaviour.

By plotting Axis 1 against Axis 3, Group 2 organizations are shown to be associated with diversification, those in Group 5 with boundary spanning, and those in Group 1 with gearing.

The third plot of Axis 2 against Axis 3 shows the relationship between diversification and Group 4, boundary spanning with Group 2, and high number of branches and high gearing with Group 1.

6.3 Summary

At this stage it may help to recapitulate the statistical journey covered in this Chapter. Firstly, we examined the differences among the five groups separately along the axes of perceptions of environmental uncertainty, values and images. Next, a three dimensional representation of the differences between these groups along the three axes was examined, both by taking the axes pair-wise in correspondence analysis and with the help of a three dimensional plot. Then we showed how the demographic variables powerfully confirmed the five-group breakdown using discriminant analysis; and graphically illustrated the connections of the demographic variables to the three axes by representing the former as supplementary variables

superposed on the latter in a correspondence analysis plot. Fourthly, a discriminant analysis was again used to show that the additional strategy variables broken down by profession rather than within the five groups; nevertheless we could use correspondence analysis to project the strategy variables as supplementary points on the prior three dimensions.

With all this behind us, the summarized quantitative information for each cluster along the accumulated 28 variables, now presented as Z-score deviations from a mean, is shown in Table 6.9 below.

Table 6.9

Quantitative information on five groups

	Type 1	Type 2	Type 3	Type 4	Type 5
Image:					
Service Quality:	-0.14	0.42	0.23	-2.28	-0.05
Broad Based:	0.04	0.41	-0.04	-0.90	-0.39
Reputable:	-0.27	-0.64	0.76	0.18	-0.80
Innovative:	-0.19	0.41	-0.28	0.30	-0.05
Total:	-0.56	0.60	0.67	-2.70	-1.29
Mean:	-0.14	0.15	0.17	-0.68	-0.32
Perceptions of Environmental Uncertainty:					
Known Factors:	-1.07	0.21	-0.02	1.33	0.17
Competition:	-0.65	0.26	0.06	0.66	-0.55
Politico-economic:	0.82	0.37	-0.32	0.21	-1.70
Total:	-0.90	0.84	-0.28	2.20	-2.08
Mean:	-0.30	0.28	-0.09	0.73	-0.69

	Type 1	Type 2	Type 3	Type 4	Type 5
Values:					
Service Orientation:	-0.14	0.00	0.07	1.18	-1.22
Interpersonal skills:	0.61	-0.93	0.50	-0.15	-0.04
Leadership:	-1.06	0.07	0.17	0.60	0.50
Credibility:	-0.56	0.38	0.17	-0 45	-0.54
Strength:	0.45	0.20	0.16	-0.10	-2.24
Total:	-0.70	-0.28	1.07	1.08	-3.54
Mean:	-0.14	-0.06	0.21	0.22	-0.71
Demographics:					
Age:	-0.46	-0.83	-1.10	1.28	1.11
% Public Sector	0.04	-0.61	-0.76	-0.60	1.92
% Academic	1.48	-0.25	-1.57	-0.14	0.49
% Other experience	-0.41	1.83	0.19	-0.53	-1.00
Tenure	0.14	0.24	0.72	0.84	-1.93
Social. clients:	-0.61	0.98	1.13	0.06	-1.55
Technical work:	0.49	0.06	-0.44	1.09	-1.74
Total time:	0.49	0.41	0.28	0.79	-1.97
Overseas conferences	-0.36	0.28	1.81	-1.00	-0.72
Lectures:	1.33	-0.69	-0.50	1.05	-1.18
Strategy:					
% Diversif. services:	-0.97	0.66	0.16	1.41	-1.27
No. of branches:	0.44	0.29	1.48	-1.31	-0.90
Staff/Partner Ratio:	1.87	-0.01	-0.32	-1.10	-0.44
Partner/ second level:	1.72	-0.51	-0.47	-1.17	0.43
% R & D:	-0.21	1.11	-0.47	1.11	-1.53
Boundary Spanning:	-0.71	1.00	-1.00	-0.71	1.43
Industriali-zation:	-1.68	1.08	-0.55	0.59	0.59
Organizational Effectiveness:	-0.87	0.96	1.01	0.37	-1.47

By some strenuous inspection of the separate graphs, showing the respects in which the various groups were different from or similar to each other and the mean - and with some additional insights from the representations in the correspondence analyses - the following overall descriptions of each group were achieved. Each group was also assigned a short-hand label, reflecting its most noteworthy distinguishing features, or the mix or lack thereof. By this means, the groups may be highlighted as "sentient", "capable", " reputable", "uneven" or "amorphous". These characterizations are laid out below. (The precise numerical breakdown of professions falling within each group, e.g. architectural, legal, etc., is given in the following section, where the fit between the groups and the theoretical model of Chapter 3 is also discussed.)

Group 1: Sentient

This group of organizations is contextually aware, young and academically oriented. They have a higher perception of uncertainty for politico-economic factors than organizations in other groups, with a high value placed on interpersonal skills and moderate value on the importance of strength. These organizations have no particularly strong image which characterizes them relative to other groups.

The demographic profile shows that the members of this group have an academic background, give lectures and work hard. They have a below-average age, have less experience in other firms, socialize less with clients and attend fewer overseas conferences relative to the other groups. They therefore appear to be rather closed organizations, and are less likely to engage in co-operative strategies

than firms in the other groups. Firms in this group are highly geared with people, and have a fairly high number of branches.

The high value placed on interpersonal skills is probably related to the academic orientation and the high people gearing found in this group. These factors could account for the importance of this value. Since three out of eight of this group's membership are from the legal profession, this would also confirm the influence of the importance of interpersonal skills.

Group 2: Capable

Organizations in this group are uniformly able, multi-specialist, diversified and innovative socializers. They have a fairly high perception of uncertainty of all environmental factors. They espouse the value of credibility fairly highly and are fairly high on all image factors, particularly service quality, multi-specialization and innovation, relative to those in other groups. The members of this group have a high experience in other organizations and socialize more with clients, relative to those in the other groups.

The strategies of these organizations reflect a high diversification into non-standard services relative to the other groups and they exhibit a particularly active interest in research and development.

Group 3: Reputable

This group contains seven accounting, five legal, one quantity surveying and five consulting engineering organizations. Organizations in this group are not distinctive, but are reputable, widely dispersed, stable and are socializers.

They have no particular characteristics which identify them in terms of their perceptions of uncertainty. Their strongest value is interpersonal skills and their main image is that of being reputable. They have a high tenure, socialize with clients and attend overseas conferences to a greater degree than organizations in other groups. Since this group contains many of the large accounting and engineering organizations, it also has a large number of branches relative to the organizations in the other groups.

Group 4: Uneven

These organizations are dimly aware, geographically focused, nervous, service-oriented innovators.

This group is characterized by a high perception of uncertainty of competition and of known factors, the values of service orientation and leadership, and has the image of innovation to a greater degree than the other groups.

Its members are relatively old with a high tenure, spend a lot of time doing technical work and their total time spent on their jobs is high. Along with the members of Group 1 they also give more lectures than firms in other groups. They exhibit the greatest amount of diversification into non-standard services and as much

research and development as the firms in Group 2, and have the fewest branches, which makes them the most geographically focused.

Group 5: Amorphous

This group has no characterizing perceptions of environmental uncertainty, espouses the values of leadership moderately, and has a negative image of all four image factors, relative to the organizations in other groups. The members of this group have a high age, high experience in the public sector and experience in other firms. Apart from moderately high second-level gearing, they also have the highest boundary spanning behaviour of all groups.

6.4 Discussion of description of five groups relative to the theoretical model

The characteristic profiles of the five groups of organizations which have been identified as a consequence of the empirical research process have been given above. These profiles are now examined relative to the theoretical model developed in Chapter 3, and expanded with the demographic and additional strategic characteristics found. The central section of the theoretical model mentioned in Chapter 3 is illustrated as a reference again in Figure 6.9 below.

Environmental Determination

STRATEGIC OPTIONS		High	Low
	High	Quadrant 2 Large, multi-specialist	Quadrant 3 High risk, innovators
	Low	Quadrant 1 Cost leaders	Quadrant 4 No identity

Figure 6.9

Model of integrated strategy and organization

In order to facilitate the discussion of the empirical findings relative to the theory, certain assumptions are made regarding the interpretation of the axes of the above theoretical model representing organizational adaptation, relative to the axes identified as a consequence of the analysis of the data. In the theoretical model, the axis labelled environmental determination is interpreted as meaning the extent to which the environment has an influence on the adaptation of the organization.

In considering the association between the environmental determinism in the model and the perception of environmental uncertainty as measured in the attitudinal scale, the conceptual inference is made that where the environment has a high determining influence on the organizational adaptation, it will be reflected as a high degree of environmental uncertainty as perceived by its members. In other words, the latter is being treated as the operationalization of the former. High environmental determination will therefore be regarded as associated with a high perception of environmental uncertainty, and vice versa.

The theoretical model posited a continuum representing high to low strategic choice as being the orthogonal interacting variable to environmental determinism in the process of organizational adaptation. In the empirical findings this strategic choice is articulated in the form of the image of the organization, among partners and clients alike, whether positive, neutral, mixed or negative. The overall empirical findings of the images of the five groups are therefore interpreted as the expression of the degree of strategic choice exercised by the top management team along the continuum between high and low strategic choice.

The influence of the partners' values, demographic profiles and additional strategic variables displayed above are added in the discussion below as they assist this in this interpretation.

Group 1 consists of three organizations from the medical profession, three from the legal profession and one each from the architectural and accounting professions. If one examines the characteristics of the organizations in this group, it appears that their perceptions of environmental uncertainty are limited to uncertainty regarding politico-economic factors but are very low on known factors and on competition. In this respect they are therefore comfortable within their competitive environment.

Their values reflect the importance of interpersonal skills and strength. Since these organizations do not exhibit any particularly strongly defined image, this can be interpreted to mean that they have low strategic choice. They have a fairly high number of branches but offer a high percentage of standard services and they can therefore be categorized as exhibiting a standard cost leadership strategy. They are not differentiated and can therefore be regarded as possibly being positioned in the fourth quadrant of the theoretical model.

Hrebiniak and Joyce (1985) have described this position as a relatively placid situation where organizations have no coherent strategy, likening their strategies to

the "muddling through" and with the "garbage can" organizational behaviour. They further suggest that these organizations could have an array of internal competencies and strengths which are inappropriate to external opportunities and conditions. They represent the Reactors of the Miles and Snow (1978) typology.

Organizations in Group 2 include five architectural, two quantity surveying, two engineering, one accounting, two I , and two medical organizations. Since these organizations exhibit a high perception of uncertainty of all the environmental factors, it appears that there is a high degree of environmental determination. However, since there are also clearly defined and mixed strategic choices manifested in the strong image profile, there is also high strategic choice by the top management team. The values espoused by organizations in this group are of credibility, but they do not regard interpersonal skills as important as do the other groups.

The high degree of socializing with clients organizations in this group is indicative of a marketing orientation. Their closeness to their clients is then manifested in the wide diversification into non-standard services, which are the differentiation and customization to their clients' needs. The high research and development characterizing the organizations in this group reflect their innovative characteristics. They also have a moderate number of branches, and are thus fairly large overall. This group of organizations therefore falls into the second quadrant of the theoretical model.

According to Hrebiniak and Joyce (1985) organizations in this quadrant, in contrast to those in the fourth quadrant, operate in turbulent conditions. Although the environment appears turbulent, there is still strategic choice. They further suggest that certain environmental constraints such as high regulation in terms of legal constraints or ways of conducting business may severely affect organizational adaptation under these conditions, but that strategic choice remains high due to the ability of these organizations to choose single or multiple market niches within the given constraints, often through extensive advertising, lobbying and marketing activity.

Nine out of the fourteen organizations in this group are from the building and construction industry which is rather more than the proportion from this industry overall in the sample. It may be that features of the industry are operating as a determinant, and other organizations in the group exhibit some of the characteristics of this industry.

Group 3 consists of seven accounting, five legal and five engineering organizations, and one quantity surveying organization. Since their perceptions of environmental uncertainty are fairly neutral or negative, it is assumed that there is slightly low environmental determination. They exhibit a strong image of being reputable, but do not have other strongly defined image attributes. Their overall image is the highest of all the groups, which is interpreted as meaning that they exhibit the highest strategic choice.

These organizations are large, and thus could belong to the second quadrant of the theoretical model. They have a high number of branches and in this respect could be regarded as cost leaders and belonging to the first quadrant. The high number of branches and moderate value of interpersonal skills are shared with organizations in Group 1 which has been categorized as belonging to the fourth quadrant. They do, however, exhibit some considerable strategic choice so could also belong to the second or third quadrant and overall they appear to have attributes of all four quadrants. Most of the professional organizations in the sample fell into this group, indicating that reliance on their professional reputation remains the dominant choice of these organizations.

The organizations in Group 4 have the highest perception of environmental uncertainty, and are characterized by having an image of innovation which is supported by the highest research and development of all the groups. They offer the highest amount of diversified services but are the least broadly based, which reflects a focused strategy in Porter's (1980) sense. Their low gearing is further indicative of their relatively small size.

The values of this group of organizations reflect a strong service orientation and leadership. They are also somewhat older, work the hardest, and also give lectures. Because of their high environmental determination, overall low strategic choice, image of innovation and research and development, this group could probably be categorized into the first quadrant, that representing the Defenders of the Miles and Snow

(1978) typology. The group consists of three organizations from the architectural profession, which is not surprising in terms of the image of innovation, and one from the medical profession.

The characteristics of this quadrant include small organizations in imperfectly competitive niches, with limited managerial choice, although individuals may attempt to exercise options which mitigate against environmental demands and technological innovations may alter their ability to compete and affect their competitive advantage (Hrebiniak and Joyce, 1985). It may well be that the image of innovation exhibited by this group of organizations reflects their attempt at changing their domain or it may be the consequence of the fact that three of the four organizations are from the architectural profession with highly innovative values.

The four organizations in Group 5 have the lowest perception of environmental uncertainty and no clearly defined strategic choice which may be identified in its image, except that they are perceived to be less reputable and less broadly based than those in the other groups. The value of leadership is regarded as important and the demographic profile shows age and experience in the public sector. These organizations can thus be categorized as belonging to the fourth quadrant of the theoretical model which represents low strategic choice and low environmental determination as articulated in the perceptions of environmental uncertainty by the members of the top management team. There is a similarity between the organizations in this group and organizations in the first group, except for the

differences in their perceptions of the uncertainty of the politico-economic factor and their value profile. This can be seen by referring back to Figure 6.2.

They show the highest boundary-spanning behaviour relative to organizations in other groups, which may be a reflection of their niche position or their intent to move from this position to a more clearly identifiable strategic position; or it may be a specific characteristic of this quadrant. Two of the firms in this group were from the medical profession and two were from the engineering profession.

It is interesting to note the innovative profile of firms in Group 4 with its older demographic profile, since creativity is more often associated with a younger age profile as found in Groups 1, 2 and 3. However, Group 5, which is the least innovative, also consists of firms of the older profile. This discrepancy may be due to the high number of architectural organizations in Group 4 or it may well be that creativity is not necessarily associated with youth and that age may affect creativity either way.

It is of interest to note that no group was positioned in the third quadrant of the theoretical model where maximum choice and low environmental determination occur, where there is no lack of scarce resources, entry and exit barriers are low and where organizations may define and enact their own environments. However, it was pointed out that organizations in Group 3 exhibited attributes of this quadrant and it is likely that some of the organizations contained within this cluster have poised themselves to take advantage of this position but are still too constrained by such environmental determinants as regulation, a lack of resources and lack

of autonomy and control over others in the environment to fully exploit the advantages which this position offers. It may also be that competitors to the professional organizations in this sample have the advantage in this respect and occupy this position.

The three dimensional plot of the perceptions of environmental uncertainty, values and images of these five groups, presented in Figure 6.5, is now repeated below in Figure 6.10 to facilitate the following exposition of the relationship between the above empirical findings and the theoretical model. The five groups are superposed on the two dimensions of the theoretical model in positions relative to the strength of their perceptions of environmental uncertainty and their images in Figure 6.11. The additional attributes of these groups such as their values, demographic profiles and additional strategic variables, are not reflected since this would complicate the graphic representation. The contribution of the demographic variables to the profile of the top management team as this influences the strategic options found, are discussed separately in Chapter 8 where the findings of the research are related to the theory. This applies also to the additional strategy variables.

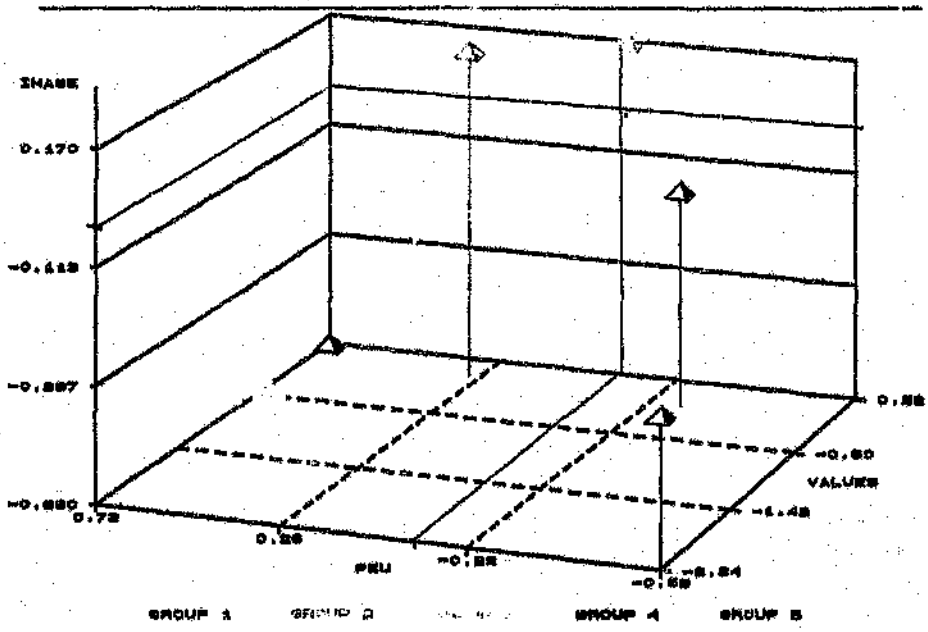


Figure 6.10

Three dimensional plot of five groups

Strategic options	Environmental determination: High	Environmental determination: Low
High	Quadrant 2 Large, multi-specialist Group 2 Capable	Quadrant 3 High risk Group 3 Reputable
Low	Quadrant 1 Cost leaders Group 4 Uneven	Quadrant 4 No identity Group 1 Sentient Group 5 Amorphous

Figure 6.11

Position of groups relative to the central section of the theoretical model

This then is the culmination of this Chapter, the integration of the empirically induced five groups as defined along the three axes of perceptions, values and image on the one hand, and the combined theoretical model from Chapter 3 on the other hand.

I have categorized three of the Groups into the "boxes" of the model, namely Groups 1, 2 and 4; I have shown how among the professional organizations in the data, as opposed to the organizations in the theoretical model, Group 3 appears to span a boundary between "boxes" of the theoretical model; and most interestingly, I have shown empirically how a third dimension has to be added to the model, i.e. the values, to distinguish Group 5 from Group 1 in quadrant 1 - though their similarities in certain respects place them in the same quadrant when only two dimensions are drawn.

This presentation of the integrated groups or archetypes of strategies, organizational characteristics, perceptions and values of the top management team concludes the achievement of this chapter and contributes to the first objective of the research. It has to remain a matter of speculation as to whether those professional organizations not included in the research, or those which constituted the non-response group, were also similar to those in these five groups or whether further groups may have been discovered within the typology.

6.5 Analysis of industrialization, organizational effectiveness and presence of the Maister model

6.5.1 Industrialization

The organizations in each group were tested against the set of variables which represented the model measuring the industrialization of the professions. The raw scores for each of the variables for each organization in each group were noted and the mean for each group calculated. Once again the Z-scores were calculated for each group. Since the lower the score the more industrialized the firms, the signs were reversed to assist in clarification. The findings for the organizations in each group are summarized in Table 6.10.

Table 6.10

Industrialization of each group

Group no.	Mean score	Z-score
1	17.75	-1.68
2	15.93	1.08
3	17.00	-0.55
4	16.25	0.59
5	16.25	0.59
Overall mean	16.64	
SD	0.66	

The above table shows that organizations in Group 2 are the most industrialized relative to those in the other groups, followed by those in Groups 4 and 5. Group 1 organizations are the least industrialized, followed by Group 3 organizations.

The convergence theories of industrialization as proposed by Kerr et al. (1960) suggested that conflicting interests in the emerging social order will be solved by the mechanisms created by it to resolve the conflicts. In a highly industrialized society managers, workers and government tend to share the establishment and administration of rules. In the analogy of the process of industrialization with the evolutionary path of the professions, this is clearly seen in the influence held by the state in the maintenance of the professions in their role in society through statutes and legislation.

Kerr et al. (1960) surmise that five distinguishable elites or power groups emerge in society in the course of industrialization. They state that each elite adopts a clear policy towards certain cultural factors and the economic constraints which shape the industrialization process, which tend to impart a unique character to these elites according to the priorities which they choose. They did not envisage the elites as being able to choose between different routes to different ends, but that the choice of priorities was evident in their character.

The following analogy can be drawn between these five elites and their strategies, and the five groups of organizations identified in the research:

According to Kerr et al., the Dynastic elite are characterized by an orientation towards tradition and the preservation of tradition in the face of the new industrial system. This elite may be regarded as analogous to the reputable group of professional firms, who have a reputable image and low industrialization.

The Middle Class elite is described by Kerr et al. as one with an economically individualistic ideology and espouse a structure which best permits them to pursue their gains. This group, which one expects to be the most industrialized, can be viewed as resembling the capable group of professional organizations.

Similarly, Kerr et al. distinguish Revolutionary Intellectuals as an elite which places great stress on economic progress and who have the fastest possible pace of industrialization. This elite would correspond to the prospector of the Miles and Snow typology, but which is not represented within the five groups found in this research.

Another group of elites which Kerr et al. distinguished was the Colonial Administrators, i.e. those who rely on the advantage of the mother country or ideology (in the case of the professions, the analogy of this ideology is equivalent to the professional ethic). This elite can be regarded as analogous to the organizations in the sentient group, who are the least committed to industrialization on the strength of the typifications in the previous section.

Finally, the National Leaders with national independence and progress are described by Kerr et al.. This elite shows high aspiration and promise but their progress at industrialization is at an uneven rate. In the light of the previous descriptions, this appears to correspond, by analogy, to the uneven group of professional organizations.

The amorphous group, who also show a high degree of industrialization and are distinguished from the sentient group in that they have relatively strongly negative values, does not appear to have an equivalent in this typology of elites.

This is, at best, a suggestive and impressionistic metaphor; but some of the characterizations from the industrialization process do seem to capture the corresponding style or modes of operation among the professional firms.

6.5.2 Organizational effectiveness

The variables which were used to define organizational effectiveness were as follows:

1. The congruence between self-image and image in the eyes of clients (i.e., intended strategy versus realized strategy, measured by the sum of the differences between the means).

2. The congruence between the image in the eyes of clients and the ideal of the clients (measured by the sum of the perceptual gaps between the means).

3. Quality of service (measured by the rating of the services provided by the organization, in the eyes of their clients).

4. The perception of the "success" of the organization.

5. Growth of the organization.

6. Morale or job satisfaction.

7. Cohesion versus consensus of values.

8. The perception of stability.

9. The value of human resources.

10. Training and development.

11. Participation.

12. Achievement emphasis.

The scores for these variables were added and mean scores and Z-scores calculated for each group, as with industrialization. The findings for this calculation are given in Table 6.11 below:

Table 6.11

Organizational effectiveness of each group

Group no.	Mean score	Z-score
1	55.75	-0.87
2	46.50	0.96
3	46.28	1.01
4	49.50	0.37
5	58.75	-1.47
Overall mean	51.36	
SD	5.04	

The above table shows that firms in Group 2 and 3 organizations, both of whom were shown to have high strategic options, are the most effective followed to a lesser extent by those in Group 4. Organizations in Group 1 and Group 5, both of whom are in the fourth quadrant of the model, that with no identity, are regarded as being less effective according to this calculation.

If one refers back to Table 6.9, and examines on which attributes the three effective groups differ from the two less effective groups, it can be seen that the effective groups have the following attributes in common: a high perception of uncertainty of competition, a positive service orientation value, a low experience in both the academic environment and the public sector, a high tenure in their own firm, a high amount of time spent socializing with clients and a high percentage of diversified services. This appears to reflect a greater awareness of competition, a greater awareness and closer contact with clients and their needs, and continuity of service.

The relationship between industrialization and organizational effectiveness is illustrated graphically in Figure 6.12. It is interesting to note that the most effective organizations, those in Group 3 are less industrialized than the other effective organizations. It is also interesting to note that the least effective Groups 1 and 5 contain five out of eight medical organizations, with those in Group 1 being less industrialized and those in Group 5 highly industrialized relative to the other groups.

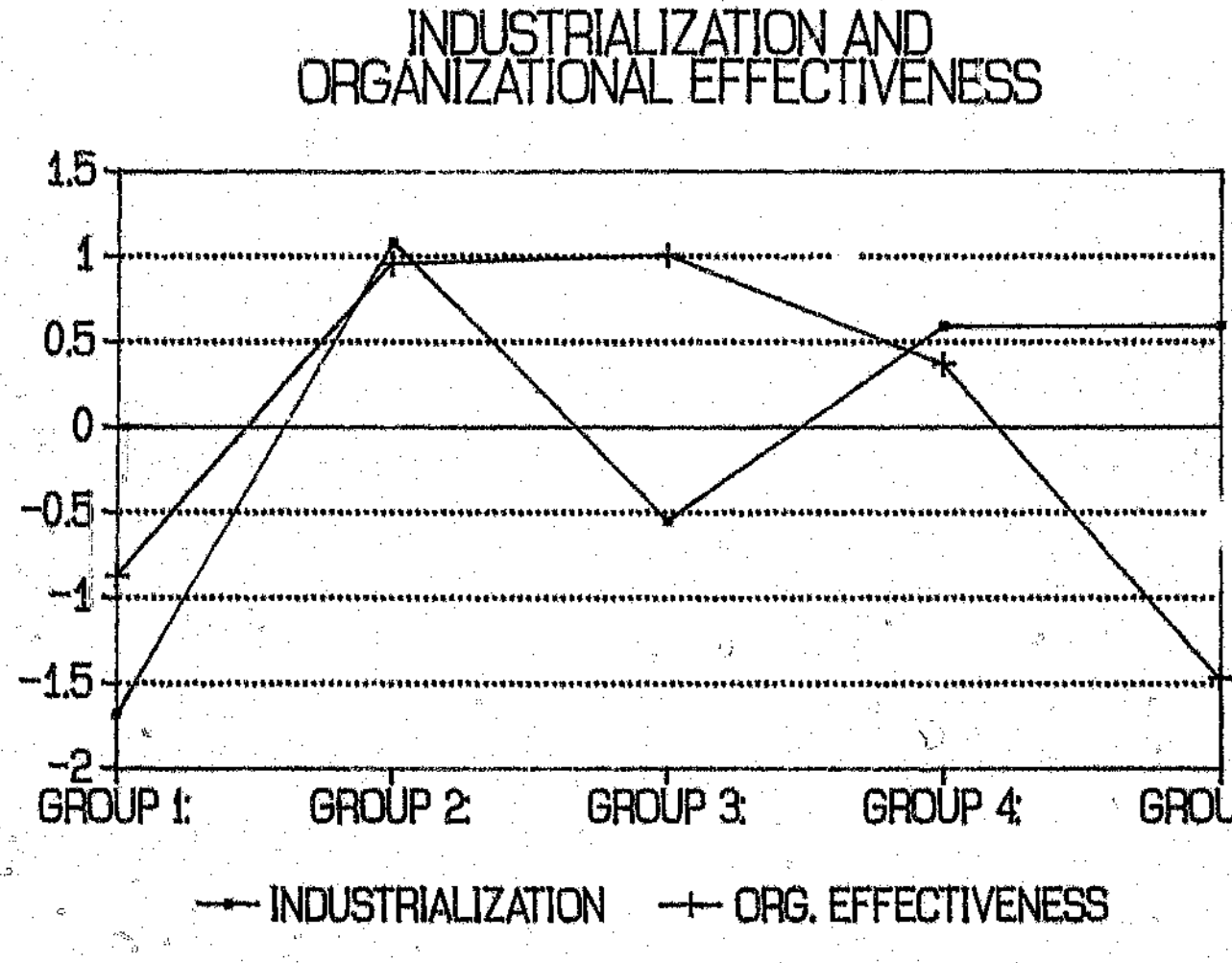


Figure 6.12 Relationship between industrialization and organizational effectiveness

Figure 6-12

The model which the research process generated as a proposed method of arriving at a measure of organizational effectiveness in professional service organizations reflects an integration of the measurements of the concept by various means. The self-perception, as has been stated, is equivalent to self-typing by the organization members; therefore their realities are reflected in this section of the measure. This has been suggested as an alternative to investigative inference as a method of classifying strategies and as a good method of identifying intended strategies (Snow and Hambrick, 1980).

The external assessment of organizations by stakeholders such as clients has similarly been suggested as a good method of determining realized strategies, and the gap between self-perception and perception by external entities represents the strategic constituents approach to determining organizational effectiveness.

The gap between the external perception of the organizations and the ideal organization reflects the gap between realized strategy and desirable strategy and highlights gaps in the organization's strategies which may be corrected. This gap was very small in effective organizations and slightly bigger, but not significantly so, in less effective organizations.

The model further contains elements of the systems approach (work force growth, market penetration) and the competing values approach (stability, cohesion, morale, value of human resources and growth). Certainly this integration of concepts has resulted in a model which reflects various approaches, and may in this sense capture different perspectives of organizational effectiveness.

6.5.3 The Maister model

In Chapter 3, reference was made to a particular model of professional organizations described by Maister (1984) as the "One-firm firm". According to Maister, professional organizations which exhibited these characteristics were found to be successful, but it was pointed out that there may well be alternative options. It was one of the objectives of this research to identify the presence of this type of organization as described by Maister.

The variables which therefore characterize the Maister model are presented here in Table 6.12.

Table 6.12

The Maister model

Culture:	
1	Loyalty
2	Teamwork
3	Unselfishness
4	Firm identity
5	Pride in Firm
6	Long hours
7	Client driven
8	Downplaying stardom
Elitism:	
1	Recruiting -high standards - intensive training
2	Challenging assignments early
3	Constant evaluation
4	Rewards tied to collective results
5	Grow own, rather than buy
Strategy:	
1	Avoid mergers
2	Controlled growth
3	Selective business pursuits
4	Aggressive marketers
5	Homogenous client base
6	Retain staff
7	Reward system tied to collective results
8	Invest in R & D

Management:

1	Consensus
2	Strong leadership
3	Continuity
4	Culture outlasts tenure of the leader

Each firm was tested for the presence or absence of each of the twenty-five attributes of the model. Organizations which had the highest scores were assumed to belong to the type characterized by the Maister model.

The analysis of the attributes of this model found in each of the five groups is illustrated in Table 6.13.

Table 6.13

Attributes of the Maister model in the groups

Group	Number of attributes found	No of firms
Group 1	11-15	8
	16-20	
	21-25	
Group 2	11-15	2
	16-20	3
	21-25	9
Group 3	11-15	3
	16-20	4
	21-25	11
Group 4	11-15	
	16-20	2
	21-25	2
Group 5	11-15	4
	16-20	
	21-25	

From the above table it can be seen that the highest number of high scores appears in Group 3, in Group 2, and to a lesser extent in Group 4.

A number of organizations conformed to this model of professional service organizations. Certain of the variables as defined in the model were not commonly found in all professions. For example, a large degree of internal strife was found in some professional service organizations and loyalty was sometimes at a low level. This fact, together with lowered morale found in some organizations, may have been due to the pressures exerted by the perceptions of external environmental uncertainty, or may reflect the individualistic nature of many professionals.

Stardom was another variable which was almost encouraged by some South African professional organizations, and which was particularly prevalent among the legal and architectural professions where individuals with specific expertise were given star status. Perhaps South Africans in general have a need for heroes and winners and perhaps the "the age of the heroes" (Vico, 1970) is still very strong in this society.

Teamwork, conformity, long hours and hard work, client service and the maintenance of an elitist culture were all present in most of the professional service organizations. The incidence of mergers in the recent past, in the present, and contemplated in the future, was high, as was out-placement, because of local South African environmental conditions. Open communications were encouraged in many organizations but this did not extend to the disclosure of financial results to non-professional staff members. There was some out-of-office socialization and the encouragement of a

"happy family" atmosphere in some firms but in many firms the partners did not socialize with each other outside of office hours.

In conclusion, it appears that some professional service organizations are developing more clearly defined strategies and becoming more industrialized. However, it appears that the contingency of the type of profession and the type of industry in which it operates influence the speed and extent of these developments.

CHAPTER 7

RESULTS AND ANALYSIS - PART 3:

TRIANGULATION - QUALITATIVE INFORMATION ON THE ATTRIBUTES OF INTEGRATED PROFESSIONAL ORGANIZATIONAL GROUPS

7.1 Introduction

In the previous two chapters, the empirically quantified aspects of the research findings were described. However, the research also sought to apply qualitative, interpretive methods to contextual background information, in order to add richness and meaning to the quantitative dimension. This is a classical application of "methodological triangulation", as originally described by Denzin (1970).

This chapter therefore draws on detailed interviews with partners of the firms, their clients and other stakeholders in the industries; firstly in order to give a background of conditions in each of the industries in which the professional firms operate; secondly to present the expectations of clients in these industries in the form of a distilled list of attributes which can be incorporated into a model of service quality for the professions. This list is discussed in relation to the

theoretical model proposed by Parasuraman et al. (1985); thirdly to give specific common characteristics of each of the five groups which complement the quantitative data.

The numerous interviews with partners of the firms, their clients and stakeholders, were post-coded, and other qualitative sources such as staff recruitment advertisements, company brochures, and press reports, were analysed through the use of content analysis to complement the precision, but lack of descriptive texture of the quantitative data.

A discussion of the findings on the aspect of the various types of co-operative strategies follows, as it relates to the professional firms in this sample, follows.

Finally the chapter ends with a summary profile of each of the five groups, as identified and differentiated by the cumulative quantitative analyses in Chapters 5 and 6, and complemented with the distilled, qualitative information.

7.2 Contextual background

The contextual background to the industries in which the professions operate, presented in this section, was gleaned from interview information. The results of the second level of analysis, presented in Chapter 6, are here discussed against this qualitative perspective.

7.2.1 The property and construction sector

The research sample of professional organizations in these industries included nine architectural, three quantity surveying and nine consulting engineering organizations, representing a total of twenty one firms with three hundred and twenty five partners. Interviews were conducted with seventy five clients and contractors as well as with thirty one partners of these firms. All three of the professions in this industry are subject to the following developments.

a) Deregulation

The deregulation of the professions, particularly in respect of the fee structure, has resulted in greater flexibility in determining fee income. For instance, where previously the architect earned a fixed percentage of the value of the project, (most recently 6 per cent) a more flexible fee structure has resulted, with a recommended fee structure as a guideline.

A recommended fee also exists for quantity surveying and consulting engineering firms. In private sector work the fee was sometimes negotiated before deregulation, but this has now developed into normal practice. Either the recommended fee or the previously-held fixed fee is often still used as a starting point in the negotiation process. A competitive bidding system has developed and fears have been expressed by some of the interviewees of the possibility of a tender system developing, both in quantity surveying and consulting engineering services, with a severe reduction in profit, possibly a consequent drop in quality, and the loss of autonomy of the professional consultant. As a senior partner of one of

the engineering firms remarked, "The fee structure puts a restriction on innovation and there is consequently no initiative."

The consequences of the flexible fee system have also seen a diminution of the power and autonomy of the architect as the principal agent in the construction team. The same applies to the other professions in public sector work, where contractors award the consulting assignment fee based on the value of their tender offer (Botha, 1988).

b) Competition

"Non-professionals, operating in a semi-professional capacity, are taking over more and more from the true professionals in the property and construction industry" (The Star, 15th March, 1987).

This describes the arrival of the project manager as a separate entity in the project team. This has further reduced the responsibility and authority of the architect, without reducing his risk. The quantity surveying firms, which have traditionally been regarded as building accountants, and the engineering firms which have developed expertise in this area, have increasingly adopted the role of project manager as they have traditionally been regarded as the more numerate of the professions and clients have viewed them with credibility and respect.

The architectural profession has increasingly lost autonomy in this respect. Clients have expressed the opinion that consulting engineers could act as project managers in an industrial project, although not in a

building project. The fear that where architectural firms acted as project managers, their would be a conflict of interests was also expressed.

Competition from engineering management firms, property developers and construction companies, which do not operate under the constraints of the professional ethic and which employ commercially oriented professionals from all disciplines in-house and offer turnkey projects (i.e. projects which supply the consulting services of architecture, quantity surveying, project management and engineering, together with property management, financing and leasing facilities), has resulted in the necessity for architectural, quantity surveying and consulting engineering firms to respond by putting together and selling schemes which compete with these turnkey projects.

This involves a much broader commercial perspective and knowledge, with a wider role than was previously necessary, and requires additional negotiation skills, plus the willingness to rethink the traditional role and stance of the professional, and to be more entrepreneurial and have a higher risk profile. The professional consulting firm may now become involved in either part of the process or in the whole chain, from the early identification and ownership of the land, through the design and formulation of the development scheme, to the final letting or sub-letting of the office, dwelling or shopping space.

These new requirements demand a different cognitive style than was previously found in the traditional professional partner, who was conservative and risk-averse. The ability to make fast decisions under uncertainty with less than perfect knowledge, i.e., the

intuitive, unstructured decision-making processes required under the new environmental conditions foreign and decidedly suspect to the cognitive style of the technocratic type of professional partner who has been accustomed to operating from the framework provided by his professional ethic.

Good interpersonal skills, and teamwork in particular have become more important in this expanded role of the professional consultant. Certain of the clients and contractors have expressed concern at the possibility of a conflict of interests when the consultant acted in his professional role as well as having equity in a scheme. His traditional impartiality would become suspect. As one contractor stated - "Architects are losing a lot of their 'bona fides' because of the conflict of interests which arises when they have a financial interest in the scheme."

As a consequence of the above, competition between professional firms has become more intense. This was not as evident among consulting engineering firms, which worked together in consortia with a greater sense of brotherhood, as between architectural firms. In the public sector it was stated that the lists of professional consultants, which were used on a rotation basis for the awarding of contracts, were becoming longer, and the criteria for selection were becoming more stringent. Consequently increased competition in this market was also being felt.

To exacerbate the problem, fewer students are enrolling for study in these professions at universities. More of those who are qualifying are either emigrating or joining commercial firms, and therefore an adequate supply of high quality professional staff in the future

is a matter of concern. The relevance of the educational system has also been questioned, and it has been pointed out that the theoretical aspects of the profession receive more attention than the more relevant practical aspects dictated by the changing industry needs. The remarks of one of the contractors illustrates: "Architectural training is a farce, they don't understand the meaning and practical side of a project."

More professional consultants have made their appearance recently, such as environmental and landscape design consultants, urban design and interior design consultants, all of whom require a share of the client's fee for the project. The arrival of these additional cost factors has made clients more aware of the importance of cost effectiveness. Together with the now negotiable fee structure, this has reduced the share received by the traditional professional consultants.

Competition from the clients themselves who employ professionals internally has also been experienced by the consultants. One client stated - "We now prepare the brief and call the shots and are much more involved in the process. Because of our in-house expertise we see ourselves as the project managers and the consultants have to work under our team. We create the environment for them to operate in and their solutions are tested against our pre-determined criteria." Another remarked: "We have all the disciplines in-house and the consultants can't pull the wool over our eyes any more."

c) Changing client needs

There has been a change in the type of property investment being made from modern, first world, high technology structures, towards more functional structures which are more suited to the South African environment and socio-economic needs, and which allow more flexibility to accommodate changing client needs. Such factors as security, facilities management, electronics, energy conservation, and the use of natural light and air conditioning, have become more important.

There has also been a reverse of the decentralization trend which has taken place over the past years, as a result of the lack of suitable land and the high cost of the few remaining vacant pieces of land. Consequently a trend had emerged towards the refurbishing of older existing buildings in central business district areas. This has also been encouraged by the social trend towards nostalgia, which provides a sense of security under the threatening environmental conditions in South Africa. This has also challenged the imagination and ingenuity of the professional to meet the requirements of flexibility and practicality as described.

The size of the professional firm appeared to be an important factor in selection by both private and public sector markets. Clients stated that a large firm could offer them depth of expertise, a wide geographic distribution and back-up. However, it was sometimes the practice in larger firms for one partner to be involved in the initial negotiations of the schemes, but then to delegate the actual project design and the project management to other partners. Some clients preferred to deal with a smaller firm where more personal service and continuity were experienced.

There had also been a shift in emphasis of the public sector away from major capital projects towards providing facilities for the black population, in response to the political pressures. Additionally, capital projects which had been approved had provided opportunities for consortiums of firms, where professional consulting firms worked together with commercial contractors, such as in the Lesotho Highlands water project, the Mossgas project and the Toll Roads Consortium.

Clients also expect a more marketing and business-like approach from consultants in this industry. "There is a healthy trend in marketing which is no longer based in the old-boy network and entrenched relationships, but based on objective technical factors," was one comment from a client, while the then Professor of Mechanical Engineering at the University of the Witwatersrand, Professor Roy Marcus, was quoted as stating the view of the engineer as follows, "In South Africa we have allowed the boardroom to be dominated by discounted cash flow analysis, the bottom line and short-term return on capital. We have allowed ourselves to become a manipulated profession."

d) Increased demand for specialization

Some professional firms had anticipated the trend towards the need for increased specialization. They had invested in this direction through further education of their existing partners, both locally and overseas, as well as through the recruitment of the additional skilled partners, or through the acquisition of an interest in existing firms specializing in a particular area. The hiving-off of separate specialist firms was also observed.

Clients and contractors appoint individual consultants who are well known for a specific expertise, for a certain contract or project. However, it was foreseen that an increase in merger activity between firms would take place as the demand for the services of these acknowledged experts increased. Although many clients and contractors expressed their concern about multi-disciplinary firms, since "covering up" may result, the possibility of a greater trend in this direction was also voiced. Concern at the lack of depth of expertise generally in South Africa was expressed by a number of clients and partners interviewed.

e) Economic factors

"Due to the general economic situation and the financial power structure in South Africa, institutional investors have an overdeveloped position in terms of readily available finance, resulting in developments ahead of demand. Since there is a lack of choice in the usual investment channels and opportunities, everyone is chasing the same opportunities and pushing prices down. This affects both the property and stock market." This comment by one of the contractors summarises the structural macro-economic situation under which institutional investors affect the market for commercial and industrial property.

With the increased importance of time being experienced as result of the high interest and inflation rates, concern was expressed at the loss of quality which inevitably resulted. This is illustrated by the "fast-tracking" technique which had developed, particularly among consulting engineers. "Economic factors are killing the vision of the future as people respond to short-term objectives. Creativity is also

challenged because of a lack of time", were remarks by a senior partner of the above situation. Previous meticulousness had been replaced, in the eyes of several interviewees, by short-cut methods to save time. In the public sector there had previously not been a great deal of cost control. However, this had recently received priority and limits were now laid down for costs.

Technology had greatly assisted all the professions in increasing the speed of output, reducing response time and generally improving productivity and reducing costs. However, since technology has facilitated the diffusion of knowledge, it is no longer the proprietary possession of the professions, and clients and other stakeholders had also acquired the same know-how. Some clients complained that in spite of the advantages of technology the consulting professions were still too slow to respond to the changing needs of clients. They needed to be able to make faster, more practical decisions that worked. A typical comment regarding the lack of understanding and insight by some quantity surveyors, which illustrates this, was as follows: "The majority can whistle the tune but can't write the music. They 'have computer, will travel', but don't know what to do with the information."

Related to this is the issue of professional indemnity insurance premiums, which have risen considerably in recent years. "The structural engineering consultants have increasingly been made the first target in the 'duck shoot', as their negligence is easiest to prove" remarked the senior partner of a consulting engineering firm, illustrating this point. In response to this, and in order to protect themselves, the engineers were inclined to over-design and consequently their designs were not cost-effective.

In architectural firms these premiums can now constitute up to 2 per cent of the turnover, and some firms have examined alternatives to the existing insurance system. The insurance cover for a large construction, taking place over a period of two to three years, may run into millions. Provision has been made for consulting engineering firms to form limited liability companies in response to these pressures; however, not many of the other professional firms have followed suit, although where the partnerships have formed project management arms, these may be limited liability companies to provide a vehicle for this contingency.

All the above developments in these professions underline the decrease in their autonomy and authority, and a shift in the balance of power away from the professions and towards clients, contractors and other stakeholders in the industry.

7.2.2 The commercial sector

In the accounting and legal professions which deal with corporate clients very similar patterns of change have been experienced to those encountered in the professions which operate in the property and construction industry. The changes are dealt with under the same headings as before.

a) Deregulation

Subsequent to anti-monopoly pressures from the Competition Board, deregulation of the fee system has been experienced in the accounting profession, as in the professions which operate in the construction and property industries, and a recommended fee structure exists. Accounting firms generally negotiate fees for

audit services in advance with clients on an annual basis, with charge-out rates on a sliding scale for each level of staff involved in the audit. More flexibility in terms of fees exists in non-audit areas such as the various consulting activities, but here more competition is encountered from non-accounting firms not operating under the constraints of the professional ethic, and which are free to promote their services and charge market-related fees. "We have to compete with merchant banks who have all the muscle of the major banks behind them, are permitted to and can afford to advertise", remarked a senior partner of one of the accounting firms.

The trend has developed for accounting firms to make a presentation of their services to prospective clients, similar to the situation of the professions in the property industry who are required to sell property development schemes to clients. This has not been required for attorneys to any great extent as yet.

In the legal profession statutory fees still exist in respect of litigation, conveyancing, magistrate's court work and estates, although some leeway exists in certain areas of litigation for a negotiated fee. Various contingent factors are used in arriving at a final fee for attorneys' services. Fees are presented to clients at the completion of an assignment and not submitted beforehand as may the case for the fees for accounting firm services .

There was greater opportunity for higher, negotiated fees in the area of commercial and tax law, but here more competition was experienced from merchant banks, trust companies, stock brokers and accounting firms, which employed qualified legal advisers and tax experts.