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MARKETS, MARKETING, AND MARKETING BEHAVIOUR
-- AN EMPIRICAL EXAMINATION IN CHINA AND BRITAIN

BY

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ABSTRACT

China's economic reform initiated in 1979 has brought about the partial functioning of markets and the growing interest in Western marketing on the part of academics, practitioners, and governmental bodies. In the West, despite the repeated espousal since the 1950s, marketing orientation has only been partially practised by UK and American firms, with a resultant decline in international competitiveness. Meanwhile, a number of related fundamental issues remain unexplored.

This study addresses the compatibility of Western marketing with China's new setting, with a focus on the general factors encouraging and discouraging marketing orientation and the consequences thereof. A postal survey involved 254 UK firms and 636 Chinese enterprises, supplemented by two in-depth interviews. Principal component, regression, and discriminant analyses, together with t-test and analysis of variance, were performed for data analysis.

The major issues in the study include: 1) characteristics of the firm adopting marketing orientation; 2) associations of marketing orientation with market structure and (governmental and corporate) control; 3) relationships between marketing orientation and performance; and 4) linkages between innovation and marketing orientation. Within this framework, the following are further examined: a) relationships among market structure, control, marketing orientation, and firm size; b) differences between the UK and China business environment and between (UK) corporate investment control and (Chinese) governmental investment control; c) structure of business orientation in UK and Chinese enterprises; and d) issues particularly relating to the Chinese context such as business behaviour and environment in different regions and enterprises of different type.

The research demonstrates the nature of the embryonic stage of markets and marketing-related behaviour in China, and provides insights into business orientation in Western surroundings. A number of problems in the business orientation of UK firms and key parameters in terms of business decision and further research have been identified.

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DECLARATION

No portion of this thesis has been submitted in support of an application for another degree or qualification from this University or any other Institute of Learning.

The following papers have been, and will be, published as a result of the research:

1. "Chinese Culture, Markets, and Market Orientation". Warwick Business School Research Paper No. 8, March 1991 (submitted to the Journal of Marketing Management).
2. "Markets, Marketing, and Marketing Behaviour - An Empirical Examination in China and Britain". Paper in the proceedings of the 20th European Marketing Academy Conference in Dublin, Eire, 21-23 May 1991.
3. "Market Effect, Control Effect, and Market Orientation". Paper in the proceedings of Marketing Education Group Conference 1991 to be held at Cardiff Business School, 8-11 July 1991.
4. "Market Structure, Corporate Control, and Business Orientation". Paper in the proceedings of the British Academy of Management 1991 Annual Conference (Doctoral Students Session) to be held at the University of Bath, 22-24 September 1991.

CHAPTER 1: RESEARCH BACKGROUND

1.1 ECONOMIC REFORM, MARKETS, AND MARKETING IN CHINA

The Industrial Revolution in Western Europe and North America heralded the era of the modern market-based economy. As the market system grew, marketing thought, principles, and institutions gradually developed. It is approximately eighty years since the first formalisation of marketing thought (Schwartz 1970; Bartels 1976).

In the 1950s, 'marketing' as a working concept came to light, and a marketing title and new organisational unit - 'the marketing department' - in the company were created in America (Hahn 1957; Viebranz 1967). "The '60s opened with a flurry of marketing reorganizations. ... This is a continuation of the wave of marketing reorganization that swept over American business in 1959" (Printers' Ink 1960). Since then marketing has moved to a central position in many companies (Koch 1962; Lynn 1969); the marketing concept has been widely advocated and seen as an adaptive business philosophy (Borch 1957; McKitterick 1957; Keith 1960; Bursk 1959; Togen 1956; Roberts 1960; Levitt 1960, 1962); it has been practised and generally regarded as a successful paradigm (Hahn 1957; Allen 1959; Jewell 1958; Lazo and Corbin 1961; Hise 1965; Williams 1966; Rothe and Benson 1974; Davidson 1978; Peters and Waterman 1982).

In China, since 1979, a series of reform measures have been undertaken to introduce the product-market into the economic system. As a consequence, a nation-wide survey in 1985 concluded that the market system had begun to play a significant role in the overall economic operating mechanism (Reynolds 1987, p.4). In 1988, the industrial output value of non-state-owned enterprises accounted for 35.6% of the total industrial output value¹, increased by 15.9% and 6.2% respectively in comparison with 1978 and 1985 (The Group of Macro-Economic Observation and Analysis, The Economic Reform Research Institute of China 1988). The total profit margin² of manufacturing industry decreased from 13.8% in 1981 to 11.9% in 1985 as a result of an increase in competitive intensity (Zhang 1987).

The existence of markets has encouraged, within universities, various marketing-related academic activities such as training, teaching, and research in marketing. Enterprises and government bodies have also become interested. For instance, in 1984, The Chinese University Association of Teaching and Researching Marketing was founded (He and Lan 1985); a number of joint management-training programmes in business studies have been undertaken, with business schools from

1 Industrial Output Value: a measure of production scale of an enterprise or industry commonly used in China. It is calculated by multiplying the number of products or amount of work by either 'constant price', which is a kind of (historical) fixed price used for the purpose of comparison, or 'current price', which is mainly concerned with the measurement of operating performance of an enterprise or industry (Yuan 1984, pp. 224-225).

2 Profit Margin: Sales Profit/Sales Revenue, where Sales Profit = Sales Turnover - Cost of Sales - Sales Tax (Yuan 1984, pp. 655-657).

Western European countries and America; papers and books on marketing have also been published. On the whole, the theme of teaching and research activity has followed the framework of the marketing system in the West, with emphasis on the differing nature of market and economic relationships.

In practice, many new types of enterprises characterised by market-driven behaviour have developed due to the disintegration of the past unitary and centrally controlled enterprise structure. The degree to which state-owned enterprises have been controlled by state bodies has varied considerably from sector to sector, from region to region, and from enterprise to enterprise. Production-orientated, selling-orientated, as well as customer-orientated behaviour have been found among the different types of enterprise. A recent survey concluded that the business concept of manufacturing enterprises has changed from production to production-market orientation (Lu, Zhang, and Yan 1988).

These significant changes in enterprise behaviour, market structure, and enterprise control have also been recognised by Western academics (See Thorelli 1983; Holton 1985; Byrd 1986, 1987; Vernon-Wortzel and Wortzel 1987; Child 1987; Brewster, Brown, and Burns 1988).

"Some of the impacts of all this experimentation on marketing have already been suggested: a new awareness of and interest in marketing by producers and distributors; the emergence of some degree of customer orientation supplementing the dominant supplier-mindedness; the sudden appearance of competitive concerns and buyer's markets in some industries."

(Thorelli 1983)

"Managers in these areas can achieve levels of authority and accountability very similar to those enjoyed by managers in public enterprises in the West. Many already set their own production or service targets, negotiate with suppliers, adjust prices and retain and distribute profits. A number of enterprise managers have expanded their operation vertically, making Marks and Spencer or Benetton type arrangements with suppliers, or bringing their own products directly to the markets."

(Brewster, Brown, and Burns 1988).

1.2 MARKETING AND THE MARKETING CONCEPT

A major cross-cultural study has contended that management philosophy is culture-bound (Gonzalez and McMillan 1961). It has also been argued and stressed that the efficiency of application of management principles is constrained by external conditions: educational, sociological, political/ legal, and economic characteristics (Farmer and Richman 1964) as well as by cultures (Oberg 1963). Since

environmental conditions in China have been remarkably different from those in the West and, most importantly, markets in China have arisen from a centralised economic system rather than through a process of natural growth, the model of market development in the West, the compatibility of Western marketing approaches with the new setting in China requires careful exploration.

'The marketing concept' is the foundation of the Western marketing system, as such it is the ideal starting point from which to scrutinise the applicability of marketing in China. The marketing concept "provides the philosophy for both the methodology and organisational structure of marketing" (Kaldor 1971).

The markets and market-related behaviour in China have been recent phenomena, hence they can be, to some extent, comparable with those of the West in the past. Under the parallel market conditions, enterprises may behave similarly because of the enforcement of 'market laws'.

A number of studies have shown that marketing orientation has only been partially adopted by UK and American companies (Webster 1981; McDaniel and Hise 1983; Doyle, Saunders, and Wong 1986; Doyle, Saunders, and Wright 1987; Ryan 1989; Witcher 1990), and that this could be linked to a decline in international competitiveness (Baker, Hart, Black, and Mohsen 1986; Ryan 1989). There has been much discussion as to whether marketing orientation is a successful paradigm (See Varadarajan 1983).

Therefore, at the beginning of the research, the following questions need to be addressed:

1. How can the applicability of marketing be measured? What are the criteria for adopting the marketing concept?
2. What are the core factors influencing the acceptability of the marketing concept?
3. What factors constrain the acceptance of the marketing concept?
4. What impact does the adoption of the marketing concept have on the overall behaviour of the enterprise?
5. What is the linkage of adopting the marketing concept with the performance of the enterprise?

Therefore,

6. To what extent do UK companies accept the marketing concept?
7. To what extent do Chinese enterprises accept the marketing concept? Alternatively, is the concept acceptable only in some types of enterprises, or only acceptable to a limited degree in China?

1.3 OVERVIEW OF THE RESEARCH METHODOLOGY

This research is aimed at testing the model of marketing behaviour developed through reviewing literature, comparing the nature of marketing-related activities and their environments between UK and Chinese enterprises, and exploring business behaviour and constraints in Chinese enterprises particularly relating to China's economic system.

To achieve the research objectives, postal questionnaires designed to be compatible for both China and the UK and consistent with both the UK and Chinese contextual conditions were used for data collection. 254 complete questionnaires were received from UK enterprises (46% response rate) and 636 from Chinese enterprises (35% response rate).

The sample data were first scrutinised by using analysis of variance and statistical inference such as t-test and chi-square test. The results helped to understand the research model and subsequently supported the interpretation of the results from the statistical procedures of multiple regression and discriminant analyses.

The survey results were further supplemented by in-depth interviews. The interviewees were a development manager from a Swedish subsidiary of a major electronics corporation and a director of enterprise development from a large Chinese high-technology corporation.

1.4 ORGANISATION OF THE THESIS

Chapter 2 first introduces the key concepts of the research. Then, through a chronological review of the literature, focusing on the major influences on the cyclical practice of marketing concept in the West, the research model is developed. After that, the central elements of the model are presented and analysed, and the underlying principles pertaining to the relationships between the marketing concept and its influences are elaborated. Finally, the rationales behind the positive association between the marketing concept and

innovation are discussed in an evaluation of this particular criticism of the marketing concept.

Chapter 3 applies the model to China's setting. The acceptability of the marketing concept and therefore the applicability of marketing in China are addressed, with attention being paid to various obstacles to the use of Western marketing principles. Included in the appendix of this chapter is an analysis of the impact of Chinese culture on the adoption of marketing orientation.

In Chapter 4 the objectives of this research project are outlined and the propositions to be tested are formulated. This is followed by an explanation of the choice of research strategy and a description of the reasons for including the interviews. The remainder of the chapter concentrates on the collection and analysis of the questionnaire data: (1) design and tests of the questionnaires circulated in both the UK and China, and sampling in both countries; (2) measurements of the key concepts in the research model; and (3) selection of principal component, multiple regression, and discriminant analyses, and outline of the basic principles of these techniques.

Chapter 5 undertakes a preliminary analysis of univariate statistics to examine the suitability of the research model. First, the analyses which are largely compatible between the two samples are presented, such as business environments, enterprise sizes, industrial types, and investment decision making. Second, the business behaviour and influences particularly associated with the Chinese circumstance are analysed and discussed.

Chapter 6 presents the results of tests for the research propositions. The chapter is divided into three parts: first, presentation and discussion of the results of principal component analysis; next, through regression analysis with principal components being used as independent variables, the confirmation of propositions is carried out; finally, the variables which distinguish between marketing and non-marketing behaviour are identified.

Attached to the chapter are both the results of interviews and a critique regarding the validity of a classic model of marketing evolution, in which a criticism of the model is questioned and a criterion to classify marketing development is proposed.

Chapter 7 draws conclusions based on the results of statistical procedures, together with other findings. Meanwhile, the methodological limitations are outlined, and the implications of this research for academics and practitioners are discussed. Finally, a further research proposal is presented.

CHAPTER 2 THEORETICAL FRAMEWORK

2.1 CONCEPTUAL FOUNDATIONS

2.1.1 The Marketing Concept

Much has been written on the interpretations of the marketing concept. In the last two decades, it has undergone a series of challenges and criticisms, and conversely has been defended, and continues to be widely espoused. Thus it is necessary first of all to examine the key components of the marketing concept.

Hitherto, four ingredients of the marketing concept are widely used (Borch 1957; Felton 1959; McKitterick 1957; King 1963; Levitt 1962; Kotler and Zaltman 1971; Bell and Emory 1971; Stampfl 1978; Kotler 1980; McCarthy and Perreault 1984; Musselman and Jackson 1981, 1984; McGee and Spiro 1988; Kotler 1988):

1. Profit Direction. The kernel of the adoption of the marketing concept aims at the achievement of the organisational goals, and usually of profit goals in commercial organisations.

2. Market Focus and Customer Orientation. The company adopting the marketing concept defines the boundaries of its markets and tailors a marketing plan for each target market; it defines customer needs and wants from the customer point of view in the marketing plan.

3. **Integrated Marketing Efforts.** These comprise two points: (i) the various marketing functions within the company must be integrated; (ii) the whole company must be tuned to the market with the integration of all its departments.

4. **A Business Philosophy.** The marketing concept has long been realised to be a business philosophy (McKitterick 1957; Felton 1959; Levitt 1962; Roberts 1960; King 1963; Koch 1962; Kotler 1965; Stanton 1971). However, recent connotations of the concept seem to conceal or leave out this central characteristic (See Kotler and Zaltman 1971 p. 5; Kotler 1980, p. 22; McCarthy and Perreault 1984, p. 35). It is this characteristic that may present a major difficulty in the practice of the deceptively simple concept.

"A company philosophy comprises the guidelines that have become established as expected patterns of behaviour, either through trial and error or through leadership. Part of the foundation for a successful system of management is a philosophy that is consciously thought out, clearly spelled out, and consistently acted out in practice."

(Bower 1966).

Watson's simple tenets which prevail in IBM - respect for the individual, devotion to customers and pursuit of excellence in all activities - make IBM more successful than other companies which could also have adopted a similar doctrine. The same is true for Marks & Spencer, one of a number of excellent companies in the UK, in which some seemingly simple guiding principles play an important role.

With respect to the execution of the business philosophy, it has been recognised that, to satisfy customers, employees must first be satisfied (Kotler 1988). Interestingly an empirical study indeed found a significant relationship between customer and employee orientations (Dunn, Norburn, and Birley 1985). In a service industry, this seems to be as important as having a necessity to "turn the organization chart upside down" (Davidson 1978), a view which has also been expressed by Bill Marriott, Jr., chairman of the Marriott hotels (Kotler 1988, p. 21). The fact that "Japan places people first in its priority system" (Rehder 1981) appears to facilitate the implementation of marketing orientation in Japanese companies and makes them acknowledged successful marketers (Lazer, Murata, and Kosaka 1985).

The marketing concept also comprises other important elements, which deserve attention:

5. Competitor Reference. The position of competition in the conceptual framework of the marketing concept has been less well defined. In his definition of the marketing concept, Kotler (1988, p. 17) recognised that:

"The marketing concept holds that the key to achieving organizational goals consists in determining the needs and wants of target markets and delivering the desired satisfactions **more effectively and efficiently than competitors.**"

But in expounding the components of the marketing concept, he has not encompassed competitors. A recent study has noticed a competitors' role in market orientation, but failed to clarify the relationship between customers and competitors, simply incorporating the element of competitor orientation (Oxenfeldt and Moore 1978) into market orientation without distinction (Narver and Slater 1990).

As a product of the modern market economy, the marketing concept is embedded in the strategic 3Cs - company, competitor, and customer (Ohmae 1983) - in that these three components often accompany each other in the business arena. In the marketing concept, competitors play the part of the reference from which the company differentiates itself, employing its relative corporate strengths to improve, or deliver in a different way, customer-desired satisfactions. Also it is the competition that decides the degree to which a company commits itself to customers.

For instance, throughout the 1980s, there has been steadily growing emphasis on quality in Western countries (Chase 1988; Feigenbaum 1990; Oakland 1990, p. x). One of the major reasons for the emphasis is that "Consumer quality expectations have risen simply because customers discovered the desired finish and reliability could be found in foreign products" (Miller 1988, pp. 105-106).

Ohmae (1988) has implicitly expressed the view: "the smartest strategy in war is the one that allows you to achieve your objective without having to fight" (an ancient Chinese military strategy). Despite the importance of taking the competitors into account in making strategy,

they should come second; first comes serving the real needs of customers (Ohmae 1988).

The nucleus of the marketing concept is customer orientation (Kotler 1972), the rationale of which has been partially elaborated by Howard (1983) and Kotler (1988). The economic effect of marketing orientation is, in essence, the attainment of differential or competitive advantages through the creation of a quasi-monopoly in a market segment or niche so as to make the company more viable or profitable. The perspective that marketing strategy is de facto developing competitive or differential advantages has been implicitly expressed by various academics. (See Foote 1969; Ohmae 1983; Coyne 1986; Nevens 1987; Fulmer and Goodwin 1988; Ohmae 1988).

6. Innovation. The positive relationship between marketing and innovation has been recognised by many early academics and practitioners (Drucker 1954; McKitterick 1957; Levitt 1962; Alderson 1965; Zaltman 1965; Simmonds 1982). In his doctoral dissertation, King (1963) clearly incorporated innovation into the framework of the marketing concept: the marketing concept involves:

"Active company-wide managerial concern with innovation of products and services designed to solve selected consumer problems."

However, it has been recognised that starting from about 1965 onwards "innovation in marketing grew steadily away from a concern for the marketer as the real innovator" (Simmonds 1982).

Innovation is a necessary condition of exercising the marketing concept, that is, the marketing-orientated company must be innovative in the light of developing new products and services to satisfy customer needs better. However, an innovative company is not necessarily marketing-orientated.

Innovation is also logically aligned with the marketing concept. It ensures a continuous process to provide customers with new products or services matching their evolving needs and wants. "Innovation lies at the core of marketing and the marketer's task is to suggest, induce and monitor innovation" (Simmonds 1982). Marketing orientation involves being better than or different from competitors and this is largely achieved through innovation³.

2.1.2 The Market Effect

For the purposes of this study, the market effect is defined as an index of various factors that impel market competition and affect a company's viability. The concept of the market effect includes two components: competitive intensity and its impact on the viability of the enterprise.

The market effect can be distinguished at both the macro and micro levels. The macro market effect is largely concerned with general governmental policy regarding an overall economic operational

3 A detailed discussion of the relationship between the marketing concept and innovation has been presented in Appendix A1.

mechanism at above the micro level, such as public utility policy, capital goods industrial policy, defence industrial policy, and foreign-owned firm policy. Therefore, it defines and indicates the extent to which the market mechanism functions in a country, an industry, or a type of enterprise as a whole. In China, for instance, non-state-owned enterprises are regulated mainly by markets in the light of governmental policy, compared with state-owned enterprises which are heavily planning controlled. The micro market effect refers to the specific market impact as a result of governmental policy and economic situations in an industry or enterprise. The market effect may also be described in the market effect curves, like product and industrial life-cycle curves.

2.1.3 The Control Effect

The control effect is defined as a measure of various factors, resulting from government and/or a corporate-headquarters, which constrain or direct enterprise behaviour. First of all, control can be either or both governmental and/or by a corporate-headquarters. Secondly, it can be classified as direct or indirect. Direct control is planning control by either governmental agencies or corporate headquarters in production, purchase (supply), sales, distribution, personnel, finance, and pricing or any policies which directly involve the operational process and direction of the company. Indirect control features the constraints on company behaviour imposed by regulations, laws, policies (government or corporate) or other personal influences.

Government control in the West is principally present as government regulation. Regulation has been broadly defined as:

"The intentional restriction of a subject's choice of activity, by an entity not directly party to or involved in the activity."

(Mitnick 1980)

The American Congressional Budget Office has resorted to a working definition of regulation in which regulating activities are described as activities which have:

"An impact on the operating business environment of broad sectors of private enterprise, including market entry and exit; rate, price, and profit structures; and competition;

An impact on specific commodities, products, or services through permit, certification, or licensing requirements; and

Involve the development, administration, and enforcement of national standards, violations of which could result in civil or criminal penalties, or which result in the types of impact described above." (Quote from Mitnick 1980).

A distinction can be drawn in the general pattern of regulation: social regulation, namely, "controlling activities with direct effects on people, such as safety, affirmative action, or environmental regulation" and economic regulation, "which seeks to control

instrumental market activities such as price, entry, and trade practice" (Mitnick 1981).

The subject of regulation has been broadly examined in the areas of economics, law, and political science; each of the areas has its own definition and focus regarding the subject (Spulber 1989).

A significant distinction between government direct and indirect control is that direct control takes place at the enterprise level and indirect control at the industrial or macro-economic level. In China, for example, the majority of large and medium-sized state-owned enterprises have been subject to direct control: their production, sales, and supply, to a varying extent, have been directly planned by government, prices have been set by government, and use of funds and recruitment of employees have been regulated by government.

The concept of the control effect implies something wider than that of 'control' as described in organisation studies in terms of the relationship between the control subjects and objects. The general concept of 'control' in organisation studies principally deals with controls within an entity - a firm or an institution, whereas the concept of the control effect focuses on the relationship between business units and corporate headquarters.

2.2 A MODEL OF MARKETING BEHAVIOUR

2.2.1 Literature Review

A) Chronicles of Marketing Orientation

The marketing concept has been a time-honoured topic in the Western business world and a broad range of issues has been explored. While most of the studies are conceptually based, empirical research chiefly involves gauging the extent to which it has been adopted or practised (Lazo 1958; Hise 1965; Barksdale and Darden 1971; McNamara 1972; Lusch, Udell, and Laczniak 1976; Webster 1981; McDaniel 1983; Doyle 1987; Peterson 1989; Witcher 1990). Other sporadic empirical work has focused on the association of the marketing concept with product planning (Lawton and Parasuraman 1980) and corporate culture (Dunn, Norburn and Birley 1985; Birley, Norburn, and Dunn 1987). The major issues involved in the marketing concept can be divided chronologically into three periods as follows:

(i) Between the late 1950s and the early 1960s

In this period, the core of the related literature focused on the meaning of the marketing concept, the implication of the adoption, its advocacy and implementation (Drucker 1954; Tøgesen 1956; Borch 1957; McKitterick 1957; Jewell 1958; Bursk 1959; Allen 1959; Keith 1960; Roberts 1960; Levitt 1960, 1962; King 1963; Smith 1958; Felton 1959; Lear 1963).

(ii) From the late 1960s to the early 1980s

From the late 1960s, attention turned to the problems or barriers in the adoption of the marketing concept and to ways of overcoming them within an organisation (Kotler 1965; Saunders 1965; Levitt 1969; Fromm 1969; Ames 1970, 1972; Lawrence 1971; Kaldor 1971; Shapiro 1977; Stampf 1978).

The application of the marketing concept started to spread beyond conventional consumer-packaged-goods industries to, for example, retailing (Fram 1965), aerospace business (Reynolds 1966), health service (Zaltman and Vertinsky 1971), 'fund raising' (Mindak and Bybee 1971), the promotion of social objectives (Kotler and Zaltman 1971), banking and financial services (Davies 1974), railways (Christopher 1975), nursing (Lewis 1977), library and information services (Oldman 1977), services or non-profit organisations in general (Kotler and Levy 1969; Davidson 1978), and to socialist countries - Czechoslovakia (Nykryn 1969) and Hungary (Hovanyi 1971). Attempts were made to construct a conceptual basis for the generic application of the marketing concept (Kotler 1972; O'Leary and Iredale 1976).

Issues of consumerism were raised, which had a close bearing on the marketing concept (Buskirk and Rothe 1970; Bell and Emory 1971; Kotler 1972; Rothe and Benson 1974). Having drawn a distinction between old and new consumerisms, Kotler (1971) proposed 'a societal marketing concept' to respond to the new consumerism.

The marketing concept underwent various criticisms (Rodger 1980, pp. 15-19):

- The marketing concept ignores consumer welfare and conflicts with company's social responsibility to consumers. Hence a revised marketing concept was suggested (Bell and Emory 1971; Feldman 1971).

- It has been argued that the marketing concept is outmoded and a new concept has been proposed to revise or replace it (Dawson 1969; Lavidge 1970; Rothe and Benson 1974).

- The adoption of the marketing concept makes companies increasingly reliant on customer-orientated sources for new product ideas, and results in a proliferation of imitative products at the expense of technological breakthrough (Bennett and Cooper 1979, 1981; Kerby 1972; Riesz 1980; Hayes and Abernathy 1980).

(iii) The 1980s

The 1980s have seen continuing attempts to apply the marketing concept to ever broader realms: clothing, textiles, consumer durables, transportation, utilities, financial and services, and retailing (Michaels 1982), tourism (Greenley and Matcham 1986), public services (Beltramini 1981), and marketing in socialist and developing countries (Varadarajan 1984; Naor 1986; Mitchell 1984; Holton 1985; Rao 1983).

In the 1980s, corporate culture became a buzz-word in business research and education (Reimann and Wiener 1988). The magazine

Business Week (1980) articulated the claim that corporate culture influences the transformation of corporate orientation towards marketing; this claim was subsequently repeated elsewhere (Schwartz and Davis 1981; The Wall Street Journal 1985; Lorsch 1986). Ensuing empirical research substantiated a positive correlation between the corporate culture with a customer orientation and marketing effectiveness (Dunn, Norburn, and Birley 1985; Birley, Norburn, and Dunn 1987).

However, the traditional marketing belief that corporate orientation has experienced a transition from production to sales and finally to marketing was challenged (Hollander 1986; Fullerton 1988). Meanwhile, an alternative model concerning the historical marketing evolution has been proposed⁴ (Fullerton 1988).

The marketing concept has been further examined from a viewpoint of information. This examination has concluded that the marketing concept "has been established as the optimal management philosophy when it is not necessary so in all instances", and there are "many examples of poor marketing practices which have been adopted in the name of the marketing concept" (Houston 1986).

In response to criticism, numerous papers have sought to refute the challenges to the marketing concept and to defend its validity

⁴ Considering some relevancy of the challenge to this research, a special response to Fullerton's article: "How Modern is Modern Marketing? Marketing's Evolution and the Myth of the 'Production Era'" is presented in Chapter 6, whereupon the results of the study can be referred to.

(Parasuraman 1981; Gaski 1983, 1984; Lawton and Parasuraman 1980; Dodge 1983; Kiel 1984; Morris and Lundstrom 1984; Webster 1981, 1988; McGee and Spiro 1988). In particular, it is claimed that "In recent years, there has been a strong resurgence of academic as well as practitioner interest in the marketing concept and its implementation" (Kohli and Jaworski 1990).

B) Influences of Marketing Orientation

It is important to note that the thinking embraced in the marketing concept has been recognised as being neither new nor revolutionary (Togesén 1956; Lazo 1958; Roberts 1960; Koch 1962) - allegedly having been formulated in the late 1920-30s (La Londe 1964; McKitterick 1957); its postulates are even rooted in the eighteenth century (Sachs and Benson 1978). But it was not until the 1950s and 60s that the marketing concept gained relatively wide acceptance (McKitterick 1957; Hahn 1957; Lazo 1958; Allen 1959; Keith 1960; Koch 1962; Hise 1965; Lazo and Corbin 1961, pp 3-6; Pride and Ferrell p. 17). This coincided with a dramatic increase in the market effect in America at that time (Togesén 1956; Reed 1956; McKitterick 1957; Allen 1959; Negandhi 1968; Adler 1964).

When Levitt (1960) diagnosed "marketing myopia" in American companies, most of the cited companies were located in industrial and capital goods industries. Both McNamara (1972) and Webster (1981) have confirmed through their respective research that industrial and capital goods firms show a lower degree of adopting the marketing concept than consumer goods firms. The market effect in industrial

goods markets has been noticeably lower than that in consumer goods markets. As Fromm (1969) put it:

"There is no doubt that most of the industrial and capital goods industries are more production-orientated than the consumer goods industry. One of the reasons for this is certainly that the consumer's market has been the object of hard fighting for years, whereas the manufacturers of industrial and capital goods enjoyed a seller's market for a long time after the war."

During periods of shortage many companies divested themselves of the marketing concept (Blankenship and Holmes 1974), seemingly because of the low market effect. The delayed appearance of marketing in service industry could be interpreted in the same way.

It has been mentioned or implied that under a competitive environment companies tend to adopt the marketing concept (Togesén 1956; McKittrick 1957; Allen 1959; Adler 1964; Fromm 1969; Ames 1970; Buskirk and Rothe 1970; Lawrence 1971; Michaels 1982; Marketing News 1983; Kotler 1988, p. 24). For instance, it has been written that:

"There are many reasons for this upsurge of interest in marketing. The principal spur is the sharp increase in competition in all lines."

(Allen 1959)

"With some companies, a radical change in management structure and philosophy only comes about when the threat to survival is immediate."

(Lawrence 1971)

"Enterprises facing competitive markets also have a strong incentive to meet customer needs by improving marketing and distribution and by providing warranties and after-sales service."

(Byrd 1986, p. 239)

According to a study, in the centralised firms, "business unit management tend to lose profit orientation and market responsiveness" (Goold and Campbell 1987, p. 149). The same research also suggests that in companies undergoing relatively strong corporate control, there is a tendency for them to be averse to risk, and "management thinking may become less responsive to opportunities and threats as they arise" (ibid, pp. 176-177). These have an indication that the strong control effect may inhibit marketing orientation.

2.2.2 Model Building

In many circumstances, the marketing theory of firm behaviour, based on customers, competitors, and the company, needs to be developed to incorporate the action of either or both government and/or corporate centres.

Such outside agencies, together with other environmental conditions, constitute a system which shapes enterprise behaviour and which consists of two sub-systems: the facilitating system which triggers enterprise behaviour and the constraining system which inhibits adaptive behaviour.

There are four elements in the facilitating system: corporate marketing behaviour⁵ (the dependent variable in the study), performance, the control effect, and the market effect. The direct control effect either from government or corporate headquarters is negatively related to both the market effect and marketing behaviour. Indirect control from the corporate headquarters can have either positive or negative impact on the company's stance regarding marketing behaviour, depending on the corporate culture or policy. Indirect control from government will influence marketing behaviour by strengthening or reducing the market effect. The market effect gives the impetus for marketing behaviour, which increases marketing costs and thus stimulates market-domesticated⁶ behaviour, which eventually brings about a decrease in the market effect.

The major factors in the constraining system consist of management capability (Stanton 1971; Saunders 1965), corporate culture (Business

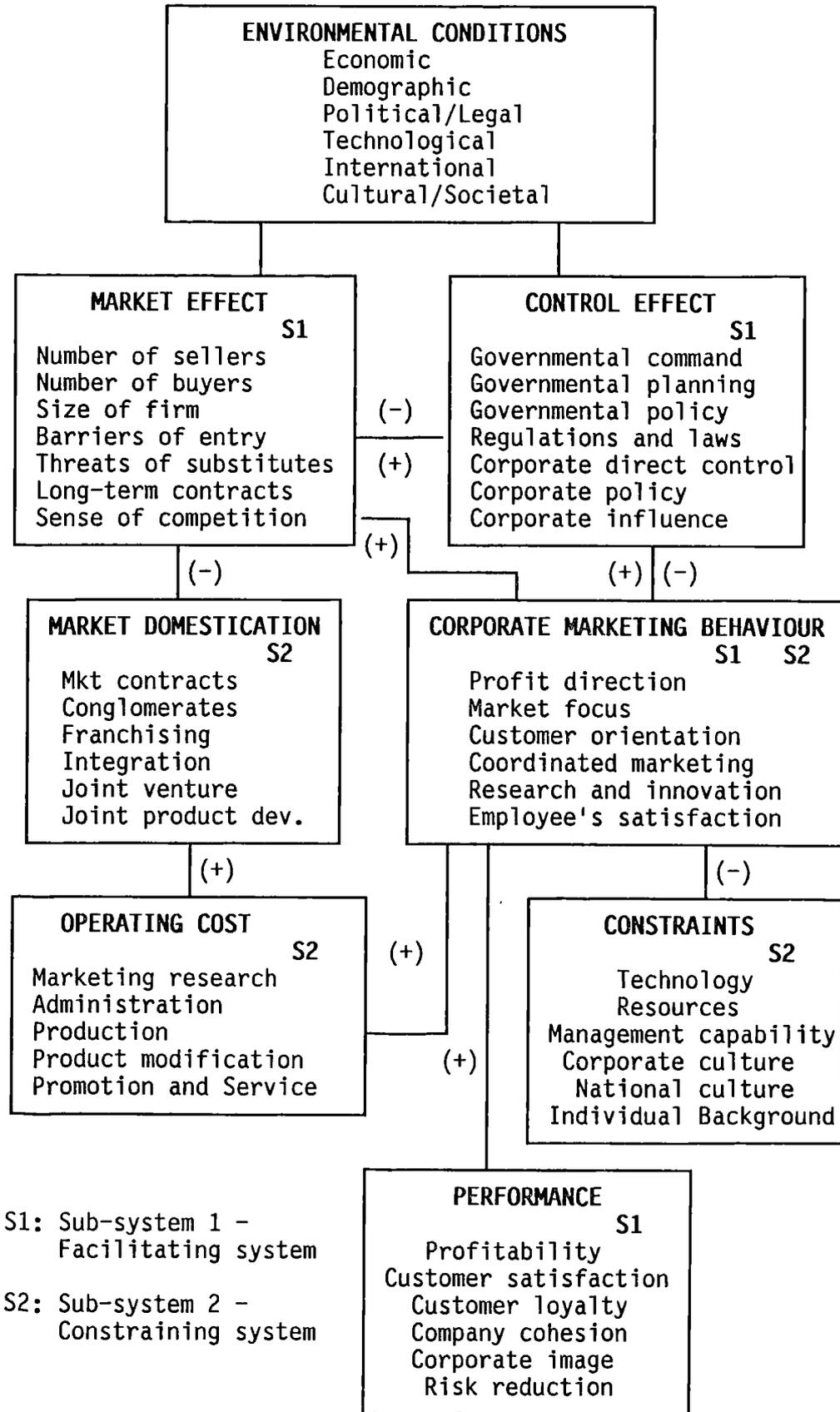
⁵ Marketing behaviour is defined as the conduct of firms which conforms with the integral key elements of the marketing concept.

⁶ The concept of domesticated markets was used by Arndt (1979a; 1979b) to argue that the competitive and open market is being tamed, regulated, and closed, and transactions are occurring in internal markets with the framework of long-term relationships.

Week 1980; Peters and Waterman 1982; Morris and Lundstrom 1984; Wall Street Journal 1985; Reimann and Wiener 1988), national culture, resources (including financial, human, and technological), technology, organisational structure (Stampfl 1978, 1983), and key individuals' backgrounds.

In the long run, enterprise behaviour is determined by the combined effect of various macro-environmental influences including legal/political, economic, technological, international, and societal effects. These influences define the domain in which the market and control effects operate as a whole. In general, the macro-environment is relatively stable over a short period, and therefore a certain pattern of the market and control effects is, on the whole, the major influence on adaptive behaviour. Figure 2.1 presents the analytical framework for the overall model.

FIGURE 2.1 A Model of Marketing Behaviour



2.2.3 Marketing Behaviour and the Market Effect

A) Rationale of Causality

The market effect, as previously defined, is the inherent driving force for customer orientation. When the market effect is weak, resulting, for instance, from demand greatly exceeding supply, the enterprise, as an economic entity, tries to reach its economic goals with the least effort and cost. Under the circumstance of a shortage in an economy, industry, or market, the primary constraint lies in supply so that production expansion and cost reduction prove to be more appropriate, compared with marketing approaches which may involve costs in promotion, servicing, production modification, administration, and marketing research.

As the market effect increases, the enterprise is driven to make itself better than, or different from, competitors, and therefore more of its effort and costs go towards making it viable and profitable in order to attract and retain customers; the pursuit of product differentiation or differential/competitive advantages means more effort and costs (Koch 1974, 1980; Scherer 1980; Porter 1980). The adoption of marketing orientation is the outcome of an increase in the market effect, resulting in an increase in marketing effort and costs (Lynn 1969; Cheng and Bell 1970; Kotler 1988).

Resistance to change is a common symptom in an organisation (Grossman 1974; Rino 1974; Calish and Gamache 1981; Lawrence 1971; Pettigrew

1986). Often, only when the expectation of change in the market effect is such that it influences the company's viability, are changes in the organisation likely to take place (Lawrence 1971; King 1975).

In a market-driven economy, profitability is still a critical factor in business decisions because of the need to survive and prosper (Manne 1965; Marris 1974; Lipsey and Steiner 1981, pp. 174-175; Drucker 1954, p. 65).

In the extreme instance of a pure monopoly (the low market effect), the monopolist is a price-maker and thus can gain sustainable supernormal profits simply by manipulating price or output rather than bothering to identify customer needs and wants, which is enormously costly. At the other extreme, with perfectly competitive markets (the high market effect), the company appears to be a price-taker and can only compete on the basis of cost reduction, where it is more likely and willing to differentiate itself from competitors and to serve customers better - the essence of marketing orientation - so as to achieve a period of quasi-monopoly accompanied by enhanced profits.

B) Comparison of Different Orientations

Seemingly differential or competitive advantages can also be attained by various means. The lowest costs, for example, and therefore low prices, better quality, inventions and advanced technology can provide competitive advantages. However, different impacts under different levels of the market effect ought to be considered.

In the Context of the High Market Effect

1). **Capability and Cost Constraints.** When a company seeks to outperform competitors by providing the lowest costs, best quality, or a brand new product, it often needs unique prowess, such as a low cost labour-force, superior knowledge, and inventive genius. For instance, many Japanese corporations possess both the advantages of production technology or product quality (Bennett and Cooper 1981; Cole 1980; Kassem 1974; Tsurumi 1982) and cheap labour (in its earlier days), together with their marketing orientation (Drucker 1974; Lazer, Murata, and Kosaka 1985; Doyle, Saunders, and Wong 1986), all of which account for a major part of their success (Ohmae 1983).

However, the costs of these competitive commitments are usually very high. Adler (1970) pointed out a number of the symptoms of ineffective marketing, one of which was:

"A tendency to engage in bloody, knock-down-drag-out fights with entrenched competitors. Examples abound, especially in the packaged goods industries."

A study, for instance, has revealed that the new-product failure rate lies between 20 percent to over 80 percent, depending on the characteristics of the industry (Crawford 1977, quoted from Morris and Lundstrom 1984). Additionally, it has been estimated that the new-product failure rate was even up to 90 percent (Christian 1961). Urban and Hauser (1980) have presented substantial evidence to shed light on the risks of new product development.

Theoretically, only one firm can provide the lowest cost in a given industry and therefore other firms must choose other competitive dimensions (Fulmer and Goodwin 1988). In contrast, customer orientation provides a firm with multiple potential choices to identify an area where a differential/competitive advantage can be secured.

2). **Reliance on Market Guidance.** For a competitive advantage in the company to be effective, "the difference or differences between him and his competitors must be felt in the marketplace, that is, they must be reflected in some product/delivery attribute that is a key buying criterion for the market" (Coyne 1986).

3). **Inherent Limitations and Weaknesses.** These non-marketing-orientated competitive dimensions often have limitations. For many products, beyond a certain point, price is no longer valued by customers, customer preferences quite often shift, and quality may not be a major concern in areas such as fashionable goods.

"The long and well-documented history of new product failures in this country is replete with examples of products coming to market without any clear analysis of the nature of the need or want they are supposed to meet. Technology push has a bad track record in the UK."

(Thomas 1987, pp. 239-240)

Clark (1989) argues that technology per se can hardly build a sustainable edge since it is also every competitor's weapon, and thus it has to be coupled with (marketing) strategies to win.

In the Context of the Low Market Effect

The low market effect can often be caused by many factors, such as patented products or technology, large population, unique access to supplies, integration and cooperation, economies of scale, large capital requirements, or simply protection from government or corporate headquarters. In most of these cases, the company may still find production orientation to be more productive and profitable because of extra costs involved in practising marketing orientation.

Therefore, a certain degree of the market effect is a precondition of customer orientation, which otherwise loses its commercial logic. The appropriate choice depends on the company's calibre or expertise, the market effect, and competitors' strengths and weaknesses. Nevertheless, due to the limitations of other business orientations, most companies in competitive markets may find a marketing orientation to be a better choice. If the market effect is low, orientations other than marketing can be more effective in view of marketing-related costs.

2.2.4 Marketing Behaviour and the Control Effect

In Western countries, businesses encounter the control effect from two sources: government regulation and corporate headquarters⁷.

A) Government Regulation

The pervasiveness of regulation, together with its deepening degree of intervention in business activities, has been recognised by practitioners and academics (Steiner 1978; Magill 1980; Leone 1977; Momboisse 1977; Boulton 1979; Mitnick 1981; Wilson 1982; Breyer 1982).

"The power of these agencies cannot be overstated. They affect every business and every person in this country, touching on practically every aspect of our lives. They determine the clothes we wear, the food we eat. They regulate the water we drink and the air we breathe. In a word, they shape our everyday lives and can even determine our destiny."

(Momboisse 1977)

Government regulation has been considered necessary in the light of its rationale and reasonable effects; as Magill (1980) put it, "the question is one of degree and direction" (Boulton 1979; Mitnick 1980; Spulber 1989; Breyer 1990).

⁷ This section mainly deals with the general principles in terms of the influence of the control effect on marketing behaviour. The detailed analysis of the specific pattern of the control effect in China is presented in Chapter 3.

By and large, regulation exerts an important influence on business behaviour through its impact on the market effect. Although government regulation was instituted in the public interest, some opposite effects from it have often been found. Conceptually, the formalisation of the two kinds of regulation is such that:

(1) Social regulation comes from 'externalities' such as pollution, discrimination, and worker and consumer health and safety, which cause substantial social cost without payment by the producer. Regulation takes these costs into consideration (Wilson 1982).

(2) Economic regulation aims at maintaining the operation of a 'free market' and market stability and "typically has involved creation of state and federal regulatory commissions with broad authority over prices, rates of return, entry, exit, merger, accounting practice, and the like" (ibid).

However, it has been claimed that "our unguided regulatory system [U.S.A] undermines competition and entrenches monopoly at the public's expense" (Musselman and Jackson 1984), that government regulation has borne inhibiting effects on the adoption of marketing orientation and strategies in the UK railways (Christopher 1975), and that excessive regulation has stifled innovation in American companies (Lawler and Drexler 1981; Magill 1980). For example, Magill (1980) wrote: "There is a considerable body of opinion which holds that this stifling effect of regulation was an important factor in the decline of the American railroad system". It is very likely, therefore, that the

control effect from government regulation has a negative effect on marketing orientation.

Some distinct evidence that the control effect from government regulation affects marketing behaviour through 'tuning' the market effect has been found in the recent deregulation which has taken place in industries such as airlines, trucking, banking, railroads, buses, crude oil, natural gas, banking, securities brokerage, and telecommunications (Wilson 1982; Bleeke 1983; Spulber 1989, p. 12; Breyer 1982; Knieps 1990). Competition in these industries have been cited as becoming dramatically tough, and "with the winds of competition blowing, the need for marketing muscle has become urgent and some companies are already moving to meet it" (Michaels 1982). Considering "increasing competition" as prodding marketing behaviour, Kotler (1988, p. 24) explained:

"... American Telephone and Telegraph (AT&T) remained a regulated, marketing-naive company until the 1970s when other companies were suddenly allowed to sell telecommunications equipment to AT&T's customers. At this point, AT&T plunged into the marketing waters and hired the best marketers it could find to help it compete."

Additionally, it has been evident that American companies have been exposed to "the excessive involvement of government" (Magill 1980), and influenced by government in their internal business decision making (Steiner 1978; Boulton 1979). A paradoxical phenomenon is that while deregulation has proceeded, 'new' regulations have increased,

particularly in the late 1970s and early 1980s (Wilson 1982). The chief differences between the new regulations imposed and old ones removed are that the older regulations and industry regulatory agencies were concerned with one industry and the companies in it, such as airlines, trucking, and railroads; the newer ones were concerned with one function in an organisation and therefore affected far more industries, companies, and customers (Steiner 1978). The consequence of the newer regulations is that the agencies "can dominate a company's affairs in their realm of functional authority" and "that government has become intimately involved in factories and other workplaces" (Steiner 1978).

B) Corporate Control

Managerial relationship between business units and their corporate headquarters is a common additional issue. Since World War Two, multi-business companies have arisen with unprecedented speed, mainly in the form of multinational corporations, and in the last decade diversified companies have grown rapidly:

"In 1950, 75 per cent of the 200 largest companies in the UK derived the bulk of their sales from a single business. The proportions were similar in other developed economies. By the mid 1980's these figures had altered dramatically: now only 35 per cent of large firms concentrate on a single business. This change follows precedent in the United States and is reflected in all the main European countries."

(Goold and Campbell 1987, p. 1)

Table 2.1 shows the growth of multinational companies investment in major developed countries between 1967 and 1978.

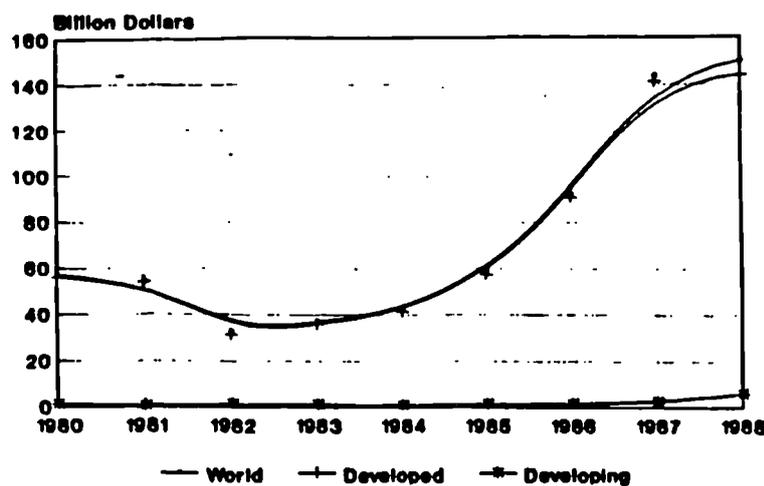
TABLE 2.1 Stock of Direct Investment abroad of Developed Market Economies, by Major Country of Origin, 1967-1983

Country of Origin	Billions of Dollars, End of					
	1967	1971	1974	1976	1978	1983
United States	56.6	82.8	124.1	137.2	168.1	227.0
United Kingdom	17.5	23.7	26.9	32.1	41.1	95.4
West Germany	3.0	7.3	11.9	19.9	31.8	40.3
Japan	1.5	4.4	10.3	19.4	26.8	32.2
Switzerland	5.0	9.5	11.1	18.6	24.6	19.8
Netherlands	2.2	4.0	5.5	8.5	23.7	36.5
France	6.0	7.3	8.8	11.9	14.9	29.9
Canada	3.7	6.5	7.8	11.1	13.6	29.1
Sweden	1.7	2.4	3.0	5.0	6.0	10.1
Belgium-Luxembourg	2.0	2.4	2.7	3.6	5.4	6.7
Italy	2.1	3.0	3.2	2.9	3.3	9.8
Total above	101.3	153.3	192.5	270.4	359.3	536.8
All Other (Estimate)	4.0	5.1	6.3	16.8	10.0	18.4
Grand Total	105.3	158.4	298.8	287.2	369.3	555.2

Source: UN Centre on Transnational Corporations: Data from 1967 to 1976 were abstracted from Grewlich (1980) and data in 1978 and 1983 from Dunning (1981; 1988).

A recent report from United Nations Centre on Transnational Corporation shows that outflow of foreign direct investment from five developed countries: France, Germany, Japan, United Kingdom, and United States tripled between 1984-1987 (United Nations 1990). The share of five major investor countries in 1984-1988 were 6.1% (France), 8.6% (Germany), 15.4% (Japan), 19.0% (United Kingdom), and 19.3% (United States). However, as Figure 2 illustrates, 1988 witnessed a slow-down in the growth rate of foreign direct investment after a long period of rapidly growing investment. Moreover, it is noteworthy that, in 1988, outward investment from developing countries also more than doubled, although their small share of 2 percent of total outflows remained unchanged (ibid).

Figure 2 Outflows of foreign direct investment, by major region, 1980-1988



Source: United Nations 1990

Both direct and indirect control from corporate headquarters has been found among such companies (Wiechmann 1974; Horovitz 1978; Marsh, Barwise, Thomas, and Wensley 1988; Goold and Campbell 1987). In a study of integrating multinational marketing activities, it has been revealed that the majority of the sample firms were in the category of high and medium centralisation, and notably there was a tendency towards increasing centralisation (Wiechmann 1974). Among all marketing decisions, those on product policy were subject to the greatest degree of central control.

However, the degree of centralisation differed from industry to industry (Wiechmann 1974). Horovitz (1978) has found that firms in different countries - France, the UK, and Germany - also varied significantly in what and how control was exercised. British control systems were more decentralised. Control was not detailed, mainly focusing on exceptions, and was used more as a guide than a regulating instrument. Central staff were involved less in decision making related to business units. In contrast, control systems in Germany stood at the opposite extreme, with French control systems being closer in nature to those in Germany than to those in the UK.

A research project undertaken in UK companies has identified three general styles of strategic management: strategic planning, financial control, and strategic control (Goold and Campbell 1987). At one extreme stands strategic planning with relatively high corporate involvement in the business strategies of the business units. At the other is the style of financial control which features relatively low involvement of the corporate centre in business strategies of the

business units. Meanwhile, the ideas of corporate style of the holding company, which has the minimum corporate strategic role, and the centralised company, which is at the opposite extreme to the holding company, have been briefly analysed and compared for their advantages and disadvantages. It has been pointed out that several companies have moved away from the centralised style in recent years.

Another empirical study has also suggested significant direct intervention by top management in the investment decision making of its business units (Marsh, Barwise, Thomas, and Wensley 1988).

Control systems in centralised companies tend to result in the direct control effect. As for other managerial styles, if business strategy making in the business unit directly involves staff from corporate headquarters in terms of corporate policy, it is considered that there is the direct control effect in the company. Otherwise companies are regarded as being subject to indirect corporate control.

Direct control from both government and corporate headquarters inhibits marketing behaviour through: (1) shaping enterprise motivation, objectives, and initiative; (2) withholding the market effect so as to negate the rationale of marketing orientation; (3) defining or modifying the scope and direction of enterprise behaviour; and (4) retarding the ability to implement marketing orientation.

Under direct control, performance targets and responsibilities often tend to be obscure, so that objectives other than profitability may be

dominant, and initiative can be frustrated inasmuch as the business unit, to a degree, becomes only a 'production plant'.

Corporate headquarters perform the integration and coordination of business activities among the business units to limit the effects of competition and reduce transactional costs and risks. Since a certain amount of transaction is pursued internally, (i) the impact of the market effect can weaken and (ii) the drive to meet customer needs and wants can slacken.

Furthermore, business decisions at corporate level are liable to be made from a wider horizon than those in the business units. Hence they may be responsive to market changes from a global viewpoint, but not from the perspectives of the business units.

"We believe organizations should always be market driven in the sense of being responsive to customer needs, but individual business units should not always be 'marketing driven' in the sense of comparatively large marketing budgets or primary control by marketing managers over strategic and operational decisions within the unit."

(Walker and Ruekert 1987).

Due to excessive distance between corporate headquarters and markets, corporate decisions have difficulty in reacting swiftly to rapid market changes.

"The corporate marketing manager in a multinational firm clearly faces the dilemma: greater headquarters control of marketing activities at the subsidiary level may be necessary to achieve better integration and to obtain maximum leverage from the company's worldwide experience and marketing strength. However, the necessity of making a fast and effective response to local market conditions may require that considerable freedom to act be available to the subsidiary managers."

(Wiechmann 1974)

The exercise of the marketing concept was observed to be particularly significant in firms with decentralised operations (Printers' Ink 1958; Koch 1962). A study has found that managers in relatively decentralised firms tend to capitalise on market research information more extensively than those in highly structured firms (Deshande 1982). At the Westinghouse corporation, experience demonstrated that decentralisation was conducive to acceptance of the marketing concept:

"The corporation's structural form has been undergoing decentralization for more than 20 years. This organization policy has given impetus to the new marketing concept, which has been an essential in this corporation which operates through 66 profit-producing units that are, in effect, individual businesses."

(Jewell 1958)

Companies differ significantly in the depth and scope of involvement from corporate headquarters as far as indirect corporate control is concerned, and therefore the degree to which it affects company behaviour and direction also varies widely.

One form of the crucial influences of the indirect control effect is corporate culture. In their book In Search of Excellence, Peters and Waterman (1982) have pointed out that corporate culture and its direction towards the marketplace exemplifies an important aspect of top-level companies. Moreover, "Most essentially, it [a corporate centre] establishes the atmosphere, the culture, in which lower level managers propose and implement strategy" (Goold and Campbell 1987, p. 5). Wiechmann (1974) has based his conclusion on the research that centralisation is only one of several ways in which headquarters may affect the behaviour of subsidiary management:

"Rather than influencing subsidiary managers' behaviour through direct command, headquarters management of a multinational corporation may try to achieve integration through establishing in the subsidiary managers themselves attitudes, behaviour patterns, and a state of mind that lead them to make only decisions that conform to headquarters intentions."

The culture with a customer orientation, for example, initially fostered by Watson and practised by the IBM corporate headquarters has pervaded all the business units in the company.

2.2.5 Marketing Behaviour and Performance

A look at performance in acknowledged marketing-orientated companies suggests a positive correlation between them (Togesen 1956; Jewell 1958; Borch 1957; Keith 1960; Davidson 1978; Marketing News 1983; Peters and Waterman 1982; Kotler 1988).

An empirical study conducted in 49 Puerto Rican food manufacturers has found a significant correlation between company success and the use of marketing methods, which contained the major elements of marketing orientation (Griffin 1982). Another recent research has suggested a positive influence of marketing orientation on a company's profitability (Narver and Slater 1990).

A company's performance can be measured by various criteria, which can be classified as single, multiple, and composite:

"Single criteria occur when only one quantity is measured and observed, such as total output or profit. Multiple criteria occur when several quantities are measured simultaneously, such as output, quality, cost, safety, waste, and so forth. Composite criteria occur when the separate quantities are weighted in some fashion and then added or averaged."

(Ridgway 1956, pp. 240-247)

The following multiple criteria are often used for the evaluation of managerial performance: (1) market performance; (2) productivity; (3)

worker performance; (4) financial resources (5) profitability; (6) innovation; and (7) public responsibility.

It has been proposed that consumer satisfaction can be a measure of marketing effectiveness in an organisation (McNeal 1969).

Profitability is most often used as a key criterion in evaluating the performance of management. However, care should be taken when the marketing concept is linked to the criterion. As has been analysed, the high market effect tends to prompt marketing behaviour, while a basic motivation of marketing behaviour is to achieve profit goals. On the other hand, in industrial organisation and economics, concentration and especially barriers to entry (the low market effect) theoretically and empirically are claimed to be positively associated with the level of profits (Mann 1966; George 1971; Pickering 1974, pp. 21-22; Hay and Morris 1979, pp. 199-226). In other words, the low market effect is more likely to produce high performance. Therefore, when it is contended that marketing behaviour driven by the market effect tends to lead to good financial performance, the comparison is assumed to be made at the same level of the market effect.

2.2.6 Industries and the Market and Control Effect

Different industries may vary greatly in their experience of the market and control effects, as in the case of their presence at different levels of financial performance. The market effect of an industry is often linked to the control effect in the industry. For instance, industries with the low market effect, such as those of

quasi-monopoly in the West and those of extreme shortages in China, tend to invite stricter control from government.

On the whole, the overall market effect in China is always lower than that in Western countries, and the overall direct control effect is higher, because of the political and economic systems. However, in some industries, the similarities dominate, particularly in some consumer goods and 'strategic' industries.

Therefore, the combination of the market and control effects can result in the different contrasts of marketing behaviour between Chinese and Western enterprises. In some industries or markets, the market effect is significant but the control effect remains the primary constraint; elsewhere the control effect is insignificant but the market effect becomes the major influence. In the West, for example, in armament and some high-technology industries, the control effect is considerable whereas a intermediate or low degree of the market effect is in existence. In China, many consumer goods industries, such as electronics, handicrafts, clothing, watches and the like, the control effect is relatively low while the market effect is relatively high in comparison with other industries. A likely combination of the market and control effects is shown in Figure 2.3.

FIGURE 2.3 Possible Combinations of the Market and Control Effect in China and the West

ME		CE		
		High	Medium	Low
High	---	W (Some) + C (Many)	+ W (Many) + C (Some)	
	Medium	+ C (Few) + W (Few)	+ W (Many) + C (Many)	+ W (Many) + C (Some)
Low		+ C (Few) - W	+ W (Few) + C (Some)	(Monopoly) ---

Where:

- ME: The Market Effect;
- CE: The Control Effect;
- +C: Existence in China;
- +W: Existence in the West;
- : Non-existence in Reality;
- W: Non-existence in the West.

2.3 SUMMARY

The acceptability of the marketing concept is positively related to the market effect, and a certain level of the market effect is a necessary condition for its acceptance.

However, potentially competitive threats can be concealed or arise unnoticed. It has been recorded that considerable competitive impacts have appeared from innovations originated outside the domain of company's businesses (Levitt 1962; Burnett 1966; Kamien and Schwartz 1982). Hence the market effect can fail to have an effective impact on acceptance of the marketing concept.

However, when the market effect is weak, orientations other than marketing often turn out to be more effective for realisation of company goals because of marketing costs, and therefore the marketing concept may not be an appropriate business philosophy.

The direct control effect appears to constrain the adoption of the marketing concept. Nevertheless, the influence of the indirect control effect on the acceptability of the marketing concept is complex. The favourable attitude of top management towards the marketing concept is apt to promote its acceptance. However, over-involvement of corporate centre in strategy making of the business unit is more likely to depress initiatives and thus have an inhibiting effect on the adoption of the marketing concept.

It appears pertinent to end this chapter with a description of today's business environment:

"It sometimes seems that every aspect of business is in a state of flux - technology, government regulation, global competition."

(Tushman and Nadler 1986)

APPENDIX A1: INNOVATION AND THE MARKETING CONCEPT⁸

In the last decade, the marketing concept has been subject to significant criticisms. The most serious challenge, posed by Bennett and Cooper (1980; 1981) and Hayes and Abernathy (1980), blamed the marketing concept for the decline of American business, primarily by shifting companies away from technology and innovation in pursuit of product modification and improvement.

This criticism has been analysed and demonstrated conceptually to be based on misunderstandings and misrepresentations or simplistic interpretations of the marketing concept (Gaski 1983; Morris and Lundstrom 1984). In addition, it has not been supported empirically (Lawton and Parasuraman 1980).

The examples that Bennett and Cooper presented to argue the ineffectiveness of the marketing concept have conversely revealed that the decline of some American businesses has a close link to their divergence from the marketing concept (Lazer, Murata, and Kosaka 1985; Webster 1988; Fullerton 1988; Aaker 1989). Japanese companies have captured some American markets because they have been more marketing

⁸ The appendices in this thesis are classified into the 'A' and 'B' categories. Category 'A' has the closer relevance to the main text in the light of importance and contents, but is not significant enough to be included as the main text. Thus its appendices are placed directly following the related main texts. Category 'B' is less important, and mainly provided for reference, and thus appendices in this category are put at the end of the thesis.

orientated (Drucker 1974, p. 63; Lazer, Murata, and Kosaka 1985; Doyle, Saunders, and Wong 1986).

"Japan's penetration of Western markets is neither a sudden or recent phenomenon, but is the result of a logical series of steps begun about 25 years ago. It was the neglect of consumers and markets by American companies that gave Japanese firms an invitation to establish themselves in the U.S.."

(Lazer, Murata, and Kosaka 1985)

For instance, a focus on advertising, promotion, and merchandising, cited by Bennett and Cooper (1982), is not the core of the marketing concept. It has been argued that strategic planning has eroded the position of marketing (Day and Wensley 1983) and forced out the marketing concept in many companies (Webster 1988). The use of the warfare model in marketing has also been viewed as another obstacle to taking up the marketing concept (Rosenberg and West 1984).

It can be contended that the market effect has weakened in America because of market domestication and governmental regulation in the last two decades, while the competitive threat from foreign countries has, until recently, had an indirect impact on the American companies because "emphasizing the urgency of competitive renewal in this country is not an easy task in the middle of the strongest economic expansion of recent history" (Young 1985).

That active innovation is an inherent part of the marketing concept can be related to the market effect and the incentive of supernormal profits. The development of new products has been considered as not only rewarding but critical to maintaining a healthy organisation in a competitive environment (Urban and Hauser 1980, p. 2). In many instances, innovation is initiated as a result of stimuli from various pressures such as competitive impacts (Cyert and March 1963; Talley 1962; Melon 1960). Seemingly private firms are motivated to engage in innovation by the expectation of monopoly with concomitant supernormal profits (Schumpeter 1968; Rosegger 1980). Arrow (1962) has concluded that the incentive to innovate was greater under perfect competition.

Innovation is in line with the adoption of the marketing concept in that the market effect fosters both innovation and marketing behaviour, and a chief motivation for both innovation and marketing behaviour stems from the impact of each on profitability.

It has been claimed that: "It is the concept of value that links the marketing concept to innovation. Both are based upon the creation of value in the marketplace" (Morris and Lundstrom 1984).

When the marketing concept started being actively advocated and being relatively widely accepted, a significant concomitant phenomenon was that companies became more innovative and invested substantially in R&D (McKitterick 1957; Christian 1961; Burnett 1966; White 1978). For instance, Richard C. Christian (1961) presented:

"According to a recent American Management Association survey of some 400 corporations representative of U.S. industry, industry increased its 1960 investments for new product development by 10 percent over the 1959 level. It was reported that these corporations spent an average of 3.7 percent of 1959 sales for product development that year."

Based upon a study of 29 matched pairs of projects - half successful and half unsuccessful, Freeman (1972) has concluded that a key factor spelling success or failure is the extent of marketing orientation. In addition, studies highlighting barriers to innovation have indicated that poor communication between technologists and marketing managers (Twiss 1980) and lack of marketing capacity (Reekie 1971) have been among the crucial factors.

Considering the association between the market effect and market structure - a central theme in industrial economics, it should be mentioned that there have been two well-known opposite hypotheses pertaining to the relationships between innovation activities and monopoly power in industrial economics. One has contended that monopoly power favours innovation (Schumpeter 1942, p. 101; Schwartz and Kamien 1978) in view of the monopoly's attributes, such as the ability to bear high costs and risks, internal financial capacity, organisational slack, and retention of monopoly profits by preventing imitation from rivals. Another has seen monopoly power as retarding innovation (Jewkes, Sawers, and Stillernam 1963; Cooper 1964; Schumpeter 1964; Baldwin and Childs 1969; Shepeherd 1985).

Both contentions have hitherto not received conclusive support from empirical studies (Jewkes, Sawers, and Stillernam 1963; Mueller 1962; Hamberg 1963; Mansfield 1963; Adams 1970; Globerman 1973; Rosenberg 1976; Shrieves 1978). Scherer (1980, p. 438) has concluded that a small degree of monopoly power in the form of structural concentration rather than a very high concentration, and a modest level of entry barriers - the combination of organisational attributes or capacity and market pressure - are conducive to innovation.

CHAPTER 3: APPLICABILITY OF MARKETING IN CHINA

3.1 INTRODUCTION

The model suggests that the applicability of marketing in China should be analysed by looking into the two interacting factors in the economic system: (1) the control effect, namely, the degree of decentralisation or the autonomy of enterprises in different types of enterprises, and (2) the market effect, including the market structure and the extent of market functioning. The pattern of enterprise behaviour promoted by the two factors is examined and an analysis of the constraints embedded in both the economic system and Chinese culture on marketing behaviour is also presented.

3.2 EVOLUTION OF ENTERPRISE AND MARKET STRUCTURE

3.2.1 1949-1979

After taking over China in 1949, the new government nationalised the companies in raw and manufactured material industries, which became the major part of the economy at that time. The industrial output from the state-run enterprises amounted to 41.3% of total industrial output

from large industrial enterprises (Ma 1982). The state-run sectors of the economy included railways, postal services, and telecommunications, and other modern transport facilities.

At the beginning of 1952 there were three leading economic groupings in China: (1) state-run enterprises, which primarily controlled important industrial sectors; (2) farmers, handicrafts and pedlars, who dominated the rural economy and weighed importantly in the national economy; (3) private industrial and commercial businesses, which occupied the majority of manufacturing industries and distribution channels in urban areas (Ma 1982).

In 1956 private businesses were merged with state-run enterprises, emerging in the form of joint state/privately-owned enterprises. In this way the state started to exert dominant influences on the overall economy. The industrial output from state-owned enterprises accounted for 67.5% of total industrial output (excluding the handicraft industry) and from the joint state/privately-owned enterprises for 32.5%. In wholesaling and retailing, sales from the state-owned, supply-and-selling cooperative, and state/privately-owned enterprises comprised 99.9% of total wholesalers' sales and 95.8% of total retailers' sales (Zhou 1984).

In September 1966 all the joint state/privately-owned enterprises were converted into state-owned. With the economy advancing, state and collectively-owned enterprises multiplied, and so did their output. In 1980 the industrial and agricultural output from state-owned enterprises represented 60.3% of the total from industry and

agriculture; from the collective enterprises the figure was 34.6%, and from individual or family and other businesses, 4.7% (Ma 1982).

3.2.2 1979-1989

The economic reform has brought about great changes in enterprise structure, and different types of enterprises have emerged or revived. Table 3.1 presents the overall enterprise structure in China between 1979 and 1989.

TABLE 3.1 Enterprise Structure (1979-1989)

TYPES OF ENTERPRISE		ANALYTICAL CATEGORIES
State-Owned Enterprise		I
Urban Collective Enterprise		II
Village & Town Collective Enterprise		
Integrated Enterprise	Corporation	
	Cooperative	
International Enterprise	Sole Venture	III
	Joint Venture	
	Cooperative	
Individual Enterprise		
Private Enterprise		

By 1987 there were over 14 million village-and-town collective enterprises (VTCEs - a new type of collective enterprise), with a

total of 85 million employees, representing one seventh of the total rural labour force (Economic Research No. 34, 1988). The total output value in VTCEs was over ¥47 billion (about \$13 billion at that time), accounting for more than half of the total output in the countryside. The export-orientated VTCEs exceeded 18000, exporting to over one hundred countries with a value of \$5 billion. About 2400 VTCEs developed joint-venture, cooperative production arrangements, and over 10000 other business ties with foreign companies, i.e. compensation trade and production of goods based on clients' specifications or samples (People's Daily - Overseas Edition, 22 June, 1988).

The economic reform has revitalised individual and private enterprises. There were 14.5 million individual enterprises at the end of 1988, in which 23.0 million were employed. Sales from the enterprises totalled ¥119 billion (about \$32 billion), accounting for 13.8% of total retail sales in the country (People's Daily - Overseas Edition, 30 November, 1989).

By the end of 1987 there were 230,000 private enterprises, (each of which employed over 8 employees,) with a total of 3.6 million employees. Their total output value was ¥3.5 billion (about \$0.9 billion) and profit was ¥2.3 billion (about \$0.6 billion) (The International Economic Data Centre of the People's University of China 1988).

In July 1979, The Company Law of Joint Venture in China was issued, and since then a legion of joint-venture businesses have been established. At the end of July 1989, 19445 international enterprises

(being involved in foreign companies) were registered in China, among which 10732 were of joint-venture, 7573 of joint-production, 1090 of sole venture, and 50 of special projects (People's Daily - Overseas Edition, 19 September, 1989)¹. It is reported that

"Foreign investment inflows into China reached \$3.2 billion (amount utilized) in 1988, representing a share of 12 per cent of all inflows to developing countries in 1984-1988, compared to 4 percent in 1981-1983. In 1989, the inflow of contracted foreign direct investment in China reached \$5.6 billion, of which \$3.3 billion was utilized."

(United Nations 1990)

3.3 STATE-OWNED ENTERPRISES AND MARKETING BEHAVIOUR

State-owned enterprises (SOEs) have been the economic cornerstone of the country not only in terms of their dominant industrial output but also, more importantly, of their possession of advanced technology and equipment which dwarf those in any other types of enterprises. In 1986, the output value of SOE made up 68.7% of the total value of industrial and agriculture output (Outlook Weekly 21 September, 1987).

1 A description of this evolutionary process of the disappearance of privately-owned enterprises followed by their revival between 1979 and 1984 has also been presented by John A. Reeder (1984).

Their behaviour and performance are, therefore, of great importance to economic development in China.

3.3.1. Understanding Traditional Economic System

The economic system in China was gradually taking shape during the period of the first five-year-plan under the influence of political-economic and historical conditions. Being well-disposed towards the Marxist doctrine, the state was supposed to take on public ownership of the means of production, and undertake overall economic planning, which had to be performed within the framework of a centralised economic system. With little experience of constructing a planned economy, the government followed the centralised Russian economic system, including the managerial systems of manufacturing and transportation, capital construction, production planning, supply and product allocation, and labour force and remuneration (Zhou 1984). Moreover, the adverse economic situation at the time in China further consolidated the degree of centralisation.

The essential characteristics of the economic system reflected in industrial sectors are summarised as follows:

"First, the state assigns mandatory plan targets for important economic activities and relies on administrative measures to ensure the implementation of plans. Second, administrative departments at all levels hold the power to make planning policies. Moreover, targets are assigned to departments and localities, and management is exercised at each level. Enterprises lack the necessary power to make planning policies. Third, planning gives priority to product targets. The fulfilment of quotas for goods has become the main standard for evaluating successful results of work in departments, regions, and enterprises."

(Gao 1987)

Between 1954 and 1979, the economic system was reconstructed several times within the framework, repeatedly re-distributing authority over enterprises between the central and local governments (Ma 1982).

In the first decade after the establishment of the system, it appeared to be compatible with the economic conditions at that time. However, with the economic growth some serious drawbacks arose, which were described by Development Papers No. 7 of United Nations (1989, pp. 10-11):

"It had no room for the laws of value and the market mechanism to play their roles and prevented the commodity economy from being fully developed. All enterprises ate 'from the big pot of the state' and all workers ate 'from the big pot of the enterprise', which greatly depressed the enthusiasm, initiatives and creativity of the enterprises and their workers, thus largely depriving the socialist economy, which should have been overflowing with vigour, of its vitality."

Most of the elements in the traditional system remain functioning but less widely than before.

3.3.2. Enterprise Autonomy and Market Impact

The concept of the economic system contains two basic interrelated dimensions: the essence and structure of property and the economic operating mechanism. The reform initiated in 1979 has largely followed these two dimensions.

In July, 1979 the State Council issued five regulations outlining initial reform measures on delegation of autonomy to SOEs (Ma 1982). The regulations conceded to SOEs modest discretion in managerial and marketing functions, profit retention, depreciation funds, and the use of fixed capital and working capital.

During 1981, on the basis of enterprise autonomy, the industrial production and economic responsibility system was developed (Lee 1987;

Jefferson and Zou 1989). At the end of August 1981, 65% of total SOEs operated within the system (Ma 1982). Since then marketing-related activities have begun to emerge. Empirical research for the period from 1981 to 1983 identified various responses to market forces in SOEs, including market or customer orientated behaviour (Byrd 1987, pp. 244-245).

The more far-reaching changes in enterprise autonomy occurred on 10 May in 1984, when the Provisional Regulation on Expansion of Self-Management Powers in State-Run Enterprises was promulgated from the State Council (Jefferson and Zou 1989). The particular regulations having more direct impact on SOE market orientation were those that officially vested SOEs with discretionary powers in determining production in line with market demand after fulfilment of plan targets, pricing within the confines of a certain range, and self-marketing of the above-plan production.

Other reform measures which have further supported enterprise autonomy included the manager-responsibility system and The Enterprise Law of State-Run Enterprises (Jefferson and Zou 1989). From 1984 onward, many SOEs had to pay attention to markets and their operations began to be notably influenced by product-markets.

The results from a nation-wide survey of 429 sample enterprises demonstrated that in 1984 the degree of planning² in production was 24%, in major raw-material supply 73%, and in sales 57%. About 51% of

2 Degree of Planning = Budgeted Amount/Actual Amount.

these sample enterprises possessed, to a varying degree, autonomy in production, purchase, and sales (Reynolds 1987, p.5). About 77% of them had to schedule their production by taking markets into account, 90% had to depend partially on market supply, and 97% had to sell a portion of their products through market channels (ibid).

It was asserted that enterprises in Shanghai, one of the largest industrial cities, had to obtain 70% of their input from markets instead of from planned allocation (Outlook Weekly 23 November, 1987). Further, in 1986, the industrial products being subject to the mandatory plans decreased by 50% compared with 1984, and supplies allocated by the state reduced by 85% compared with 1979 (Economic Research No. 184, 1987).

The majority of enterprises were authorised to price a part of their products. The degree of the autonomy depended on the nature of their products. A recent national study of 172 enterprises revealed that the sales of major products at state fixed prices accounted for 50% of total sales, the sales of products priced by the enterprises within a certain range were at 26%, and those completely decided by the enterprises were 24% (Zhang 1987).

In 1986 the profit retention of SOEs increased by a factor of 5 over that in 1979. The retained profits in 1986 made up 42.2% of total profits of SOEs, while those in 1979 comprised only 7.9% of total profits of SOEs (Economic Research No. 184, 1987).

Concurrently, with the increase in enterprise autonomy, product inventories of SOEs increased remarkably. For example, the working capital for product inventories in SOEs at the end of 1986 rose by 19.7% over the beginning of the year (Economic Research No. 184, 1987). In 1987 less than 50% of total industrial products were in growing markets, whilst over 50% were in either mature or declining markets, or simply unsaleable (ibid).

However, despite this range of measures to expand enterprise autonomy, the diverse nature of the local and regional economy and reform processes means that there remains considerable variability in the range of discretion for each individual unit.

3.3.3 Investment Control and Market Orientation

Investment decisions form enterprise's fundamentals and shape its future.

"These decisions are 'strategic' in the sense that - at least, after the event - they have a significant impact on the company as a whole, and on its long-term performance."

(Marsh, Barwise, Thomas, and Wensley 1988)

Marketing orientation is often effected through timely investment in the projects capturing market opportunities. Thus how investment decisions are made in an enterprise is closely linked to its business

orientation. In Western countries, the management style that investment decisions are strongly influenced by corporate centres may not facilitate the practice of marketing orientation for various reasons explained in Chapter 2.

In China, the economic reform has brought about significant changes in the investment system. A distinct characteristic has been the emergence of new 'investors' such as enterprises, individuals, and banks, contrasting with the past situation in which investment decisions were made solely by governments at various levels. From 1950-1980, 80% of investment in capital construction was made through the state budgetary appropriation. In 1981 the percentage was reduced to 48.5%. (Ma 1982). A survey of investment spending in 23 cities in 1984 found that over 80% of gross extrabudgetary investment were made by enterprises and their supervisory agencies for both capital construction and technological transformation (Reynolds 1987, p. 110).

Two factors were directly associated with the motivation and likelihood of enterprise investment: financial autonomy and decentralisation of investment decision making. Seemingly the enterprise autonomy in investment decision is limited in that an investment project above a budget line has to be approved by the government. According to a survey undertaken in 27 cities, there have been four levels of authority to inspect and approve investment: level 1: 1-5 million yuan (a few exceeding 10 million yuna); level 2: 5-10 million yuan; level 3: 10-30 million yuan; and level 4: above 30 million yuan (Reynolds 1987, p. 116).

Such investment approval lines have two effects: (1) it justifies the involvement of governmental bodies in investment decisions; (2) it delays investment projects, and thus retard the enterprise ability to respond to markets and incurs enormous costs. "Ceilings on investments have high costs because they are enforced by means of across-the-board cutbacks, the suspension and delay of ongoing projects and the holding up of even urgently needed new projects" (Byrd and Tidrick 1987, p. 81).

In the last few years a pattern of joint investment decisions between government and enterprises with banks being involved has become established.

"The government intervenes both through the administrative procedure of examining and approving investment plans and through control over the supply of funds and materials. The supply of funds, particularly loans, has become the major form of intervention."

(Reynolds 1987, pp. 113-114)

With this pattern of investment decisions, the traditional symptom of investment hunger in socialist countries remains existent because of soft financial constraints (Kornai 1980; Byrd and Tidrick 1987). Therefore, investment decisions often cannot be confined within the domain of economic rationality, which is the foundation of marketing orientation. Major control-related reasons include:

(a) Obscurity concerning right, responsibility, and interest. Investment decisions involve governmental bodies, which assume no risks or responsibility for the performance of investment projects.

(b) The protection of poorly-run enterprises from the government. Since the government is a major 'investor' through either appropriations or 'bank loans', it would normally manage to put a project into operation and maintain its operation irrespective of its performance³.

Because of soft financial constraints, a SOE will still bid for investment even if it is aware that the amount of investment available is inadequate for completing the project. For instance, until February 1984, out of 90 investment projects investigated in different provinces and municipalities, 25 of them started before 1978 had exceeded the original budget by 75% or more; among 65 projects started and restarted after 1978, 59 had gone beyond the original budget by 34% or more (Economic Daily 25 May, 1984).

In Western countries there also exists the drive for a company to demand investment from its headquarters (Bower 1970), and meanwhile top management confronts the limitation of control over a project in terms of information and time to deal with the project (Bower 1970; King 1975; Marsh, Barwise, Thomas, and Wensley 1988). However, generally corporate financial control and market pressures play a

³ Another important factor is that the cost of investment funds has remained low, though attempts have been made to raise the cost in recent years (Byrd and Tidrick 1987).

crucial role in confining investment requirement. Accordingly, certain performance criteria must be satisfied and the time for the project to be put into operation has to be limited.

Because of the formidable problem of uncertain ownership between the state and enterprise regarding the products and properties produced by using enterprise retained profits, the enterprise would often rather use its retained profits for welfare and bonuses than for investment in production and R&D. A few studies have identified this tendency (Byrd and Tidrick 1987; Reynolds 1987).

In many enterprises the actual retained profits have been substantially reduced because of various taxes, expenses, and enforced sponsorship. Thus, aside from the enterprise and local authority, banks have increasingly become involved in investment decisions (Reynolds 1987, pp. 114-115). However, this is helpful in emphasising the profit dimension of a project, and hence in encouraging marketing orientation.

3.3.4. Demarcation of Enterprise Behaviour

The expansion of enterprise autonomy being accompanied by an increase in market pressures on enterprises has given rise to changes in SOEs' behaviour. Research on enterprise reaction to the impact of competition revealed that 90.5% of the sample enterprises turned to product improvement, 89.8% to new product development, 80.3% to advanced technology, and 71.6% to promotional effort (Zhang 1987).

However, enterprises with different conditions such as technology, size, and product characteristics may undergo different control and market effects, and thus behave differently.

A) Large and Medium-Sized Enterprises

Large and medium-sized enterprises⁴ (LMSEs) constitute the basis of the economy in the light of their predominant proportion of GNP and occupation of advanced-technology and key industrial sectors. Table 3.2 shows the scale structure of SOEs in 1980.

⁴ Different criteria are used in different industrial sectors; two principal ones are: (1) production capacity or turnover; for instance, in iron and steel complexes, those with annual steel production of over one million tons are classified as 'large' enterprises, between 100,000 to 1 million tons as 'medium-sized' enterprises, and less than 100,000 tons as 'small' enterprises. For car manufacturing enterprises, those with an annual unit production of over 50,000 are classified as 'large' enterprises, between 5000-50,000 as 'medium-sized' enterprises, and less than 5000 as 'small' enterprises; (2) original fixed capital; for example, in the case of general equipment manufacturing enterprises, those with an original fixed capital above ¥30 million are classified as 'large' enterprises, between ¥8 and ¥30 million as 'medium-sized' enterprises, and less than ¥8 million as 'small' enterprises (Ma 1982).

TABLE 3.2 Scale Structure of SOEs in 1980

Enterprise Scale	% of SOEs	% of Indus. Output
Large Enterprise	0.36	25.07
Medium-Sized Enterprise	0.90	18.11
Small Enterprise	98.74	56.82

Source: (Ma 1982)

In 1985 LMSEs produced over 90% of capital and industrial goods such as crude oil, aircraft, locomotives, steel, generators, and tractors. The fixed capital in LMSEs comprised 66% of the total fixed capital in SOEs, and the profits and taxes amounted to 62.3% of the total profits and taxes handed over the state by SOEs. Engineers and technicians represented 5.1% of the total employees in LMSEs, much higher than those in small SOEs (Economic Research No. 135, 1987).

The reduction of the degree of planning and expansion of autonomy in LMSE operation have taken some effect. Market research and forecasting, new product development, quality and cost controls have gradually been exercised in LMSEs. Importance has been attached to development of human resources and advanced technology; management approaches have been rationalised and regularised; the enterprises have been driven to develop various inter-relationships, and a large number of entrepreneurs have emerged (Xie et al. 1987).

In the Western context, large companies have been found to be more marketing orientated than medium-sized and small companies (McNamara 1972), but LMSEs do not necessarily compare consistently with the degree of marketing orientation in the West.

Some facts may suggest a clear need for marketing orientation in LMSEs. There are substantial unsaleable products in LMSEs. In 1985 their output inventory rose by 28.7% over the year. In particular a preponderance of products have not been competitive in international markets (Economic Research No. 135, 1987).

Despite having sufficient R&D competence to effectuate marketing orientation, LMSEs have often been less innovative or market driven:

First, the majority of LMSEs are in raw materials or capital-goods industries featuring sellers' markets. In 1985, industrial output from capital goods industries comprised 67% of the total output of LMSEs; consumer goods industries amounted to 32.3% of the total (Economic Research No. 135, 1987). The leading tasks of many capital goods producers have been to enlarge production capacity and improve product quality in lieu of market orientation.

Second, due to their crucial historical position in the economy, the degree of planning control over LMSEs has remained much higher than that over small enterprises (See Table 3.3). The high control effect has been critical in discouraging LMSEs from taking the initiative in adopting marketing orientation or innovation. For instance, a study in a medium-sized city indicated that among 66 major LMSEs, production facilities made in the 1960s accounted for 60% and in the 1980s for only 6%; technology belonging to the 1960s amounted to 53% and to the 1980s to only 8% (Outlook Weekly, 23 November, 1987).

TABLE 3.3 Degree of Planning in Different Size of SOEs

Type of Plan	Degree of Planning	
	LMSEs	Small Enterprise
Production Planning	28.39	3.55
Supply Planning	84.47	4.47
Sales Planning	67.97	3.02

Source: (Reynolds 1987).

Third, management capabilities in LMSEs are still inadequate. It was found that on average only in one out of seven LMSEs the managing director had senior technical or engineering qualifications. Managerial staff with university degrees or 'A' level equivalent qualifications accounted for only 10.6%, and with 'O' level or equivalent qualifications for 35.1% of the total (Economic Research No. 135, 1987).

In an analysis of the low level of innovation within LMSEs, it was concluded that (1) the LMSEs with outputs in short supply are not motivated to innovate, irrespective of short or excessive supply in their input markets; (2) the LMSEs with outputs in excessive supply fall short of either marketing skills to identify market opportunities or of funds to innovate or introduce innovations (Outlook Weekly, 23 November, 1987). Similarly it is evident that LMSEs have been less market orientated.

An empirical study has shown that LMSEs have not accepted marketing-related concepts to the same extent as small enterprises (Lu, Zhang and Yan 1988).

B) Small Enterprise

As shown in Tables 3.7 and 3.8, small enterprises have comprised about 99% of total SOEs and 57% of total industrial output. Because of their low level of planning control, they have been motivated to a larger extent to be market orientated. However, small enterprises have also encountered their own problems evidenced in shifts in their adaptive behaviour.

(1). The qualifications of managing directors in small enterprises have been much lower than those even in LMSEs. However, recent reforms in many cities have as a matter of policy promoted a large number of directors with higher education who, however, have never before occupied managerial positions. As a consequence, adaptability and performance in such enterprises have deteriorated even further (Economic Research No. 130, 1987).

(2). Numerous small enterprises proliferated as a result of the special industrialisation policy during the Cultural Revolution. They were characterised by obsolete technology or high operating costs (Zhou 1984). Moreover, most of these small enterprises have failed to evolve technologically because (i) they have not been treated as favourably as LMSEs by the state, and hence have less chance to have access to the state appropriations for upgrading technology; (ii) with tight financial control from governments, it has been difficult for them to raise funds internally. A large number of small enterprises, therefore, are still substantially obstructed by financial constraints.

3.3.5. General Constraints on Marketing Behaviour

Marketing behaviour in both LMSEs and small enterprises are retarded by the obstacles which relate to their technological and historical characteristics. Moreover, there are other general constraints that stem from the economic system and market domestication.

A) Nominal and Substantive Autonomy

Despite the government policy on the expansion of enterprise autonomy, it has been claimed and found that multi-channel leadership and direct interference from government into enterprise operation have continued to have an effect, and even increased (Economic Research No. 195, 1987; Xie et al. 1987; Tidrick 1987).

For example, two studies demonstrated the problem of long delays in approval of investment projects (Byrd and Tidrick 1987; Economic Research No. 195, 1987). It was found that managing directors consumed two thirds of their time dealing with the activities generated by various administrative bodies (Economic Research No. 195, 1987). Another study, centring on small enterprises in a city, also indicated that despite the official possession of discretion in the areas of personnel, finance, purchase and sales, organisational change, and use of certain funds, small enterprises exerted no tangible influence in these areas (Economic Research No. 130, 1987). Often the enterprise authorised to sell products may not have the actual discretion to price them (Economic Research No. 55, 1987). Reeder (1984) commented:

"It must be remembered that it is one thing to announce central government policy and another thing to ensure that it is followed. There is great resistance to loss of power and prerogatives on the part of lower-and middle-level bureaucrats."

Financial controls for all SOEs, especially for LMSEs, have remained substantial though there has been a formal increase in the autonomy of their profit retention. A large portion of retained profit has been importuned for various bonds, funds, and taxes by central and local governments and for sponsorship or apportionment⁵ from society. According to a study of twelve enterprises in a city, between 1985 and 1986, the annual nominal retained profit was 28% in the enterprises. However, after the outlay for the imposition of sponsorship and apportionment and distribution for the five established funds (production, R&D, preparation, welfare, and bonus), only 5% was left for the funds of production expansion and R&D (Xie et al. 1987).

Raw-material prices which have soared in recent years have enormously increased production costs in enterprises, while product prices have been restrained either by governmental price policy or market demand. Hence the profit margins in SOEs have declined substantially.

5 Auspices or apportionment: it has been prevalent in recent years for local governments to ask for funds from enterprises for urban construction or social welfare. These demands are almost equivalent to a mandatory task and become a heavy burden for many enterprises. Failing to satisfy the requirement can result in serious punishment in one way or another.

By reason of the drain on finance in SOEs, production equipment and technology have been outmoded and development of new businesses has been limited and the motivation for development has been depressed.

As a result of governmental policy in favour of collective, private, and international enterprises, the initiative and activity in SOEs have been greatly discouraged. For example, the high personal income in individual, collective, and international enterprises has significantly affected the morale of employees in SOEs (Xie et al. 1987).

B) Asymmetrical Market Structure

Theoretically and empirically it has been suggested that the overall market structure has been asymmetrical: in many enterprises supplies in their product-markets significantly exceed those in their supply markets. As a result, in many instances, enterprises confront difficulties from both product and supply markets: while having problems in selling their products, they have to try hard to secure supplies (Byrd 1986; Xie et al 1987; Reynolds 1987, pp. 50-57).

Three major factors have been considered as contributing to the formation of the asymmetrical market structure: "(1) the unevenness in the rate of reduction of the planned share, in supply, production, and marketing; (2) the uneven application of reform in different sectors of industry; and (3) differing supply elasticities in different industrial sectors" (Reynolds 1987, p. 52).

The ratio of input inventory to output inventory - the Kornai index - can be used to measure the level of a buyer's market or seller's market (Kornai 1980). In a demand-driven economy, an enterprise finds it much easier to buy than to sell, and thus it generally bears more output inventory. In contrast, in a supply-driven economy, buyers have little choice and sellers little competition, and consequently, to cushion the effect of input on production, an enterprise tries to stock more inputs. Table 3.4 lists the Kornai indices in six countries for comparison⁶.

TABLE 3.4 Examples of Kornai Indices in Six Countries

Buyer's Market Economy	Time	Kornai Index	Seller's Market Economy	Time	Kornai Index
Austria	72-77	1.50	U.S.S.R	69-77	10.80
Sweden	68-72	0.72	Poland	75	10.30
U.S.A.	60-77	1.05	Hungary	71-80	7.89

Source: "Economic Research" No.10 1985

The Kornai index of the sample enterprises in China is presented in Table 3.5. The table demonstrates that the industrial market remained mainly dominated by sellers, but their position showed a declining trend, from 4.6 in 1983, to 3.8 in the first-half of 1985.

⁶ In the late 1950s, the JIT system was developed in Japan, and in the 1970s this system also began to be utilised in America and many Western European countries (Oakland 1989, p. 87). Therefore in these countries, the more recent Kornai indices might be even lower than those shown in the table.

TABLE 3.5 Inventory Ratio of Sample Enterprises

(N=429)

Time	83	84	85(1-6)
Ratio			
$\frac{\text{Input Inventory}}{\text{Output Inventory}}$	4.6	4.5	3.8
$\frac{\text{Input Inventory}}{\text{Sales}}$	0.1533	0.1473	0.1579

Source: (Reynolds 1987).

Aside from the producers' attempt to stock more inputs than they need, input suppliers are also shown to behave similarly so as to fulfil their supply targets. The supplier-participation in stocking inputs has further aggravated shortages in input markets. For instance, steel has been a raw material in extreme scarcity for many enterprises. A particular investigation in a city revealed that steel stocks of both users and suppliers increased between 1986 and 1987 (See Table 3.6) (Economic Research No. 91, 1988).

Therefore, the asymmetrical market structure gives rise to two immediate consequences in the light of marketing orientation: (1) industrial goods producers are evidently less market orientated than consumer goods, and (2) consumer goods enterprises which need or desire to be market orientated can face supply constraints.

TABLE 3.6 Structure of Steel Stock in a City (1986–1987)

(Unit: Ton)

Date	User Stock	Building Stock	Producer Stock	Supplier Stock	Finished Goods	Total
01/01/86	64,604	10,011	4,755	10,642	2,368	92,380
30/06/86	84,280	8,058	7,241	15,078	4,546	119,203
01/01/87	88,315	10,368	7,122	11,598	2,600	120,003
30/06/87	88,593	7,084	7,974	19,723	3,923	127,297

C) Regional and Industrial Protectionism

Having long been exposed to a highly centralised economy, many SOEs have not been prepared for the dynamic market-driven environment. Hence, since 1979 many kinds of organisations have emerged to buffer competitive pressures, such as 'loosely-integrated enterprises', 'cartels', and 'industrial associations' (Xu 1987). Apart from their justified functions, these organisations often coordinate prices, divide up markets, and set entry barriers (Zhang 1987), whereas antitrust regulations have remained underdeveloped.

Another major obstacle to the development of national markets has been the protectionism of regional governments (Economic Research No. 55, 1987; Economic Research No. 91 1988; Byrd 1986). Local products have been prohibited from being sold outside the region and commercial enterprises have been required to purchase only from local producers. A crucial side effect of the protectionism is that: "Protectionism insulates backward enterprises from competition that would force them to make improvements to survive and develop" (Byrd 1986).

The motivations for local governments to exercise such protectionism include: (1) facing a shortage of supply, local governments have been motivated to satisfy the regional market demand first so as to restrain the regional prices from rising; (2) with products being sold outside the region, local governments would lose the chance to levy the wholesale tax; (3) considerable trading profits would be lost should products be sold outside of the region (Economic Research No. 55, 1987); and (4) local fiscal revenues may be stabilised and increased by protecting local industries from outside competition and fostering local industrial development⁷.

D) Dual-Track System: Operation and Malfunction

The 'dual-track'⁸ phenomena can be widely seen nowadays. For instance, permanent employees allocated by the state versus casual labourers recruited from the labour market; formal employment versus second jobs; in universities state-sponsored students versus enterprise- or self-sponsored students; managing directors appointed by the state versus managing directors elected by employees in enterprises; and production for plan quota versus production for markets in state-owned enterprises (Outlook Weekly 12 September, 1988).

7 In view of this regional market protectionism, it has been proposed that an analytical approach of international trade may be used to treat interregional competition either between established producers or between established producers and new entrants in the state-owned industry (Byrd 1987).

8 Indicating the coexistence of plan and market system.

The initial concept of the dual-track system, "whereby part of total production of each good is allocated by various kinds of directive plans, part by markets", can be traced to its origin in the 1970s (Byrd 1987, p. 5).

"Formally, under the two-tier system each enterprise faces a vector of output plan targets, targets for compulsory procurement of output, and input allocations; input purchases, production, and output sales above these target levels occur through the market at flexible prices. All types of mandatory production planning, compulsory procurement of outputs, and administrative allocation of supplies are included in the 'plan' part, while the market portion is only that part which is genuinely subject to market allocation on a voluntary basis, at market-determined prices."

(Byrd 1988, p. 6)

The reforms of price policy are considered as having largely promoted the dual-track system. A prime outcome of the reform has been the dual pricing system⁹ for industrial goods, started in February, 1985 (Wu and Zhao 1988). The implementation of the system has brought about myriads of products to be exchanged at both market prices and float prices, i.e. the enterprise has the pricing discretion within the confined range. For instance, in 1987 52% of national steel production

9 In this system there have been fixed (plan) prices for centrally allocated supplies and market prices for above-plan supplies.

was allocated at plan prices and 48% was sold in line with market demand (Outlook Weekly 12 September, 1988).

The advantages and disadvantages of the dual-track system have been widely discussed and disputed among both Chinese and Western economists. A critical argument has been that within the dual-track system the plan and market sub-systems interact with each other and therefore both malfunction (Diao 1989).

The logic of the economic reform can generally be seen as having divided off a sector from the planning system and attempted to create quasi-market conditions in the sector in the hope that it would function as if it were in the market system. Presumably, with the sector proportion gradually increasing, the influence of the market mechanism would become dominant in the economy.

However, neither the market sector nor the remaining planned sector has operated in isolation. The creation of the market sector has brought about the functioning of the market price, which has, nevertheless, affected not only this sector, but also the planned sector.

The market price of an industrial input in the market sector implicitly plays a role in appraising the input in the planned sector. In general the 'market price' is higher than the 'plan price' for industrial inputs. Therefore, the difference between the market and plan prices for the same input represents a value, which can potentially be obtained through trading. Obviously, the greater the

discrepancy between the market and plan prices for the input, the more valuable the input is to the holder of the resource.

In the traditional economic system, the state planning controlled the flows of real national product and hence the money flows. Enterprises as producers applied to planners for all the industrial inputs needed for their production; the types, sizes, or varieties of industrial inputs for which the enterprise was applying were determined by its production requirement assessed by the enterprise.

Due to the existence of the difference between the market and plan prices for the same input in the two sectors, the enterprise has become chiefly concerned about the price difference of an input rather than the enterprise's production requirement in its application for industrial inputs. The state planner follows the traditional planning procedure in the belief that the supply of inputs matches the demand of inputs. However, the users of the industrial inputs (the enterprises) now seek to maximise the inputs that have the greatest difference between the market and planned prices. The types, sizes, and varieties for which the enterprise is applying are determined by the enterprise based on the price difference of inputs, rather than its actual production requirement. As a result, many enterprises end up having the industrial inputs which are not appropriate for their production, but which contain more potential trading values.

Swap markets for industrial inputs, therefore, have emerged, whereby the enterprise meets its needs through exchange. Thus the planned sector no longer functions as it used to, and swap markets, bridging

the plan and market system, become an inherent part of the planned system. Considerable industrial inputs from the planned sector enter into transactions through swap markets.

Given the problem of achieving the equilibrium between demand and supply in the planned sector, the government has been forced to be involved in sector regulation. Only either by purchasing industrial inputs in the market sector or by increasing the degree of planning, which reduces the size of the market sector, the equilibrium may be attained.

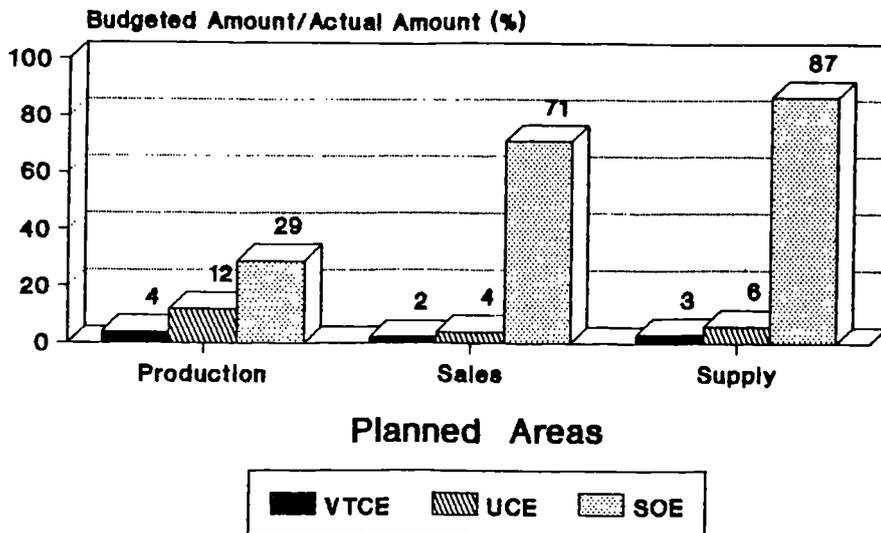
Because of the interaction between the planned and market sectors, the boundary between the plan and market¹⁰ has further blurred. By the end of 1985, there were 644 national swap centres, which were directly organised or supported by local governments (Economic Research No. 55, 1987).

3.4 COLLECTIVE ENTERPRISES AND MARKETING BEHAVIOUR

Two types of enterprises fall into this category: urban collective enterprise (UCE) and village-and-town collective enterprise (VTCE). In general, they undergo a lower level of the control effect, with the control effect in UCEs slightly higher than that in VTCEs. Accordingly

10 The analysis mainly focuses on industrial markets; but the same logic can also apply to many scarce durable consumer goods markets.

FIGURE 3.1
Degree of Planning in Different
Types of Enterprises in 1984



n = 429 (Reynolds in 1987)

they confront a higher level of the market effect. Figure 3.1 illustrates the degree of planning in SOEs (n=279), UCEs (n=131), and VTCEs (n=19) in 1984. As can be seen, the degree of planning in UCEs and VTCEs was far less than in SOEs.

Less planning control also means that UCEs and VTCEs have less access to supplies at plan prices and obtain the quota of planned

purchases¹¹. Thus, they have experienced far greater market pressures, and supposedly taken more marketing initiative.

Most UCEs and VTCEs start with inadequate funds, plant and equipment, and engineers and technicians. Their equipment and facilities are usually second-hand bought from SOEs. As such, by turning to market orientation, they often position their businesses in areas where there are severe shortages or the competitiveness of SOEs is weak.

VTCEs have developed numerous businesses associated with agricultural-product processing and handicraft industries, where they have had unique access to certain supplies. They have been leading exporters of certain kinds of products in the country, such as silk, clothing, handicraft articles, rug, dry processed fruits, firecrackers, weaves, and duck or goose down (Economic Research No. 34, 1988).

To compensate for their inferior technological conditions, it is their usual practice to recruit highly qualified engineers and technicians from SOEs with much higher salaries, actively pursuing innovation. It has been estimated that in recent years about 60% of the innovations recommended by the state scientific and technological authorities have been put into production by VTCEs (People's Daily - Overseas Edition 12 August, 1988). As a result of their close link to research institutes, in 1988 1000 of their products were awarded the prizes of super quality at provincial and national levels, and 16 of them won

11 When the products of an enterprise are not competitive, 'planned purchases' are seen as desirable by the enterprise.

the international gold and silver medals and prizes for excellent quality (ibid).

VTCE and UCE businesses range from high-technology, metallurgical, mechanical, chemical, food, extractive, to agricultural process products and to service industries. For instance, in a high-technology industrial area in Beijing, UCEs are known to be dominant (Yu 1988).

By and large, most UCEs and VTCEs mainly produce intermediate products such as agricultural products or by-products, raw materials and components for SOEs. In addition, relatively outdated equipment in SOEs will be sold to VTCEs and products at the mature stage in SOEs will transfer to VTCEs for production in a form of quasi-joint venture.

With economic conditions differing from region to region, the performance and distribution of industries they run differ greatly in different regions. For instance, VTCEs are more developed and better run in Eastern China, compared with those in Western China.

A large number of UCEs and VTCEs have been recognised as market-orientated and very successful, domestically and internationally. For instance, the VTCEs in the suburbs of Shanghai have been observed to tailor their products for different international markets, such as different tastes and fashions as well as measurement systems, and especially attach importance to delivery time in line with the customers' requirement (Outlook Weekly 14 December 1987).

However, there have been a large number of UCEs and VTCEs in poor cost and quality positions in comparison with SOEs. In the past, SOEs were restricted by the control effect and thus could not compete with VTCEs on the same ground, and inflated market demand derived from the rapid economic growth eased and sustained their inefficient operation. This situation has been substantially changed: SOEs have been, to some extent, invigorated, and meanwhile the asymmetrical market structure has further worsened UCEs' and VTCEs' cost position. Hence the adverse reality has left them little choice but adoption of market orientation.

3.5 PRIVATE ENTERPRISES AND MARKETING BEHAVIOUR

There are three types of enterprises in this category with the salient feature of dependence on the market mechanism: international, individual and private enterprises.

3.5.1 International Enterprise

International Enterprises (IEIs) indicate those involving foreign companies in the form of (1) sole venture, i.e. foreign companies open their own businesses with full ownership in China, (2) joint venture, and (3) contractual arrangements (licensing, franchising, contract manufacture, and co-production agreement) between foreign and Chinese enterprises.

A broad range of industries are covered in IEs, such as energy, transportation, metallurgical, electronic, chemical, building material, communication, medicinal, agricultural, animal husbandry, fishing and tourism industries. Geographically IEs are distributed nationally, even in Tibet (Outlook Weekly 7 December, 1987).

IEs have been a major medium introducing market-orientated business concepts into China. In IEs Chinese managers have been well disposed towards the concepts of efficiency, quality, markets, and new product development. Marketing concepts and approaches have gradually spread from IEs into Chinese enterprises, and into society. In the early 1980s, when the slogan "time is money and efficiency is life" first appeared in the economic special zones, it was treated with suspicion. Later on it was not only accepted and but also applied by many people. Even in some less developed regions where there are IEs, business concepts have evolved. For instance, in a coal mining joint-venture enterprise located in such a region (Northwest China), when a senior engineer was asked for his perception of the changes in the coal mine brought about by the joint venture, the reply was simply that: "in the past I walked one step by one step, today I stride by putting three steps into two" (Outlook Weekly 7 December, 1987).

TABLE 3.7 Structure of Investment from Foreign Companies
(July, 1979 - December, 1985)

(Unit: %)

Area of Investment	Type of Investment		
	Joint Venture	Cooperative Production	Sole Venture
Hotel	48.5	50.0	10.0
Mechanical, Electronic	15.5	2.0	35.0
Consumer Goods, Textile	21.0	5.0	30.0
Energy	10.0	15.0	0.0
Building Material	0.0	10.0	20.0
Agricultural	0.0	8.0	0.0
Service	5.0	10.0	5.0
Total	100.0	100.0	100.0

Source: The International Economic Data Centre of the People's University of China, 1988.

As shown in Table 3.7, a large number of IEIs are in severely competitive industries, such as mechanical, electronic, consumer goods and textile industries, concurrently competing in both international and domestic markets. Hence, they more often develop new products and improve product quality.

They have realised from their past experience that quality is only a prerequisite condition to keep business going, but it cannot guarantee success. A managing director in an IEI vividly depicted its business strategy of "children eating candies": eating one, holding one, and watching another (Outlook Weekly 7 December, 1987).

The possession of autonomy to run businesses in IEIs has been considered essential for them to be successful. In general IEIs are less controlled as a matter of governmental policy. For instance, a study found that management in joint-venture enterprises had more

managerial authority (Child 1987). However, some of the discretionary powers have also been resisted such as firing incompetent employees (Outlook Weekly 7 December, 1987).

3.5.2 Individual and Private Enterprises

Individual enterprises (IE2s) indicate those whose businesses are set up and run by one member or a number of members of a family. The origin of IE2s can be traced back to 1949, when there were 30 million people in IE2s; among others 7.24 million of them were located in towns and cities. By 1953 the figure in town and city reached 8.38 million (Outlook Weekly 30 November, 1987).

In the midst of 1959, almost all the IE2s were merged into SOEs or UCEs because of the government policy. From 1962 through 1964, about 2 million IE2s revived nationally due to the previous economic recession and new government policy. During the period of the Cultural Revolution, as the representatives of 'capitalists', the majority of IE2s were wiped out. After 1979 they once again mushroomed (Outlook Weekly 30 November, 1987).

Concomitantly developed with IE2s have been a large number of private enterprises (PEs). PEs are defined by the Chinese private-enterprise law as the profit-orientated economic organisations whose properties are owned by the private individuals or groups and that hire more than 8 employees (People's Daily - Overseas Edition 30 June, 1988). Three

types of PEs have officially been specified: sole venture, partnership, and limited responsibility companies (ibid).

Most PEs are closely associated with IE2s, involving two types of business relationships: partnership and employees. When an IE2 business expands up to its production limit, either a partnership is formed or employees are recruited in order to further develop the business (Economic Research No. 95, 1988), resulting in the formation of PEs. This evolutionary relationship between IE2s and PEs is shown in the division of their business areas. About 80% of PEs have been engaged in manufacturing or processing businesses, which require 'economies of scale'. In contrast, about 75% of IE2s have their businesses in retailing, wholesaling, and services, which can be undertaken in a small scale (People's Daily - Overseas Edition 30 November 1989). The number of hired employees in PEs has ranged from 8 to several hundred (Outlook Weekly 30 November, 1987).

The number, scale, and performance of PEs vary significantly between different regions. By and large, in the regions with more developed markets and weak SOEs and UCEs, PEs are more prosperous (Economic Research No. 95, 1988). A study of PEs in a relatively developed province found the characteristics contrasting sharply with SOEs (Economic Research No. 125, 1988):

- 1). Market orientation. Their businesses have often been developed in scarce markets or market niches. Product quality has been greatly emphasised in PEs, and full warranties have often been provided.

2). Small and flexible. As small businesses, many of PEs have been staffed by competent management, and there have been less hierarchical layers for decision making. They can, therefore, quickly modify their product lines in response to market changes and set prices in accordance with market demand.

3). Attaching importance to human resources. Knowledgeable and experienced managerial staff and capable technicians have often been recruited with high salaries. Aside from recruiting retired managers and technicians, those currently having positions in SOEs are also invited to work on the part-time basis.

4). Long-term perspectives¹². Despite the uncertainties about their future, many PEs have ploughed their large proportion of retained profits back.

When private-owned businesses were first permitted, people involved in such businesses were chiefly: those who were in individual businesses before, who were released prisoners or reformed criminals, who had difficulty of access to SOEs and UCEs, and who were business-minded peasants. It has been estimated that the released prisoners or reformed criminals accounted for about 10% of the total individual business (Outlook Weekly 30 November, 1987).

12 This characteristic may not be generalised in that some PEs are concerned about changeable government policy, and thus do run businesses with a short-term outlook (The International Economic Data Centre of the People's University of China 1988).

Subsequently, a large number of school-leavers, university graduates and lecturers, workers and staff in SOEs, and demobilised soldiers joined the individual and private enterprises. For instance, a lecturer from a commercial school left to run a water-furnishing equipment business, which eventually became a medium-sized PE with over 400 employees and ¥2 million fixed capital (Outlook Weekly 30 November, 1987). Therefore many PEs have been staffed by people with good qualifications.

However, both the orthodox socialist doctrine and cultural environment are hostile towards the development of IE2s and PEs. Numerous PEs have been found to be operating in the name of UCEs or VTCEs (Economic Research No. 132, 1987; Economic Research No. 57, 1988). Their major concerns include: 1) changes in governmental policy, 2) condemnation as 'exploiters', 3) restriction in further development, 4) 'iniquitous reputation', and 5) the image of 'rich individuals', which may arouse trouble (Economic Research No. 132, 1987).

As a result, many IE2s and PEs take the initiative in donation, sponsorship, relief funding, and social welfare to evade potential troubles or conflicts that might stem from the impact of great income discrepancy between owners of IE2s and PEs and others (Economic Research No. 95, 1988).

3.6 MERGER AND MARKETING BEHAVIOUR

3.6.1 Consequences of Mergers

Included in this section is an analysis of a noteworthy phenomenon - mergers and acquisitions, which have taken place nationally in recent years. The inclusion of the discussion of the topic is mainly due to two reasons¹³:

1). Mergers and acquisitions involve a transfer of the rights of enterprise properties and therefore a change in control relationships in terms of the control systems associated with the merged enterprises. In particular, when mergers and acquisitions take place between SOEs and the less controlled non-SOEs, the effect is more significant.

2). The environment of merged enterprises may be dramatically altered. In Western countries, it has been recognised that mergers may reduce competition (Shepherd 1979, p. 158 and 1985, p. 90; Stigler 1968, pp. 299 - 300). "Horizontal mergers invariably raise market power, for by definition they eliminate side-by-side competition between the two firms" (Shepherd 1985, p. 90).

13 This part mainly serve to raise the issue, which itself may be established as a further research topic in the future.

The close relationship between mergers and the market effect has been suggested by the development of the antitrust laws, a crucial factor ending the 'era of merger for monopoly' in American business history (Stigler 1968, p. 100).

Market pressures on inefficient or failing enterprises may be significantly cushioned through mergers and acquisitions. "When more serious problems are causing 'failure,' the firm may be 'salvaged' by merger with a healthy firm. Such 'failing-firm' mergers occur frequently" (Shepherd 1979, p. 161).

3.6.2 Development of Mergers (1985 - 1989)

Recognising the advantage of economies of scale, the government took the great initiative in mergers and acquisitions by administrative means before the reform. However, the 'merged' enterprises showed no notable differences from their past operation and performance. The following were possible major obstacles:

(1) Despite operating at a loss, the enterprises enjoyed state subsidies and assumed no responsibilities for their performance. Moreover, the employees received no less wages and fringe benefits than those in profit-making enterprises. Hence, an enterprise was normally unwilling to be merged so that it could maintain its independent identity and the director could have the same status as others. As a Chinese proverb put it: "rather be the head of a cock

than the tail of a horse". As a result, mergers encountered resistance from enterprises.

(2) Every enterprise is subordinated to a supervisory system. If a merger is attempted between enterprises belonging to different systems, the supervisory agencies generally would be obstructive, seeing nothing to be gained either financially or politically. Additionally, with the problems of uncertain property being involved, no clear central policy could be followed. To avoid the potential responsibility, therefore, supervisory agencies would not normally support the merger or acquisition.

However, around 1985, mergers and acquisitions began to emerge in two cities on the experimental basis. The initial trial results showed that there could be both a macro-economic and a micro-economic effect (People's Daily - Overseas Edition 27 May, 1988; People's Daily - Overseas Edition 22 February, 1988; Outlook Weekly 31 October, 1988). In a city, for example, fiscal revenue increased by 19% after mergers, having eliminated all operating losses in SOEs (Outlook Weekly 31 October, 1988).

Starting in about 1988, the wave of mergers and acquisitions has spread over more than 10 provinces, municipalities and autonomous regions in the country. Until April 1989, nationally 2856 enterprises merged and acquired 3424 enterprises. In eight cities the administrative offices specially in charge of transfer of property have emerged to facilitate the process. Among acquired loss-making enterprises, 57% became profitable, and losses eliminated through

merger and acquisition amounted to ¥200 million. About 75% of mergers and acquisitions have involved the transfer of property to different owners; 6.5% to different regions; 33% to different industries (People's Daily - Overseas Edition 13 April, 1989).

Seemingly the economic reform has promoted and motivated mergers and acquisitions. An expansion of autonomy and reduction of subsidies have forced inefficient enterprises to find their own ways of improving performance. On the other hand, before merging, successful enterprises have often been restrained by lack of funds, ground-space, equipment and human resources, from expanding production to meet growing demand. Therefore both types of enterprise have embraced the idea of being merged.

The reform has vested financial discretion in local authorities, whose initiative and policy have a close bearing on the performance of local enterprises and thus local fiscal revenue. Furthermore, the local authorities are virtually freed from risky ventures, and hardly need to inject capital to offset operating losses, hence they are also motivated to encourage mergers and acquisitions.

An insight into 'mergers' in China may be gained by looking at the American history of mergers. The emergence and growth of American large corporations were first fostered by mergers, which 'peaked in 1897 - 1901' (Shepherd 1979, p. 161). Similarly, mergers may gradually bring about a large number of 'large enterprises' in China.

3.7 SUMMARY

In China there have been great changes in the market structure and enterprise behaviour since 1979. Market orientated behaviour has been, to a varying extent, existent in all kinds of enterprises. The overall enterprises can be categorised into three groups based upon the types of ownership and hence the control and market effect. The categorisation in order of diminishing control effect is: the state ownership - relating to the high control effect (SOEs), collective ownership - relating to the medium control effect (UCEs and VTCEs) and private ownership - relating to the low control effect (IE1s, IE2s and PEs).

Generally, IE1s are most marketing orientated out of all types of enterprises. This is not only because of the high market effect and low control effect but also because of their competent management teams selected according to a higher standard and their international business experience.

Although IE2s and PEs are more motivated to be market orientated, compared with the collective and state-owned enterprises, their endeavour is to some extent depressed by their political concerns, social pressures, and governmental interference.

Collective enterprises have more motivation to steer their operation towards market needs in comparison with state-owned enterprises. Nevertheless, the crucial barrier to their development has been their

insufficient knowledge of business management, which appears to be more important than in the cases of the private and state-owned enterprises. Most businesses in private enterprises are fairly small and thus easier to redirect. For SOEs, their relatively better technology and production facilities, allow their production orientation to be more competitive. Caught in the middle, with small and medium-sized businesses and inferior technology, UCEs and VTCEs have to compete by either more efficient operation or by finding a market niche, as many of them have demonstrated.

To summarise the previous analyses, marketing orientation in China is likely to be retarded by the following factors:

(a) Marketing orientation requires an enterprise to develop products based on customer needs and wants. Many enterprises are incapable of doing so because of their incompetence in R&D.

(b) At a basic level of concerning the practice of marketing orientation, managing directors need to accept 'the marketing concept', and to be innovative. Because of factors such as working backgrounds, cultural traits, qualifications, and the control effect, seemingly it is often difficult to satisfy these two requirements.

(c) Because of tight financial control in SOEs, a drain on funds often obstructs marketing-related endeavour and capability.

(d) The control effect remains strong in many SOEs, particularly LMSEs, and hence it often substantially depresses enterprise marketing initiative.

APPENDIX A2: CHINESE CULTURE, MARKETS, AND MARKET ORIENTATION

Introduction

The above analysis has primarily focused on the issues reflecting the effects of the political and economic systems on markets and hence on marketing behaviour. The analysis of factors influencing marketing behaviour in China must of necessity take account of the extremely stable traditional Chinese culture, which has endured for about five thousand years (Fan 1987) and has left a deep imprint on every Chinese person in both mainland China and the world at large¹⁴.

This section starts with the definition of 'traditional Chinese culture', followed by a discussion of the conflict between the doctrines of both conservatism and profit-aversion and the key elements of innovation and profit direction in marketing orientation. Finally, presented is an analysis of the detrimental effect of the 'interpersonal relationship' rooted in Chinese culture on market functions and hence the exercise of marketing orientation.

14 Because this topic is complicated and arguable, and becomes involved in sociology or religion, it is included to serve as reference or for further study.

Definition of Chinese Culture

In this section, 'traditional Chinese culture' means the system of ultimate values which has been formalised on the basis of an autarchic economy since the Qin and Han Dynasties (221 B.C. - A.D. 24); Confucianism has predominated, with the infusions of other doctrines, such as Taoism and Buddhism (cf. Zi 1987).

"If we were to characterize in one word the Chinese way of life for the last two thousand years, the word would be 'Confucian'. No other individual in Chinese history has so deeply influenced the life and thought of his people, as a transmitter, teacher, and creative interpreter of the ancient culture and literature, and as a molder of the Chinese mind and character. The other ancient philosophies, the religious systems of Taoism and Buddhism, all have known their days of glory and neglect; but the doctrines of Confucianism, since their general recognition in the first century before Christ, have never ceased to exert a vital influence on the nation down to our own century."

(Bary, Chan, and Watson 1960, p. 15)

A recent study compared the negotiating conduct of Chinese businessmen in Hong Kong, Taiwan, Singapore, and mainland China with that of American counterparts. The results suggested that Confucian philosophy still lays the foundation of Chinese cultural traditions and values (Shenkar and Ronen 1987).

Seemingly there are both positive and negative elements in Chinese culture (Zi 1987). Ancient Chinese thoughts on military strategy and tactics are considered as useful in developing modern business strategies (Min 1987; Fan 1987). Ohmae (1988) has, for instance, cited several cases in which a strategy proposed by an ancient Chinese military strategist was successfully applied, to refine business strategy. A number of tenets and conclusions drawn from recent studies on corporate culture in Western countries appear similar to some ancient Chinese philosophical views (Fan 1987). A recent study of national culture based on the Asian 'Five Dragons', Japan, South Korea, Taiwan, Hong Kong, and Singapore, concluded that "Confucian Dynamism" (some values selected from the Confucians' teachings) is positively correlated with economic growth (Hofstede and Bond 1988). However, despite some similarities between these cultures and those in mainland China, major distinctions can be drawn:

(1) It appears that Japanese and Chinese cultures share common elements of Confucianism, but it has been recognised that there are major differences between the two cultures (Hall and Xu 1990). Japanese culture characterised by Confucianism is considered as being blended with Hinduism, Shintoism, and Buddhism (Hofstede and Bond 1988; Hall and Xu 1990).

(2) Taiwan has been subject to successive colonial influence, with the Dutch and Portuguese in its early days (1519-1648), followed by the Japanese (1905-1945) (Redding 1990, p. 24).

(3) Hong Kong and Singapore have long been the colonies of Britain, and thus have absorbed elements of British culture. In addition, in Singapore there is also the evident Indian and Malay effect as well as "managerial and technical influences from the West and Japan" (Redding 1990, p. 24).

(4) As island economies, Hong Kong, Taiwan, and Singapore rely substantially on international trade. Hence, their close link to the Western world tends to have an effect on their values and behaviour.

(5) Their economic systems appear to bring positive elements into play such as thrift, asceticism, and industriousness and limit the level of the influence of some negative elements such as kinship relationships.

There has been considerable discussion about the pros and cons and implications of traditional Chinese culture in economic development among both mainland and Overseas Chinese scholars since the early 1980s (See Zi 1987; Beijing Review 16-22, May, 1988; Beijing Review 23-29, January, 1989). The major themes of the discussion can be summarised as follows: "an overall reevaluation of the essence of Chinese traditional culture, its role in China's modernization, comparative studies of Chinese and Western culture, and a general study of the history of human civilization" (Zi 1987). This discussion is a continuation of the one being traced back to the mid nineteenth century (Zi 1987; Beijing Review 16-22, May, 1988).

The effect of a few elements in Chinese culture on management efficiency, forms of business organisations, and managerial methods in

mainland China, Taiwan, Hong Kong, and elsewhere have also been studied extensively (See Redding 1980; Wilson and Pusey 1982; Redding and Ng 1982; Nevis 1983, Duan and Huang 1986; Laaksonen 1984; Huang 1989; Lockett 1988; Fukuda 1989; Redding 1990). However, little attention has been given to the cultural effect on enterprise behaviour from marketing perspectives.

As far as traditional Chinese culture is concerned, there exists a consensus of opinion that a number of its principal values are in conflict with, or an impediment to, the development and application of advanced science and technology. What is more, the interaction of the Cultural Revolution with these values can never be over stressed. Nevis (1983) wrote:

"The Cultural Revolution nonetheless brought about two major cultural attitudes. First, great caution about standing out in any way became the norm. It was too risky to assert a great deal of initiative unless one was certain of how it might be received. Since such clarity was generally lacking, few people dared to take this risk. Second, in order to reward loyalty to the work unit and the nation as a whole, the concept of sharing equally became prevalent."

This effect of the Cultural Revolution has greatly reinforced some major negative mentalities in traditional Chinese culture such as the doctrine of 'everything in moderation' and 'egalitarianism'.

Although there has been a multitude of successful businesses in Taiwan and other South East Asian countries, they are of the 'Chinese familistic type', culturally conditioned, rather than more rationally and bureaucratically organised (Huang 1989; Redding 1990).

In his book The Religion of China, Max Weber (1951) concluded that Chinese mentality, built on Confucianism, fell short of the dynamic motivation which the ascetic Protestant ethic in Western society provided for capitalistic development; this was the root cause of the failure of capitalism to develop in Chinese history (See Marshall (1982), Poggi (1983), and Redding (1990, pp. 9-10) for an elaboration of the elements of capitalism).

Conservative Doctrine

As elaborated in Chapter 2, innovation is an inherent part of market orientation. Moreover, Lawrence (1971) has proposed that the adoption of the marketing philosophy of business can be viewed as innovation, and thus the practice of market orientation can be seen as an issue in the more general study of innovation diffusion (Rogers 1962). In this context, Chinese culture appears to be in direct opposition to the practice of market orientation in terms of both the initiation of innovation and spread of innovation since the conservative mentality in the culture seriously conflicts with innovation.

Doctrines pertaining to conservatism have been bred and nurtured by both Confucius and Lao Tzu (one of the fathers of Taoism).

"Confucianism is by nature extremely conservative and resistant to change, and its legacy, if not broken, will make all new types of scientific scholarship impossible" (Zi 1987). A central theme of Confucians' teaching has been the doctrine of 'everything in moderation' or being 'average', that is, do not stand out from others.

"One of the chief aims of Confucius had been to teach moderation in all things. The noble-minded man avoids going to extremes, and seeks moderation both as regards the expression of opinions and as regards the conduct of affairs. Mencius tells us that Confucius himself abstained from extremes, and the Analects¹⁵ says, 'to go too far is as bad as not going far enough'."

(Smith 1973, p.93)

15 The most important work having the record of Confucius's activities and conversations.

Lao Tzu, in the Selections, wrote:

"To seek learning one gains day by day;
To seek the Tao one loses day by day.
Losing and yet losing some more,
Till one has reached doing nothing (wu-wei¹⁶).
Do nothing and yet there is nothing that is not done.
To win the world one must attend to nothing.
When one attends to this and that,
He will not win the world."

(Bary, Chan, and Watson 1960, p. 59)

These doctrines proved to have played a positive role in Chinese ancient times, promoting societal harmony, stability, and development under specific historical conditions (Beijing Review 16-22, May, 1988; Fukuda 1989). However, their influence has been so deeply rooted in Chinese society that to the present day the doctrines have been the benchmark for the conduct of many Chinese. Accordingly, such ideas have been expressed and recorded in the forms of sayings and fables in Chinese literature and dictionaries. Examples include: 'leading birds will be shot'; 'man is afraid of being well-known and pig of getting stout'. Competitive or innovative initiative may be criticised for 'careerism' or 'show-off'. 'Going to extremes' can often result in malevolence and resentment. A multitude of tragedies resulting from standing out against others have occurred in China. Examples are:

16 Wu-wei, Chinese, means letting things take their own course - a main theme of the doctrine in Taoism.

1). An associate professor in a college won a national invention prize in 1979, for which he was awarded a certain amount of money and invited to go to West Germany for an international conference¹⁷. According to Chinese egalitarian tradition, the money ought to have been equally distributed among others so that he would not stand out. Inasmuch as the money was not enough to be shared by all staff and employees in the department, he was slandered as a thief of the research, and the trip to West Germany was held up for criticism. Eventually he could not stand the malice and was hospitalised with a nervous breakdown (Xiao and Duang 1987).

2). According to a study conducted by a Western scholar in China, a managing director in one of the sample enterprises was removed because of "his attempts to tie down responsibilities and to reform managerial practice" (Child 1987, p. 44). In essence, this was a cultural conflict, being 'too' innovative.

3). Quite a few managers actively engaging in the reform of traditional managerial system within the enterprise have been suspended or even imprisoned because of various libels and slanders such as the involvement in "corrupt or illegal practices" and adoption of "dictatorial work style" (Walder¹⁸ 1989).

17 In China going abroad on business has been seen as 'special treatment', going beyond 'average'.

18 This phenomenon has been noticed by him in the context of the relationship between Party secretaries and managers.

A municipal survey showed that only 35% of enterprise managers supported the proposal of being exposed to competition and the concept of survival of the fittest (Outlook Weekly 12 September, 1988). In another nation-wide sociological survey in 1985, people were asked which statement they preferred: (i) 'stable life, with less opportunities of increasing personal income'; (ii) unstable life, and involvement in considerable risks, with substantial opportunities of increasing personal income'. About 80% of respondents favoured the first statement (Reynolds 1987).

Even Chinese businessmen in South East Asia, notwithstanding being successful, have been inclined to show less entrepreneurial spirit and a tendency to de-emphasise long-run strategic issues, in favour of short-term tactical ones (Cameron and Sutherland 1975).

"Marketing for the majority of Overseas Chinese manufacturing companies in Hong Kong and elsewhere is largely a matter for others to worry about. The amount of organizing which takes place to support it is low compared to the UK equivalent."

(Redding 1990, p. 171)

This reflects their general business approach of risk-aversion, exercising the normal OEM (original equipment manufacturing) system. Under the system, the manufacturer's task is merely production with the purchaser owning the goods and brand name, and hence the risks are limited at the expense of receiving low margins (Redding 1990, p.181).

The conservative nature of Overseas Chinese living in Hong Kong has also been observed elsewhere (Bonavia 1989, pp. 36-37).

The present economic system in China appears to continue fostering a conservative attitude. Generally, the payoff from an innovation has not been equivalent to the concomitant responsibility, or to the ensuing punishment where an innovation has failed. This view has been expressed by a large number of Chinese managers in a group interview conducted in China in 1989. An example presented by a manager dramatises this point. In an aircraft manufacturing enterprise, an engineer took the initiative in improving the performance of an airplane by introducing a new part. The airplane, somehow, crashed during the test. Without identifying the actual causes, the engineer was imprisoned. After a period of time it was found that his innovation was not responsible for the crash.

Profit-Averse Doctrine

Marketing behaviour is initiated ultimately by an important incentive - profit goals. A critical element in Confucianism is that the pursuit of profit is seen as inferior conduct, and that gentlemen ought to concentrate on noble deeds (Yang 1951; Bary, Chan, and Watson 1960; Ma 1989).

"The pursuit of profit did not coincide, but more often directly conflicted with the dictates of virtue; it was the concern only of the small and unenlightened mind. The gentleman, mindless of comfort and safety, must fix his attention upon higher things."

(Bary, Chan, and Watson 1960, pp. 16-17)

According to the Analects, Confucius said, "The gentleman understands what is right; the inferior man understands what is profitable" (Bary, Chan, and Watson 1960, p. 31).

Culturally, people who take the initiative in making money, no matter how, may often be subject to spite, hatred or even personal injury. The rightful pursuit of profitability is, for instance, often condemned as 'money fetishism' (Ma 1989). This greatly obstructs individual entrepreneurship and boosts the concept and practice of egalitarianism. As mentioned previously, numerous 'privately-owned' enterprises have operated in the name of 'collectively-owned' enterprises because of the cultural impact as well as political concerns (Economic Research No. 132, 1988).

In state-owned enterprises many managing directors have been said to behave in a more officious manner than is appropriate for entrepreneurs or businessmen, to have little sense of market concepts, and to run businesses as if they were in a closed system. Inside any organisation, political perspectives often have priority, and functional management is often seen as belonging to a lower level order (Ma 1989). Therefore, market orientation may lose its impetus in

many enterprises, and the enterprise may be short of capable managerial staff to formulate and implement marketing plans.

It is recognised that Chinese managers tend to be strongly driven by the engineering or technological motive (Wells 1975). Although this has much to do with governmental policy being biased towards the importance of engineering and technology, the effect of traditional Chinese culture cannot be discounted. A survey of 436 Chinese managers found that the majority of them worked in production-operations before undertaking the position of management-administration (Hildebrandt and Liu 1988). The consistence of the managers' background with the doctrine suggests a potential influence of the doctrine on managers' attitudes and behaviour.

In addition, people who have been well disposed to traditional Chinese education such as those who experienced high education before the Cultural Revolution (1966) tend to be more influenced by this doctrine. On the other hand, many of these people have a major effect on the economic operation of the country since they now occupy a large number of leading positions in enterprises.

However, a few studies indicate that Overseas Chinese in Hong Kong and elsewhere are strongly money-minded (Osgood 1975 and Ryan 1961). This characteristic is chiefly associated with the locality of Southern China, and "seen as part of their somewhat outlandish and uncultured deviance from the central civilization"¹⁹ (Redding 1990, p. 70). The

19 Money-mindedness is closely linked to frugality, which is found commonly existent among Overseas Chinese. However, frugality is

fact that the origins of most Overseas Chinese are of the peasant and artisan classes from the region may contribute to the formation of their pragmatic mentalities (Redding 1990, pp. 70-71).

Interpersonal Relationships

A salient characteristic of the culture has been the kinship system, which was fostered by autarchic production in ancient times. A number of generations came and went, and the dynasty changed, but the kinship tradition has, however, persisted almost unchanged to this day.

The effect of kinship relationship is more generally present in an extended form - 'interpersonal relationships', which involve the connections outside the members of a family "such as clan, shared surname, home village, region, education or other shared experience" (Jacobs 1980 and Redding 1980, cited by Lockett 1988). The influence of interpersonal relationships permeates through society, which are brought to bear on, for example, obtaining supplies or securing outlets for an enterprise, attaining an official position, and even judging right or wrong and guilt or innocence. The importance of such relationships can never be over emphasised in business dealings with the Chinese.

Interpersonal relationships find their roots in the kinship association, specifically Confucianism concerning the five cardinal

by no means seen as meanness, as it may imply in Western terms, rather than a positive family norm (Redding 1990, p. 71).

relationships: those between sovereign and subject, parents and children, brothers, husband and wife, and friends. Weber (1951, p. 209) wrote:

"The retention of personalism is especially evident in its effect on social ethics. Hitherto in China no sense of obligation has existed toward impersonal communities, be they of political, ideological, or any other nature. All social ethics in China merely transferred the organic relations of piety to other relations considered similar to them. Within the five natural social relations the duties to master, father, husband, older brother (including the teacher), and friend comprised the sum total of the ethnically binding."

The Cultural Revolution greatly weakened the values of organisational and legal functions. Hence, it has become evident that the net total of relationships became tremendously enlarged in Mainland China after the Cultural Revolution. Examples are (Xiao and Duang 1987):

- In an aircraft manufacturing enterprise 78% of staff and shop-floor workers were found to have kinship connections.

- In an investigation of 64 enterprises in one municipality, it was concluded that kinship relationships in the enterprises increased by a factor of 9.

- A study on the prime requirements of researchers in a province revealed that 'harmonic interpersonal relationships' was one of three principal needs.
- In a summary of the development of human resources in a province, three determinants of becoming a successful person were identified: support, cooperation, and 'interpersonal relationships'.
- After having been an innovative enterprise director for 245 days, a man was removed from his position²⁰ because he dismissed 20 incompetent employees who were the senior officer's descendants. Later on he wrote resentfully in his diary: "not being able to establish personal relationships or pretend to be muddle-headed, my sort of person is bound to have this end".

The pervasiveness and importance of interpersonal relationships (guanxi) among both mainland and Overseas Chinese have been widely recognised (See Duan and Huang 1986; Lockett 1988; Wall 1990). In mainland China, interpersonal relationships are seen as important as a "second currency" (Wall 1990), and given their reciprocal nature they can even be comparable with written agreements (Duan and Huang 1986). Similar kinship-based relationships in managing business organisations have also been found in Hong Kong and Taiwan (Huang 1989; Redding 1980; Redding 1990).

20 In China, due to the implementation of 'lifelong cadre policy', it was unusual for somebody recently appointed to an official position to be dismissed.

The very basis of marketing lies in the need for exchange. To be able to exchange effectively in a market-based competitive environment, an enterprise is impelled to be sensibly and rationally market-orientated in order for its products to be acceptable in markets. Generally a legal system is a necessity to maintain compliance with the agreed transactional conditions of the two parties. However, in the relationship-based context, a legal system cannot develop and work properly, and consequently an enterprise cannot be constrained to behave according to economic rationality.

In the last few years efforts have been made to construct a formal legal system in China (Watson 1989). However, the combined effect of traditional Chinese culture and the Cultural Revolution, together with the long-standing absence of legal functions in the past economic operation, has brought about the rather weak legal concepts of many people. Hence, many cases of non-compliance of contract terms are often seen. A study in 1987 demonstrated the serious breach of contracts because of the ignorance of their legal force (Beijing Review 18-24, July, 1988). A familiar appeal has been heard in the recent National People's Congress in China concerning the "lack of respect for the law" (The Guardian 26 March, 1991).

Moreover, the network of interpersonal relationships could also act as a buffer against pressures and protect enterprises with poor performance. Max Weber (1951) suggested that substantive ethical law had handicapped formal law and therefore capitalistic development throughout Chinese history.

In this section attention is only paid to the three most important elements in Chinese culture in relation to marketing-related behaviour. However, there have been other aspects which play their part: "respect for age and hierarchy" (Lockett 1988), importance of 'face' (Wilson and Pusey 1982; Lindsay and Dempsey 1985; Redding 1982; Duan and Huang 1986), and priorities of 'people' rather than 'objects' in management (Ma 1989), all of which, can, to some extent, have an effect on market-orientated behaviour.

Concluding Remarks

This section discusses the effects of the three main mentalities in traditional Chinese culture on the development of market-orientated behaviour and thus the applicability of Western marketing in China. The Chinese doctrines of 'moderation' and 'profit aversion' seriously conflict with the key elements of innovation and profit motive in marketing philosophy. The pervasiveness of interpersonal relationships undermines the foundation of market orientation. It is worth stressing that:

"No generalization about a nation and its typical attitudes can be true of all its people. Especially in the case of the Chinese, typical attitudes may be eroded and changed by long residence in other countries and prolonged contact with foreign cultures. But the central concept of Chinese society is functionality."

(Bonavia 1989, p. 57)

CHAPTER 4: RESEARCH DEFINITION AND METHODOLOGY

4.1 INTRODUCTION

The first part of this chapter outlines the objectives to be achieved in this research project and enumerates the propositions to be tested, followed by an explanation of the choice of research strategy and a description of the reasons for the interviews, together with the processes by which they were conducted.

The rest of the chapter centres on the collection and analysis of the questionnaire data: (1) design, tests, and circulation of the questionnaires in both the UK and China; (2) measurements of the key concepts in the research model; and (3) choice of the statistical techniques of principal component, regression, and discriminant analyses, and outline of their basic principles.

4.2 AIMS OF THIS STUDY

The research model derived from reviewing the historical development of marketing in the West has covered a number of propositions. However, given the limitations of time and costs, it has been

impossible to test the overall model; therefore, this study is designed only to test some core propositions in the model.

Moreover, in order to understand the model better, the research also analyses various business behaviour and environments in a comparative context of the UK and China, and explores particular business behaviour and constraints in Chinese enterprises, which relate specially to the economic system or environment in China.

4.3 PROPOSITIONS TO BE TESTED IN THIS STUDY

The model involves two clusters of relationships: the relationships between marketing behaviour and (1) the market effect, the control effect, constraints, and performance, and (2) operating costs and market domesticated behaviour. In the study, attention is only given to the first set of relationships.

With the control effect being further classified as 'direct' and 'indirect', only the direct control effect is considered. Likewise, there are various criteria for measuring performance, but only profitability is included¹.

¹ The reasons for the selective inclusion of these variables are given in section 4.5.2 and 4.5.4.

The propositions to be tested in the study are listed as follows²:

A. MARKETING INITIATIVE

- HA: A marketing orientated company has greater marketing initiative in that:
- HA1: It makes a greater effort to measure and analyse marketing expenditures (Kotler 1977; Canning 1988);
- HA2: It integrates company business activities to a greater degree (McNamara 1972; Kotler 1977);
- HA3: It develops more detailed marketing plans (Smith 1958; Kotler 1977);
- HA4: It has more information about markets (Kotler 1977; Canning 1988);
- HA5: It pursues more marketing research (McNamara 1972; Kotler 1977);
- HA6: It carries out marketing research in advance of new product development (Hise 1965);
- HA7: It develops different marketing plans for different markets (Kotler 1977; Canning 1988);
- HA8: It has more information about competitors.

B. MARKETING BEHAVIOUR AND INNOVATION

- HB: A marketing-orientated company is more innovative in the light of new product development and product improvement.

² In these propositions, those in section A are assumptions commonly used by many academicians; those in section B are under contention; and those in section C, D, and E are the hypotheses developed through reviewing literature.

C. MARKETING BEHAVIOUR AND FINANCIAL PERFORMANCE

HC: Marketing orientation results in better financial performance provided market conditions are equal.

D. MARKETING BEHAVIOUR AND THE MARKET EFFECT

HD: The high market effect impels marketing orientation.

E. MARKETING BEHAVIOUR AND THE CONTROL EFFECT

HE: The direct control effect either from government or corporate headquarters impedes marketing orientation.

4.4 INTERVIEWS AND SURVEYS

4.4.1 Selection of Research Strategy

This research project seeks to answer 'what', 'how', 'where', 'when', 'how many', and 'how much', with an attempt to answer 'why'. Survey approaches are appropriate for this, though finding out 'why' has never been easy by these methods. (Kidder 1981; Simon and Burstein 1985; Yin 1984, pp. 17-19).

"The most important considerations affecting survey design are the available time and resources" (Sheatsley 1974, p. B-67); considering the factors of time and cost, a postal survey was chosen as the main data collection method in this project.

The postal questionnaires used in China and the UK were designed to be comparable, and also took the differences of the economic system and environmental conditions between the two countries into consideration.

In-depth interviews were also undertaken in the research. Seen as 'mini-case studies', these interviews are suitable for answering 'how' and 'why'. "Even a single-case can often be used to pursue an explanatory, and not merely exploratory (or descriptive), purpose" (Yin 1984, pp. 16-17). Therefore, it has been envisaged that an inclusion of interviews could supplement the survey questions.

4.4.2 Questionnaire Design and Sampling in the UK

The questionnaire used in the UK was tested on 12 managing and marketing directors/managers who were part-time MBA students at the University of Warwick, on one lecturer at the University of Warwick who used to be a marketing manager in a company, and on the development manager of a Swedish company.

The diversified companies were explicitly distinguished from the non-diversified ones in questions measuring the control effect, and two questions concerning constraints on marketing behaviour were combined into one. The rest of the questions appeared to need no modification.

Manufacturing companies were seen as more appropriate for the research sample, because: (1) the marketing concept originated from manufacturing companies, and later on spread to other types of

organisations, such as retailing, banking, transportation or non-profit organisations (See Chapter 2); (2) the business concept is more clearly reflected in the process of their developing new products or businesses, and thus is easier to measure than in other types of organisations. Therefore, an attempt was made to include mainly manufacturing enterprises in both survey samples.

The UK sample consisted of two parts: one was selected from a list of the companies in which the MBA graduates from the University of Warwick were working as either managing directors or marketing directors/managers, and the other was randomly selected from a company directory - Key British Enterprises 1989: Britain's top 25,000 companies.

A total of 550 questionnaires were addressed mainly to managing directors (some to chief executives) or marketing directors/managers. Three weeks later, a follow-up letter together with a new copy of the questionnaire was sent to the companies which had not replied. 287 questionnaires (52%) were returned, among which 254 (46%) were complete. There were 33 (6%) incomplete ones due to company concern over confidentiality, or to appropriateness, e.g. where there was no marketing function in the company.

The satisfactorily high response rate might be explained by the following:

1. It was underlined in the covering letter that the research project of the Warwick Business School was supported by the Economic Reform Commission of China and the K.C. Wong Education Foundation Hong Kong Ltd., and a summary of the results would be fed back to the company completing the questionnaire in due course.
2. Due to the reference to a major study on the improvement of response rates (Jobber 1986)³, (a) a self-addressed and stamped envelope was enclosed; (b) the questionnaire was sent to named recipients; (c) confidentiality was guaranteed; (d) a coloured questionnaire paper was used; and (e) the covering letter was signed by a professor.
3. A mailing list of MBA graduates from the Warwick Business School was used.
4. The questionnaire was short.

4.4.3 Questionnaire Design and Sampling in China

The Chinese questionnaire contained more questions than the UK one for the following reasons:

(a) In spite of the economic reform, the economic operation in China is still strongly influenced by the planning system. Hence, a number of questions to be investigated in China were simply not compatible with the UK setting.

³ The measures shown both to increase and to have no effect on increasing the response rates have been followed.

(b) Business behaviour in the UK has been far more better researched than that in China, such as mergers, and thus in some cases attention was only paid to Chinese business behaviour rather than both.

(c) To understand how specific marketing approaches in Chinese enterprises differ from those in UK enterprises, e.g. marketing plan or marketing research.

(d) UK questionnaire had to be short to enhance response rate.

Moreover, some questions in the Chinese questionnaire differed in their presentation from those in the UK one because of the lack of marketing knowledgeability in Chinese managing directors.

Table 4.1 summarises the differences between the two questionnaires.

TABLE 4.1 Summary of Differences between Chinese and UK Questionnaires

Dimension of Measurement	Number of Variables	
	UK Sample	Chinese Sample
Corporate Orientation	23	35
The Market Effect	4	12
The Control Effect	9	13
The Combined Effect	1	5
Enterprise Identification	3	15
Total	40	80

Before being circulated to Chinese enterprises, the questionnaire was first translated into Chinese. At People's University of China, a leading university in China, it was discussed by a group of postgraduates and professors in the fields of management and economics. The content and structure of the questionnaire were approved, and some suggestions with respect to wording and an inclusion of more business activities were offered.

Meanwhile the questionnaire was tested on 10 managing directors of enterprises, including 3 from VTCEs and 7 from SOEs. The enterprises were located in three large cities: Beijing, Guangzhou, and Chongqing.

The final version of the Chinese questionnaire was printed in China. The survey was carried out in the name of a joint project including the participants of (1) the Chinese Economic System Reform Research Institute, (2) Department of International Business and Economics, People's University of China, and (3) Warwick Business School. The majority of the questionnaires were stamped by the first two parties for the 'confirmation' of their participation in the research project so as to make enterprise responses feasible⁴.

Most of the 1400 questionnaires were sent to manufacturing enterprises which were randomly selected from an Enterprise Directory. A covering letter was enclosed, and a follow-up letter was posted six weeks later where no reply had been received. The rest of the questionnaires were

⁴ In China without the 'rubber stamps' to demonstrate the 'authorisation', it would be extremely difficult, if not impossible, to carry out survey research.

individually forwarded to managing directors in management-training courses. 428 questionnaires were received (31% response rate).

Later, 800 more questionnaires were distributed to enterprises in eight cities, 100 questionnaires per city. The distribution of questionnaires was helped by the staff in the municipal branches of the Economic Reform Commission of China. The questionnaires were addressed to enterprises in the name of the Market Mechanism Research Group. After four of the cities had fed back the questionnaires, political upheaval in China ruled out any hope of a return of questionnaires from the other four. A total of 203 questionnaires were returned (51% response rate - the questionnaires in the other four cities were dropped from the total samples). Hence, the total response rate was 35%.

The questionnaires from management-training courses showed that many managing directors answered on their own initiative because they considered the questions as helpful in diagnosing the operating problems in the enterprises and clarifying their thinking for business development. Many of the returned questionnaires were photocopied by the respondents; a number of letters requesting a copy of the results were enclosed with the returned questionnaires.

Table 4.2 summarises the results of sampling in both the UK and China.

TABLE 4.2 Results of Sampling

	NUMBER OF QUESTIONNAIRES	NUMBER OF RESPONSES	RESPONSE RATE
UK Questionnaire:	550	287	52%
Complete:		254	46%
Incomplete:		33	6%
China Questionnaire:	1800	636	35%
Nation-Wide:	1400	433	31%
Four Cities:	400	203	51%

4.4.4 Inclusion of Interviews

In-depth interviews were conducted with a development manager from a Swedish company and a development director from a Chinese corporation in the high-technology industry. The interviews were held in Sweden and China respectively.

A) In-depth Interview in Sweden

The particular Swedish company was chosen partly for reason of easy access due to the close personal relationship, but also because:

1. It was claimed that the company has gone through a transition from product orientation to customer orientation. The research model mainly focuses on the influence of the market and control effects on marketing behaviour, which are by nature subject to little cultural impact. Therefore, the interview may throw a light on how and why a

transition towards marketing orientation occurs in connection with the market and control effects.

2. The company is a subsidiary of a large major multinational corporation in the electronics industry. As an International Product Centre for the corporation, the company develops, produces and markets industrial products; it does not sell the products directly to customers, a task handled by its National Sales Organisation. Therefore, the role of corporate headquarters in steering the orientation of the business unit is of particular interest.

In addition, the manager interviewed had an engineering background, with little formal business training. His attitude towards marketing orientation therefore may be less affected by a likely bias stemming from an over-emphasis on marketing in business education.

The interview was conducted in Sweden, but the results were clarified through further correspondence.

B) In-depth Interview in China

Since 1980, enterprises in the high-technology industry have grown rapidly in a particular area of Beijing (See Table 4.3). The area has the greatest concentration of intellectuals as well as research facilities and institutes in China, and is one of the largest such concentrations in the World (Yu 1988).

TABLE 4.3 Enterprise Growth in High-Tech Industry

	1983	1984	1985	1987	1989
No. of Enterprises	11	40	90	148	800

Source: (Yu 1988).

The enterprises are characterised by various types in terms of ownership and industrial structure (see Table 4.4):

TABLE 4.4 Ownership Structure of Enterprise in 1987

Ownership	No. of Enterprises
State-owned	33
City Collective	111
Joint Venture	2
Individual	2

Source: (Yu 1988).

All types of enterprises in the area have shown, to some extent, a similar way of running a business to that of Western companies. A study of 54 SOEs in the area revealed that the managing directors in 49 of them had almost complete decision-making power. The degree of autonomy and the level of market pressures or risks for UCEs appear much higher than those in SOEs. It was found in an investigation of 22 UCEs that their decisions covered 99% of research projects and use of raw materials. The typical operating mechanism among the enterprises in the area can be described as "using markets for direction, and advanced technology as a weapon" (Yu 1988).

Enterprises of the area have a reflection of how enterprises react to the high market effect in China, and in the meantime they represent well-run enterprises with a market focus in the country, including SOEs, UCEs, and VTCEs. The interview with the development director was conducted in China in April, 1989.

4.5 MEASUREMENT

4.5.1 Measurement and Scaling

The questions in the study mainly involved attitude measurement or 'subjective' measurement, namely, the perceptions of key persons in sample enterprises.

"Scaling is the term commonly used to refer to the process of measuring attitudes. Measurement, or scaling, suggests some form of quantification which can be expressed in such numbers as we use to scale distances (feet, miles, and so on) or weights (pounds, kilograms, and so on)."

(Boyd, Westfall, and Stasch 1985, p. 311)

The following types of scale are used for attitude measurement (Churchill 1983, p. 246; Simon and Burstein 1985, 207-209; Luck and Rubin 1987, pp. 141-145):

- 1). Nominal scale: the scale of numbers is used to represent an identity of an object.
- 2). Ordinal scale: the scale of numbers serves to rank objects according to some characteristics.
- 3). Interval scale: the scale of numbers not only separates objects by rank order but measures the distance between rank positions in equal units.
- 4). Ratio scale: the ratio scale is similar to the interval scale with the single difference that the ratio scale has "a natural or absolute zero, one for which there is universal agreement as to its location" (Churchill 1983, p. 246).

The above scales from nominal to ratio are considered as becoming increasingly powerful (Churchill 1983, p. 246 - 247; Hughes 1974, pp. C-35 - C-37).

"The more powerful scales allow stronger comparisons and conclusions to be made. ... The attribute determines the most powerful scale that can be used to measure the characteristic."

(Churchill 1983, p. 246 - 247)

In this study, because of the nature of questions to be investigated, both the nominal and interval scales were used.

4.5.2 Measurement of Marketing Behaviour

Marketing behaviour, a key variable in this study, can be measured directly and indirectly. Direct measurement involves two stages: measuring the extent of agreement with the marketing concept and then the perceived extent to which it is implemented in an enterprise.

For the direct measurement, the question in the UK questionnaire was phrased as whether or not a company's policy could be summarised by "identify changing customer wants and develop products and services which match them better than competitors". In the Chinese questionnaire it was expressed in a slightly different manner to make it more understandable in China. The respondent was asked whether he or she agrees to the statement: "identify customer needs and wants, and follow them to make products rather than hard-sell what you can make".

The extent of the implementation was gauged by inviting the respondent's perception of the degree to which the policy or statement was being implemented in the enterprise.

Marketing behaviour can also be indirectly measured by other business activities since marketing-orientated enterprises can have distinct characteristics. However, a consensus has never been reached as to what they are. Therefore this study has also attempted to distinguish between marketing-orientated and non-marketing-orientated enterprises in terms of the characteristics of each. The sub-propositions from HA1 to HA8 have been designed for the purpose.

Markets in China have newly evolved from the centralised economic system, and thus business behaviour of Chinese enterprise is only considered comparable with that in the UK in terms of direction but not degree or quality. Generally, there have been essential differences in similar types of behaviour or activity between Chinese and British enterprises. Examples include:

The 'marketing plan' in China cannot be seen as equivalent to that in the UK in coverage, detail, and role. There is also a substantial difference in the effort being made to formulate the plan, such as the extent of assessing internal and external environmental conditions: SWOT analysis, consumer behaviour analysis, and competitor analysis. Even in many Chinese enterprises, the plan is simply bureaucratic.

Table 4.5 displays the contents of the marketing plan in Chinese sample enterprises. As can be seen, some important elements of marketing planning were less well covered, such as market share, which mirrors long-term business perspective, and action programs and controls which reflect the implementation of the plan.

Marketing research in China has covered a limited range of research activities, compared with that in Western companies, and only involved simplistic techniques. Table 4.6 presents marketing research activities undertaken by Chinese enterprises. For the purposes of comparison, included in Table 4.7 are the research activities in 599 American companies.

TABLE 4.5 Contents of 'Marketing Plan' in China

Items	Percentage (%) (n=630)
Sales Volume Goals	83
Market Share Goals	26
Profit Goals	74
Target Market	48
Product Line	31
Price	66
Distribution Channel	54
Sales Force	45
Advertising	24
Product Service	45
Action Programs	30
Controls	29

Note: Missing data are excluded.

TABLE 4.6 Marketing Research Activities in China

Type of Research	Percentage (%) (n=630)
Advertising	45
Pricing	47
Market Share Analysis	44
Packaging	18
Promotion	25
Short-Range Forecasting	56
Long-Range Forecasting	42
New Product Acceptance	53
Market Potential	34
Distribution Channel	59
Others	4

Note: Missing data are excluded.

TABLE 4.7 Marketing Research Activities in America

Type of Research	Percentage
Advertising Research	
Motivation	47
Copy	61
Media	68
Studies of Ad Effectiveness	76
Studies of Competitive Advertising	67
Business Economics and Corporate Research	
Short-Range Forecasting (Up to 1 year)	89
Long-Range Forecasting (Over 1 year)	87
Studies of Business Trends	91
Pricing Studies	83
Plant and Warehouse Location Studies	68
Acquisition Studies	73
Export and International Studies	49
MIS (Management Information System)	80
Operations Research	65
Internal Company Employees	76
Corporate Responsibility Research	
Consumers 'Right to Know' Studies	18
Ecological Impact Studies	23
Studies of Legal Constraints on Ad & Promotion	46
Social Values and Policies Studies	39
Product Research	
New Product Acceptance and Potential	76
Competitive Product Studies	87
Testing of Existing Products	80
Packaging Research	65
Sales and Market Research	
Measurement of Market Potentials	97
Market Share Analysis	97
Determination of Market Characteristics	97
Sales Analysis	92
Establishment of Sales Quotas, Territories	78
Distribution Channel Studies	71
Test Markets, Store Audits	59
Consumer Panel Operations	63
Sales Compensation Studies	60
Promotional Studies of Premiums, Coupons, etc.	58

Source: Kotler (1988) quoted Dik Warren Twedt, ed., 1983 Survey of Marketing Research (Chicago: American Marketing Association, 1983), p. 41.

On top of that, Chinese enterprises should not be viewed as autonomous entities similar to UK companies, or seen as 'conscious marketers'. Seemingly, few managing directors have a concept of, say, 'marketing

planning' or 'marketing strategy'. The essence of 'marketing behaviour' in China is that having a certain degree of autonomy in production, sales, and supply, many enterprises might largely have been forced to behave responsively to markets. "For market orientation today's comes in many forms and degrees. It may be planned, forced, or unconscious" (Lear 1963). As Tables 3.2 and 3.3 showed, small enterprises accounted for the overwhelming majority of enterprises (98.7%), and experienced less planning control in China.

In the instance of the indirect measurement, the conception of marketing-orientated coordination has not been well-developed in China, though routine problem-solving management meetings are common in the majority of Chinese enterprises. Therefore this measurement was not used in the Chinese sample.

Some 'traditional' criteria, such as 'market research in advance of new product development' (Hise 1965), were only tested on the Chinese sample but the results are considered as, by and large, in line with those of the West. Market-orientated behaviour is associated with markets; if a behaviour is driven in the circumstance of a low level of market functioning, it can be assumed to exist in the context of a high level of market functioning.

In general, an enterprise business policy contains the components of all managerial functions such as production, finance and accounting, and sales or marketing, with only differences of weight of each function. When the major weight is given to a function such as

production or marketing, it is said that the company is driven towards the orientation of the function such as production or marketing.

Hence, in the study, marketing behaviour was measured in: (1) absolute value (a 5 point scale): the respondent was asked about his or her perception of the company's marketing behaviour, without referring to other business behaviour; (2) relative value (a nominal scale): the respondent was asked to evaluate which behaviour, production, product, sales, marketing or technology, was most appropriate for the description of what the company has done in the last two years. In the first case, the respondent might only consider how the enterprise could be rated for its marketing behaviour; whereas in the second case the respondent might assess which behaviour has the most weight.

The absolute measurement may not be appropriate for direct cross-cultural comparison. The conceptual unit scale gauging marketing behaviour in any particular culture may be different from that in another, and also the perspectives of marketing behaviour might differ greatly between cultures. However it has been considered as more appropriate for identifying the association between marketing behaviour and the characteristics of a set of business activities within the same context. The absolute measurement conceptually comprises the whole score-range of marketing behaviour. As previously mentioned, absolute measurement is more powerful than relative measurement in terms of making comparisons and conclusions.

In China, the importance of market orientation has been strongly advocated and widely publicised in the last few years. As a major

business concept it has been introduced in universities and management-training courses. Production orientation resulting in an increase in unsaleable products has often been criticised by various media. The successful stories of both the domestic and international marketing-orientated enterprises have been extensively introduced by broadcasting media. As a result, the absolute measurement of marketing behaviour in China might have, to some extent, been inflated. However, this may not exert a serious influence on the evaluation of the relationships between variables within the same context for the following reasons: (1) the variables of marketing activities may have a similar degree of the inflated effect, and (2) it seems to be unlikely for relationship directions to be changed by the inflated effect.

4.5.3 Measurement of the Control Effect

The direct control effect can be gauged and compared in terms of defined criteria, such as degree of planning in production, supply, and sales or any concrete corporate policies which directly steer the company's orientation or business strategies. However, various taxonomies may be used to define the indirect control effect, such as that utilised by Goold and Campbell (1987).

In this study only the direct control effect was included, since (i) the indirect control effect was difficult to explore by means of survey, (ii) the measurement would involve a comparison of UK and Chinese sample enterprises, whereas in China the direct control effect

dominates, and (iii) the study was constrained by time and resources. In the UK sample attention was mainly paid to corporate control while in the Chinese sample to government control.

The direct control effect was measured on both 5 point scales and nominal scales: (1) the respondent's overall perception of the corporate or government influences on the enterprise operation (this measure may include the elements of indirect control); (2) production and sales planning; (3) raw material allocation or scheduling; (4) price setting; and (5) investment decisions (For details, see copies of questionnaires in Appendices B1 and B2).

4.5.4 Measurement of the Market Effect

The measurement of the market effect embodies (a) objective criteria, i.e. the industrial concentration ratio, size of the company, the number of competitors and suppliers, and other market entry barriers, which can be measured objectively and numerically; (b) subjective measurement, namely, the key persons' perceptions of competitive impact in the company.

Subjective measurement was used in this study. Because of the nature of new and underdeveloped markets in China, more measurements of the market effect were included in the Chinese sample than in the UK sample. The measurements included: 1) the supply situation of major product-market, and the trend of changes in the market; 2) substitute influence; 3) the influence of potential entry; 4) the perception of

competitive threats; 5) the changing trend of competition perceived; 6) the changing trend of major product-market share; 8) the supply situation of major raw material or component market and the changing trend; and 9) the difficulty in buying major raw materials.

In the UK sample, because of concerns about a possible low response-rate, only questions 1, 4, and 8 were included. The majority of the variables were measured on a 5 point scale.

4.5.5 Measurement of Performance

Although performance can be measured in numerous criteria, this study only included a crucial measure - profitability, specifically return on assets and profit growth, in order to limit the length of the questionnaire.

The major reasons for the particular choice of the measurement include:

(i) Profitability is a comprehensive index of a company's health, partially reflecting other performance measures, such as customer loyalty and corporate image.

(ii) "... the judgement on managerial performance tends to be made by comparison with the performance of other firms, and with the firm's own performance in previous periods". The comparisons are generally based on accounting measures. "Perhaps the most commonly used

accounting measure of performance is return on investment (ROI). ROI is used with organisations to appraise the performance of projects and divisions, and by shareholders and other outsiders such as government, to appraise the firm as a whole" (Higson 1986, p. 219).

However, complex situations can occur when profitability is linked to marketing behaviour. As elaborated in Chapter 2, the high market effect is liable to encourage marketing orientation, whilst, according to Industrial Economics, high barriers to entry (the low market effect) tend to bring about a high profit rate. In order to compare the performance of marketing orientated enterprises with non-marketing orientated ones, questions designed to identify profitability in both UK and Chinese questionnaires were related to the same industry. Nevertheless, even within an industry, profitability of individual companies can vary greatly as a result of factors such as the extent of vertical integration, advertising, product-mix, characteristics of distribution channels, and the like (Porter 1977). Therefore, the association between profitability and marketing behaviour may not appear very strong.

4.6 ANALYTICAL TECHNIQUES

To test the propositions in the research, the statistical techniques of principal component, multiple regression, and discriminant analyses were used. Principal component analysis with varimax rotation was first performed to form the constructs of measurements and reduce the

number of variables in the following analysis, then multiple regression analysis was undertaken to test the propositions, and finally discriminant analysis was conducted to identify the variables which distinguish marketing and non-marketing orientated behaviour. The SPSS^x computer package was utilised for all the statistical analyses.

4.6.1 Principal Component Analysis

A) Option of Principal Component Analysis

Principal component analysis (PCA) originated in Karl Pearson's work at the beginning of the twentieth century, and was further developed by Harold Hotelling and other academics in the 1930s (Chatfield and Collins 1980). A primary objective of PCA is to identify a relatively small number of uncorrelated variables (principal components) that can be used to represent relationships among a set of interrelated variables, and hence the number of original variables for the analysis can be reduced to a smaller set of new variables (Chatfield and Collins 1980; Tabachnick and Fidell 1983; Norusis 1985).

The objectives and process of PCA are similar to factor analysis (FA); PCA produces components and FA factors. The difference is summarised as follows:

"The primary difference between the two major procedures, PCA and FA, is the variance that is analyzed. In PCA, all the variance in the observed variables contributes to the solution. In FA, only the variance a variable shares with other variables is considered relevant to the solution, and attempts are made to disregard variance due to error and variance that is unique to each variable."

(Tabachnick and Fidell 1983, p. 375)

However,

"PCA is a mathematical technique which does not require the user to specify an underlying statistical model to explain the 'error' structure. In particular, no assumption is made about the probability distribution of the original variables, though more meaning can generally be given to the components in the case where the observations are assumed to be multivariate normal."

(Chatfield and Collins 1980, p. 58)

A number of drawbacks to FA have been identified, compared with PCA, by Chatfield and Collins (1980, pp. 88-89). They, together with Blackith and Reyment (1971), recommend that in most practical contexts PCA be preferable to FA (Chatfield and Collins 1980, p. 89).

Therefore, principle component analysis was chosen in this research to reduce the number of variables to be used in regression analysis.

B) Fundamentals of Principal Component Analysis

The general notion of PCA is that if the first few variables (principal components) account for most of the variance in the original data, the effective dimensions of the problem are less than the original variables. Therefore, these components may be expressed as linear combinations of the original variables with diminishing order of importance, and subsequently used for following analyses (Chatfield and Collins 1980). To improve the interpretability of the components, solutions can be rotated. A good component solution is both simple and interpretable (Norusis 1985). Appendix B3 presents the rationale of principal component analysis in mathematical terms.

C) Computation of Principal Component Analysis

Examination of Correlation Matrix

The principal components of a set of variables are calculated through the correlation matrix P (Chatfield and Collins 1980; Norusis 1985). In the correlation matrix, the sum of the diagonal terms equals p (all the diagonal terms are unity), and thus the sum of the eigenvalues of P will also equal p . Therefore the proportion of the total variance explained by the i th component will be τ_i/p .

The purpose of PCA is to transform a set of correlated variables into a new set of uncorrelated principal components; if the original variables are uncorrelated, there is no point in performing a PCA.

SPSS^X FACTOR provides Bartlett's test of sphericity to test the hypothesis that the correlation matrix is an identity matrix (namely all diagonal terms are 1 and all-off-diagonal terms are 0). "The test requires that the data be a sample from a multivariate normal population" (Norusis 1985, p. 128). If the transformed significance level is large so that the hypothesis cannot be rejected, the use of PCA should be questioned. The results of Bartlett's test of sphericity had a small significance level in both samples; therefore, the hypothesis can be rejected in the analyses.

The index of the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy can also be obtained from SPSS^X FACTOR. It is defined as

$$KMO = \frac{\sum_{i \neq j} \sum r^2_{ij}}{\sum_{i \neq j} \sum r^2_{ij} + \sum_{i \neq j} \sum a^2_{ij}}$$

where r_{ij} is the simple correlation coefficient between variables i and j ; a_{ij} is the partial correlation coefficient between variables. If the values for the KMO measure are small, the use of principal component or factor analysis may be inappropriate, "since correlations between pairs of variables cannot be explained by the other variables" (Norusis 1985, p. 129). The KMO measures in the 0.90s are considered as marvellous, in the 0.80s as meritorious, in the 0.70s as middling, in the 0.60s as mediocre, in the 0.50s as miserable, and below 0.50 as

unacceptable (Kaiser 1974). The values of the KMO measures for factor analysis in both the UK and Chinese samples were in the 70s, and thus the factor analyses can proceed satisfactorily.

Similarly, a measure of sampling adequacy for each individual variable is also available in SPSS^X FACTOR. This index only takes coefficients relating to the variable into account, rather than including all pairs of variables. The index for the *i*th variable is calculated from

$$MSA_i = \frac{\sum_{j \neq i} r_{ij}^2}{\sum_{j \neq i} r_{ij}^2 + \sum_{j \neq i} a_{ij}^2}$$

The criteria of sampling adequacy are the same as those in the KMO measures. The measures are printed on the diagonals of ANTI-IMAGE CORRELATION MATRIX in the printout of factor analysis (Norusis 1985). The indices for both samples in the study are detailed in the appendices.

Principal Component Extraction

In order to decide how many components are to be extracted, an examination of the percentage of total variance explained by each component is needed. This statistic is given under the label EIGENVALUE in the printout of the initial statistics for each component.

A commonly used criterion for the determination of the number of components is that only the components accounting for variances greater than 1, namely the eigenvalue is greater than 1, should be

included. "Factors with a variance less than 1 are no better than a single variable, since each variable has a variance of 1" (Norusis 1985, p. 131).

In the printout of SPSS^X FACTOR, there are the factor pattern matrix and factor structure matrix. In the factor pattern matrix, the principal components are linked to original variables by a set of coefficients, called factor loadings. A large coefficient indicates that the component is closely associated with the corresponding variable. The factor matrix consists of correlations between variables and factors (principal components). Since principal components are uncorrelated with each other, the factor pattern matrix is the same as the factor structure matrix (Norusis 1985).

Rotation

The results of principal component extraction without rotation may be uninterpretable, for most components are correlated with many variables. Therefore after extraction, rotation is generally used to transform the initial factor matrix into one that is easier to interpret.

This goal is achieved by attempting to simplify the factor structure through rotation. That is, each component has non-zero loadings for only a few variables, or each variable has non-zero loadings for only a few components.

Before conducting rotation, an essential decision needs to be made about the choice between an orthogonal rotation and an oblique rotation. Orthogonal rotations result in the factors which are not correlated with one another. Such rotations can facilitate the description and interpretation of results, but may distort the reality in case the factors are actually correlated with each other (Tabachnick and Fidell 1983, p. 399). If it is certain that common factors are correlated with one another, an oblique rotation can be used. Oblique rotations allow such correlations, "with conceptual advantages and practical disadvantages in interpreting and describing the results" (ibid).

There are three orthogonal methods in SPSS^X FACTOR: varimax, quartimax, and equimax. Varimax rotation is most commonly used (Tabachnick and Fidell 1983, p. 399; Norusis 1985, p. 140).

Varimax seeks to maximise the variance of the loadings across variables within components. Hence, the component has high loadings on some variables and small loadings on the other variables so that the interpretability of the component is facilitated (Tabachnick and Fidell 1983, p. 399; Norusis 1985, p. 140).

Quartimax focuses on the interpretability of variables; it attempts to increase the variance of loadings within variables across components. While varimax operates on the columns of the loading matrix, quartimax operates on the rows (Tabachnick and Fidell 1983, p. 401).

Equimax is a combination of varimax and quartimax, which seeks simultaneously to simplify the components and the variables (Tabachnick and Fidell 1983, p. 401).

In this study, since it is hoped that an interpretation of the components can be achieved, varimax rotation was chosen for all principal component analyses. Components with eigenvalues of greater than 1 were considered.

4.6.2 Multiple Linear Regression Analysis

A) Use of Multiple Linear Regression Analysis

Regression analysis is suitable for the research goal assessing the relationship between the dependent variable of interest and a number of independent variables. Linear regression analysis is a special and general use of regression analysis; it identifies linear relationships between a dependent and independent variables. The extensive application of the technique is found in both natural and social sciences (Weisberg 1980).

The basic requirements of applying the technique are that (1) the dependent and independent variables with values must be decided prior to performing regression analysis; (2) the dependent and independent variables should be measured on an interval scale or the data must be metric⁵ (Norusis 1985, p. 9; Hair et al 1987, p. 20). In the study,

⁵ Binary or a dummy-coded binary variables satisfy the requirement.

given the requirements being satisfied, multiple linear regression analysis is appropriate for achievement of the research objectives.

B) Multiple Regression Models

The function of multiple regression techniques is realised by developing multiple regression models. A linear regression model can be expressed as follows:

$$Y' = A_0 + B_1X_1 + B_2X_2 + \dots + B_nX_n$$

Where Y' is the dependent variable and X_1 to X_n are the independent variables. B_1 to B_n are best-fitting weights, that is, they are so chosen that the sum of squared differences between the predicted and observed values of the dependent variables is minimised. Whether or not the use of regression analysis is appropriate for dealing with a research problem involves a number of issues, which are discussed in the next section.

C) Major Issues of Regression Analysis

Assumptions

Case-to-Variable Ratio. For a regression solution to be valid, the ratio of cases to variables must be sufficiently great, because with a small case-to-variable ratio an invalid solution can be found to predict the dependent variable completely. In general, a case-to-variable ratio of 20:1 or more is considered ideal, and it is

suggested that a minimum requirement be of at least 5:1 (Tabachnick and Fidell 1983, pp. 91-92).

Normality. The assumption of normality is that the distribution of residuals appears to be independent and normal. A simple way of examining the assumption is to construct a histogram of residuals. Another test is to look at the normal probability plot of residuals. If the assumption is met, the observed distribution of residuals is identical to that expected under the assumption of normality, showing a straight line in the plot.

Linearity. It is assumed that the phenomenon being investigated is linear, and a linear model should fit the data. Generally, this assumption is tested by inspecting the overall shape of scatterplot of the predicted values against residual values. If the assumption is satisfied, there should not be any observable pattern. Often it is possible to transform the data to achieve linearity.

Homoscedasticity. This assumption is that the variance of residuals is approximately equal over all the values of independent variables or predicted values. Heteroscedastic data present the increasing or decreasing variance. A plot of the studentised residuals⁶ against the predicted values can be used to examine the violation of the assumption (Norusis 1985, p. 26).

⁶ "Studentized residuals are raw residuals that are scaled by dividing each by its estimated standard deviation" (Gunst and Mason 1980, p. 228).

Multicollinearity. The interdependency between independent variables may result in an incorrect estimation of regression coefficients and affect the right coefficient signs (Hair et al 1987, p. 42). If the independent variables are near singular or highly correlated, the calculation of regression coefficients is impossible (Tabachnick and Fidell 1983, p. 92; Norusis 1985, pp. 54-55). In this study the use of components as independent variables avoided this potential problem.

Outliers. Outliers are extreme observations, which are unusually different from the others with resultant large residuals. Inclusion of such observations will have detrimental influences on all multivariate solutions. Hence they should be excluded from analysis, recoded or changed so that their effects are reduced.

Other Issues

Identification of 'causal relationships' is desirable in most research involved in regression analysis. A general linear regression analysis does not possess the property of demonstrating causality. "Demonstration of causality is a logical and experimental, rather than statistical, problem. Statistics are helpful only in demonstrating that relationships occur reliably" (Tabachnick and Fidell 1983, p. 91).

For the purposes of evaluating relationships among variables, standard multiple regression is recommended; use of other methods such as stepwise regression is considered suitable for development of

hypotheses or theories (Tabachnick and Fidell 1983, p. 105). Hence, standard multiple regression analysis was performed in the study.

In the study, the dependent variable was the absolute measurement (a 5 point scale) of marketing behaviour. In both the UK and Chinese samples, the independent variables comprise the component scores of marketing initiative, innovation, the control and market effect, and financial performance.

4.6.3 Discriminant Analysis

A) Choice of Discriminant Analysis

Various criteria have been used to measure the extent of marketing orientation (See Lazo 1958; Hise 1965; McNamara 1972; Parasuraman 1980) or marketing effectiveness, which has included measures of marketing orientation (Kotler 1977). As yet no consistent criteria supported by empirical research have been found regarding marketing and non-marketing behaviour.

Factor analysis is often used to identify a dimension that spreads subjects apart as much as possible among research units. However, factor analysis (principal component analysis), together with cluster analysis, is known as internal factor analysis; it is criticised in that "there is no way to determine how well the factors found in one set of data will fit the data from a new set of observations", although some attempts have been made to tackle the problem (Thorndike

1978, p. 318). For external factor analysis i.e. multiple regression, canonical analysis, and discriminant function, the generalisability can be tested by cross-validation (ibid).

Discriminant analysis can generally achieve the following research objectives: (1) classifying research units into one of mutually exclusive groups based on various characteristics; (2) identifying the important characteristics which distinguish among the groups; and (3) assessing the accuracy of the classification (Norusis 1985, p. 73). Therefore, discriminant analysis is chosen as the analytical technique to:

(1) Determine whether the variables selected from the desk research distinguish between marketing and non-marketing orientated corporate behaviour so that the criteria for the measurement of marketing behaviour may be established.

(2) Examine the influence of individual variables on marketing behaviour. This can, to some extent, supplement regression analysis, which uses principal components as independent variables.

A major feature of discriminant analysis for attaining these is that, unlike regression analysis, multicollinearity does not seriously affect the interpretation of the results (Tatsuoka 1970; Klecka 1980; Norusis 1985).

The first clear statement of discrimination problems and the first proposed solution to the problems were given by Ronald Fisher

(Srivastava and Carter 1983, p. 231). He also first introduced the linear discriminant function in 1936 within the constraints of two-group situations (Tatsuoka 1970, p. 5; Srivastava and Carter 1983, p. 231; Norusis 1985, p. 75). Other statisticians, including Rao (1948), Tukey (1949), and Bryan (1950), have contributed to the extension of discriminant analysis to problems involving more than two groups, and therefore to the use of more than one discriminant function (Tatsuoka 1970, p. 5).

The major difference between discriminant analysis and regression analysis is that discriminant analysis involves a categorical (nominal or non-metric) dependent variable, whereas in classical regression analysis the dependent variable is metric (Hair et al 1987, p. 76). In addition, discriminant analysis requires multivariate normality of the independent variable to produce optimal results (Hand 1981), while classical regression analysis requires normality of the dependent variable. Nevertheless, two group linear discriminant analysis, which is the case in this study, is closely associated with multiple linear regression analysis because both try to delineate the relationship between dependent and independent variables in a linear model, one for the primary purpose of discrimination, and the other for prediction. Furthermore, the multiple regression coefficients are proportional to the discriminant function coefficients if the binary grouping variable is considered as the dependent variable and the predictor variables as the independent variables (Norusis 1985, p. 92).

B) Basic Principle of Discriminant Analysis

Based on a set of cases for which their group membership is known, linear combinations of the independent (or predictor) variables are constructed and serve as the basis for assigning cases to groups (Norusis 1985). The coefficients for the linear combinations are so chosen that they maximally differentiate among the groups (Tatsuoka 1970, 1971; Norusis 1985).

Suppose there is a sample drawn from each of K well-defined populations, in which measures on p variables for each case are known. The classification process involves first deciding which of the K groups the case should belong to in the light of a number of distinct characteristics. Thereafter, if there is a case which has the same measures on the p variables and unknown group membership, and we want to classify it as a member of one of the K groups, which group does the case match most in terms of these p measures? Discriminant analysis has been used for handling such classification problems in various areas, such as politics, anthropology, and education (Tatsuoka 1971).

The presentation of the principle of discriminant analysis in mathematical notation is given in Appendix B4.

C) Process of Discriminant Analysis

The SPSS^X computer package was also used for discriminant analysis.

The analytical process includes the following steps:

Selection of Criterion Variable

The absolute value measurement (a 5 point scale) of marketing behaviour was chosen as the criterion variable to distinguish between marketing and non-marketing orientated enterprises, for the reason given in Section 4.5.1.

The interval scale measurement of marketing behaviour was transformed into two groups for discriminant analysis by placing the respondents choosing 4 and 5 in the marketing orientated group and the rest in the non-marketing-orientated group.

Selection of Predictor Variables

The predictor variables for discriminant analysis were selected based on the results of regression analysis and analysis of variance. Hence, the structure of the predictor variables is presented in Chapter 6.

Assumptions

The classification accuracy from the application of linear discriminant function is subject to the assumptions that in each group the variables are from multivariate normal distributions and the covariance matrices for all groups are equal (Hand 1981). SPSS^X DISCRIMINANT performs Box's test, which is based on the determinants of the group covariance matrices. If the significance probability, which is based on an F transformation, is small, the null hypothesis that the covariance matrices are equal may be rejected. If the

normality assumption is violated, Box's M test also tends to show a small significance probability.

Establishment of Discriminant Function

Tabachnick and Fidell (1983) have classified three basic types of discriminant analysis: standard or direct, hierarchical or sequential, and stepwise. In general, when the researcher wants to identify important predictor variables and sift out a set of predictor variables, hierarchical and stepwise discriminant analyses are used. In standard or direct discriminant analysis, all predictor variables are considered simultaneously.

Nevertheless, a main purpose of the research is to further examine the relationships between marketing behaviour and selected individual variables, and thus all predictor variables need to be examined. As such, standard or direct discriminant analysis was employed.

"The simultaneous method is appropriate, when, for theoretical reasons, the analyst wants to include all of the independent variables in the analysis and is not interested in seeing intermediate results based only on the most discriminating variables."

(Hair et al quote Darden et al 1987, p. 84)

Estimation of Misclassification Rate

According to the classification principle (Appendix B4), classification is undertaken based on function coefficients, whereas these coefficients derive from samples, and "are only approximations of population parameters" (Tabachnick and Fidell 1983). Therefore it is desirable to evaluate the effectiveness of classification by examining the misclassification rate when the functions perform with a new sample of cases (Tabachnick and Fidell 1983).

To obtain an estimate of the misclassification rate, both the UK and Chinese sample data were randomly split into two parts; one part was used to develop the discriminant functions and the other was utilised to assess the results of classification.

CHAPTER 5: RESULTS AND DISCUSSION (1)

5.1 INTRODUCTION

Business behaviour and environments differ greatly between the UK and China. The substantial differences in business behaviour and environments may also exist among enterprises of different size, industry, region, and type in China. Hence, as a major task of this chapter, such differences are examined. The examination not only serves as pre-tests for the validity of the model but also, more importantly, helps to understand and interpret the results to be yielded in the following statistical procedures.

This chapter consists of three sections: first, presentation and discussion of the basic characteristics of enterprises and business environments in both the U.K and China. Then, analyses of business behaviour and influences in a comparative setting. Finally, discussion of business behaviour and environments particularly associated with the China economic situations.

The tests for differences between variables are carried out through t-test and analysis of variance.

5.2 BASIC CHARACTERISTICS OF SAMPLE ENTERPRISES

Both the UK and Chinese sample profiles are exhibited in Tables 5.1 and 5.2a, which suggest that both sample data were biased in favour of industrial goods enterprises. 59.8% of the UK sample companies and 55.6% of the Chinese sample enterprises were industrial goods producers. Since manufacturing enterprises accounted for the majority of the sample enterprises - 86% in the UK sample and 92% in the Chinese sample, the biases did not go beyond the sampling requirement.

Table 5.1 indicates that about 48% of the UK companies were in declining markets. This may be a reflection of, on the one hand, intensifying international competition and, on the other hand, a slowness in response to environmental changes in the UK firms. In contrast, as can be observed in Table 5.2a, about 43% of the Chinese enterprises were in stable markets, and 48% claimed to have their major products at the mature stage (See Table 5.2a). This characteristic might imply that (i) as a result of a large population in China and the relatively closed market, a product has a long life cycle, and (ii) the use of marketing is important for these enterprises in terms of new product development.

TABLE 5.1 Profile of UK Sample Enterprises

Characteristics	All Respondents (n = 254)
Position of Respondents	
Managing Director	44.1
MKT Director	42.5
Others	13.4
Major Business Activities	
Industrial Goods	59.8
Consumer Goods	24.8
Others	15.4
Market Situation of Major Product	
Growing Market	37.4
Declining Market	47.6
Stable Market	13.4
Sales	
Less than 9 million	34.3
10 - 49 million	31.1
More than 50 million	33.4

Note: All figures are percentages; missing data are excluded.

TABLE 5.2a Profile of Chinese Sample Enterprises

Characteristics	All Respondents (n = 630) ¹
Position of Respondents	
Managing Director	58.4
Deputy MD	17.9
Sales Manager	4.6
Others	16.7
Major Business Activities	
Industrial Goods	55.6
Consumer Goods	36.7
Others	6.4
Market Situation of Major Product	
Growing Market	46.7
Declining Market	9.2
Stable Market	42.5
Number of Employees	
Less than 200	15.0
201 - 600	29.5
601 - 2000	36.0
More than 2001	19.3
Sales (Unit: 10000 yuan)	
Less than 500	22.6
501 - 1000	19.0
1001 - 5000	38.1
More than 5001	19.7
Profit after Tax and Interest (Unit: 10000 yuan)	
Less than 50	28.9
51 - 100	16.8
101 - 500	26.2
More than 501	14.6
Major Product Life Cycle	
Introduction	4.3
Growth	27.0
Maturity	48.3
Decline	6.2

Note: All figures are percentages; missing data are excluded.

¹ Six cases were excluded in the total sample: three were identified to be outliers (the details are presented in Chapter 6) and three contained too many missing data.

TABLE 5.2b Regional Distribution of Enterprises in Chinese Sample

Regions	Sample Enterprises	
	Frequency	Percentage (%)
North China	48	7.6
Northeast China	180	28.6
East China	229	36.3
Mid-South China	103	16.3
Southwest China	43	6.8
Northwest China	27	4.3
Total	630	100.0

The regional distribution of enterprises in the Chinese sample is displayed in Table 5.2b. As seen in the table, the sample covered enterprises from all the regions, with a slight bias in favour of developed regions. There were, for example, 28.6% of the sample enterprises from Northeast China (the capital goods industrial base), 36.3% from East China (the consumer goods industrial base), and 4.3% from Northwest China (the underdeveloped region).

A further break-down of the Chinese sample revealed that 28 out of 32 provinces and autonomous municipalities in the country were included (See Table 5.2c). Accordingly, a slight bias was also shown towards developed provinces, particularly Liaoning, a province in Northeast China.

These biases largely stemmed from the fact that 400 questionnaires (22%) were only circulated in these developed regions and provinces.

Managing directors in the developed regions or provinces may be more exposed to international business activities, and more knowledgeable about and competent in marketing. Moreover, the market system may be more developed. Hence, the conclusions to be derived in the study may be more applicable to such developed regions or provinces.

TABLE 5.2c Provincial Distribution of Enterprises in Chinese Sample

Provinces & Autonomous Cities	Sample Enterprises	
	Frequency	Percentage (%)
Beijing	15	2.4
Shanghai	28	4.4
Tienjin	12	1.9
Helongjian	13	2.1
Gansu	13	2.1
Hunan	21	3.3
Fujian	22	3.5
Yunnan	8	1.3
Sichan	26	4.1
Liaoning	160	25.4
Jiansu	57	9.0
Hubei	46	7.3
Zhejiang	67	10.6
Jiangxi	27	4.3
Guizhou	9	1.4
Jiling	6	1.0
Inner-Mongolia	4	0.6
Ningxia	6	1.0
Shaanxi	6	1.0
Guangxi	6	1.0
Guangdong	11	1.7
Henan	13	2.1
Hainan	6	1.0
Anhui	10	1.6
Hebei	8	1.3
Shanxi	11	1.7
Shandong	18	2.9
Xingjang	1	0.2
Total	630	100.0

Table 5.2d shows that in the Chinese sample, SOEs accounted for 66.5%, UCEs for 20.0%, VTCEs for 7.9%, and IEIs (only joint-venture

enterprises) for 4.8%. Private and sole-venture enterprises were not included in the sample because of the difficulty of access.

TABLE 5.2d Distribution of Enterprise Types in Chinese Sample

Types of Enterprises	Sample Enterprises	
	Frequency	Percentage (%)
State-owned	419	66.5
Urban Collective	126	20.0
Village & Town Collective	50	7.9
Joint Venture	30	4.8
Private & Individual	1	0.2
Unknown	4	0.6
Total	630	100.0

5.3 CONTRAST ANALYSIS OF BEHAVIOUR AND ENVIRONMENT

5.3.1 Factors of the Market and Control Effects

The research model suggests that business behaviour is affected by the market and control effect. For a better understanding of the differences in the influence of business environment on enterprise behaviour, it is helpful to start the tests for the propositions by looking at the differences of business environment between the two countries.

It appears appropriate to compare the perceptions of business environment measured on interval scales in the cross-cultural setting,

because of the nature of environment which may be objectively perceived with little cultural bias. In contrast, business behaviour is strongly culture-bound; comparison between the two cultures gives rise to qualitative disparity which is too great to draw a meaningful conclusion.

Table 5.3 presents the descriptions of variables used in the following analyses.

TABLE 5.3 Descriptions of Variables Used in Both UK and Chinese Samples

Variable Name	Description
I. Marketing Activities	
NPROESH:	Marketing research before new product.
MKTPLAN:	Extent of marketing planning.
MKTRESCH:	Extent of marketing research.
MKTKNOWL:	Knowledge of marketing.
KNWRIVAL:	Knowledge of competitors.
MKTSEGM:	Extent of market segmentation.
COSTMEAS:	Extent of marketing expenditure measurement.
COORDINA:	Extent of coordination of business activities.
NEWINFOR:	Newness of market information.
CORPPLAN:	Extent of corporate planning.
PLANEFFA:	Effectiveness of marketing plan.
II. Innovation	
PROIMPRV:	Percentage of product improvement.
NPROLAU2:	Turnover percentage of new product development.
NPROLAU1:	Number percentage of new product development.
III. Profitability	
PERFORM1:	Financial performance - return on capital.
PERFORM2:	Financial performance - profit growth.

IV. Market Effect

PROMAKET: Supply situation in major output market.
 MATMAKET: Supply situation in major input market.
 POTNINFL: Threats of potential entry.
 RIVTHRET: Degree of competition threats perceived.
 INTENSTY: Intensity of competition perceived.
 MKTSTATE: Declining sales.
 BUYMATDI: Difficulty in buying materials.

V. Control Effect

GOVNINFL: Governmental influence on company business.
 CORPINFL: Corporate headquarters influence on business.
 PRICNTRO: Pricing control.
 PROCONTR: Production control.
 MATCONTR: Material control.
 SALCONTR: Sales control.

TABLE 5.4 Tests for Differences in Business Environment between UK and Chinese Samples

Variables	China			UK			t	p
	Mean	sd	n	Mean	sd	n		
INTENSTY	3.56	1.05	619					
RIVTHRET	3.09	1.11	622	3.44	0.96	252	-4.73	0.000
PROMAKET	2.74	1.11	620	3.65	0.95	251	-12.17	0.000
MATMAKET	1.98	0.90	620	3.17	0.77	247	-19.59	0.000
SALCONTR	2.32	1.27	619	2.09	1.20	245	2.54	0.011
PROCONTR	2.64	1.28	619	2.23	1.33	244	4.09	0.000
MATCONTR	2.76	1.26	617	1.80	1.30	243	9.85	0.000
PRICNTRO	3.46	1.51	593	2.10	1.33	245	12.95	0.000
TOTALINF*	3.12	1.19	618	3.52	1.31	244	-4.14	0.000

* The perception of overall influence: in China it is GOVNINFL and in the UK CORPINFL.

Included in Table 5.4 are the means, standard deviation, and number of cases of variables measuring the control and market effect in both the UK and Chinese samples. The table reveals that the mean of RIVTHRET in the UK sample was significantly greater than that in the Chinese sample, as expected. Accordingly, the means of both PROMAKET and MATMAKET in the Chinese sample were significantly smaller than those

in the UK sample, reflecting the characteristic of 'shortages' in China.

It is suggested that in China the market impact on enterprises has become significant in that the means of INTENSTY and RIVTHRET were above the average. Furthermore, as shown in Table 5.5, 61% of the Chinese sample enterprises deemed that competition would be intensifying in the near future.

TABLE 5.5 Perception of Changing Trend of Competition in Chinese Sample

Changing Trend of Competition	Percentage of Enterprises (%) (n = 624)
Intensifying	60.6
Static	30.3
Weakening	4.3
No Idea	3.8

It is important to see the contrast of the relationship between the means of PROMAKET and RIVTHRET (INTENSTY) in the two samples. In the Chinese sample the mean of PROMAKET (2.74) was considerably smaller than those of RIVTHRET (3.09) and INTENSTY (3.56). In the UK sample, the mean of PROMAKET (3.65) was significantly greater than that of RIVTHRET (3.44) (See Table 5.4).

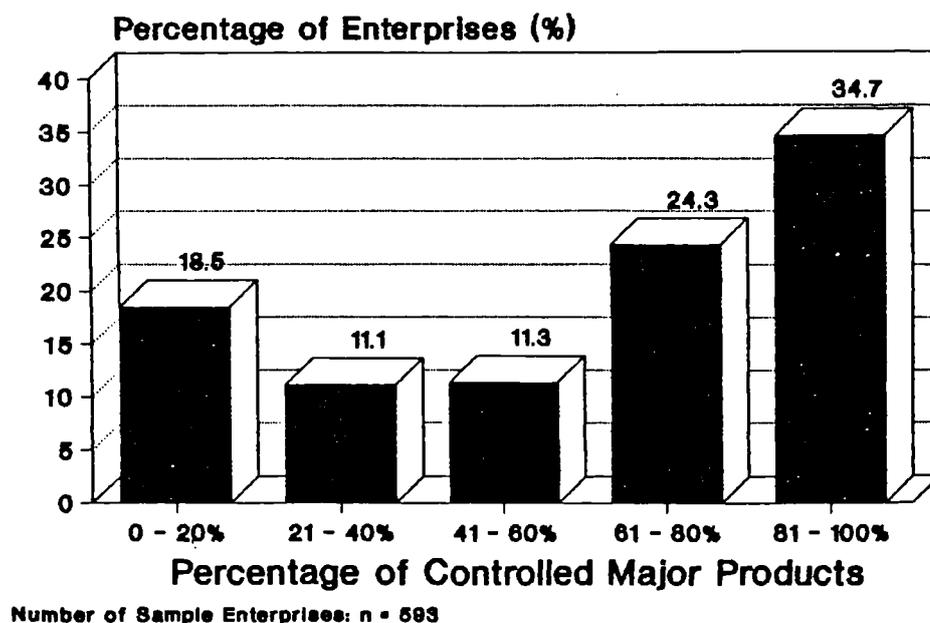
This has a clear indication that despite the nature of insufficient supply in China, since Chinese enterprises had only been recently exposed to markets, their perceived market impact (generated by per unit market supply) tends to be stronger, or different from, that in UK firms.

As shown in Table 5.4, it is not surprising that the means of all the variables of direct control (SALCONTR, PROCONTR, MATCONTR, and PRICNTRO) in the Chinese sample were significantly greater than those in the UK sample.

However, notably out of the variables of direct control, the mean of MATCONTR in the UK sample was smallest, while in the Chinese sample the mean of MATCONTR was relatively large. In China the asymmetrical market structure necessitates a tight control in supplies. In contrast, in the UK, buyers' markets make purchase of supplies far easier, and thus least control is required.

In the UK sample production control (PROCONTR) appeared strongest of all functional controls, whereas in the Chinese sample, price control

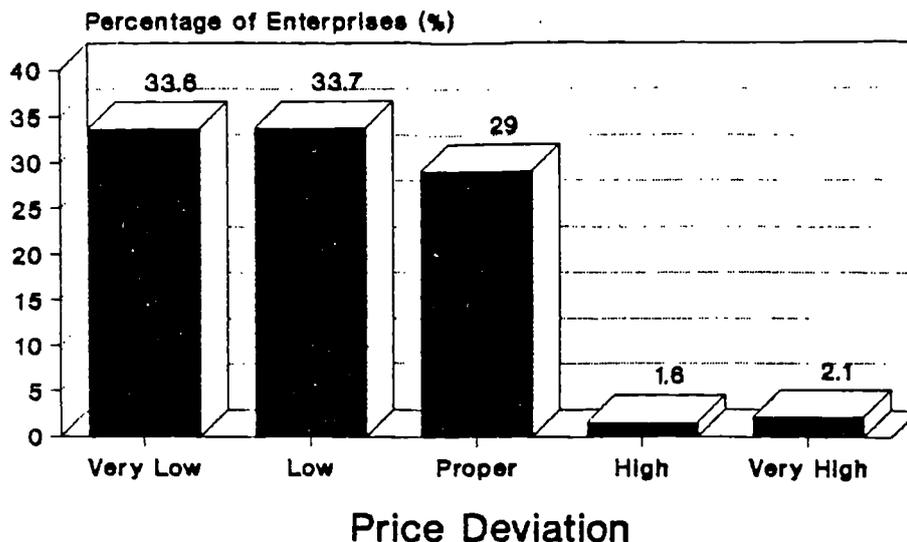
FIGURE 5.1
Price Control in China



(PRICNTRO) was strongest. Figure 5.1 reveals that in about 60% of the Chinese sample enterprises, over 60% of their major products were subject to pricing control. Furthermore, as seen in Figure 5.2, most of the plan prices deviated strikingly from the perceived corresponding market values: about 70% of the plan prices were considered much lower than the market values; only less than 30% of them were regarded as comparable. Nevertheless, the standard deviation suggested that there was great variation among the enterprises.

The changes in fixed and guiding prices from 1987 to 1988 are shown in Table 5.6. The table reveals that while a proximate balance between increases and decreases in 'fixed prices' was maintained, 'guiding prices' rose greatly.

FIGURE 5.2
Deviation of Plan Prices from
Market Prices



Number of Sample Enterprises: n = 563

TABLE 5.6 Changes in Governmental Control over Pricing between 1987 and 1988

Type of Control	Percentage of Enterprises			n
	Increase Control	Decrease Control	Remain Unchanged	
Fixed Price	23.6	27.0	49.4	496
Guiding Price	47.2	10.4	42.4	415

Table 5.4 demonstrates that the perceived overall corporate control was stronger not only than all the functional controls in the UK sample but also than the perceived overall governmental control in the Chinese sample. This might have the following implications:

(1) There seems to be substantial corporate indirect control in the UK companies, since none of the variables of direct functional control could explain the perceived degree of overall corporate control. Therefore, it may be of great interest to investigate further how indirect control affects business behaviour in UK companies.

(2) The differences between government control in China and corporate control in the UK consist not only in direct and indirect, but also, more importantly, in the nature of control, namely the economic rationality of control. Despite being relatively strong, indirect corporate control in UK companies is more economically rational and profit-orientated, compared with government control in China, which often causes undesirable economic effects in enterprises. For governmental control, political rather than economic factors often dominate. For instance, three Chinese enterprises claimed in the questionnaire that 'government interference' plays a critical role in

retarding their new product development, and one stressed the distinction between 'administration', which is the necessary responsibility of government, and 'interference', which may be detrimental to enterprise operation.

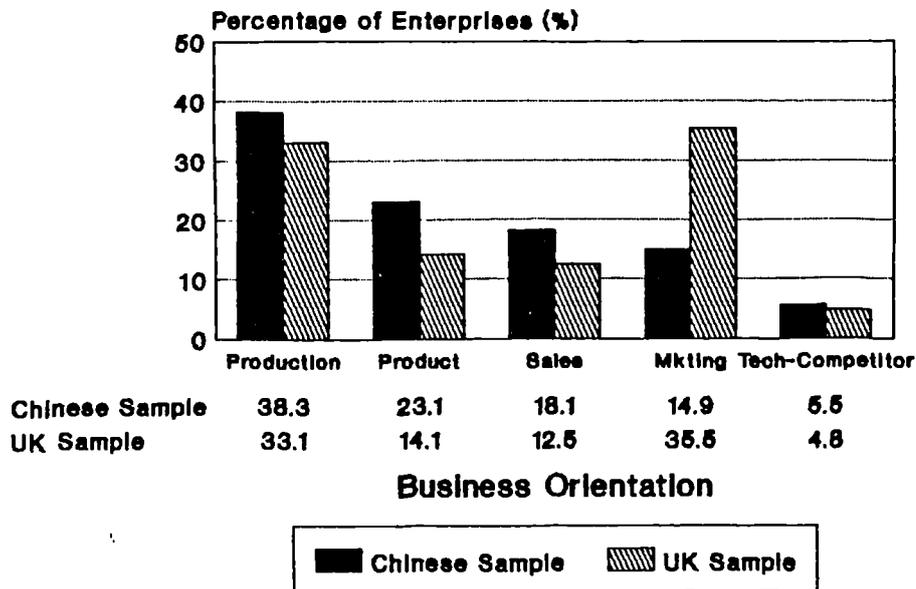
It is noteworthy that in the UK there also was a certain degree of governmental effect on businesses (mean=2.53; sd=1.12), which was significantly stronger than corporate direct control.

5.3.2 Enterprise Orientation and Attitudes

As explained in Chapter 4, the absolute measurement (a interval scale) of marketing behaviour is not appropriate for cross-cultural comparison. Such a comparison can be achieved by using the relative measurement (a nominal scale). When facing a choice among the various alternative business behaviours, the respondent tends to consider which one has been given the most weight in the company's business policy. The one chosen reflects the business orientation of the enterprise.

Similarly, a nominal scale was also used to measure an enterprise attitude towards future suitable orientation.

FIGURE 5.3
Enterprise Orientation Contrast



n (China) = 618; n (UK) = 248

Figure 5.3 illustrates the results of the current business orientation in both the UK and Chinese sample enterprises². Seemingly, as a result of the economic reform in China, the emergence of markets brought about a proliferation of enterprises with product, sales, and customer orientations, instead of past overwhelming production orientation.

Although only 15% of the Chinese sample enterprises were marketing orientated, this should still be viewed as an advance achieved in the reform. It appears that, before being transformed into marketing-orientation, a production-orientated enterprise is likely to exercise product or sales orientation. As elaborated in Chapter 2, the adoption

² In the Chinese sample, a measure of 'technology orientation' was used instead of that of 'competitor orientation' in the UK sample. It was unrealistic to expect a Chinese enterprise to have a 'competitor orientation' at this stage.

of marketing orientation involves extra costs such as marketing research, variety, and modification of production line. Improvement of product quality or promotion of existing products seems to be an immediate way to enhance enterprise competitiveness. Therefore, in the Chinese sample, there was a high percentage of enterprises with product and sales orientation.

The percentage of companies with marketing orientation in the UK sample was highest (36%), which sharply contrasted with that in the Chinese sample. This is a major reflection of the two different economic systems and thus of the impact of markets.

The diminishing order of orientation from production to marketing in the Chinese sample reflected both the characteristic of traditional enterprise behaviour which features production orientation and the changing process as a result of the economic reform. While production orientation still dominated, the total of other orientations became significant.

In the UK sample, despite being the highest, the percentage of companies with marketing orientation still seemed to be low enough to conform with the recent criticisms of the low level in UK companies (Doyle, Saunders, and Wong 1986; Doyle 1987)³. Moreover, the second highest percentage of enterprises with production orientation appeared

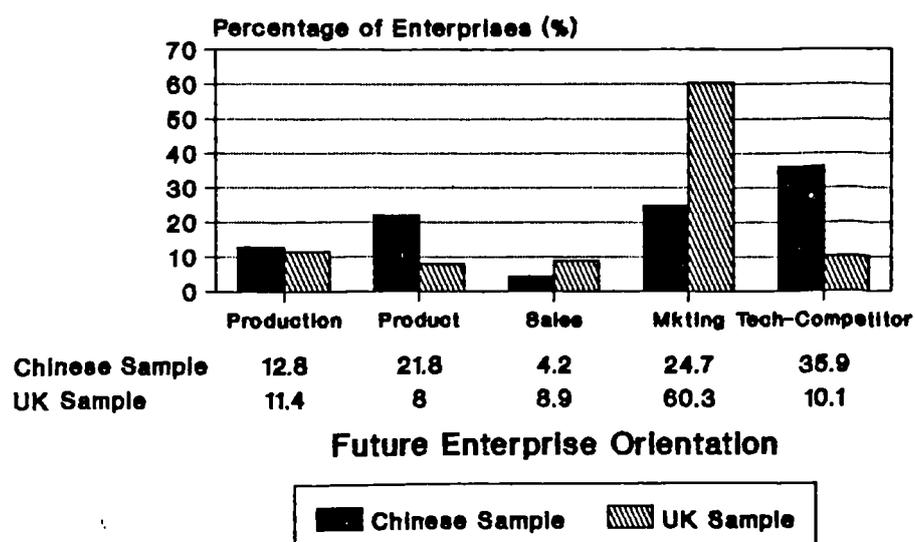
³ However, there is no standard criterion to evaluate the appropriate level of marketing orientation. As a form of competitive behaviour, one of the best ways is to compare this percentage with that of competitors, which serves as a point of reference.

consistent with the claim that many UK firms have been obsessed with short-term cost cutting at the expense of long-run profits.

A contrast of the attitudes towards enterprise future orientation between the two samples is shown in Figure 5.4. As illustrated, in the Chinese sample technology would be most valued, marketing orientation would become appreciated as the second most important option, and sales and production orientations would be viewed as least important.

The majority of the UK companies (60%) considered marketing orientation as most appropriate for their future development. This may suggest that: (1) marketing-orientation was desired, but was somehow not implemented in many companies, (2) because of the environmental changes or acquisition of marketing knowledge, the companies may

Figure 5.4
Attitudes towards Future Enterprise Orientation



N (China) = 615; N (UK) = 237

recently recognise the necessity, and (3) the companies were still in the process of transformation, as several enterprises claimed.

The proposal that customer orientation should be given up to competitor orientation (Oxenfeldt and Moore 1978) did not seem to be supported because of the low increment of companies with competitor orientation.

5.3.3 Small, Medium-sized, and Large Enterprises

Enterprises of different size may be exposed to different environments of the control and market effect, and thus may behave differently. In the study, both the UK and Chinese sample enterprises are divided into three groups of size: small, medium-sized, and large, according to their turnovers. The differences in business behaviour and environments among the three groups are examined. To exclude the effect of ownership type in the Chinese enterprises, only state-owned enterprises are included for the examination. The grouping results are presented in Table 5.7.

TABLE 5.7 Groupings of Enterprises of Different Sizes⁴.

(Measurement: Annual Sales)

	UK	China
Small	Up to £9 million	Up to ¥10 million
Medium-size	£10 – 99 million	¥11 – 50 million
Large	Over £100 million	Over ¥50 million

TABLE 5.8a Results of Analyses of Variance of Behaviour and Environment Variables between Small and Medium-sized Enterprises in Chinese Sample

5.8aa Business Behaviour

Criterion Variables	Small Enterp.			Medium Enterp.			F	p
	Mean	sd	n	Mean	sd	n		
MKTATTI	4.02	0.84	120	4.18	0.86	179	2.79	0.096*
MKTIMPL	3.80	0.96	97	3.86	0.92	159	–	ns
NPROLAU1	2.67	1.32	111	2.70	1.26	176	–	ns
PROIMPRV	2.93	1.32	108	3.32	1.32	169	5.85	0.016
MKTRESCH	3.43	0.96	115	3.51	0.93	169	–	ns
MKTSEGM	2.00	0.72	118	2.16	0.70	177	3.81	0.052
MKTPLAN	3.54	1.13	118	3.87	0.98	173	6.82	0.010
PLANEFFA	3.65	1.06	114	3.77	0.91	175	–	ns
NEWINFOR	3.63	0.96	120	3.78	0.90	178	–	ns
NPRORESH	3.34	1.14	111	3.62	0.94	174	5.23	0.023
KNWRIVAL	3.58	1.03	120	3.64	0.99	176	–	ns
COSTMEAS	3.13	1.14	115	3.21	1.08	177	–	ns
MKTKNOWL	3.20	1.06	112	3.51	0.91	170	7.12	0.008
PERFORM1	3.03	1.03	110	3.32	1.05	173	5.45	0.020
PERFORM2	3.09	1.11	115	3.38	1.05	173	5.00	0.026

* F value was not significant ($p > 0.1$).

5.8ab Business Environment

Criterion Variables	Small Enterp.			Medium Enterp.			F	p
	Mean	sd	n	Mean	sd	n		
INTENSTY	3.61	1.07	119	3.58	0.95	178	–	ns
RIVTHRET	3.31	1.11	120	3.08	1.06	178	3.08	0.080
PROMAKET	3.04	1.19	121	2.73	1.03	178	5.78	0.017
MATMAKET	2.06	0.83	120	1.92	0.91	177	–	ns
SALCONTR	2.15	1.22	120	2.42	1.25	178	3.31	0.070
PROCONTR	2.47	1.28	119	2.75	1.20	178	3.75	0.054
MATCONTR	2.80	1.29	119	2.77	1.19	178	–	ns
PRICNTRO	3.29	1.50	116	3.54	1.54	175	–	ns
GOVNINFL	2.98	1.28	119	3.34	1.13	176	6.18	0.014

⁴ The classification in the study is based on the distribution of sample enterprises.

TABLE 5.8b Results of Analyses of Variance of Behaviour and Environment Variables between Small and Large Enterprises in Chinese Sample

5.8ba Business Behaviour

Criterion Variables	Small Enterp.			Large Enterp.			F	p
	Mean	sd	n	Mean	sd	n		
MKTATTI	4.02	0.84	120	4.15	0.66	117	-	ns
MKTIMPL	3.80	0.96	97	3.62	1.03	106	-	ns
NPROLAU1	2.67	1.32	111	2.47	1.21	113	-	ns
PROIMPRV	2.93	1.32	108	2.89	1.38	111	-	ns
MKTRESCH	3.43	0.96	115	3.48	0.87	111	-	ns
MKTSEGM	2.00	0.72	118	2.10	0.63	115	-	ns
MKTPLAN	3.54	1.13	118	3.92	0.99	116	7.49	0.007
PLANEFFA	3.65	1.06	114	3.76	0.94	113	-	ns
NEWINFOR	3.63	0.96	120	3.69	0.86	115	-	ns
NPRORESH	3.34	1.14	111	3.42	0.96	112	-	ns
KNWRIVAL	3.58	1.03	120	3.73	0.94	114	-	ns
COSTMEAS	3.13	1.14	115	3.00	1.12	114	-	ns
MKTKNOWL	3.20	1.06	112	3.40	1.04	107	-	ns
PERFORM1	3.03	1.03	110	3.46	0.99	111	10.16	0.002
PERFORM2	3.09	1.11	115	3.57	0.98	110	12.02	0.001

5.8bb Business Environment

Criterion Variables	Small Enterp.			Large Enterp.			F	p
	Mean	sd	n	Mean	sd	n		
INTENSTY	3.61	1.07	119	3.25	1.17	114	5.94	0.016
RIVTHRET	3.31	1.10	120	2.81	1.07	114	12.38	0.001
PROMAKET	3.04	1.19	121	2.23	1.10	116	29.59	0.000
MATMAKET	2.06	0.83	120	1.77	0.80	115	8.00	0.005
SALCONTR	2.15	1.22	120	3.03	1.27	117	29.31	0.000
PROCONTR	2.47	1.28	119	3.38	1.14	117	33.40	0.000
MATCONTR	2.80	1.29	119	3.15	1.11	115	4.94	0.027
PRICNTRO	3.29	1.50	116	3.83	1.37	111	7.86	0.006
GOVNINFL	2.98	1.28	119	3.47	1.13	117	9.54	0.002

TABLE 5.8c Results of Analyses of Variance of Behaviour and Environment Variables between Large and Medium-sized Enterprises in Chinese Sample

5.8ca Business Behaviour

Criterion Variables	Medium Enterp.			Large Enterp.			F	p
	Mean	sd	n	Mean	sd	n		
MKTATTI	4.18	0.86	179	4.15	0.66	117	-	ns
MKTIMPL	3.86	0.92	159	3.62	1.03	106	3.92	0.049
NPROLAU1	2.70	1.26	176	2.47	1.21	113	-	ns
PROIMPRV	3.32	1.32	169	2.89	1.38	111	6.74	0.010
MKTRESCH	3.51	0.93	169	3.48	0.87	111	-	ns
MKTSEGM	2.16	0.70	177	2.10	0.63	115	-	ns
MKTPLAN	3.87	0.98	173	3.92	0.99	116	-	ns
PLANEFFA	3.77	0.91	175	3.76	0.94	113	-	ns
NEWINFOR	3.78	0.90	178	3.69	0.86	115	-	ns
NPRORESH	3.62	0.94	174	3.42	0.96	112	3.26	0.072
KNWRIVAL	3.64	0.99	176	3.73	0.94	114	-	ns
COSTMEAS	3.21	1.08	177	3.00	1.12	114	2.67	0.103
MKTKNOWL	3.51	0.91	170	3.40	1.04	107	-	ns
PERFORM1	3.32	1.05	173	3.46	0.99	111	-	ns
PERFORM2	3.38	1.05	173	3.57	0.98	110	-	ns

5.8cb Business Environment

Criterion Variables	Medium Enterp.			Large Enterp.			F	p
	Mean	sd	n	Mean	sd	n		
INTENSTY	3.58	0.95	178	3.25	1.17	114	6.92	0.009
RIVTHRET	3.08	1.06	178	2.81	1.07	114	4.70	0.031
PROMAKET	2.73	1.03	178	2.23	1.10	116	15.49	0.000
MATMAKET	1.92	0.91	177	1.76	0.80	115	-	ns
SALCONTR	2.42	1.25	178	3.03	1.27	117	16.65	0.000
PROCONTR	2.75	1.20	178	3.38	1.14	117	20.40	0.000
MATCONTR	2.77	1.19	178	3.15	1.11	115	7.45	0.007
PRICNTRO	3.54	1.54	175	3.83	1.37	111	-	ns
GOVNINFL	3.34	1.13	176	3.47	1.13	117	-	ns

Inspection of Tables 5.8a, 5.8b, and 5.8c reveals that enterprise size was positively associated with the control effect and negatively with the market effect in the Chinese sample. This conforms with the theoretical analysis in Chapter 3.

Although the small enterprises confronted the highest market effect and lowest control effect, their business behaviour did not differ from that of the large enterprises. In contrast, the medium-sized enterprises were most marketing orientated, and yielded better financial performance than the small enterprises. Table 5.8a also shows that marketing knowledgeability may partially explain the differences. As pointed out in Chapter 3, the qualifications and competence of managing directors in small enterprises are generally worse than those in large and medium-sized enterprises. Additionally, small enterprises are more constrained by technology and funds.

The differences between the large and medium-sized enterprises appeared consistent with the research model: the medium-sized enterprises were facing a higher market effect and lower control effect, and were more marketing orientated. Interestingly, Table 5.8c presents a simple form of 'marketing orientation': innovation, marketing research, and cost consciousness.

It is noteworthy that the large enterprises in the Chinese sample, compared with small enterprises, were subject to a lower market effect, and showed better financial performance. This may be a reflection of economies of scale as well as technology, management capability, and availability of funds and raw materials.

It is suggested that the exercise of marketing orientation may compensate for other disadvantages such as scale and technology in terms of the impact on performance. For instance, although the medium-sized Chinese enterprises had the disadvantage of scale and

experienced a higher market effect in comparison with the large enterprises, their performance did not differ from that of large enterprises possibly due to their higher market orientation.

TABLE 5.9a Results of Analyses of Variance of Behaviour and Environment Variables between Medium-sized and Large Enterprises in UK Sample

5.9aa Business Behaviour

Criterion Variables	Medium Enterp.			Large Enterp.			F	p
	Mean	sd	n	Mean	sd	n		
MKTATTI	4.25	0.82	104	4.37	0.74	59	-	ns
MKTIMPL	3.65	0.77	89	3.61	0.71	54	-	ns
NPROLAU1	1.97	0.95	104	2.19	1.38	58	-	ns
NPROLAU2	2.11	0.87	104	2.26	1.22	58	-	ns
PROIMPRV	2.41	1.00	103	2.68	1.21	59	-	ns
MKTSEGM	4.10	1.04	105	4.29	0.94	58	-	ns
COORDINA	3.99	0.97	105	3.73	0.89	59	2.94	0.089
MKTPLAN	3.93	1.05	105	4.12	1.04	59	-	ns
MKTRESCH	3.39	1.16	104	3.78	1.05	59	4.44	0.037
CORPPLAN	3.96	1.06	105	4.03	1.04	58	-	ns
PERFORM1	3.79	0.86	105	3.66	0.82	59	-	ns
PERFORM2	3.70	0.92	105	3.76	0.80	59	-	ns

5.9ab Business Environment

Criterion Variables	Medium Enterp.			Large Enterp.			F	p
	Mean	sd	n	Mean	sd	n		
RIVTHRET	3.45	0.97	104	3.47	0.99	59	-	ns
PROMAKET	3.70	0.96	105	3.68	1.01	59	-	ns
MATMAKET	3.08	0.73	102	3.36	0.85	58	4.96	0.027
SALCONTR	1.86	1.08	104	2.41	1.02	59	10.16	0.002
PROCONTR	2.00	1.19	104	2.63	1.36	59	9.39	0.003
MATCONTR	1.62	1.19	104	2.17	1.43	59	7.02	0.009
PRICNTRO	1.86	1.23	105	2.24	1.12	59	3.85	0.051
CORPINFL	3.38	1.28	104	3.93	0.86	58	8.77	0.004

TABLE 5.9b Results of Analyses of Variance of Behaviour and Environment Variables between Medium-sized and Small Enterprises in UK Sample

5.9ba Business Behaviour

Criterion Variables	Medium Enterp.			Small Enterp.			F	p
	Mean	sd	n	Mean	sd	n		
MKTATTI	4.25	0.82	104	4.00	1.01	87	3.55	0.061
MKTIMPL	3.65	0.77	89	3.59	1.03	68	-	ns
NPROLAU1	1.97	0.95	104	2.09	1.13	86	-	ns
NPROLAU2	2.11	0.87	104	2.33	1.13	85	-	ns
PROIMPRV	2.41	1.00	103	2.38	1.15	86	-	ns
MKTSEGM	4.10	1.04	105	3.41	1.31	86	16.82	0.000
COORDINA	3.99	0.97	105	3.63	1.17	84	5.36	0.022
MKTPLAN	3.93	1.05	105	3.11	1.23	87	24.67	0.000
MKTRESCH	3.39	1.16	104	2.92	1.17	86	7.84	0.006
CORPPLAN	3.96	1.06	105	3.59	1.24	86	4.93	0.028
PERFORM1	3.79	0.86	105	3.39	1.06	84	8.05	0.005
PERFORM2	3.70	0.92	105	3.36	1.07	84	5.44	0.021

5.9bb Business Environment

Criterion Variables	Medium Enterp.			Small Enterp.			F	p
	Mean	sd	n	Mean	sd	n		
RIVTHRET	3.45	0.97	104	3.39	0.92	87	-	ns
PROMAKET	3.70	0.96	105	3.55	0.88	85	-	ns
MATMAKET	3.08	0.73	102	3.15	0.73	85	-	ns
SALCONTR	1.86	1.08	104	2.16	1.41	80	2.79	0.097
PROCONTR	2.00	1.19	104	2.28	1.43	79	-	ns
MATCONTR	1.62	1.19	104	1.77	1.30	78	-	ns
PRICNTRO	1.86	1.23	105	2.33	1.54	80	5.28	0.022
CORPINFL	3.38	1.28	104	3.43	1.57	80	-	ns

TABLE 5.9c Results of Analyses of Variance of Behaviour and Environment Variables between Small and Large Enterprises in UK Sample

5.9ca Business Behaviour

Criterion Variables	Small Enterp.			Large Enterp.			F	p
	Mean	sd	n	Mean	sd	n		
MKTATTI	4.00	1.01	87	4.37	0.74	59	5.88	0.017
MKTIMPL	3.59	1.03	68	3.61	0.71	54	-	ns
NPROLAU1	2.09	1.13	86	2.19	1.38	58	-	ns
NPROLAU2	2.33	1.13	85	2.26	1.22	58	-	ns
PROIMPRV	2.38	1.15	86	2.68	1.21	59	-	ns
MKTSEGM	3.41	1.31	86	4.29	0.94	58	19.63	0.000
COORDINA	3.63	1.17	84	3.73	0.89	59	-	ns
MKTPLAN	3.11	1.23	87	4.12	1.04	59	26.42	0.000
MKTRESCH	2.92	1.17	86	3.78	1.05	59	20.55	0.000
CORPLAN	3.59	1.24	86	4.03	1.04	58	4.97	0.027
PERFORM1	3.39	1.06	84	3.66	0.82	59	2.64	0.107
PERFORM2	3.36	1.07	84	3.76	0.80	59	6.09	0.015

5.9cb Business Environment

Criterion Variables	Small Enterp.			Large Enterp.			F	p
	Mean	sd	n	Mean	sd	n		
RIVTHRET	3.39	0.92	87	3.47	0.99	59	-	ns
PROMAKET	3.55	0.88	85	3.68	1.01	59	-	ns
MATMAKET	3.15	0.73	85	3.36	0.85	58	-	ns
SALCONTR	2.16	1.41	80	2.41	1.02	59	-	ns
PROCONTR	2.28	1.43	79	2.63	1.36	59	-	ns
MATCONTR	1.77	1.30	78	2.17	1.43	59	2.93	0.089
PRICNTRO	2.33	1.54	80	2.24	1.12	59	-	ns
CORPINFL	3.43	1.57	80	3.93	0.86	58	4.94	0.028

The results of analysis of variance of the variables gauging business behaviour and environments in the UK sample are displayed in Tables 5.9a, 5.9b, and 5.9c. As shown in these tables, the large and medium-sized enterprises in the UK showed a higher marketing orientation and better financial performance than the small enterprises.

These relationships are consistent with the results of other studies undertaken in America (McNarmara 1972; Webster 1981). Low marketing

orientation in small companies may also be due to their low qualifications of management and limited technological and financial resources. In many instances the growth could also be the direct outcome of adopting marketing orientation.

Special attention should be drawn to the relationships between size and the control effect. Review of Table 5.9a and 5.9b reveals that the degree of corporate control in the medium-sized enterprises was not only substantially lower than that in the large enterprises but also slightly lower than that in the small enterprises. The level of corporate control in the small enterprises was somewhat lower than that in the large enterprises.

It appeared that business activities tended to be better coordinated in the medium-sized enterprises, possibly, because of the size effect on the difficulty of coordination in the large enterprises. On the other hand, the large enterprises seemed to carry out more marketing research, probably, as a result of their better financial positions.

5.3.4 Industrial and Consumer Goods Enterprises

In Chapter 3, it is pointed out that the overall market structure in China is asymmetrical, that is, supplies in input markets are more scarce than those in output markets. Thus, consumer goods producers may face the higher market effect and therefore tend to be more responsive to markets than industrial goods producers. In this section, the differences in business behaviour and environments

between the two types of enterprises are examined through analyses of variance of the related variables. As in the case of enterprise size, to avoid the influence of enterprise type, only state-owned enterprises were included for the examination.

As displayed in Table 5.10, business environments were significantly different between the two types of enterprises. The means of RIVTHRET and PROMAKET in consumer goods enterprises were significantly greater than those in industrial goods. The means of SALCONTR and GOVNINFL in consumer goods enterprises were significantly smaller than those in industrial goods.

However, Table 5.10 also shows that there were hardly any differences in marketing-related behaviour between the two types of enterprise. Unexpectedly, the mean of market segmentation (MKTSEGM) in industrial goods enterprises was even significantly greater than that of consumer goods enterprises. This may be explained by the fact that in many instances component suppliers have to serve a few specific customers.

Nevertheless, the pattern of the relationships appeared similar to that between the small and large enterprises. A further break-down of the two types of sample enterprises revealed that a slightly more large enterprises were included in the industrial goods enterprises. Thus, there may be an scale effect on the pattern of relationships.

TABLE 5.10 Results of Analysis of Variance of Behaviour and Environment Variables between Industrial and Consumer Goods Enterprises in Chinese Sample

Criterion Variables	Indus. Enterp.			Consumer Enterp.			F	p
	Mean	sd	n	Mean	sd	n		
MKTSEGM	2.20	0.72	255	1.93	0.55	133	14.12	0.000
RIVTHRET	2.96	1.05	259	3.27	1.12	131	7.41	0.007
PROMAKET	2.58	1.12	260	2.93	1.11	133	8.87	0.003
SALCONTR	2.61	1.26	261	2.29	1.32	133	5.47	0.020
GOVNINFL	3.35	1.18	260	3.12	1.17	132	3.44	0.065

As shown in Table 5.11, in the UK sample, there seemed to be no differences in the perception of business environment between industrial and consumer goods enterprises. However, there were major differences in business behaviour between the two types of enterprises. Consumer goods enterprises launched more new products and developed more detailed marketing plans than industrial goods enterprises. It seems that consumer goods enterprises are more marketing orientated mainly in terms of innovation, with concomitant better financial performance.

TABLE 5.11 Results of Analysis of Variance of Behaviour and Environment Variables between Industrial and Consumer Goods Enterprises in UK Sample

Criterion Variables	Indus. Enterp			Consumer Enterp			F	p
	Mean	sd	n	Mean	sd	n		
NPROLAU1	2.00	1.10	151	2.32	1.17	62	3.66	0.057
NPROLAU2	2.17	1.06	151	2.48	1.03	61	3.77	0.053
MKTPLAN	3.56	1.19	152	3.95	1.14	63	4.95	0.027
MATMAKET	3.11	0.74	151	3.33	0.75	61	3.88	0.050
PERFORM1	3.57	0.97	149	3.89	0.76	63	5.33	0.022
PERFORM2	3.50	0.95	149	3.87	0.96	63	6.68	0.010

It is interesting to note that supplies in consumer goods enterprises seemed to be more superfluous than those in industrial goods

enterprises in the UK sample (See Table 5.11). The perceptions of difference between supplies in input and output markets within the same enterprise are shown in Table 5.12. As can be seen, the means of PROMAKET in both samples were significantly greater than those of MATMAKET, with the difference in the Chinese sample being sharper. Therefore, the results further demonstrated the asymmetrical market structure in China, with an indication that the UK market has a similar tendency.

TABLE 5.12 Tests for Equality of Means of Input and Output Markets

	Input Markets			Output Markets			t	p
	Means	sd	n	Means	sd	n		
China	1.97	0.89	611	2.75	1.10	611	14.50	0.000
UK	3.14	0.82	249	3.62	0.99	249	6.84	0.000

5.3.5 Investment Decision Making

It appears that there is some similarity in the process of investment decisions between China and the UK. When investment exceeds a ceiling, the decisions have to be made or approved by corporate centres (in the UK) or government (in China). The major differences are the motivations and constraints; also government can often be a major initiator of the project in China (See Chapter 3).

As seen in Table 5.13, in about 84% of the UK sample companies, there exist investment ceilings. This was an indication of potential effect

of corporate centres on the business orientations of the business units.

The weight of influence of each party, enterprises, corporate centres (UK), and government (China), on investment decisions was further scrutinised⁵. The results are shown in Table 5.14.

TABLE 5.13 Percentage of Enterprises Having Investment Budget Line in UK⁶ (1986 - 1988)

Is there a budget level above which the investment decision of the BU has to be made by your corporate centre?		
(n=244)	Yes	83.6%
	No	16.4%

TABLE 5.14a Means of Influence of Corporate Centres and Government on Investment Decisions Below Budget Line in China and UK

China			UK			t	p
Mean	sd	n	Mean	sd	n		
3.41	1.29	246	2.40	1.22	202	8.50	0.000

⁵ In the Chinese sample, only state-owned enterprises were included, for in non-state-owned enterprises the ceiling is more obscure.

⁶ Officially, all state-owned enterprises are subject to the budget lines. However, about 18% of the state-owned enterprises (n=309) claimed that such lines did not apply to them. The reasons were unclear.

TABLE 5.14b Means of Enterprise Influence on Investment Decision Above Budget Line in China and UK

China			UK			t	p
Mean	sd	n	Mean	sd	n		
3.15	1.22	240	4.02	0.77	202	-9.10	0.000

It should be mentioned that perhaps due to the confidentiality or to the complexities of the issue, a large number of enterprises did not answer the questions in both samples, especially in the Chinese one.

As shown in Tables 5.14a and 5.14b, the Chinese sample indeed reflected the 'joint effect' of investment decision making by both government and enterprises, with government having more influence. Hence, the direction of each individual project in China may be contingent on the participants involved in the decision concerning the project.

In contrast, in the UK sample, business units appeared to have dominant effect on investment decisions. This seemed consist with the survey results pertaining to the low rejection rate of investment projects by top management (Kennedy and Sugden 1986). "The [investment] decision phase is therefore normally a process of endorsement rather than judgement at which commitments are formalized" (King 1975).

The contrast of the results between the two samples clearly reflected the characteristics associated with the economic system. As indicated in Chapter 3, the relationships regarding the responsibility, right,

and interest of investment projects in China tend to be unclear. Accordingly, below the line, the mean in the Chinese sample was significantly greater than that in the UK sample, and above the line it showed the opposite.

5.3.6 Backgrounds of Key Individuals

Enterprise behaviour is shaped by many factors, one of which can be working backgrounds of key individuals. Their influence can often be found in business policy making (Williams and McDowell 1974; Hambrick and Mason 1984).

"An executive's career background normally determines how he deals with problems and decisions. A manufacturing executive tends to view them from a manufacturing viewpoint, a financial executive from a financial viewpoint, and a marketing executive from a marketing viewpoint."

(Williams and McDowell 1974)

TABLE 5.15 Backgrounds of Key Individuals

	UK			China
	Chairman of the Board (n=204)	Managing Director ^b (n=245)	Marketing Director (n=211)	Managing ^a Director (n=630)
Engineering	25.0	33.5	16.6	51.9
Manufacturing	6.4	24.1	1.9	38.0
Finance & Accounting	26.0	14.7	4.3	13.7
Sales/Purchase*	8.3	12.7	26.1	23.4
Marketing	22.5	22.9	46.9	
Personnel				10.9
Others	11.8	7.8	4.3	12.1

a (1) In China, the functions of sales and purchase are generally combined into one department.

(2) Many Chinese managing directors would ordinarily have several moves in their job before they took the position, and therefore, most of them had more than one 'background'.

b Items under this title included multiple backgrounds by reason of being comparable with those in the Chinese sample.

Table 5.15 demonstrates a parallel background structure between the managing director in the UK sample and that in the Chinese sample⁷. The percentages of managing director with an 'engineering' background in both samples, for example, were highest. Interestingly, this similarity coincided with the high percentage of enterprises with production orientation in both samples.

As mentioned in Chapter 3, in China most managing directors had engineering and manufacturing backgrounds, which may have a negative effect on their market-orientated business thinking. This was supported by the highest percentages of managing directors with these backgrounds. This also has a reflection of both the general view of government towards the importance of managerial functions in enterprises and its corresponding personnel policy (Byrd and Tidrick 1987). Other things being equal, in state-owned enterprises, a candidate with production/engineering background for a position of managing director is more likely to be appointed than others. The high percentage of production/engineering background of managing director also coincided with a preponderance of enterprises who considered 'Technology Orientation' as most appropriate for their future development.

In UK companies, business policy making may be affected significantly by both the chairman of the board of directors and managing director.

⁷ In China, the managing director in the enterprise plays an important role in deciding enterprise policy apart from the government influence, due to implementation of the 'one-man management system' by government.

It is noteworthy that the production background of managing directors was significantly correlated with production orientation, as displayed in Table 5.16.

Moreover, in the UK sample the highest percentage of the chairmen of the board directors had finance/accounting background (26.0%). Interestingly, Doyle (1987) found that 19% of the companies had 'financial-orientation'⁸. He claimed that after the late 1970s, UK companies shifted increasingly towards being financially-orientated and "The central goal became return on investment rather than market share..., financial rather than marketing plans set the corporate direction, and marketing decisions were tailored to budget necessities rather than customer targets".

TABLE 5.16 Relationship between Manufacturing Background of Managing Directors and Production Orientation in UK Sample

Count Expected Value	Production Orientation	Non-production Orientation	Row Total
Manufacturing Background	26 18.8	31 38.2	57 23.0%
Non-manuf. Background	56 63.2	135 127.8	191 77.0%
Column Total	82 33.1%	166 66.9%	248 100%
$\chi^2 = 5.27$		$p < 0.05$	

⁸ It should be noted that the sample drawn by Doyle only consisted of large companies. In addition, the 'financial orientation' was defined by Doyle (1987) as "the management view that success is about using assets and resources to optimise profit and return on capital employed".

5.3.7 Barriers to Marketing Behaviour

In both the Chinese and UK questionnaires, questions relating to barriers to marketing orientation derived from the literature were included. However, in the Chinese sample, few respondents completed these questions, and those who did largely focused on the obvious financial constraint. Therefore, this section mainly discusses the findings in the UK sample.

As indicated in Table 5.17, the highest percentage of companies claimed the problem of 'Not Enough Time', which may suggest their lack of long-term business perspectives, being dominated by existing business operations.

The second highest percentage of companies (27.5%) identified 'technology' as a barrier to adoption of marketing orientation. The practice of marketing orientation often involves modification of a production line or establishment of a new production line to replace the existing one. Such an attempt might mean an interruption of existing production and incur substantial costs. It should be mentioned that several Chinese enterprises pointed out this barrier in the questionnaire such as 'not consistent with the scale of economy', 'the characteristics of the industries', 'difficulty in transformation of the existing products', 'the fixed product line', and 'mass production'.

Kotler (1965) and Shapiro (1977) have highlighted the existence of inherent conflicts between marketing and other functions, suggesting

difficulties in the coordination of business activities within a firm. About 24% of the sample companies indicated such a problem. Witcher (1990) has found that in UK firms there exist substantial difficulties in communication and cooperation among different functional departments due to their narrow views of marketing.

After marketing was introduced into Japan from America in the 1950s-60s, many Japanese companies quickly absorbed it and achieved marketing orientation, and become successful marketers (Lazer, Murata, and Kosaka 1985). The group-orientated Japanese culture (Kassem 1974) may largely contribute to the effective practice of marketing orientation in Japanese companies.

About 26% of the UK sample companies considered the operation with a marketing orientation to lead to low profitability. A likely explanation is that these companies have fallen into the 'trappings' described by Ames (1970), that is, what they deemed as 'marketing orientation' was not the 'substance' of marketing orientation. In his article: "Trappings vs. substance in industrial marketing", Ames exemplified two very comparable cases in which the implementation of the marketing concept was seen as the additions of expensive marketing staff and heavy use of advertising and promotion, mainly resulting in an increase in operating costs.

"The kind of change that is needed is a fundamental shift in thinking and attitude throughout the company so that everyone in every functional area places paramount importance on being responsive to market needs."

(Ames 1970)

TABLE 5.17 Barriers to Marketing Behaviour in UK Sample

Barriers	Percentage of Enterprises (%) (n = 254)			
	First	Second	Third	Total
Knowledge of Implementation	2.8	1.6	2.0	6.4
Not Enough Time	32.7	7.1	2.8	42.6
Difficulty of Coordination	12.2	9.4	2.4	24.0
Low Margins	15.4	9.1	1.6	26.1
Technology	16.1	9.8	1.6	27.5
Not Best Approach	8.7	3.9	2.0	14.6

Note: (1) Missing data are excluded.

(2) "First", "second", and "third" represent the corresponding weight of the influence of barriers. A number of respondents did not distinguish among the "first", "second", and "third" barriers instead of checking all barriers equally. Therefore, a total of percentages are used for the interpretation.

5.4 BUSINESS BEHAVIOUR AND ENVIRONMENTS IN CHINA

5.4.1 Enterprises of Different Regions

As mentioned previously, the Chinese sample was slightly biased towards developed regions; in such regions managing directors of enterprises may be more competent in and knowledgeable about

marketing, and the market system may be more developed. In this section, such regional differences among state-owned enterprises⁹ is examined.

In general, Northeast China is recognised as the most important industrial goods base and East China as consumer goods base. The level of economic development in Northwest China is lowest of all the regions. In the other regions, a range of various industries are generally covered with somewhat different weight of each industry.

Displayed in Table 5.18 are the results of analysis of variance of the relevant variables between the region of Northeast China¹⁰ and other regions. Inspection of the table reveals that a distinctive characteristic of enterprises in Northeast China was the highest marketing knowledgeability of managing directors.

It was in Dalian, a major city in the region, that a series of management-development courses were first run in China, jointly by several American business schools and the Chinese government, starting from the mid 1980s. Clearly, this has a close bearing on the level of marketing knowledgeability of managing directors in the region.

⁹ To avoid the potential influence of different types of enterprises, only state-owned enterprises were examined.

¹⁰ It should be reiterated that the sample distribution in this region was biased towards the Liaoning province, as indicated in Table 5.2c.

enterprises of Northeast China were engaged in more marketing activities. Previously it was shown that market segmentation was closely linked to marketing knowledgeability.

According to Table 5.18, the market system in the region seemed more developed in comparison with all the other regions. Thus, with an effect of marketing knowledgeability, the regional enterprises were more marketing orientated, to varying degrees, than enterprises in the other regions.

The business environment in East China, one of the most developed regions, did not differ significantly from that in Northeast China. Table 5.19 shows that the regional enterprises seemed to be typical practitioners following 'common sense'. The managing directors demonstrated no better marketing knowledgeability than their counterparts in other regions and no different opinion in favour of 'the marketing concept', and their marketing activities were less planned.

However, the enterprises of the region were 'actually' more market-minded, undertaking more marketing research and improving more products. Thus, they yielded better performance than some other regions.

TABLE 5.19 Results of Analysis of Variance of Behaviour and Environment Variables between Region of East China and Other Regions

Criterion Variables	East			Other Regions			F	p
	Mean	sd	n	Mean	sd	n		
Mid-south China								
MKTATTI	4.00	0.82	144	4.25	0.72	81	4.82	0.029
PROIMPRV	3.18	1.20	126	2.83	1.30	78	3.81	0.052
MKTRESCH	3.54	0.96	137	3.24	0.89	78	5.05	0.026
MKTPLAN	3.57	1.12	141	3.83	1.01	81	2.80	0.096
NPRORESH	3.56	1.05	133	3.30	1.11	80	3.01	0.084
PERFORM2	3.40	1.04	136	3.13	1.09	77	3.32	0.070
Southwest China								
SALCONTR	2.36	1.15	143	2.92	1.50	37	6.14	0.014
MKTIMPL	3.72	1.02	115	3.38	1.13	32	2.75	0.099
MKTPLAN	3.57	1.12	141	3.97	0.96	37	3.91	0.050
Northwest China								
MATMAKET	1.99	0.86	142	1.55	0.80	22	5.10	0.025
SALCONTR	2.36	1.15	143	2.91	1.27	22	4.26	0.041
PERFORM1	3.31	1.06	137	2.80	0.77	20	4.34	0.039

As far as enterprises in the other regions (excluding those in Northeast and East China) are concerned, marketing activities and environments in the region of North China seemed to represent the average, showing no difference from those in all the regions (including East China).

Supply conditions in the region of Northwest China, a less developed region, appeared most adverse, performance appeared poorest, and enterprises were more strictly controlled (Tables 5.18, 5.19, 5.20, and 5.21).

The enterprises in Mid-south China appeared to be less controlled and more marketing orientated than those in southwest China (See Table 5.20).

TABLE 5.20 Results of Analysis of Variance of Behaviour and Environment Variables between Region of Mid-south China and Regions of Southwest and Northwest China

Criterion Variables	Mid-south			Other Regions			F	p
	Mean	sd	n	Mean	sd	n		
Southwest China								
PRICNTRO	3.32	1.60	81	3.86	1.38	37	3.20	0.076
MKTIMPL	3.80	0.94	76	3.38	1.13	32	4.14	0.045
PERFORM2	3.13	1.09	77	3.51	1.17	35	2.85	0.094
Northwest China								
MATMAKET	2.02	0.97	81	1.55	0.80	22	4.49	0.037
PROCONTR	2.77	1.28	81	3.27	1.08	22	2.90	0.092
MKTRESCH	3.24	0.89	78	3.64	0.95	22	3.26	0.074

TABLE 5.21 Results of Analysis of Variance of Behaviour and Environment Variables between Regions of Southwest and Northwest China

Criterion Variables	Southwest			Northwest			F	p
	Mean	sd	n	Mean	sd	n		
MATMAKET	1.97	0.80	37	1.55	0.80	22	3.95	0.052
MKTIMPL	3.38	1.13	32	3.90	0.79	20	3.31	0.075
PERFORM1	3.54	1.20	35	2.80	0.77	20	6.22	0.016

To summarise, this section demonstrates that there were great differences in the business behaviour and environment of different regions. In general, marketing activities are more active in developed regions, where the market system is more developed characterised by the high market effect and the low control effect. Also it is

demonstrated that the practice of market orientation can also be unconscious, as is the case of enterprises in East China.

5.4.2 Enterprises of Different Types

In Chapter 3 enterprises in China were categorised into three broad groups based on the nature of property: state-owned, collectively-owned, and privately-owned. In general non-state-owned enterprises are considered to be more motivated for market orientation. Meanwhile, many of them such as collective and village-town enterprises are constrained by their knowledge and competence in marketing, and by their technological and financial resources.

Included in this section were state-owned enterprises (SOEs), urban collective enterprises (UCEs), village and town collective enterprises (VTCEs), and joint-venture enterprises (JEs). All types of enterprises in each region were randomly distributed and as such the regional effect was limited.

Examination of Table 5.22 reveals that, as expected, the means of all the control variables, except price control, in the state-owned enterprises were greater than those in all the non-state-owned enterprises. As indicated previously, price control was predominant in China; it seemed that it was so prevalent that there was even no difference between state-owned and all the non-state-owned enterprises.

It is interesting to note that state-owned enterprises, which are known to be better placed to have access to planned supplies from the state, seemed to have more difficulty in obtaining supplies than VTCEs and JEs. Being less controlled, VTCEs and JEs may more easily approach various supply sources. It is recognised that "there are simply too many sources of investment goods outside the material allocation plan, including goods in short supply, like cement and steel" (Byrd and Tidrick 1987, p. 81). In particular, the joint-venture enterprises appeared to have least problems in securing supplies, possibly, because they enjoy planned supplies (See Table 5.22b) and meanwhile have more accessibility to international supply channels as a matter of governmental favourable policy.

Among the three non-state-owned enterprises, only UCEs seemed to confront a higher level of the market effect. Accordingly, they were more marketing orientated with concomitant better financial performance as well as more effective marketing plans.

The results in Table 5.22a reveal that the marketing knowledgeability in VTCEs was significantly lower than that in SOEs, conforming with the analysis in Chapter 3. Despite undergoing a lower control effect, VTCEs did not undertake more marketing-related activities. However, they seemed to be more market orientated in terms of launching more new products. Possibly because of a lack of marketing knowledgeability, their other marketing-related activities were limited.

Because of the high control effect in SOEs, they were least innovative of all types of enterprises, as analysed in Chapter 3.

TABLE 5.22 Results of Analysis of Variance of Behaviour and Environment Variables between State Enterprises and Other Types of Enterprises

5.22a Business Attitudes and Behaviour

Criterion Variables	SOEs ^a		VTCEs ^b		UCEs ^c		JEs ^d	
	Mean	sd	Mean	sd	Mean	sd	Mean	sd
MKTATTI	4.12	0.80	4.04	0.73	4.20	0.84	4.20	0.92
MKTIMPL	3.78	0.96	3.98	0.88	4.01**	0.96	3.52	1.05
NPROLAU1	2.63	1.26	3.16*	1.18	2.93**	1.38	3.27*	1.28
PROIMPRV	3.08	1.35	3.66*	1.26	3.25	1.40	3.42	1.41
MKTRESCH	3.48	0.92	3.51	1.08	3.55	1.08	3.44	0.96
MKTSEGM	2.10	0.69	1.98	0.82	2.10	0.73	2.13	0.68
MKTPLAN	3.79	1.04	3.40*	1.03	3.78	1.06	3.52	1.16
NEWINFOR	3.71	0.91	3.71	0.90	3.79	0.89	3.62	0.86
NPRORESH	3.48	1.01	3.39	1.04	3.46	1.06	3.36	1.15
PLANEFFA	3.73	0.96	3.60	1.18	3.90**	0.99	3.75	1.00
KNWRIVAL	3.65	0.99	3.70	0.91	3.77	0.83	3.46	0.88
COSTMEAS	3.13	1.12	3.53**	1.10	3.36**	1.04	2.83	1.04
MKTKNOWL	3.39	1.00	3.04**	1.09	3.38	1.13	2.93**	0.96
PERFORM1	3.28	1.04	3.34	0.89	3.51**	1.07	3.42	0.95
PERFORM2	3.35	1.06	3.35	0.95	3.58**	1.03	3.50	1.11

^a State-owned enterprises.

^b Village & town collectively-owned enterprises.

^c Urban Collectively-owned Enterprises.

^d Joint-venture Enterprises.

Blank: insignificant; * p < 0.01; ** p < 0.05; *** p < 0.1

5.22b Business Environment

Criterion Variables	SOEsa			VTCEsb			UCEsc			JESd		
	Mean	sd	Cases	Mean	sd	Cases	Mean	sd	Cases	Mean	sd	Cases
INTENSTY	3.50	1.06	413	3.60	0.98	48	3.74**	1.00	124	3.59	1.09	29
RIVTHRET	3.07	1.08	414	2.96	1.12	49	3.26	1.16	124	2.83	1.18	30
PROMAKET	2.68	1.14	417	2.63	0.93	46	2.99*	1.03	122	2.83	1.15	30
MATMAKET	1.91	0.86	414	2.29*	0.99	48	1.98	0.87	123	2.47*	1.11	30
BUYMATDI	3.90	0.92	404	3.45*	0.90	47	3.84	0.97	122	3.34*	1.01	29
SALCONTR	2.51	1.29	417	1.85*	1.02	47	1.93*	1.18	120	2.10**	1.24	30
PROCONTR	2.84	1.26	416	2.08*	1.09	48	2.28*	1.26	120	2.20*	1.32	30
MATCONTR	2.88	1.20	414	2.42*	1.37	48	2.53*	1.32	120	2.60	1.43	30
PRICNTRO	3.54	1.50	403	3.32	1.48	47	3.29	1.52	113	3.24	1.69	25
GOVNINFL	3.27	1.19	414	2.77*	1.16	47	2.80*	1.12	122	2.73**	1.11	30

a State-owned enterprises.

b Village & town collectively-owned enterprises.

c Urban Collectively-owned Enterprises.

d Joint-venture Enterprises.

Blank: Insignificance; * p < 0.01; ** p < 0.05; *** p < 0.1

5.4.3 Autonomy in International Business

In China enterprises being authorised to deal with businesses internationally might be expected to have certain conditions equivalent to those of Western companies in the light of the market and control effects. Consequently, these enterprises may be more market orientated than those which do not have the autonomy.

For the same reason as before, only state-owned enterprises were selected for the scrutiny. The authorised enterprises were evenly distributed among all the regions, and thus the regional effect was limited. Table 5.23 indicates that about 23% of the sample enterprises were authorised.

As can be seen from Table 5.24b, the authorised enterprises were more alert to markets, perceiving the stronger market effect. This might be explained by their experiencing the pressures of dealing with both domestic and international markets.

Nevertheless, they seemed to be still subject to governmental control as strong as, or even stronger than, other non-authorised enterprises (See Table 5.24b). There may be two possible explanations: 1) it is governmental interest to exercise control in international businesses; 2) the delegation of autonomy is partially made.

Inspection of Table 5.24a reveals that the authorised enterprises were notably more marketing orientated than the non-authorised, as assumed, with better financial performance.

Table 5.25 presents the major obstacles perceived by the enterprises. Two factors seemed to be more influential: (i) availability of international market information, and (ii) the control effect - the incomplete authorisation or interference from government bodies, which was also suggested by the control variables.

The first factor might denote the problem of an inefficient and underdeveloped international marketing research systems. This might be further derived from the constraints of financial resources, the political and economic systems, and managerial competence. The second factor may reflect the nature of the planned economy with the control effect still being influential.

TABLE 5.23 Percentage of Enterprises with Autonomy in International Business

Has your enterprise been authorised to deal with business internationally?	23.2%
--	-------

n = 630

TABLE 5.24 Results of Analyses of Variance of Behaviour and Environment Variables between Authorised and Non-authorised Enterprises in International Business

5.24a Business Behaviour

Criterion Variables	Non-authorised			Authorised			F	p
	Mean	sd	n	Mean	sd	n		
MKTATTI	4.13	0.78	313	4.10	0.88	103	-	ns
MKTIMPL	3.74	0.95	274	3.89	1.02	89	-	ns
NPROLAU1	2.63	1.30	299	2.64	1.15	101	-	ns
PROIMPRV	3.11	1.37	289	3.02	1.30	99	-	ns
MKTRESCH	3.45	0.92	300	3.54	0.92	95	-	ns
MKTSEGM	2.07	0.69	309	2.18	0.68	101	-	ns
MKTPLAN	3.71	1.03	308	4.04	1.01	99	7.85	0.005
PLANEFFA	3.67	0.96	303	3.89	0.96	99	3.90	0.049
NEWINFOR	3.66	0.93	311	3.84	0.84	102	3.06	0.081
NPRORESH	3.44	1.02	300	3.63	0.97	98	2.79	0.096
KNWRIVAL	3.60	0.99	309	3.79	0.95	102	3.13	0.078
COSTMEAS	3.05	1.11	307	3.36	1.10	100	5.81	0.016
MKTKNOWL	3.34	1.01	294	3.55	0.97	95	3.17	0.076
PERFORM1	3.19	1.04	296	3.56	0.97	97	9.19	0.003
PERFORM2	3.27	1.04	299	3.57	1.11	97	5.60	0.018

5.24b Business Environment

Criterion Variables	Non-authorised			Authorised			F	p
	Mean	sd	n	Mean	sd	n		
INTENSTY	3.44	1.06	309	3.70	1.08	102	4.56	0.033
RIVTHRET	3.03	1.09	310	3.23	1.11	102	2.57	0.110
PROMAKET	2.73	1.12	312	2.56	1.17	103	-	ns
MATMAKET	1.91	0.87	310	1.91	0.85	102	-	ns
SALCONTR	2.49	1.30	313	2.54	1.25	103	-	ns
PROCONTR	2.81	1.26	313	2.93	1.25	102	-	ns
MATCONTR	2.84	1.22	311	3.00	1.15	102	-	ns
PRICNTRO	3.56	1.47	302	3.50	1.59	100	-	ns
GOVNINFL	3.25	1.19	312	3.34	1.18	101	-	ns

TABLE 5.25 Constraints on International Business Development

Type of Constraints	Percentage of Enterprises (%) (N = 151)			
	First	Second	Third	Total
International MKT Information	38.4	12.6	7.3	58.3
Incomplete Authorisation	22.5	11.3	0.7	34.5
Availability of Raw Materials	9.9	7.3	6.0	23.2
Cost and Efficiency	7.3	13.9	6.0	27.2
Poor Product Quality	3.3	4.6	2.0	9.9
Governmental Interference	14.6	13.9	5.3	33.8

Note: Missing data are excluded.

5.4.4 Advertising

The level of advertising can reflect the impact of markets. One of the major advertising objectives is 'sales promotion' (Majaro 1970) or persuading or reminding customers to buy the enterprise's existing products instead of competitors' (Kotler 1988, pp. 619-620). When competition becomes severe, persuasive and reinforcement advertising is considered as more important, and "Most of the advertising we view falls into this [persuasive advertising] category" (Kotler 1988, pp. 619-620).

The relationship between the use of advertising and the market effect was also reflected in the reasons why enterprises did not use advertising. A major reason was because of 'Easily Sold Products' (66%), as displayed in Table 5.26c.

Surprisingly, 66% of the Chinese sample enterprises claimed to have used advertising for promotion of their products in the past three

years (See Table 5.26a). This may be associated with their perception of the strong impact of markets.

Various advantages and limitations for each advertising medium have been summarised by Kotler (1988. p. 632). In general, the use of advertising media is more concerned with the costs and market effect. If competition is tough in the enterprise's markets, then expensive media such as television or more media may be used. As shown in Table 5.26b, the second highest percentage of enterprises (39%) used television for advertising, which is the most expensive medium. It is noteworthy that in America in 1986 the media with the highest and second highest expenditures were newspaper and television respectively (Kotler 1988. p. 632), which coincided with the same order in the Chinese sample.

At the early stage of marketing history in America, seemingly the practice of advertising was more developed than any one of other marketing activities. For instance, five advertising-related associations were first established in American marketing history (Hollander 1986, p. 9); far more books on advertising than any other subjects in 'marketing', such as salesmanship, retailing and wholesaling, or 'marketing' were published (ibid, p. 11). This contrasted with the relative strong initiative in advertising among Chinese enterprises, which seems to be a typical symptom of early marketing activity.

TABLE 5.26a Percentage of Enterprises that Used Advertising in China (1986 - 1988)

Have you used advertising in the last three years?	66.0%
n = 629	

TABLE 5.26b Advertising Media Used by Chinese Enterprises (1986 - 1988)

Advertising Media	Percentage of Enterprises (%) (n = 630)
Newspaper	47.1
Television	39.2
Magazines	27.5
Outdoor	26.7
Radio	25.9
Direct Mail	12.2
Others	5.2

TABLE 5.26c Reasons for Not Using Advertising (1986 - 1988)

Reason	Percentage of Enterprises (%) (n = 259)			
	First	Second	Third	Total
Lack of Funds	12.4	3.9	0.8	17.0
Easily Sold Products	62.5	3.5	0.4	66.4
Not Cost Effective	21.2	9.7	0.8	31.7

5.4.5 Investment Directions

In view of the close relationship between investment decisions and business orientation of enterprises, it is helpful to look at the structure of their past investment, and at their forthcoming investment direction.

Table 5.27a reveals that 97.8% of the sample enterprises had funds for investment in the past three years. Such a high percentage is a reflection of the characteristic of the economic system associated with the 'socialist' doctrine, namely, most enterprises can obtain a certain amount of investment irrespective of their performance. The tendency for government to spread investment among enterprises in order to solve employment problems has been noticed by Bryd and Tidrick (1987).

Table 5.27b indicates that the majority of investment involved 'Upgraded Plant and Equipment' (73%), 'Developed New Product' (72%), and 'Increased Production Capacity' (64%). Obviously, there were considerable overlaps among the three investment areas.

New product development is generally concerned with the issue of business orientation. However, in China, 'new products' are often only 'new' relative to the Chinese market, but not to the world market. For instance, at the beginning of the 1980s, the electric blanket in China was a 'new product', which already existed in America from the 1960s. In such instances, little marketing research needs to be done.

What appears more interesting is that 41% of the sample enterprises claimed to make their forthcoming investment in 'Development of New Products' (See Table 5.27c). This percentage may be viewed as the potential 'users' of marketing principles and techniques.

TABLE 5.27a Percentage of Enterprises that Made Investment (1986 - 1988)

Have you made investment in the last three years?	97.8%
n = 630	

TABLE 5.27b Investment Directions (1986 - 1988)

Investment Directions	Percentage of Enterprises (%) (n = 630)
Upgraded Plant and Equipment	72.9
Developed New Product	72.4
Increased Production Capacity	63.5
Developed Integration & Acquisition	39.5

Note: Many enterprises invested in more than one area during the period.

TABLE 5.27c Choice of Forthcoming Investment Direction

Investment Direction	Percentage of Enterprises (%) (n = 630)
Upgrade of Plant and Equipment	27.3
Development of New Product	41.4
Increase of Production Capacity	24.9
Employees' Welfare	3.8

5.4.6 Development of Integrations

In the Chinese questionnaire a number of questions were related to 'integrations', which have been a widespread phenomenon during the period of reform. In China 'integrations' differ somewhat from both 'mergers' described in Chapter 3 and 'integrations' or 'mergers' in the West. Generally they do not involve the transfer of ownership of properties or 'takeover'. As a type of long-term contract, however, they share a great deal of similarities with 'mergers' in terms of motivation and consequences.

Shepherd (1979, pp. 159-161) has indicated five major profit-related reasons for companies to pursue mergers: (1) market power such as vertical, horizontal, and conglomerate mergers, (2) 'technical economies' such as 'economies of scale' and 'vertical economies', (3) 'pecuniary economies', (4) 'takeover', and (5) 'failing firms'.

Some parallel reasons for the formation of integrations in China were found in a national-wide survey in 1985. The first five motivations out of the fourteen were (Reynolds 1987): (1) 'increase of the economic effect' (profitability), (2) 'enlargement of production scale (economies of scale)', (3) 'acquisition of technology', (4) 'improvement of availability of raw materials' (vertical integration), and (5) 'development of product line' (horizontal integration).

Table 5.28a shows that about 69% of the sample enterprises had developed a form of 'integrations' in the last 3 years. This reflected

a shift in enterprise motivations as well as the market impact as a result of the reform.

The types of integrations are displayed in Table 5.28b. It is noticeable that some of the enterprises involved more than one type of integration since the summation of the percentage of each type was greater than 100% in Table 5.28b.

As seen in Table 5.28b, the type of 'horizontal integration' accounted for the highest percentage of the four types. As mentioned in Chapter 3, horizontal mergers tend to reduce the market effect. However, at this stage of market evolution in China, the effect may not be as conspicuous as that in Western countries, for in many instances integrations occurred between a healthy or large enterprise and a failing or small enterprise.

The second highest percentage of merger type was 'Backward Integration'. By developing the integration, an enterprise can partially stabilise its supplies, which have been in severe shortages. The percentage of enterprises with 'Forward Integration' (23.5%) mirrored an impact of the market effect.

TABLE 5.28a Percentage of Enterprises that Developed Mergers and Integrations

Have you achieved any kind of merger and integration?			
n = 625	Yes	n = 434	69.4%

TABLE 5.28b Types of Integrations

Type of Integration	Percentage of Enterprises (%) (n = 439)
Backward Integration	29.6
Forward Integration	23.5
Horizontal Integration	46.5
Conglomerate Integration	20.7

5.4.7 Attitudes towards Governmental Control

Enterprises' attitudes towards government control may help to understand the enterprise perception of changes in the business environment, their impact on enterprises, and enterprise readiness for such changes in terms of psychology and adaptability. The attitudes expressed by the enterprises are shown in Table 5.29.

The highest percentage of enterprises (48%) expressed their view in favour of an increase in 'supply control', which is equivalent to the planning provision of raw materials (See Table 5.29). Apparently, this opinion is closely linked to the asymmetrical market structure. In their interviews with Chinese managers, American economists also found a preference for a return to mandatory supply planning (Huang 1990).

As demonstrated previously, the plan price was substantially lower than the market price. In Chapter 3, it was indicated that the raw-material prices had soared in the last few years, whereas rises in the end-product prices had been restricted by either government or

markets. As a result, it is not surprising that 36% of the sample enterprises favoured an increase in price control (See Table 5.29).

About 15% of the sample enterprises opted for an increase in sales control, which might imply difficulties with their sales. A much higher percentage of enterprises (35%) with the attitude favouring a decrease in sales control might reflect easier selling conditions.

The high percentage of enterprises that favoured an increase in investment control might be interpreted as follows:

(1) 'Investment control' also implies the provision of investment by government in comparison with the acquisition through the market mechanism. Seemingly the appropriation of investment through government involves less risks and endeavour, and many enterprises have been accustomed to the planned operation. Hence, they preferred it to the market operating system.

(2) After the reform, many enterprises have enjoyed limited investment discretion. Subsequently a large number of 'small scale' projects came into being (Reynolds 1987). Thus, many people have seen a requirement to control investment so as to achieve economies of scale in investment projects.

It ought to be mentioned that among economists studying the China economy, there have been differing opinions concerning the centralisation or decentralisation of investment decisions (Tidrick and Chen 1987, p. 9).

TABLE 5.29 Attitudes towards Governmental Control

Functional Area	Percentage of Enterprise with Attitudes (n = 630)			
	Increase Control	Decrease Control	Remain Unchanged	Have no Idea
Pricing	36.3	34.4	8.7	16.7
Production	16.0	39.5	15.4	22.5
Supply	47.8	17.0	8.6	20.8
Sales	15.4	35.1	20.2	24.7
Investment	38.3	22.2	8.3	26.0

5.5 SUMMARY

In this chapter the descriptive statistics show a bias in the Chinese sample towards developed regions and provinces. A large number of UK companies are in declining markets and numerous Chinese enterprises are in stable markets.

It is demonstrated that the perception of the market effect in Chinese enterprises differs from that in UK companies. Of all functional direct controls, production control is strongest in the UK, whereas in China price control is dominant, with the plan prices being set far below the perceived market values. In the UK there is a strong indirect corporate control, however, without the indication of how it affects marketing strategy making in the business units.

In China enterprise size is positively correlated with the control effect and negatively with the market effect; but medium-sized enterprises are shown to be most marketing orientated. In the UK the control effect in large enterprises is significantly stronger than that in medium-sized enterprises, but differs little from that in small enterprises. Both large and medium-sized enterprises are markedly more marketing orientated than small enterprises. However, large enterprises in the UK seem to have more difficulty in coordinating business activities than medium-sized enterprises.

It appears that corporate centres have no significant effect on the investment decisions of the business units. In China how investment decisions are made seems to be contingent on individual projects, with no clear indication of who dominates, government or enterprises.

In different regions of China, enterprise behaviour and environments differ notably. Enterprises in Northeast China seem to have better knowledge of marketing and practise more marketing, compared with those in the other regions. In East and Northeast China the market system is more developed. Although enterprises in East China seem to have no better command of marketing than those in other regions, they actually engage in more marketing activities.

State-owned enterprises in China are most strictly controlled by government, and are least innovative of all types of enterprises. However, the market effect in SOEs does not seem to differ from that in VTCEs and JEs. Managing directors of state-owned enterprises are shown to have better marketing knowledgeability than those in VTCEs

and JEs. Thus it appears that there are hardly differences in marketing-related activities between them. UCEs are manifested to exercise more marketing orientation with better financial performance than SOEs.

In China the enterprises authorised to deal with businesses internationally undergo a higher market effect and practise more marketing orientation. However, they suffer from a lack of information on international markets and from the undesirable control effect.

CHAPTER 6: RESULTS AND DISCUSSION (2)

6.1 INTRODUCTION

This chapter examines the tests for the major propositions in the research model through the statistical procedures of principal component and multiple regression analyses. The results of principal component analysis are first presented, followed by the presentation and discussion of the results of multiple regression analysis, in which the principal components are used as independent variables. Also included are the results and discussion of discriminant analysis used to look into the relationships between marketing behaviour and individual variables, as a supplement to regression analysis.

6.2 PRINCIPAL COMPONENT ANALYSIS

The component structures for both the UK and Chinese samples are presented in Tables 6.1 and 6.2. As can be observed in the tables, the structure of components in the two samples appeared similar. There was one component for each of the following dimension in the respective sample: marketing initiative (MI), innovation (IN), financial performance (FP), the control effect (CE), and the (product) market

effect (PME). An additional component, namely the market effect in supply markets (SME), emerged in the Chinese sample.

It should be noted that in the Chinese sample the variable of price control (PRICNTRO) was not included in the component of the control effect. As discussed in Chapter 5, the majority of Chinese enterprises were subject to price control, with the degree of control being much stronger than other controls. Hence, price control may not share the same common factor with other control variables. Therefore, given the limitation of manipulating prices, an important element of marketing mix, by Chinese managers, the practice of marketing orientation in China is largely confined to other elements of marketing mix. This further indicates that the quality of marketing orientation in China cannot be compared with that in the West.

In Chapter 5 it is shown that in the UK sample there was a relatively strong governmental influence on companies. However, the influence did not seem to be related to any one of the dimensions in the principal component analysis.

TABLE 6.1 Component Structure of Business Activities and Environment in Chinese Sample

Variables	Factor1: MI Marketing Initiative	Factor 2: PME Product-Market Effect	Factor 3: CE Control Effect	Factor 4: FP Financial Performance	Factor 5: IN Innovative Orientation	Factor 6: SME Supply-Market Effect
MKTPLAN	0.72826					
NEWINFOR	0.70074					
PLANEFFA	0.67358					
COSTMEAS	0.64140					
KNWRIVAL	0.61937					
MKTRESCH	0.60547					
NPRORESH	0.52455					
MKTKNOWL	0.48603					
POTNINFL		0.84358				
RIVTHRET		0.82817				
INTENSTY		0.76533				
PROMAKET		0.60160				
SALCONTR			0.82284			
PROCONTR			0.81471			
GOVNINFL			0.66732			
MATCONTR			0.65117			
PRICNTRO				0.90078		
PERFORM1				0.89298		
PERFORM2					0.86535	
NPROLAU1					0.84929	
PROIMPRV						0.82772
BUYMATDI						0.80888
MATMAKET						
Eigenvalue	4.03163	2.83418	2.18113	1.48906	1.43175	1.38147
% Variance	16.8	11.8	9.1	6.2	6.0	5.8

TABLE 6.2 Component Structure of Business Activities and Environment in UK Sample

Variables	Factor 1: CE Control Effect	Factor 2: MI Marketing Initiative	Factor 3: IN Innovative Orientation	Factor 4: FP Financial Performance	Factor 5: PME Product/Market Effect
PROCONTR	0.85775				
PRICNTRO	0.83177				
MATCONTR	0.80847				
SALCONTR	0.77937				
CORPINFL	0.68816				
GOVNINFL					
MKTPLAN		0.81636			
CORPPLAN		0.73028			
MKTRESCH		0.71947			
MKTSEGM		0.67216			
COORDINA		0.63444			
NPROINFL					
NPROLAU2			0.88358		
NPROLAU1			0.86469		
PROIMPRV			0.82452		
PERFORM1				0.90662	
PERFORM2				0.90406	
RIVTHRET					0.78646
PROMAKET					0.78516
Eigenvalue	3.45453	2.91126	2.06363	1.76284	1.21887
% Variance	18.2	15.3	10.9	9.3	6.4

6.3 STANDARD MULTIPLE REGRESSION

6.3.1 Evaluation of Assumptions

Normality, Linearity, and Homoscedasticity

To evaluate the violation of assumptions, a standard multiple regression was performed to inspect the scatterplot of residuals against predicted values of the dependent variable, the histogram of residuals, and the plot of the observed distribution of residuals against that expected under the assumption of normality in both samples. It appeared that there was no serious violation of assumptions in either sample.

Ratio of Cases to Variables

There were 348 cases in the Chinese sample and 188 in the UK sample used in regression analysis; with 6 and 5 independent variables in the Chinese and UK samples respectively, the case-to-variable ratios were 58:1 in the Chinese sample and 38:1 in the UK sample. Both ratios were far above the minimum requirement for regression analysis.

It should be indicated that after principal component analysis, the number of cases in the Chinese sample was reduced noticeably because

of missing data. Missing data were spread over variables and cases, showing no evident systematic patterns.

Multicollinearity

The use of component scores as independent variables ruled out the potential effect of multicollinearity on regression analysis. The highest correlations among the independent variables were -0.12 in the Chinese sample and 0.08 in the UK sample (See Tables 6.3a and 6.4a). The tolerances of all variables in both samples had large values.

Outliers

Multivariate outliers were checked in both samples by examining the scatterplots. In the UK sample, no outliers were found, whereas in the Chinese sample 3 cases were identified to be outliers. Because of their relatively large contribution to the variance, they should be dealt with carefully, as pointed out in Chapter 4.

A close inspection of these cases indicates that errors occurred in the completion of the questionnaires. Contradictory results appeared in the survey answers of these cases. In one case, the respondent claimed that the enterprise adopted the highest degree of marketing orientation; on the other hand, it undertook little marketing research, developed no 'marketing plan', had obsolete information about markets and competitors. Meanwhile, elsewhere in the same questionnaire, the respondent listed a large number of marketing research activities pursued by the enterprise and had a detailed

marketing plan. As for the other two cases, while the respondents claimed that the enterprise was not marketing orientated at all (rated 1 on a 5 point scale in the questionnaire), it had the most updated information on markets, exercised market segmentation, monitored competitors, and developed a detailed marketing plan, which was most effectively implemented. Seemingly this was due to their misreading the question or the ascending order of the 5 point scale. Therefore, these cases were excluded from analysis.

6.3.2 Statistics for Regression Equation

The summary results of the multiple regression equation in both the UK and Chinese samples are displayed in Tables 6.3 and 6.4. As seen, R^2 , a measure of goodness of fit of the overall model, is 0.29 in the Chinese sample and 0.18 in the UK sample. The statistics for the analysis of variance of in each sample suggest that the hypothesis that R^2 is zero is rejected in both samples: $F(6, 341) = 22.83, p < 0.001$ in the Chinese sample and $F(5, 182) = 7.98, p < 0.001$ in the UK sample.

Other statistics included in Tables 6.3 and 6.4 are the unstandardised regression coefficients (B) and constant, the standardised regression coefficients (Beta), and part correlation coefficients. Among others, (squared) part correlation is considered as "the single most useful measure of importance of an IV¹" (Tabachnick and Fidell 1983, p. 107). It is the correlation between the dependent variable and the ith

¹ IV: Independent variable.

independent variable when the linear effects of the other independent variables are partialled out of the *i*th independent variables. Since there are only small correlations among the independent variables because of the use of principal components, the part correlation coefficients are almost equal to the Beta coefficients. Therefore, the Beta coefficients can be directly viewed as the unique contribution of the independent variable.

TABLE 6.3 Results of Regression Analysis in Chinese Sample

6.3a Correlation Matrix

Variables*	MI	PME	CE	FP	IN	SME
MKTIMPL**	42	16	-13	01	27	-06
MI		-10	-03	02	03	-02
PME			-04	-12	08	-04
CE				-02	00	04
FP					-01	-03
IN						-05
SME						

- * MI: Marketing Initiative.
PME: The Product-Market Effect.
CE: The Control Effect.
FP: Financial Performance.
IN: Innovation.
SME: The Supply-Market Effect.
** MKTIMPL: Dependent Variable.

6.3b Statistics for Standard Regression Equation in Chinese Sample

Independent Variables	Dependent Variable: MKTIMPL			
	B	Beta	Part Corr	p
SME	-0.027	-0.029	-0.029	0.530
MI	0.421	0.424	0.421	0.000
FP	0.018	0.019	0.022	0.683
CE	-0.101	-0.109	-0.108	0.019
IN	0.222	0.241	0.240	0.000
PME	0.175	0.183	0.180	0.000
(Constant)	3.801			

$R^2 = 0.287$
 Adjusted $R^2 = 0.274$
 $R = 0.535$
 $F(6, 341) = 22.834$
 Significance $F = 0.000$

TABLE 6.4 Results of Regression Analysis in UK Sample

6.4a Correlation Matrix

Variables	CE	MI	IN	FP	PME
MKTIMPL	-06	35	12	08	-14
CE		-02	03	08	07
MI			-08	-02	04
IN				-06	03
PME					-01
FP					

6.4b Statistics for Standard Regression Equation in UK Sample

Independent Variables	Dependent Variable: MKTIMPL			
	B	Beta	Part Corr	p
PME	-0.129	-0.151	-0.150	0.026
FP	0.089	0.105	0.104	0.122
MI	0.317	0.367	0.365	0.000
IN	0.131	0.162	0.161	0.017
CE	-0.048	-0.060	-0.059	0.379
(Constant)	3.567			

$R^2 = 0.180$
Adjusted $R^2 = 0.157$
 $R = 0.424$
 $F(5, 182) = 7.980$
Significance $F = 0.000$

6.3.3 Examination of Tests for Propositions

A) Propositions HA and HB

Proposition HA pertains to an assumption that a marketing orientated enterprise has more marketing initiative. Proposition HB addresses the positive association between innovation and marketing orientation, being subject to contention.

As can be seen from Tables 6.3 and 6.4, propositions HA and HB were confirmed with the largest and second largest Beta and part correlations in both the Chinese and UK samples: in the Chinese sample $Beta_{MI} = 0.42$ $p < 0.001$ and $Beta_{IN} = 0.24$, $p < 0.001$; in the UK sample $Beta_{MI} = 0.37$ $p < 0.001$ and $Beta_{IN} = 0.16$, $p < 0.05$.

These results clearly reflect the nature of marketing orientation: (1) identifying customer wants (marketing initiative) and (2) developing

new products and services to match them (innovation). It is also suggested that the practice of marketing orientation is the combination of marketing initiative with innovation. The aggressive pursuit of one without the other may evolve into either product or sales orientation. For instance, product orientation often involves substantial new-product development without sufficient marketing initiative, assuming that the customer will accept any new product to be developed by the enterprise.

The marketing initiative of a marketing orientated enterprise covers various marketing-related activities, as suggested by the principal component analysis. However, different activities may have different weight leading to effective marketing orientation. Therefore, discriminant analysis is used to identify further important activities for the exercise of marketing orientation.

B) Proposition HC

Proposition HC states that a marketing orientated enterprise tends to yield better financial performance provided other market conditions are equal. In the Chinese sample, this proposition was rejected with the Beta value being almost zero. In the UK sample, although the proposition was not confirmed either, the Beta and part correlation coefficients were relatively large and the significance level was relatively small ($\text{Beta}_{fp} = 0.10$, $p = 0.12$).

In China, on the whole, the economic system is far from market-based despite the significant progress made in the introduction of markets

in recent years. There have been far more factors influencing the enterprise operation and thus profitability than in Western countries. It is readily understandable, therefore, that profitability may not be significantly associated with marketing behaviour. As demonstrated in Chapter 5, the large enterprises were less market orientated but generated no worse performance than the medium-sized and small enterprises because of their technology and the like.

In the UK, enterprise performance is affected by many factors, as indicated in Chapter 4. Therefore, it seems that the insignificant correlation is largely due to the fact that in the measurement, 'other conditions' such as firm size and technology, which have strong influence on performance, are less controllable. In the last chapter, it is revealed that higher marketing orientation in medium-sized enterprises did not result in better performance, compared with large enterprises. This may suggest that under competitive environment, the pursuit of marketing orientation is often a necessary condition to maintain, rather than achieve better, financial performance.

In addition, since marketing behaviour is related to innovation, which involves considerable investment, the significant economic effect may only be seen from a long-term point of view. It is worth reiterating that in the previous chapter about 26% of the UK sample companies claimed the problem of "low margins" resulting from marketing orientation. Hence, the relationship of marketing behaviour with individual variables measuring financial performance was further examined by performing discriminant analysis later.

C) Proposition HD

Proposition HD, namely the high market effect impels marketing orientation, is a core in the research model. The confirmation of the proposition received contrary results: the Chinese sample supported it ($\text{Beta}_{\text{PME}} = 0.18, p < 0.001$), whereas the UK sample rejected it, showing a negative relationship ($\text{Beta}_{\text{PME}} = -0.15, p < 0.001$).

This proposition is developed by reviewing the historical and cyclical development of marketing behaviour in American companies. Table 5.6 in the last chapter showed that the 'sensitivity of the market effect' (perceived competitive threats/per unit market supply) in the Chinese sample was stronger than that in the UK sample. It appears that the change in the market effect was more remarkable in China than that in the UK, although the absolute level of the market effect in the UK was apparently much higher than that in China. Seemingly, this was also comparable with what happened in deregulated industries in America and some European countries (See Chapter 2).

It is also suggested in the last chapter that constraints may play a major role in determining the actual practice of marketing orientation. For instance, in China both small and medium-sized enterprises faced a strong market effect (stronger in small enterprises), compared with large enterprises. But with various obvious constraints in small enterprises, they were less capable of exercising marketing orientation.

The same logic may apply to the interpretation of the results in the UK sample, that is, the effect of constraints seemed to be stronger in determining the level of marketing orientation in UK companies. In general, organisations have resistance to change. It appears that the problem in UK companies was rather severe. For instance, both R&D expenditure (especially that in private industries) and the number of patent applications in the UK lagged far behind those in Japan (Kassem 1974; The Independent, 23 July 1990).

As a result, many companies adopted low marketing orientation. The inadequacy of marketing orientation in UK companies has also been identified by a number of UK researchers (Lawrence 1971; Rodger 1980; Doyle, Saunders, and Wong 1985; Doyle 1987; Barry 1990). Low marketing orientation means that the company is slower to respond to markets and less well prepared for its next move, and hence it perceives a relatively higher market effect.

Alternatively, marketing orientated companies run their businesses on such a basis that they feel more secure, because they are well aware where they stand in the market, and where they should go in the foreseeable future. Fromm (1969) has claimed that marketing orientation "will help to reduce business risks". In other words, the cause-effect relationship in the UK may be turned around, namely, the low extent of marketing orientation results in the high market effect; or the adoption of marketing orientation tends to reduce the market effect.

In the Chinese sample, an additional independent variable concerning the market effect in supply market was included in the regression analysis. As can be seen from Table 6.3, SME was not significantly correlated with marketing behaviour ($\text{Beta}_{\text{SME}} = -0.03$, $p = 0.53$), although the sign showed a negative influence. Therefore, it seemed that the asymmetrical market structure in China did not directly affect marketing behaviour.

D) Proposition HE

Another central proposition in the research model is proposition HE: the direct control effect either from government or corporate centres impedes marketing orientation. This proposition was supported in the Chinese sample ($\text{Beta}_{\text{CE}} = -0.11$, $p < 0.05$), but it was not confirmed in the UK sample, though the direction was as hypothesised.

In the Chinese sample, the Beta coefficient was not as large as might be expected. It should be reiterated that the component of the control effect did not include the most significant control factor, price control, which was overwhelming in China². Seemingly, price control can have a restricting effect on both marketing orientated and non-marketing orientated enterprises.

² In the last few years, a large number of articles and conferences centred on the theme of reform of the pricing system in China. Despite the measures of reforming the pricing system, the control of prices, especially, prices of industrial goods, remains significantly strong because of the difficulty in the reform and potential effect on the stability of society.

One of the main functions of markets is to act as a barometer to show business trends, which are indicated by changes in the market price. Thus, with prices being controlled, the ability to respond to markets is limited, and pricing, one of the major elements of marketing mix, cannot be used. Additionally, with the controlled prices set at a rather low level, demand greatly exceeds supply so as to justify production behaviour. Furthermore, price control often also depresses enterprise initiative in developing new products.

The rejection of proposition HE in the UK sample may largely reflect relatively weak direct control in UK firms because of its various defects. Particularly, corporate control in the UK is somewhat lower than that in other European countries such as Germany and France (See Chapter 2).

However, since the sign of control was as hypothesised, the impact of the individual variables on marketing behaviour was further examined with discriminant analysis. In the last chapter, it was shown that there were great disparities among control variables in the UK sample.

To summarise, all the major propositions (except proposition HC) are supported in the Chinese sample, indicating the appropriateness of the model in the context of China. In the UK sample, only two propositions are confirmed, hence the model appears to apply less well in the UK.

6.4 DISCRIMINANT ANALYSIS

6.4.1 Statistics for Discriminant Analysis

A) Structure of Predictor Variables

The predictor variables were chosen based on the results of regression analysis and analysis of variance. The structure of the predictor variables is displayed in Table 6.5.

In both the UK and Chinese samples, all variables related to marketing initiative and the variable of new product development were included. The variables of SALCONTR, PROCONTR, and GOVNINFL (CORPINFL), which reflect different dimensions of control, were chosen as predictor variables in both samples.

In the Chinese sample, no variables associated with financial performance were selected because the previous results of regression analysis and analysis of variance demonstrated that performance was not correlated with marketing behaviour³. In the UK sample, both PERFORM1 and PERFORM2 were included since the results of regression analysis showed the tendency that the individual variables may relate to performance.

³ An inclusion of these non-related variables would influence the effectiveness of the discriminant function.

In both samples, RIVTHRET was encompassed to assess the importance of the variable pertaining to marketing behaviour. Included was also a dummy variable of declining sales (SDECLINE) in the UK sample to test the proposition that the company experiencing declining sales tends to adopt marketing orientation (Kotler 1988, p. 24). .

TABLE 6.5 Structure of Predictor Variables

Dimension of Measurement	Number of Variables	
	China	UK
Marketing Initiative	9	5
Market Effect	1	2*
Innovation	1	1
Control Effect	3	3
Performance	0	2
Total	14	13

* A dummy variable was included.

B) Univariate Statistics

It is helpful to start discriminant analysis by analysing differences between groups in univariate statistical analysis (Norusis 1985). The univariate statistics can also be useful in the interpretation of the discriminant function. Therefore, the univariate statistics of both sample data are included (SPSS^X DISCRIMINANT prints out the statistics).

TABLE 6.6 Results of Analysis of Univariate Statistics in Chinese Sample

Variable	Group 1		Group 2		F	p
	Mean	sd	Mean	sd		
NPROLAU1	3.09	1.32	2.26	1.19	31.27	0.000
MKTRESCH	3.80	0.90	3.23	0.89	29.30	0.000
COSTMEAS	3.45	1.02	2.86	1.06	23.90	0.000
MKTPLAN	4.10	0.87	3.61	1.00	20.81	0.000
NEWINFOR	3.95	0.85	3.51	0.82	20.60	0.000
NPRORESH	3.77	1.00	3.26	1.02	18.29	0.000
MKTSEGM	2.22	0.74	1.92	0.62	15.05	0.000
PLANEFFA	3.96	0.92	3.57	0.92	13.17	0.000
MKTKNOWL	3.50	0.95	3.15	1.01	9.90	0.002
SALCONTR	2.19	1.24	2.62	1.26	8.51	0.004
RIVTHRET	3.21	1.09	2.92	1.01	5.77	0.017
KNWRIVAL	3.84	0.90	3.59	0.95	4.40	0.021
PROCONTR	2.52	1.25	2.82	1.26	4.23	0.041
GOVNINFL	3.03	1.19	3.28	1.10	3.53	0.061

Note: Group 1 = The Marketing Orientated Enterprises.

Group 2 = The Non-Marketing Orientated Enterprises.

TABLE 6.7 Results of Analysis Univariate Statistics in UK Sample

Variable	Group 1		Group 2		F	p
	Mean	sd	Mean	sd		
MKTPLAN	4.08	1.07	3.57	1.06	9.34	0.003
CORPPPLAN	3.99	0.97	3.82	1.17	-	ns
MKTSEGM	4.03	1.20	3.81	1.14	-	ns
COORDINA	4.09	0.88	3.56	1.02	12.74	0.001
MKTRESCH	3.65	1.19	3.11	1.07	9.13	0.003
RIVTHRET	3.26	0.84	3.61	0.99	5.98	0.016
MKTSTATE*	1.18	0.38	1.07	0.25	4.56	0.034
NPROLAU2	2.45	1.09	1.95	0.97	9.24	0.003
PERFORM1	3.69	0.94	3.53	0.96	-	ns
PERFORM2	3.72	0.93	3.43	1.01	3.41	0.067
SALCONTR	1.95	1.17	2.13	1.21	-	ns
PROCONTR	2.05	1.33	2.42	1.38	2.93	0.089
CORPINFL	3.46	1.39	3.65	1.24	-	ns

Note: Group 1 = The Marketing Orientated Enterprises.

Group 2 = The Non-Marketing Orientated Enterprises.

* A dummy-coded variable.

Tables 6.6 and 6.7 contain the zero-order group means and significance tests of equality of group means for each independent variable in both samples. The group variables are the marketing-orientated and non-marketing-orientated enterprises. The F-values and significance levels in Tables 6.6 and 6.7 are regarded as the same as those calculated from one-way analysis of variance (Norusis 1985, p. 78).

C) Correlation Matrices

In general, interdependencies among the variables influence the results of most multivariate analyses. An examination of the correlation matrix of predictor variables is thus helpful for both discriminant analysis and interpretation of the results.

SPSS^X DISCRIMINANT prints a pooled within-groups correlation matrix, which is derived from averaging the separate covariance matrices for all groups and then computing the correlation matrix. It contrasts with the total correlation matrix, which is "obtained when all cases are treated as if they are from a single sample" (Norusis 1985, p. 79).

TABLE 6.8a Pooled Within-Group Correlation Matrix among Predictor Variables in Chinese Sample

Variables	2	3	4	5	6	7	8	9	10	11	12	13	14
1. MKTRESCH	29	20	19	26	30	33	52	23	10	13	03	07	04
2. COSTMEAS		13	36	22	26	28	30	16	12	18	-03	03	-02
3. MKTSEGM			10	09	14	17	13	18	-05	11	12	15	09
4. PLANEFFA				28	47	32	22	19	-05	19	06	09	-02
5. KNWRIVAL					30	54	32	25	01	06	00	-05	-05
6. MKTPLAN						40	26	24	03	03	15	13	05
7. NEWINFOR							33	32	00	15	07	06	-07
8. NPRORESH								22	04	09	-01	03	00
9. MKTKNOWL									-01	02	05	03	03
10. RIVTHRET										-01	-05	-05	05
11. NPROLAU1											-04	-01	-07
12. SALCONTR												71	45
13. PROCONTR													45
14. GOVNINFL													

Note: Decimal points are omitted.

TABLE 6.8b Pearson Correlation Matrix among Predictor Variables in Chinese Sample

Variables	2	3	4	5	6	7	8	9	10	11	12	13	14
1. MKTRESCH	30*	24*	27*	31*	39*	42*	52*	26*	13*	21*	-10**	-01	03
2. COSTMEAS		13*	39*	20*	29*	25*	27*	19*	05	19*	-09**	02	-05
3. MKTSEGM			17*	15*	20*	22*	14*	19*	-03	14*	07	08	08**
4. PLANEFFA				25*	50*	34*	21*	22*	-02	20*	-01	07	-01
5. KNWRIVAL					33*	52*	28*	31*	-04	12*	-06	-04	-03
6. MKTPLAN						42*	24*	28*	01	06	03	09**	04
7. NEWINFOR							31*	40*	00	18*	-03	04	00
8. NPRORESH								25*	05	14*	-08	00	00
9. MKTKNOWL									03	09**	-03	01	01
10. RIVTHRET										07	-10**	-10**	05
11. NPROLAU1											-11**	-08**	-11**
12. SALCONTR												67*	41*
13. PROCONTR													41*
14. GOVNINFL													

Note: 1) Decimal points are omitted.

2) Blank: insignificant; * p < 0.01; ** p < 0.05

TABLE 6.9a Pooled Within-Group Correlation Matrix among Predictor Variables in UK Sample

Variables	2	3	4	5	6	7	8	9	10	11	12	13
1. MKTPLAN	47	49	37	27	15	-01	-03	-08	-17	-09	-08	-01
2. CORPPLAN		37	32	28	08	-09	05	-12	-19	-08	10	09
3. MKTSEGM			32	23	07	-04	-03	00	-14	-13	01	-04
4. MKTRESCH				34	11	-02	02	-02	01	06	-04	01
5. COORDINA					14	01	10	-03	-12	-02	12	03
6. RIVTHRET						02	-02	16	00	16	-16	-16
7. MKTSTATE+							03	-02	05	02	-09	-02
8. NPROLAU2								00	14	-01	-13	05
9. PROCONTR									53	56	11	10
10. SALCONTR										45	-01	01
11. CORPINFL											-01	00
12. PERFORM1												67
13. PERFORM2												

Note: Decimal points are omitted.

+ Dummy variable.

TABLE 6.9b Pearson Correlation Matrix among Predictor Variables in UK Sample

Variables	2	3	4	5	6	7	8	9	10	11	12	13
1. MKTPLAN	52*	50*	49*	41*	10	-01	09	-02	-10	-04	-04	01
2. CORPPLAN		35*	40*	32*	09	03	08	-09	-17*	00	12**	08
3. MKTSEGM			36*	27*	-01	-03	04	03	-07	-08	03	01
4. MKTRESCH				40*	06	-03	13**	06	04	06	00	00
5. COORDINA					05	15**	10	01	-08	-03	06	04
6. RIVTHRET						05	00	16*	01	20*	-14**	-16*
7. MKTSTATE+							-02	09	00	06	-03	-02
8. NPROLAU2								09	15**	06	-05	05
9. PROCONTR									56*	55*	08	03
10. SALCONTR										48*	-03	01
11. CORPINFL											-02	-06
12. PERFORM1												69*
13. PERFORM2												

Note: Decimal points are omitted.

+ Dummy variable.

Blank: insignificant; * p < 0.01; ** p < 0.05

The pooled within-groups and total correlation matrices in both samples are included in Tables 6.8 and 6.9. Inspection of both matrices within the same sample indicates that the majority of the correlations in the total correlation matrix had the same direction as, and were slightly larger than, those in the within-groups correlation matrix. For the interpretative purpose, the total correlation matrix was used, where a significance level for the correlation of a pair of variables can be referred to.

D) Discriminant Functions and the Statistics

The statistics of the discriminant functions for both the Chinese and UK sample data are summarised in Tables 6.10 and 6.11, respectively.

As seen in the tables, the discriminant functions of the UK and Chinese samples had the eigenvalues of 0.297 and 0.300 respectively. An eigenvalue is the ratio of between-groups variability to within-group variability. The large eigenvalues are related to the "effective" discriminant function.

The discriminant function yielded a 'canonical correlation' of 0.478 in the UK sample and 0.481 in the Chinese sample. "The canonical correlation is a measure of the degree of association between the discriminant scores and the groups" (Norusis 1985, p. 90). In the two-group situation, it is the usual Pearson correlation coefficient between the discriminant score and the binary group variables.

SPSS^X DISCRIMINANT prints out Wilks' lambda, the ratio of the within-groups sum of squares to the total sum of squares. It is an indicator of variability between groups. Much variability between groups and little variability within groups will lead to small values of lambda. When there is no between-groups variability or the mean of the discriminant scores in all groups is equal, a lambda of 1 results (Norusis 1985).

Therefore, Wilks' lambda can be used to test the null hypothesis that in the populations from which the samples are drawn there is no difference between the group means. To do this, a transformation of lambda into a variable which has approximately chi-square distribution is made (Norusis 1985). The discriminant function had a lambda of 0.769 in the Chinese sample and 0.771 in the UK sample. In the Chinese sample it was transformed into a chi-square value of 79 with 14 degrees of freedom, while in the UK sample into a chi-square value of 40 with 13 degree of freedom. The observed significance levels in both samples were less than 0.0001. Hence, it seems unlikely that the marketing-orientated groups had the same means on the discriminant functions as the non-marketing orientated groups in both samples.

Another major measurement of the effectiveness of the discriminant function is the misclassification rate. The outcome of the classification analyses revealed that 72.66% of the cases not used in the discriminant analysis of the Chinese sample data and 65.08% of the UK sample data could be correctly classified.

The significance probability for Box's M was 0.482 in the Chinese sample and 0.216 in the UK sample. Since the significance level for Box's M in each sample was sufficiently large, the hypothesis that the covariance matrices are equal was accepted in both samples.

TABLE 6.10 Results of Discriminant Analysis for Groupings of Marketing Behaviour in Chinese Sample

6.10a Key Parameters

Items	Results
Cases used in the analysis	310
Cases held out for the test	139
Cases excluded from the analysis due to at least one missing discriminating variable	181
Cases processed	630
Group Sizes	
Group 1: Number of MKT orientated enterprises	192
Group 2: Number of Non-MKT orientated enterprises	118
Eigenvalue of the Discriminant Function	0.300
Canonical Correlation	0.481
Wilks' Lambda	0.769
Chi-squared (D.F.: 14)	79.075
Significance of the Discriminant Function	0.000
Significance for Box's M	0.482
Group Centroids	
Group 1	0.428
Group 2	-0.697

6.10b Standardised Canonical Discriminant Function Coefficients and Pooled Within-Group Correlations between Function and Predictor Variables

Predictor Variables	F1	F2
NPROLAU1	0.445	0.581
MKTRESCH	0.228	0.563
COSTMEAS	0.165	0.508
MKTPLAN	0.294	0.474
NEWINFOR	0.157	0.473
NPRORESH	0.091	0.445
MKTSEGM	0.263	0.403
PLANEFFA	0.013	0.377
MKTKNOWL	0.102	0.327
SALCONTR	-0.278	-0.303
RIVTHRET	0.203	0.250
KNWRIVAL	-0.147	0.242
PROCONTR	-0.102	-0.214
GOVNINFL	-0.047	-0.195

F1: Standardised canonical discriminant function coefficients.

F2: Pooled within-groups correlations between discriminating variables and canonical discriminant function.

6.10c Results of Classification Analysis

Actual Group	No. of Cases	Predicted Group	
		1	2
Cases selected for use in the analysis*			
Group 1	192	156 (81.3%)	36 (18.8%)
Group 2	118	53 (44.9%)	65 (55.1%)
Cases not selected for use in the analysis**			
Group 1	87	69 (79.3%)	18 (20.7%)
Group 2	52	20 (38.5%)	32 (61.5%)

* Percent of "grouped" cases corrected classified: 71.29%

** Percent of "grouped" cases corrected classified: 72.66%

TABLE 6.11 Results of Discriminant Analysis for Groupings of Marketing Behaviour in UK Sample

6.11a Key Parameters

Items	Results
Cases used in the analysis	162
Cases held out for the test	63
Cases excluded from the analysis due to at least one missing discriminating variable	28
Cases processed	253
Group Sizes	
Group 1: Number of MKT orientated enterprises	74
Group 2: Number of Non-MKT orientated enterprises	88
Eigenvalue of the Discriminant Function	0.297
Canonical Correlation	0.478
Wilks' Lambda	0.771
Chi-squared (D.F.: 13)	39.957
Significance of the Discriminant Function	0.000
Significance for Box's M	0.216
Group Centroids	
Group 1	0.591
Group 2	-0.497

6.11b Standardised Canonical Discriminant Function Coefficients and Pooled Within-Group Correlations between Function and Predictor Variables

Predictor Variables	F1	F2
COORDINA	0.358	0.517
MKTPLAN	0.464	0.443
NPROLAU2	0.428	0.441
MKTRESCH	0.295	0.438
RIVTHRET	-0.418	-0.355
MKTSTATE+	0.300	0.310
PERFORM2	0.127	0.268
PROCONTR	-0.183	-0.248
MKTSEGM	0.075	0.173
PERFORM1	0.132	0.150
CORPPLAN	-0.265	0.143
SALCONTR	-0.081	-0.138
CORPINFL	-0.072	-0.132

F1: Standardised canonical discriminant function coefficients.

F2: Pooled within-groups correlations between discriminating variables and canonical discriminant function.

+ A dummy variable.

6.11c Results of Classification Analysis

Actual Group	No. of Cases	Predicted Group	
		1	2
Cases selected for use in the analysis*			
Group 1	74	52 (70.3%)	22 (29.7%)
Group 2	88	22 (25.0%)	66 (75.0%)
Cases not selected for use in the analysis**			
Group 1	33	20 (60.6%)	13 (39.4%)
Group 2	30	9 (30.0%)	21 (70.0%)

* Percent of "grouped" cases corrected classified: 72.84%

** Percent of "grouped" cases corrected classified: 65.08%

6.4.2 Interpretation of Discriminant Function

Before proceeding to interpret the discriminant functions, two conditions have to be examined and satisfied for the results to be meaningful: (1) the discriminant function is statistically significant. Tables 6.10 and 6.11 demonstrate that the discriminant functions of both the UK and Chinese samples meet this condition; (2) classification accuracy is acceptable. Then, what is the acceptable classification accuracy? Or are the results of classification obtained in both the UK and Chinese samples associated with chance?

To date no consensus on this question has been reached (Hair et al 1987, p. 90). When group sizes are unequal, as in the case of this study, a chance model (the chance for the subjects to be assigned to the two or more groups) - the proportional chance criterion - has been developed "to identify correctly members of the two (or more) groups" The formula for the calculation of the criterion is (Hair et al 1987, pp. 89-90):

$$C = p^2 + (1-p)^2$$

where

p = the proportion of individuals in group 1

$1 - p$ = the proportion of individuals in group 2

In the Chinese sample, the value is

$$C_c = 0.62^2 + 0.38^2 = 0.53 \text{ or } 53\%$$

while the rate of correctly classified cases (holdout) is 72.66% (See Table 6.10c), which is above the 53% proportional chance criterion. Therefore, the classification accuracy may be acceptable.

Likewise, the criterion value for the UK sample is

$$C_b = 0.46^2 + 0.54^2 = 0.50 \text{ or } 50\%$$

compared to the 65.08% rate of correctly classified cases (See Table 6.11c), which also appears acceptable.

With the two conditions being satisfied in both sample data, the interpretation of the discriminant functions can proceed comfortably. In general, three methods of interpretation are used to determine the relative importance of each predictor variables (Hair et al 1987, p. 91). They are:

(1) Standardised Discriminant Weights. This method is parallel to the interpretation of beta weights in regression analysis (Norusis 1985, pp. 90-91; Hair et al 1987, p. 91). Variables with relatively larger weights are considered as contributing more to the discriminant function; the sign indicates the direction of the contribution, positive or negative.

However, because of the similarity with regression analysis, the method is subject to the same criticisms, such as the problems of multicollinearity and instability. These problems appear more acute in this study since certain correlations exist between the predictor variables in both the UK and Chinese sample data. Therefore, this method was not used.

(2) Discriminant Structure Correlation (Loadings). An examination of the correlations between each predictor variable and the discriminant function can serve as assessing the contribution of a variable to the

function⁴. The correlations are not influenced by those among the predictor variables (Klecka 1980, p. 33), and thus recommended for the interpretation of the discriminant function (Klecka 1980, p. 34; Hair et al 1987, p. 91).

It is realised that "loadings have increasingly been used as a basis for interpretation because of the deficiencies in utilising weights. ... The loadings approach is somewhat more valid than the use of weights and should be utilized whenever possible" (Hair et al 1987, p. 91-92). Therefore, the discriminant loadings are chosen for the interpretation of the functions in the study.

(3) Partial F-Values. "When the stepwise method is selected, an additional means of interpreting the relative discriminating power of the independent variables is available through the use of the partial F-values" (Hair et al 1987, p. 92). Since this method is not used in this study, it is not further discussed.

6.4.3 Distinction and Assessment of Marketing Behaviour

A) Characteristics of Marketing Behaviour

Proposition HA includes eight assumptions from HA1 to HA8 (See Chapter 4), being generally taken for granted with little empirical evidence to support them. In this part, they are assessed concerning the

⁴ These correlations are given in the print-out of SPSS^X DISCRIMINANT under the heading: STRUCTURE MATRIX.

importance of each for distinction between marketing and non-marketing orientated enterprises.

Other things, 3 of the assumptions were included in both the UK and Chinese questionnaires: a marketing-orientated enterprise (MOE) develops detailed marketing plans (HA3) and different marketing plans for different markets (HA7), and it pursues more marketing research (HA5).

Examination of the discriminant loadings⁵ in Tables 6.10b and 6.11b shows that assumptions HA3 and HA5 were supported. Furthermore, MKTRESCH and MKTPLAN were among the primary variables that separated MOEs from non-MOEs in both samples (MKTRESCH in the Chinese sample and MKTPLAN in the UK sample had the second highest loadings).

Interestingly, in the Chinese sample a MOE appeared to show a more effective marketing plan, which was indicated by both a positive discriminant loading of PLANEFFA ($r=0.38$) and the high correlation between MKTPLAN and PLANEFFA ($r=0.50$; $p<0.001$). It seems that a MOE not only develops a more detailed marketing plan but also, more importantly, successfully executes the plan.

Assumption HA7 was supported in the Chinese sample with a relatively high loading ($r=0.40$), but it was not confirmed in the UK sample,

⁵ In the rest of the chapter, the discriminant loading(s) will only indicate the correlations between predictor variables and the discriminant function that is associated with the marketing-orientated group; a positive sign denotes that the variable is positively related to marketing behaviour or vice versa.

since the difference between the zero-order group means for the variable was not statistically significant, and the variable had a small loading of 0.17.

In the Chinese questionnaire this variable was measured on a 3 point scale with a simple question: "To what extent do you identify different customers or markets?". In the UK questionnaire it was measured on a 5 point scale with a slightly more sophisticated question: "To what extent does your company develop different marketing plans for different segments of the market?". In the UK, since most MOEs had a detailed marketing plan (generally written), 'different marketing plans' might be readily understood as written marketing plans, which might not be developed for segments. Notably, the high correlation between MKTPLAN and MKTSEGM ($r_{UK}=0.50$; $r_{China}=0.20$) indicated that marketing planning is closely related to the exercise of market segmentation.

Four assumptions were included in the Chinese sample only and confirmed: a MOE makes greater effort to measure and analyse marketing expenditures (HA1), has more information about markets (HA4) and competitors (HA8), and pursues marketing research in advance of new product development (HA6). All these assumptions were supported. Moreover, COSTMEAS was a major discriminating variable with the third highest loading.

Assumption HA2, namely a MOE integrates business activities to a greater extent, was only tested on the UK sample, and was confirmed. COORDINA was found to be the most important variable which separates

MOEs from non-MOEs - it had the highest loading ($r=0.52$). Shapiro (1988) has cast light on both the problems and paramount importance of inter-functional and inter-divisional coordination in the exercise of marketing orientation.

CORPPLAN (corporate planing) did not appear to be related to marketing orientation: the difference between the zero-order group means was not statistically significant, and the discriminant loading had a small value of 0.14.

It should be noticed that in the UK sample, CORPPLAN and MKTSEGM had negative standardised weights in the discriminant function, while their univariate statistics denoted positive relationships. This was due to the high correlations between MKTPLAN and CORPPLAN ($r=0.52$) and between MKTPLAN and MKTSEGM ($r=0.50$); the contribution of MKTPLAN, CORPPLAN, and MKTSEGM was shared, and thus the individual weights were not meaningful. The similar phenomenon can also be seen in the Chinese sample. This further demonstrates that the discriminant weights are not appropriate for the interpretation especially when the predictor variables are highly correlated with each other.

B) New Product Development and Marketing Behaviour

The principal component of innovation comprises two variables: product improvement and new product development. It has been claimed that marketing orientation results in proliferation of improved products at the expense of new product development. Hence, the importance of new

product development in distinguishing between MOEs and non-MOEs is further examined.

Review of Tables 6.10b and 6.11b demonstrates that the level of new product development was one of the most important factor discriminating between MOEs and non-MOEs in both samples. In the Chinese sample, it had the highest loading of 0.58, whilst in the UK sample it had the third highest loading of 0.44.

C) Financial Performance and Marketing Behaviour

The variables relating to financial performance in the Chinese sample were not included in the discriminant analysis due to the reasons presented previously.

In the UK sample the two variables demonstrated the different levels of relationships with marketing behaviour. While PERFORM1 - return on capital was not significantly correlated to marketing behaviour, PERFORM2 - profit growth showed a tendency to be positively associated with marketing behaviour ($F=3.41$, $p=0.07$; $r=0.25$).

These results may have a close bearing on the characteristics of the two measures. PERFORM1 - return on capital is related to the two factors: profit and capital used. Marketing behaviour is linked to new product development, whilst at the early (growth) stage of product life cycle, considerable investment in the new product is often involved, increasing the denominator of the ratio of return on capital. It is interesting to point out that in the Chinese sample,

new product development (NPROL1) was also positively related with profit growth (PERFORM2) ($r = 0.11, p < 0.05$), but not with return on capital (PERFORM1).

It should be mentioned that in both samples, both PERFORM1 and PERFORM2 were negatively correlated with RIVTHRET (in the UK sample $r_{PERFORM1} = -0.14, p < 0.05$; $r_{PERFORM2} = -0.16, P < 0.05$ and in the Chinese sample $r_{PERFORM1} = -0.24, p < 0.01$; $r_{PERFORM2} = -0.20, P < 0.01$). This seems to be consistent with the theory and findings in industrial economics, as explained in Chapter 4.

D) The Control Effect and Marketing Behaviour

Three variables concerning the control effect were included in the discriminant analyses in both samples: PROCONTR, SALCONTR, and CORPINFL (GOVNINFL). Table 6.6 indicates that in the Chinese sample the SALCONTR and PROCONTR significantly discriminated between MOEs and non-MOEs; the mean difference of GOVNINFL between the two groups was significant at a marginal level ($F=3.53, p=0.06$). It appears that SALCONTR was more influential on marketing behaviour in China, compared with other controls; it had a relatively large loading of -0.30 .

Table 6.7 denotes that in the UK sample PROCONTR distinguished between MOEs and non-MOEs at a marginal significant level ($F=2.93, p=0.089$), and Table 6.11b indicates that it had a loading of -0.24 . Although the differences of the zero-order group means for variables SALCONTR and

CORPINFL were not statistically significant, they showed the negative direction.

In the UK it is less likely for a company to be subject to sales planning than production planning. Table 5.4 shows that the PROCONTR mean (2.23) was greater than SALCONTR mean (2.09). Hence, seemingly PROCONTR better reflects 'direct control'. Moreover, the perceived overall corporate effect on business units (CORPINFL) can obviously contain substantial elements of indirect control, as suggested in Table 5.4.

It is worth noting that in the UK sample, RIVTHRET was positively correlated with CORPINFL ($r = 0.21$; $p < 0.01$) and PROCONTR ($r = 0.17$, $p < 0.01$) (See Table 6.9b). In contrast, in the Chinese sample, both RIVTHRET and INTENSITY were negatively correlated with all the control variables ($r_{\text{SALCONTR (INTENSTY)}} = -0.21$, $p < 0.01$; $r_{\text{SALCONTR (RIVTHRET)}} = -0.10$, $p < 0.05$; $r_{\text{PROCONTR (INTENSTY)}} = -0.14$; $p < 0.01$; $r_{\text{PROCONTR (RIVTHRET)}} = -0.11$; $p < 0.01$) (See Table 6.8b).

In the UK, when competition becomes severe, the corporate centre may internalise a part of the businesses within the firm in order to cushion the impact of competition. In China, government control mainly involves enterprise functional planning. In industries or markets where supply and demand are relatively balanced or supply slightly exceeds demand, control is obviously less important. Therefore, in such industries or markets, the control effect tends to be weaker. Alternatively, where there is less governmental control, there seems to be a higher market effect.

E) The Market Effect and Marketing Behaviour

The perceptions of competitive threats (RIVTHRET) in both samples were selected to discriminate MOEs from non-MOEs. Included in the UK sample was an additional variable, MKTSTATE, to test the proposition concerning the relationship between marketing behaviour and declining sales.

In the UK sample, RIVTHRET had an average negative loading ($r = -0.35$), and in the Chinese sample the variable had a somewhat smaller positive loading ($r = 0.25$), conforming with the result of the regression analysis. However, in the UK sample, MKTSTATE was positively associated with marketing behaviour ($r = 0.31$).

As pointed out previously, the findings in the UK sample basically reflected a relatively low level of marketing orientation. It is noteworthy that there was no relationship between RIVTHRET and MKTSTATE (See Table 6.9b) in the UK sample, whereas there was a significant correlation between the two variables in the Chinese sample ($r = 0.16$, $p = 0.01$). This may suggest that MOEs in the UK may be divided into two sets: 'continuous' and 'new' adopters.

For the continuous adopters, the relationship between marketing behaviour and the market effect is very likely to be negative, as explained previously. As regards the new adopters, a positive correlation between marketing behaviour and MKTSTATE may result. In the pre-tested questionnaires, several companies claimed that they were recently being moved towards marketing orientation.

One of the scenarios in the UK may be that many companies are dominated by existing business operation with a low marketing orientation, as suggested in the last chapter, while international competition (the market effect) is being intensified. However, when changes in the market effect are such that they actually causes companies' sales to decline, the companies are stimulated to resort to marketing orientation.

It is important, therefore, to look further into why and how the UK companies had low market orientation. Notably, there are two key elements at the heart of marketing orientation: (1) market focus and customer orientation and (2) new products and services. It should be pointed out that 94% of the UK sample companies claimed that their companies' policy reflects marketing orientation⁶. Meanwhile, only 28% mentioned that their problem in new product development lies in inadequate marketing research. Hence, it is suggested that the attention should be given to the second element of marketing orientation: new product development.

Table 6.12 displays both the numerical ratio of new product development (number of new products/total products) and turnover ratio of new product development (turnover of new products/total turnover). In general, the ratios suggest a low level of new product development in UK companies⁷. This seems to conform with the recent criticism of

⁶ 83% of them rated at 4 and 5 points and 11% at 3 points in a five point scale.

⁷ The rate of new product development in the Swedish company interviewed, which produces industrial goods, was 70%.

short-termism in UK companies, resulting in the deficient development of new products (Cox and Kriegbaum 1989; Innovation Advisory Board 1990; The DTI Innovation Advisory Board 1990).

TABLE 6.12 Ratios of New Product Development in UK (1986–1989)

Ratio of New Products (%)		0-10	11-30	31-50	51-70	70-100
% of Firms	Numerical	37	36	14	7	5
	Turnover	26	41	18	9	4

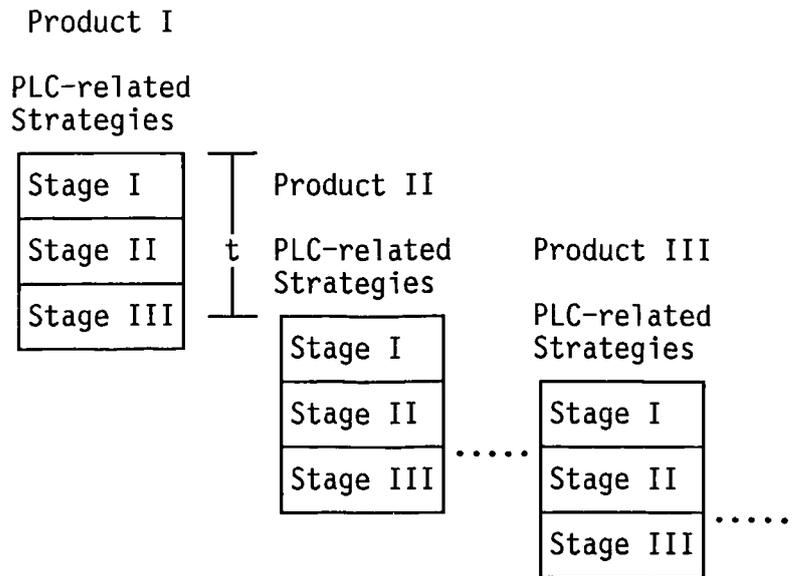
6.4.4 A Model of Business Orientation Cycle

It appears that there is an 'orientation cycle' among many UK companies. Marketing orientation is correlated with new product development, mainly involving the early stages of product life cycle. A key parameter associated with the orientation is the interval between the introduction stage of the previous successful new product and that of the next successful new product (t^8 in Figure 6.1). Generally, a marketing orientated company has a relatively short t , whilst a production or sales orientated company shows a relatively long t . The findings suggest that there is a large t in many UK companies. As such, the low level of marketing orientation in UK companies is, in essence, mainly due to their slow investment in new

⁸ There are two major determinants of t : technology and policy. The technological determinant differs greatly from industry to industry, depending on the characteristics of the industry. Policy determinant is evidently related to firm's business decisions. In this context, we indicate the second determinant of t .

products. Therefore, despite their marketing-orientated policy, many UK companies are forced out of marketing orientation.

FIGURE 6.1 A Key Parameter of Marketing Orientation



A company generally has more than one product (line), and hence the total effect of time difference between two companies is the sum of the difference of each product (line).

The parameter t is also closely related to the theory regarding the impact of the market effect on marketing behaviour developed in Chapter 2. Obviously, in a less competitive market, a small t may not be advisable, because of unnecessary costs involved. In, say, high-technology industries with the high market effect, t is quite small.

Seemingly a large t could have a close bearing on declining sales. In general, in a firm's product mix, some products are at mature and declining stages of life cycle, while others are at a growing stage

which largely come from new products. A large t could result in a situation in which new products cannot compensate for those at the declining stage. When the market effect increases dramatically, the product life cycle tends to be shortened, and hence more new products need to be launched to achieve the balance. It seems that the delayed or slow new product development in UK firms has given rise to their declining sales. The time dimension leading to the competitive advantages of many Japanese firms as well as small North American and European firms have been noticed by Stalk and Hout (1990).

Examination of Ansoff's (1957) product/market expansion grid may throw a light on the relationship between business strategies and orientations. According to the grid, there are four growth strategies for an enterprise: market penetration, market development, product development, and diversification. From a relatively long-term perspective, these strategies are corresponding to business orientation. For instance, for a marketing orientated enterprise, 'product development with market orientation' is an inherent part of its business policy; production or sales orientated enterprises focus on 'market penetration' or 'market development' within a relatively long period of time. In general, a blend of these strategic options in an enterprise may be exercised, with different weight being given to each. Figure 6.2 illustrates the relationships between the strategies and business orientation.

Generally, after a company has successfully established a position in a market segment through the exercise of marketing orientation or other means, it would normally pursue a strategy of 'market

penetration' or 'market development' so as to achieve long-term profit goals. It is proposed that there are two way of pursuing long-term profitability: improve productivity and increase volume - "expand market" and "market penetration" (Doyle, Saunders, and Wong 1986).

In severely competitive markets such as those in the high-technology industry, companies are in the continuous process of 'identifying customer wants and developing products and services to match them'. If a company commits to the strategies of 'market penetration' and 'market development', it is likely to be too slow in launching new products in response to market changes, and hence it may slip into ineffective production or sales orientation. However, if the market situation is such that a quasi-monopoly is created, production or sales orientation can be sustainable. Eventually, when the state of quasi-monopoly ceases to be effective, the company has to revert to marketing orientation.

Marketing orientation is one form of competitive behaviour, and hence should be evaluated in a comparative setting. For instance, in the past, a relative long t was sustainable because the industry was characterised by a long t. With international competition intensifying, resulting in short product life cycle, the market performance of companies still operating with a long t will inevitably deteriorate.

FIGURE 6.2 Relationships between Business Strategies and Orientation

	Present Products	New Products
Present Markets	Market Penetration	Product Development
Associated Orientation	Production Sales	Marketing Product
New Markets	Market Development	Diversification
Associated Orientation	Sales	Marketing, Product Finance

6.5 SUMMARY

This chapter examines the tests for the propositions in the study. A standard multiple regression was first performed; the absolute measurement of marketing behaviour was used as the dependent variable and the principal components were chosen as independent variables. The results are summarised in Table 6.13.

TABLE 6.13 Summary of Results of Tests for Propositions

Propositions	Positive (+)		Negative (-)	
	UK	Result	China	Result
Proposition HA	+	Confirmed	+	Confirmed
Proposition HB	+	Confirmed	+	Confirmed
Proposition HC		Rejected		Rejected
Proposition HD	-	Rejected	+	Confirmed
Proposition HE		Rejected	-	Confirmed

Discriminant analysis was also run to scrutinise how marketing orientated enterprises can be identified by marketing-related activities and if individual variables are significantly related to marketing behaviour.

The results of discriminant analysis are summarised in Table 6.14.

TABLE 6.14 Summary of Results of Discriminant Analysis

Variables	Positive (+)		Negative (-)
	UK	China	Both
Characteristics			
COORDINA	+		
MKTRESCH			+
MKTPLAN			+
MKTSEGM		+	
NEWINFOR		+	
COSTMEAS		+	
NPRORESH		+	
PLANEFFA		+	
Innovation			
NPROLAU			+
Financial Performance			
PERFORM2	+		
Market Effect			
RIVTHRET	-	+	
MKTSTATE	+		
Control Effect			
PROCONTR			-
SALCONTR		-	
GOVNINFL		-	

APPENDIX A3 A CRITERION FOR CLASSIFICATION OF PERIODS OF MARKETING
EVOLUTION – A COMMENT

Introduction

In his article: "How Modern is Modern Marketing? Marketing's Evolution and the Myth of the 'Production Era'", Ronald A. Fullerton (1988) cast strong doubts upon the classic model of the 'Production-Sales-Marketing Era' by using the historical research approach. This model has been widely accepted and taught in marketing education and research (Hollander 1986, pp. 3-8; Fullerton 1988). It holds that the evolution of firm business orientation has taken place in three stages: 1) production, 2) sales, and 3) marketing. Fullerton made a strong claim that there were neither 'Production Era' nor 'Sales or Marketing Era', and subsequently he proposed a new model of marketing evolution.

The challenge appears to conflict with one point in the derivation of the research model. This research accepts the assumption that the marketing concept has become more widely practised in America in the late 1950s and 60s. Fullerton's argument seems to be in disagreement with this analysis.

Moreover, in view of the wide acceptance of the model and the existence of a similar critical view to Fullerton's elsewhere (Hollander 1986), the challenge deserves a close examination. The

importance of clarifying the issue of marketing evolution in marketing theories can never be over-emphasised.

This section conducts a critical analysis of his assumptions implied and his logic used, and points out some logical and conceptual limitations of his argument. In the meantime a criterion for classifying marketing evolution is suggested. The analysis leads to the conclusion that the criticism is open to flaws.

In China marketing-related activities have occurred only in recent years as a result of 'market evolution', and thus an analogy may be drawn between present marketing in China and Western marketing in history. This may provide an insight into the 'historical marketing evolution' in the West.

Assumptions of Evolutionary Model

The Fullerton's challenge is based on the definition of the assumption made by himself that "The Production-Sales-Marketing-Era framework is built on a 'catastrophic' model, that is, one in which major developments take place suddenly, with few antecedents". The fundamental logic of his criticism is evident: since the model is 'catastrophic', and historical materials show the existence of earlier marketing activities in Britain, Germany, and America, the model is invalid.

Meanwhile, in evaluation of an implicit 'continuity model', which "implies marketing existed far back in time in much the same form in which it does today", he deems that it "is much closer to the known factual evidence about past marketing than the catastrophic model". However, he has continued to criticise the model on the grounds that it 'obscures' the difference between marketing practices in the past and those today.

Subsequently he has suggested an alternative 'complex flux model', in which he postulated "modern marketing's evolution as a complicated and fluid process involving simultaneous dramatic change, incremental change, and continuity".

It is notable that the implicit concept of 'marketing' Fullerton used to discuss marketing evolution has been broad: (i) any activities that are associated with selling products, such as 'distributive institutions' ('retail shops', 'advertising', 'wholesale trade', 'the supermarket' and 'the discount house') and personal selling ('travelling salespeople') and (ii) the key elements of modern 'marketing' such as market segmentation, market research and customer satisfaction.

Classifying Criterion of Marketing Evolution

Although the 'Production-Sales-Marketing Era' model has been assumed and widely accepted in marketing literature and education, the problem inherent in it has been that few people have considered the underlying

benchmark for the periodisation. The essence of the challenge is, in fact, addressing this issue.

'Marketing', in a broad definition, can trace its roots to even earlier time than Fullerton's proposal; for instance, at the beginning of the civilisation, when a division of labour was looming (McCarthy 1964, pp. 6-10; Thorelli 1983). However, the conceptual based periodisation of 'modern' marketing evolution has implicitly dated its inception from the Industrial Revolution (Stanton 1971, p. 10; Pride and Ferrell 1987, pp. 16-17; Thorelli 1983) .

"... many an author has viewed marketing as a child of industrialization. The very essence of the industrial revolution was mass production based on mechanization, economies of scale and specialization. But what has been produced must be sold. Mass production required mass distribution, and mass distribution required mass communication. Thus was born 'modern' marketing."

(Thorelli 1983)

Although it is difficult, if not impossible, to justify the accuracy of the Keith's (1960) periodisation of 'The Production Era', the existence of 'A Production Period' can be justified. Thorelli (1983) labelled this period as 'Producer-Oriented Marketing', "stereotyped by the phrase, 'we sell what we make'". He also suggested the reasons for the existence of the period, which have not, however, emphasised the impact of the market effect. Other academics have indeed mentioned the

market effect. (Pride and Ferrell 1987, pp. 16-17; Kotler 1988, p. 13). The factor seems too obvious to argue at length. In addition, this orientation has been considered as still predominant in both "the less developed countries and in command economies" (Thorelli 1983).

Fullerton has noticed the dissimilarity between marketing in the past and that of today, with the focus mainly on the physical promotional methods such as advertising methods and distributive institutions, and advertising strategies and impact. Little attention has been paid to the conceptual difference, which is at the core of the model of marketing evolution (See Kotler 1980, pp. 26-35; Stanton 1971, pp. 10-17; Pride and Ferrell 1987, pp. 16-17). The concept of 'marketing' in the 'Marketing Era' is no longer broadly defined, and it contains the essence of marketing orientation. Conversely, most of the evidence that Fullerton presented seemed to suggest the existence of the 'Sales Era'.

It is quite appropriate for Fullerton to assume that a model of marketing evolution should allow for dramatic change, and be "based on and linked to past phenomena". Despite his noting the differences in physical marketing techniques between the past and today, both the nature of conceptual disparity and 'quantity' of the change seem to have been ignored.

Apparently, Fullerton's definition of the 'catastrophic' assumption is the foundation of his argument. However, in his analysis he has made no attempt to justify such an important assumption, which appears questionable. Although few academics have considered the underlying

assumption of the model, there has hardly been any indication that they would accept Fullerton's definition of the assumption.

As a longitudinal time based model, the inherent business concepts and behaviour are related to the macro-environment. Named as the 'Production Era', for instance, the periodisation is undertaken from the perspective of the whole economy, in which production-orientated behaviour is predominant. It does not exclude the fact that in the period there exist sales- or customer-orientated behaviour because of the micro-environment. As a matter of fact, the historical evidence that Fullerton presented for his argument has obliquely reflected this point. As he wrote: "Certainly not all producers were or became active marketers; perhaps even a numerical majority did not".

Changes in macro-environment start from those in micro-environments, which are the catalysts of business conceptual and behavioural changes. The formation of the Sales or Marketing Era is evolutionary, and has its roots in the previous Production Era, as Fullerton agrees.

At the beginning, the number of sales or marketing orientated enterprises is insignificant. As macro-environment further evolves with the changes in micro-environments, the enterprises with sales or marketing orientation increase gradually, and finally outnumber the production-orientated enterprises.

"Although the shift of the American economy from predominantly agricultural to predominantly industrial has been amply documented, a second and almost as vital a shift, carrying with it equally far-reaching social, political, and economic consequences, escaped notice until it was well under way. The shift was so gradual, in fact, that only close students of employment and the shifting employment pattern detected it."

(Lazo and Corbin 1961, p. 5)

At the same time, the 'quality' of the sales or marketing behaviour also evolves in the light of the research or marketing techniques and organisation of marketing activities, and their concepts may become, implicitly or explicitly, well-established. As Fullerton cited it (Hollander 1986):

"Among business, serious marketing activities have been long underway; big change in recent decades has been that these activities have become organized formally into marketing departments in firms on both sides of the Atlantic. The marketing concept has become a formally articulated firm goal, whereas earlier it had been practiced more than we realize but not articulated."

The widely accepted assumption that the Marketing Era began from about the 1950s in America (See Pride and Ferrell 1987, p. 17; and Lazo and Corbin 1961, pp. 5-7) by no means suggests an exclusion of the existence of production-orientated enterprises in the Era. Conversely,

there have been substantial criticisms concerning the insufficient number of marketing orientated enterprises in America and the UK (Chapter 2). However, on the whole, their proportion in the 'Marketing Era' is still greatest, which is the essential characteristic of the periodisation.

An examination of both UK and Chinese sample data may provide an insight into the argument pertaining to the assumption. As indicated in Chapter 5, in the UK sample the preponderance of the enterprises (36%) were marketing orientated, compared with the percentage of each of the other orientations. Undoubtedly the stage of modern marketing evolution in the UK economy can be labelled as the 'Marketing Era'.

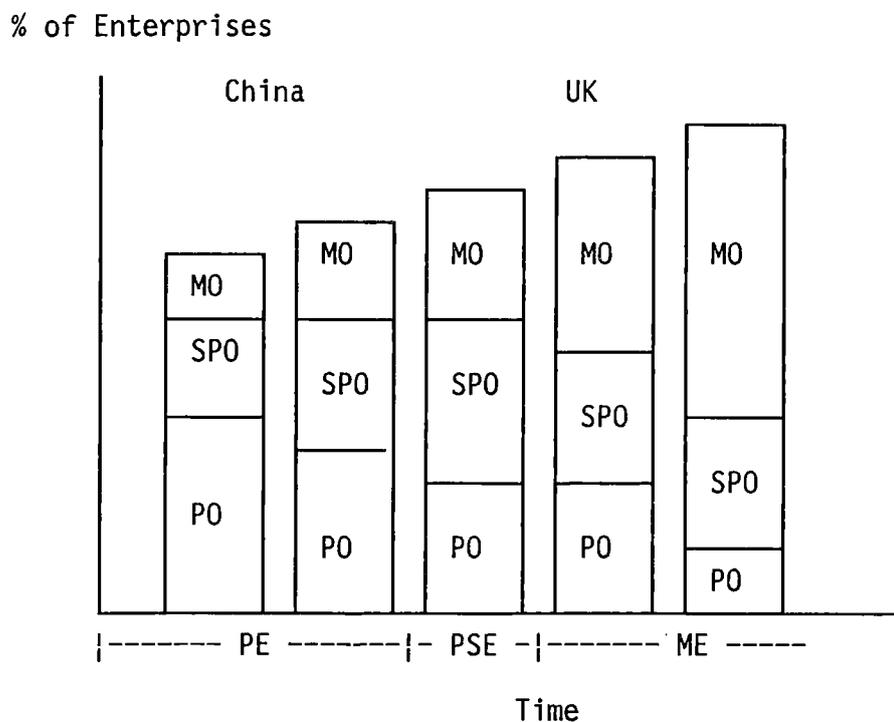
In the Chinese sample, the production orientated enterprises were predominant (38%), in comparison with each of the other orientations. However, fairly similar to Fullerton's argument, 66% of the enterprises exploited advertising, and 15% of them were marketing orientated. Many of them applied fairly analogous techniques of market research to those used by Western companies, such as the survey approach and interviews. Furthermore, many enterprises successfully formulated and implemented marketing strategies, considerably comparable to those in Western companies.

Both history and logic seem to indicate that customer-orientated behaviour was first adopted by a few companies, which gradually initiated and induced more and more companies to follow suit. The examples of the companies recognised as having first adopted many aspects of the marketing concept are American Tobacco, Diamond Match,

Quaker Oats, Washburn-Crosby, Borden, Proctor & Gamble, Swift and Armour, John Deere, and General Electric (Chandler 1977, pp. 287-314, quoted by Hollander 1986).

The 'Production-Sales-Marketing Era' model of modern marketing development may be depicted by Figure 6.3:

FIGURE 6.3 A Model of Marketing Evolution



Where: PO: Production-Orientated Behaviour;
 SPO: Sales and/or Product-Orientated Behaviour;
 MO: Marketing-Orientated Behaviour;
 PE: The Production Era;
 PSE: The Product or Sales Era;
 ME: The Marketing Era.

APPENDIX A4 RESULTS AND DISCUSSION OF INTERVIEWS

In this section, the results of the interviews, which attempted to look into the issues of 'why' and 'how', as a supplement to the survey issues of 'what', 'how much', and 'how many' in the research model, are discussed.

In-Depth Interview in Sweden

The theme of the interview concentrated on (1) how corporate control influences the behaviour of business units; (2) why the company shifted its orientation from product to marketing; (3) how the company undertook the transformation; and (4) what major barriers were encountered.

Corporate Control and Marketing Orientation

The manager recognised the importance of customer orientation for the company, particularly because the company markets were severely competitive. Having agreed to the general classification of the direct and indirect control effects, he considered direct control as a serious obstacle to customer orientation:

"Markets are changing so fast that in order to bring the right products to the market before they become old-fashioned, development speed is a key issue. Direct control always slows you down."

"Simply, information channels and market understanding are too slow to follow market fluctuations because of the distance from customers to international upper management."

These perspectives are in agreement with those claimed by Wiechmann (1974) (Chapter 2).

A successful business unit is likely to undergo less corporate control, and tends to be more motivated to develop its business. On the other hand, an unsuccessful business unit may arouse greater attention, or control actions from the corporate headquarters.

"If a site, like ours, is successful year after year and if the application still is in the strategic area of the international business unit, the applicant is usually boosted by the fact that he has done the most intelligent analysis of his activity's situation. This is because he is the one who understands the business and because it is in his interest to make the activity grow."

"If, on the contrary, a supply centre in a country is less successful for some time, upper management might take a closer look to find out if the activity is strategic and should be kept alive in spite of losses or if the activity should be lowered or closed."

He expressed two points related to corporate-cultural influence: (1) customer orientation is one of the ingredients in a culture; above all, the cultural influence consists in stimulating people's motivations so that they take the initiative in their work; (2) in order to implement a congruent culture in the company, management should be relatively stable.

"One important condition to implement a good company culture successfully is not to change people in key positions too often; my personal opinion is that a senior director should stay in position more than four years (but perhaps less than ten). And virtually no price can be too high to find the right candidate for this job."

"Sometimes we fail in this area; it is tempting to give/accept promotion to/by a good fellow when he appears to be a skilled person. Never forget that decisions at senior management level (even if excellent and accepted) often take several years to give payoff."

Orientation Transformation and the Market Effect

The change from product orientation to customer orientation was a result of an increase in international competition, itself due to the great improvement in 'communication channels'.

However, he also mentioned that not only does the market effect drive customer orientation, but also the low market effect may make product or production orientation in a company sustainable:

"... (unless you can ride on strong patents, cultural or political barriers etc) Swedes will no longer be satisfied with Swedish radios. So many competitors are willing supply a lower cost product, or a product that can be supplied in red-, green-, and white colours and with other options."

"If you don't listen extremely carefully to what the customer wishes and immediately develop a product which suit both him and your own situation of course, the customer is lost."

A further concern with the product-orientated approach was the perspective on customer benefits:

"Another danger of being too product orientated is that the products will get a lot of features that might not give any real benefits to the customer (development engineers would be more than happy to develop all sorts of specials, especially if they have invented them themselves). You then get extra cost that the customer doesn't want to pay for and losses are a fact."

Implementation of Customer Orientation

He indicated an important negative influence on marketing orientation: "having considerable more research in a company than the competitors have". He explained:

"This will lead to advanced products that might come out on the market before it is developed. An example is the video story where we were the big innovators, but the Japanese took the market with another, simpler, system (VHS)."

"Although we developed the technically best video recording system, recorders were not used as expected. A video recorder is mainly used to play-back, not to make recordings. People don't use them for recording TV programs, they use them for looking at rented movie tapes."

Finally, he viewed the establishment of 'efficient market channels' as essential for the implementation of customer orientation in that the channels help the company understand market needs and develop the right product for the market.

In-Depth Interview in China

This interview considered the impact of the control and market effect on enterprise behaviour not only in the light of government policy but also from the standpoints of management and organisation in the enterprise.

The Control Effect and Business Concept

The changes in business concept and behaviour resulting from decentralisation had been clearly reflected in the establishment and operation of the company. The enterprise itself developed as a result of government policy relating to decentralisation.

A distinct characteristic in the high-technology industry was the low control effect in the industry, which had made possible the rapid growth of enterprises and marketing initiative in the industry. Apart from the general government policy, the technological attributes of the industry may also explain the low control effect, even though the company has been officially subject to the control of governmental bodies.

The Market Effect and Business Strategy

In China demand for high-technology is, to some extent, limited, in spite of the trend towards the growth of the market. Meanwhile the number of enterprises in the industry has grown rapidly. Therefore,

the conditions of both low control effect and intensive competition have given rise to the high market effect in the industry.

Another principal feature of the industry which differed substantially from other industries is that it was less constrained by the availability of raw materials, since major components are mainly imported. Thus, there was no marked influence of the asymmetrical market effect in the industry.

Therefore, the business strategies in the industry appeared parallel to those in Western companies. The company was marketing orientated, profit-directed, and innovative. It had set up a 'marketing department' and capitalised on public relation and advertising. It had also formulated corporate plans and a business strategy with a focus on competitors. Finally, it attached importance to human resources and ran employees' training programs.

The concept of a 'differential strategy' seemed to be developed. For instance, the director expressed the view that: "every company has its own image and management style".

Management Style

The company took the initiative in motivating its employees. For instance, it experimented with the 'share system', attempting to link the corporation performance to personal benefits.

One of the basic principles in strategic management is that as business environment changes, a company's strategy ought to change, adapting to the environment. This principle seemed to be followed in the company. For instance, with the change in governmental monetary policy, the domestic market became to shrink, and the company made a timely shift in its focus from the domestic market to the international market.

This company developed 30 'subsidiaries'. Generally, the association between the 'parent company' and 'subsidiaries' were linked by either technology or products rather than by finance. The 'subsidiaries' rely on the 'parent company' to provide them with technology or products, while the 'parent company' capitalises on the 'subsidiaries' to expand the market. The director identified that one of the objectives is "to establish a nation-wide sales network and increase the company's market share".

A participatory decision making style was adopted in the company. All the managers and employees participate in discussion of company policy, and hence company decisions were well communicated to the staff, creating a sound basis of implementation. This style is very parallel to those of Japanese companies (Kassem 1974).

CHAPTER 7: CONCLUSIONS

7.1 INTRODUCTION

This study examines reported business behaviour as well as its influences and consequences in Britain and China, with a focus on the applicability of marketing in China. Britain is a country where the market system is well developed, and marketing is better understood and practised. In China markets and market-related behaviour have been a recent phenomenon, and enterprises have recently been awakening to the concepts of marketing. A contrast of business behaviour and environment made between the two countries from a historical viewpoint is helpful in understanding some fundamental issues in the development of marketing in Western companies.

This chapter summarises the theoretical development in the study and draws conclusions from the research results. In addition, it addresses the methodological limitations, and the theoretical and practical implications of the research. Finally, a prospective research project derived from this is proposed.

7.2 DEVELOPMENT OF RESEARCH MODEL

Since its crystallisation in the 1950s, 'the marketing concept' has been repeatedly advocated, challenged, defended, and re-espoused.

The review of the literature has revealed that, despite extensive research, a number of fundamental issues regarding the marketing concept in terms of theory and empirical evidence have remained unexplored. This study investigates such issues as: why a company should be marketing orientated; what are the negative and positive influences on marketing orientation; and what are the consequences of adopting marketing orientation.

The study defined the position of competitors within the conceptual framework of the marketing concept and reiterated that innovation is an inherent part of marketing orientation.

The research model identified the following relationships:

1). The market effect impels marketing behaviour. Generally, the greater the incremental changes in the market effect, the greater the impact of the market effect on marketing behaviour.

The economic effect of marketing orientation is in essence to make the company more viable and profitable through the creation of a quasi-monopoly in a market segment or niche.

2). The direct control effect either from government or corporate centres impedes marketing behaviour, and the indirect control effect can have either a negative or positive effect on marketing behaviour.

3). Adoption of marketing orientation leads to an increase in operating costs in the enterprise. In a competitive environment, the incremental costs are often a necessity, and will usually be compensated and rewarded.

However, when competition is insignificant for various reasons, marketing orientation is no longer commercially rational, because of these various costs.

4). The impact of increased operating costs stimulates market-domesticated behaviour, which consequently reduces the market effect.

5). Other things being equal, the company with a marketing orientation tends to have better performance.

6). There are a number of factors constraining marketing behaviour such as management capability, resources, the nature of technology and industry, corporate culture, national culture, and key individuals' backgrounds.

7.3. EMPIRICAL CONCLUSIONS

A number of core propositions were tested based on self-reported measurements. The statistical procedures of principal component, multiple regression, and discriminant analyses were used, supplemented by t-test and analysis of variance.

Propositions HA and HB, describing marketing behaviour, were confirmed in both samples¹:

Proposition HA: a marketing orientated enterprise exhibits marketing initiative by placing more emphasis on marketing research, formulation of marketing plans, coordination of business activities, and analysis of marketing costs.

Proposition HB: a marketing orientated enterprise is more innovative in terms of new product development and product improvement.

Discriminant analysis further demonstrated that in both samples new product development is a key factor distinguishing between reported marketing and non-marketing orientation.

Therefore, it is suggested that the practice of marketing orientation is the development of new products with market focus and customer orientation. Integrated marketing efforts, pursuit of marketing

¹ The following conclusions are drawn from Chapter 6, unless otherwise indicated.

research, marketing planning, and (marketing) cost analysis are the major marketing activities involved in the practice of marketing orientation.

Proposition HC states that a marketing orientated enterprise tends to have better financial performance provided other conditions are held constant. It was partially supported in the UK sample with profit growth having a small positive correlation, and rejected in the Chinese sample.

The weak connection between marketing orientation and profitability in the UK reflects the nature of the complex issue concerning the diverse influences on profitability. It also suggests the adoption of marketing orientation per se may not guarantee better financial performance, and the quality of marketing orientation² is a major consideration for success. The rejection in China mirrors the nature of an economy still strongly influenced by the control effect, indicating that other factors than marketing behaviour largely affect performance.

Proposition HE is at the core of the research model, positing that the direct control effect either from government or corporate centres impedes marketing orientation. The Chinese sample supported this proposition; in the UK sample, only production control showed a small

² The quality of marketing orientation is defined as the degree to which a firm successfully differentiates itself from its competitors and develops the values matching customer needs and wants.

negative effect on marketing behaviour, suggesting a partial confirmation.

Among major direct functional controls, production control appeared to be most influential in the UK, whilst in China price control was dominant (Chapter 5). It was demonstrated in the study that major differences between corporate control in the UK and governmental control in China were:

(1) Direct and indirect. All functional controls exercised by government in China were significantly stricter than those by corporate centres in the UK, but corporate indirect control in the UK appeared strong (Chapter 5).

(2) Motivation. Corporate control (production planning and corporate influence) was positively associated with the market effect in the UK; in contrast, governmental control was negatively related to the market effect.

The result in the UK suggests that corporate control buffers to some extent the competitive impact by internalising some of the business transactions of its business units³. In an industry or market with intensive competition, the corporate centre may schedule a proportion of products of the business unit for internal transactions so that the pressures may be somewhat reduced. However, the degree of planning or

³ Also corporate control is often justified as pursuit of a global business strategy and reduction of transaction costs, although this research does not show such supportive evidence.

influence would usually not be high enough to reduce the market impact significantly⁴.

Governmental control in China is primarily motivated by the ideology and adverse economic situation in the earlier days, and subsequently crystalised and solidified by various interested parties involved in the control system. Apparently, reduction of governmental control leads to an increase in the market effect⁵.

In this study there was a certain level of governmental control (stronger than corporate direct controls) in the UK; however, the result did not suggest any effect on marketing behaviour.

Another central proposition in the research model is proposition HD: the market effect impels marketing orientation. In China it is supported; in the UK it is rejected. However, in the UK the variable of declining markets is positively correlated with marketing orientation. Such a market context may be seen as a particular case of the high market effect, indirectly confirming proposition HD. This result mainly reflects a more complicated market setting in the UK.

4 It has also been argued that corporate control may result in an increase in the market effect in the business unit. In general, the effect of corporate control on a particular business unit tends to shift the unit's focus away from its market because of the nature of control, as explained in Chapter 2.

5 Moreover, economic criteria dominate in consideration of exercising corporate control, whilst in governmental control, as it is well-known, political factors often have priorities. Nevertheless, this study does not present evidence to support this.

A contrast of the impact of markets on enterprise perceptions of competition demonstrated that the 'sensitivity' of the market effect in China was greater than that in the UK. That is, given the same level of supply in product markets, Chinese enterprises perceived a relatively stronger market effect. Nevertheless, the perceived absolute level of the market effect in China was much lower than that in the UK (Chapter 5), conforming with the analysis in section 2.2.6 of Chapter 2.

The disparity may be because of the different stages of market evolution between the two countries. At the early stage of 'market evolution', Chinese enterprises are less well prepared for the market mechanism. Hence, despite shortages in product markets, they tend to overreact to markets. In other words, if the development of 'marketing behaviour' is seen as a distance race, Chinese enterprises are still at the starting point, while UK companies have run ahead for a great distance. Therefore, their behaviour may differ greatly.

In contrast, UK companies have long been exposed to competitive environment, and thus their behaviour may largely be shaped by company business strategies being constrained by various internal and external conditions. It seems that those companies with a higher marketing orientation perceive a relatively lower market effect since they are more aware of where they stand in the market and where they should go in the near future. Alternatively, many UK firms appeared to remain practising (traditional) production orientation because of various constraints and thus failed to make timely response to dramatic market

changes which have occurred in the last decade. Hence, they ended up perceiving greater market pressures.

It should be stressed that the proposition concerning the positive relationship between the market effect and marketing behaviour has also been developed by looking into the practice of marketing orientation in America of earlier days. A common thread between this and the exercise of marketing in China is a rapid increase in the market effect.

In the UK, the percentage of firms with marketing orientation was only about 36%. Moreover, the second highest percentage was production-orientated⁶. A large proportion of companies claimed that they had little time to effect the policy of marketing orientation (Chapter 5).

It is suggested that there is a 'orientation cycle' among many UK companies. A key parameter in such a cycle would be the interval between the previous successful new product and next successful new product (t). In general, production or sales orientated enterprises have a long t , while marketing orientated enterprises manifest a short t .

After a company successfully establishes its position in a market through the exercise of marketing orientation or other means, the

⁶ Doyle (1987) found that 50% of UK companies were marketing orientated, and 10% production orientated. The somewhat higher percentage of companies with marketing orientation and lower percentage with production orientation may be because his sample only consisted of large and 'matured' leading companies from Times 1000.

pursuit of the strategies of market penetration and/or development⁷ is a logical extension to achieve long-term profits. In particular, when a quasi-monopoly situation is created, these strategies are quite appropriate.

When the product (line) gradually reaches the mature or declining stage in its life cycle, the company is normally driven to focus back on introducing new products with customer orientation.

The results indicate that insufficient new product development contributed a great deal to low marketing orientation in UK companies. It seems that many companies move back to marketing orientation too slowly, and stay out of marketing orientation for longer than their competitors, as indicated by the high proportion of companies with their major products in declining markets in the UK⁸.

In China production orientation appeared still dominant, and the number of enterprises reporting a 'marketing orientation' was only 15%, particularly considering that the sample was biased towards enterprises in the more developed regions. However, the total of non-production orientated enterprises was considerable. A significant number of enterprises were engaged in advertising, contract-based (rather than ownership-based) integration, and marketing research.

⁷ From a long-term viewpoint, they are corresponding to business orientations (See Table 7.2).

⁸ Henceforward, the conclusions are drawn based on Chapter 5, unless otherwise indicated.

Marketing knowledgeability had a significant positive effect on the practice of marketing orientation.

The relatively high market effect in China contrasts with supply shortages, and hence the impact may weaken unless the market system is further developed, and the supply situation improves.

In China enterprise size was positively correlated with the control effect and negatively with the market effect. In the UK, there was no significant difference in the perceived market effect among these three types of enterprises; medium-sized enterprises experience least corporate control, and large enterprises were subject to strictest corporate control.

In the UK, large and medium-sized enterprises were more marketing orientated than small enterprises. In China medium-sized enterprises were most marketing orientated of the three types of enterprises. There were fewer differences in marketing-related activities between large and small enterprises, but large enterprises did show better financial performance.

The relationships among performance, scale, and marketing behaviour demonstrate a positive influence of marketing behaviour on performance. The central problem in the previous test is that in the measurement of performance, 'other conditions' such as scale and technological resources, which have a strong effect on performance, are less controllable. It is suggested that in many instances

marketing orientation is simply to maintain, rather than to achieve better, financial and market performance.

It appears that lower marketing knowledgeability of small Chinese enterprises is partially responsible for their low marketing orientation and poor performance. Other sources of weakness may be management competence, and both financial and technological resources. These explanations may also apply to the results for UK small enterprises.

In enterprises of both countries, supplies in output markets appear to exceed those in input markets, suggesting the asymmetrical market structure in both countries. However, the degree of the asymmetry in China is substantially more severe than that in the UK.

Consumer goods enterprises in China faced less control and more market pressures than industrial goods enterprises, but showed no difference in behaviour. This is, possibly, because consumer goods enterprises in general tend to be smaller than those in industrial goods.

In the UK, the perceptions of business environment between consumer and industrial goods enterprises did not differ, but consumer goods enterprises launched more new products, formulated more detailed marketing plans, and showed better financial performance. It seems, therefore, that the general problem of inadequate product development in UK companies is substantially biased towards industrial goods industries.

The majority of UK multi-business companies were subject to corporate investment control. However, the weight of corporate influence over investment projects appeared far less than that of the business units. The study indicated that in China investment decisions are jointly made by enterprises and government, with the weight of each being subject to individual projects.

The majority of Chinese managing directors of enterprise had 'engineering' and 'manufacturing' backgrounds, which could discourage the practice of marketing in China. In the UK, the low marketing orientation coincided with the high percentage of managing directors and chairman of the board directors with non-marketing backgrounds. In particular, the 'manufacturing' background of managing directors was significantly correlated with production orientation.

It was shown that there were significant differences in the market and control effect among the regions in China due to the varying processes of reform and different levels of economic development.

In China price control was so prevalent to the extent that there was no difference in the level of control between state-owned and non-state-owned enterprises. All other functional controls in state-owned enterprises were stronger than those in non-state-owned enterprises.

All non-state-owned enterprises were more innovative than state-owned enterprises in terms of product development and improvement. However, managing directors of state-owned enterprises were demonstrated to have better understanding of marketing (implying better

qualifications) than those in VTCEs and JEs. UCEs were more marketing orientated with concomitant better financial performance, compared with state-owned enterprises.

In China a certain proportion of enterprises were authorised to deal with businesses internationally. Within state-owned industries, the authorised enterprises appeared to be substantially more responsive to markets than the unauthorised enterprises. However, it was revealed that they still experienced relatively strong governmental control, and suffered from the lack of international business information.

7.4 PRACTICAL IMPLICATIONS

It is suggested that the pursuit of marketing orientation in a competitive environment can be important⁹. There seem to be particular problems in UK small companies, which remain ignorant of the benefit of more effective marketing orientation.

Marketing orientation comprises two interacting components: marketing initiative and innovation. Active pursuit of one without the other is ineffective. It appears that industrial goods companies in the UK need to develop new products on a more rapid cycle.

⁹ It is worth reiterating that in many instances the pursuit of marketing orientation is simply to maintain, rather than to achieve better, market and financial performance.

A key parameter in business decisions is the choice of the timing to launch a new product, which defines the interval between the previous successful new product and next new product (t). A long t is risky, whereas a small t incurs unnecessary costs, with competitors being the point of reference.

However, the low market effect can often be caused by various factors such as internalisation, long-term agreements, patent protection, and regulation. In such instances, other orientations rather than marketing may be appropriate and sustainable. When the market effect evolves, the timing of orientation transformation is essential. "Being too far ahead of your time can have just as serious commercial consequences as being far too late" (McIver and Naylor 1980).

In the UK the tendency for corporate direct control to exert a negative influence on marketing orientation implies the need for a wider business perspective. This requires consideration of the relative effect of centralisation or decentralisation. Seemingly there is a trade-off between the pursuit of a global strategy and the marketing orientation of the business units from a viewpoint of corporate centres.

In the Chinese sample, there is a clear indication of the impact of marketing knowledge on the exercise of marketing orientation. Given the low extent of marketing orientation and poor financial performance in small enterprises of both countries, promotion of business education appears important in both countries. Furthermore, since there is a high proportion of managing directors with non-marketing

backgrounds in both countries, business education may help to limit the effect of a narrow business perspective resulting from their specialties.

Considering the substantial markets and supply shortages in China, production and sales orientations can often be sufficient for an enterprise to develop. With the general inadequacy of product quality an enterprise can often secure a competitive edge by improving product quality, which can be seen as a special case of marketing orientation.

However, marketing orientation becomes more important for the enterprises whose markets are becoming increasingly competitive, including small state-owned and non-state-owned enterprises and those which involve international businesses.

The past lessons of success and failure in Western companies should be carefully studied by Chinese enterprises which are exposed to a similar environment. As Buzzell (1968) has suggested in an analogous case:

"If products are in different stages of their life cycles in different countries, then it is tempting to conclude that marketing strategies used in the past in the more 'advanced' countries should be used in other 'follower' nations. There is some evidence to support this conclusion."

Nevertheless, the market 'evolution' in China has undergone a different route from that in the West. In many industries and markets,

as indicated previously, the business environments are fairly comparable between China and Western countries. Hence, recent marketing and managerial principles and techniques in the West can be also useful and applicable.

7.5 RESEARCH IMPLICATIONS

A number of Western academics have pursued theoretical and interview-based studies on marketing in China since the economic reform. However, hitherto little survey research has been undertaken concerning marketing-related activities in China.

As such, this study may have some historic significance in that it may be the only one that has examined nationally business behaviour, influences, and attitudes of Chinese enterprises from the perspectives of 'traditional' Western marketing during the period of the reform. Furthermore, it seems unlikely that similar research will be undertaken in China in the near future, because of the difficulties of access to Chinese enterprises.

The problem of conducting research in China was expressed by Professor Hans B. Thorelli at Indiana University who has considerable experience regarding the research issues in China (private correspondence):

"Having done field research on Chinese consumers, I am aware of the difficulty of getting access. A number of later invitations to go to the PRC I have been forced to turn down, as they would never make a firm commitment to permit research opportunities."

Having categorised enterprises in China, the research has analysed enterprise behaviour of each type and the problems. In view of the lack of the systematic research on Chinese market-related behaviour, this study has laid the foundation for future research in the relevant field.

The study is also one of the few that have investigated the roles of the market effect, governmental regulation and corporate centres in relation to marketing behaviour in the West.

The confirmation of the positive relationship between marketing behaviour and the market effect in China indicates that Chinese enterprises have become responsive to markets as a result of the economic reform. The nature of the embryonic stage of 'marketing behaviour' in China can help to understand the adoption of marketing orientation in the West in earlier days.

7.6 METHODOLOGICAL LIMITATIONS

The research project involved a comparison of marketing between the UK and China, with a postal survey being chosen as the major data-

collection method. The time limitation of the research and the time-consuming nature of the Chinese field work require a focus on key issues which are mainly associated with the context of China.

As such, only those propositions in the model which are related to China have been closely investigated. Nevertheless other issues covered in the model are also important and likely to produce significant results in Western market economies. For instance, in the research only the direct control effect is included for the sake of comparison. However, the impact of indirect corporate control is obviously a significant factor shaping company behaviour in Western countries.

In the study self-report measurements are used to identify relationships between behaviour and environment proposed in the research. In general, two criteria can be used to assess whether a measurement is good or not: reliability and validity (Hughes 1974, p. 3-37).

"Reliability is the property of producing consistent results when certain research methods are repeated" (Luck and Rubin 1987, p. 147). Presumably, repeating similar research is extremely difficult, if it is not impossible, as mentioned above. However, the appearance of similar structural patterns in principal component analysis between two samples demonstrates somewhat indirectly the reliability of measurements.

Validity is the property reflecting 'accuracy' of a measurement: "An instrument is valid when it measures what is supposed to measure" (Hughes 1974, p. 3-37). In the situation of attitude measurement, "since attitudes are elusive, attitude-scale validation is difficult" (ibid). Hence, the issue of validity in the study needs to be further discussed.

There are two sources of measurement problems: respondent-associated errors and instrument-associated errors (Luck and Rubin 1987, pp. 148-149). Since the questionnaires used in both the UK and China have been carefully tested, the instrument-associated errors may be limited.

In general, there are three situations where respondent-associated errors may occur:

1. Respondents may have insufficient knowledge of the question. This may happen particularly in the Chinese questionnaire because a number of respondents were neither managing/vice-managing directors nor sales managers. However, these non-managing-director respondents had certain responsibilities such as being in charge of engineering/technology, accounting and finance, and thus supposedly were, more or less, knowledgeable about their enterprises. Therefore, the problem may not be severe. In addition, in several cases, the responses to the questionnaire has involved a number of functional departments such as planning and sales/supply departments, which held the necessary information.

2. "Respondents may understand the question, may wish to answer, but may not remember the necessary information" (Luck and Rubin 1987, pp. 148-149). The problem did not appear significant in the study in that the completion rate in the UK sample was 97.5-100% (average=99.8%) and in the Chinese sample was 92.5-100% (average=97.1%). These satisfactory completion rates reflect the care taken in survey design, question wording and pre-testing. Moreover, as they dealt with fundamental strategic and operating matters, the knowledge required to respond adequately would be possessed by the key respondents (CEOs and marketing directors). When this knowledge was not immediately available, the survey was forwarded to those possessing it - this was particularly true in the case of China.

3. "Respondents may understand the question, have the information, yet be reluctant to give it; sometimes personal information must be obtained and the tendency may be to refuse to answer" (Luck and Rubin 1987, pp. 148-149). A similar situation to this problem is that there is some concern over confidentiality in some UK sample companies, and a number of them refused to answer the questionnaire. Nevertheless, the questions in the study are mainly concerned with general business activities and environments, and confidentiality has been guaranteed. Therefore, the problem does not appear to affect the validity of measurements seriously.

There may be an additional problem in the measurement of marketing behaviour, which is particularly associated with this research.

In China, many people are inclined to overestimate what they visualise to be good. Additionally, 'market orientation' has been widely advocated by broadcasting media in China in the last few years. Therefore, the absolute measurement of marketing behaviour in the Chinese questionnaire might have been overestimated, to some degree. Measurement in the UK sample might also have been affected in a similar manner.

However, the potential effect has been taken into account by taking the following steps in the research: the absolute measurement has mainly been used to identify the relationships, and the quantity of behaviour was measured in relative measurement.

Generally, absolute measurement is more appropriate for the identification of relationships among research subjects, for it conceptually includes the whole score range of a scale. Meanwhile, the relationships may not be affected significantly by overestimation since the effect is proportional among the relevant research subjects. Relative measurement (a nominal scale) is less influenced by the effect of overestimation because of the nature of the measurement.

In the last few years, many Chinese enterprises have been very concerned about the economic reform and the weight given to their own opinions. This has been reflected by many letters attached to the returned questionnaires. Moreover, the questionnaire itself aroused a great interest of many Chinese respondents, and thus they have answered the questions willingly. This may be helpful in inspiring truthfulness in their responses.

Given the broad nature of the measures of marketing-related activities, it remains somewhat difficult to draw fine distinctions between Chinese and UK enterprises. For instance, many enterprises claimed to have undertaken research of 'distribution channel', 'advertising', and 'market share analysis'. However, how the research activities have been carried out and to what extent they have differed from those conducted in Western companies are unclear.

As demonstrated previously, the Chinese sample is biased towards developed regions. The market system in regions such as Northeast and East China is more developed, and managing directors in Northeast China are more knowledgeable about marketing.

7.7 RESEARCH EXTENSIONS

How long it will take for the market system to be further developed in China and what route the Chinese government will undertake is still a moot question. Thus it is pointless to proceed with an in-depth discussion of theoretical issues at this stage. The rest of this section will, therefore, mainly concentrate on potential research extensions within the domain of the UK or other Western countries.

About 83% of the UK sample companies claimed that their corporate policy reflected marketing orientation. Nevertheless, about 57% of them (about 46% of the total sample companies) considered that their implementation of marketing orientation had reached a high level.

Furthermore, only about 36% of the sample companies laid a dominant emphasis on marketing orientation, although 60% of the companies regarded marketing orientation as most suitable for their business development in the near future.

Since marketing orientation is desired, why have the companies not adopted it? How can the non-marketing orientated companies intending to become marketing-orientated achieve this? And how can the companies overcome the barriers to marketing orientation?

A research project further exploring the implementation of marketing orientation may cover the following derived questions:

(1) What are the major common constraints on marketing orientation? How do they inhibit the transformation of marketing orientation?

Theoretically a number of constraints to marketing orientation have been proposed by Stampf (1978, 1983). Nevertheless, research is needed to identify further and test the constraints empirically, and thus to construct a theory which may serve as a guideline for practical action.

For instance, 24% of the UK companies claimed that they had difficulty in coordination among different functional departments. Is it essential? To what extent is such obstacle influential? Is it true that Japanese companies have less problems in coordination because of their cultural traits?

(2) Are these constraints surmountable? If so, how? How can marketing orientation be effectively implemented? How many successful implementation strategies could be identified empirically and theoretically?

It has been found that most of the largest UK companies see 'marketing' as a set of functional activities which are separate from other functional ones (Witcher 1990). What are the main reasons? How does it affect the exercise of marketing orientation in the companies?

(3) What positive and negative effects can top management have on marketing orientation? How does corporate culture affect it? How can a favourable corporate culture be cultivated?

Corporate centres in UK companies have been shown in this study to exert a significant indirect influence on business units. Is the influence negative or positive on the adoption of marketing orientation? What type of managerial system is suitable for the exercise of marketing orientation?

(4) What measurements of marketing performance should be used for the development of marketing orientation? What are the inherent relationships between the different measurements?

Both UK and USA academics have asserted that the present performance-measurement system tends to foster the short-term profit drive, which encourages cost-cutting and risk-averse behaviour (Doyle 1987; Hayes and Abernathy 1980; Riesz 1980; Aaker 1989). To what extent is this

true? What measurements can be developed to encourage marketing orientation?

(5) How is new product development related to the process of marketing orientation? How is the time dimension of new product development linked to marketing orientation?

In many companies the practice of marketing orientation appears to be cyclical. The timing of new product introduction could be a crucial parameter. How is this related to business orientation and outcomes? Stalk and Hout (1990) have suggested that first or fast innovators tend to outperform competitors.

(6) What are the relationships between national culture and marketing behaviour? The social-cultural factors may affect companies' attitudes towards marketing and the spirit of innovation.

It has been recognised that since the later nineteenth century, the formation of new values has restrained "the cultural revolution of industrialism", which "lies at the heart of both the achievements and the failures of modern British history" (Wiener 1981, pp. 157-158). Insufficient management education in the UK, compared with that in Germany, America, and Japan (Moore 1986), is an indication of the limited cultural adaptability (Locke 1989).

Marketing orientation needs the coordination among different functional departments. The group-orientated Japanese culture may

help. In contrast, the individualism-based Western cultures may cause some difficulty, as a number of the UK companies claimed in the study.

There is some research pertaining to the relationships of national culture with management styles, organisation, and economic growth (See Hofstede and Bond 1988). Some of these measures may be borrowed to look into the issues in marketing.

(7) What are the relationships between marketing orientation and other orientations such as production and product? When is marketing production more appropriate and when are others?

The relationships between marketing orientation and other orientations have been left out unexplored, despite their fundamental nature, in the marketing discipline.

The current study has attempted to raise and clarify the questions of 'why' and 'when' a company should be marketing orientated. The proposed work could primarily explore how a company can identify and overcome the barriers to marketing orientation.

The research will be confined within a few industries to be selected based on distinctive technological characteristics. At the initial stage the case study method will be used to pre-test and construct the propositions along the dimensions addressed above. In-depth interviews will involve the managing director and the related functional departments such as personnel, marketing, engineering, and finance

within the firm. A semi-structured questionnaire will be used in the interviews.

A postal survey may be used later on to test the propositions to be developed from the case study. Considering that marketing orientation is one form of competitive behaviour, the survey will be conducted in a cross-culture setting, where the suitability of marketing orientation is better evaluated.

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APPENDIX B1: QUESTIONNAIRE USED IN CHINA

MARKETING QUESTIONNAIRE

1. In the following questions, please tick one proper answer for each question unless otherwise instructed, e.g ____.
2. Please circle one number for those questions which have code numbers.

I. GENERAL MANAGEMENT AND MARKETING

1.1a. Who is responsible for marketing in your enterprise?

- | | | | | |
|----------------------|-------|----------------------------|-------|-----|
| 1. None | _____ | 4. Deputy Manager/Director | _____ | [] |
| 2. Managing Director | _____ | 5. Other Manager/Director | _____ | |
| 3. Marketing Manager | _____ | 6. Others (Please specify) | _____ | |
-

b. How much influence does the above-mentioned person have on product improvement and new product development?

- No influence 1 2 3 4 5 Complete decision []

1.2a. The principal background of your managing director is:

- | | | | | |
|---------------------------|-------|-----------------------|-------|-----|
| 1. Engineering/Technology | _____ | 5. Sales and purchase | _____ | [] |
| 2. Manufacturing | _____ | 6. Personnel | _____ | |
| 3. Finance and accounting | _____ | 7. Statistics | _____ | |
| 4. Logistics | _____ | 8. General | _____ | |

b. Which of the following areas takes up most of the time of your managing director?

- | | | | | |
|---------------------------|-------|----------------------------|-------|-----|
| 1. Marketing and sales | _____ | 2. Purchasing | _____ | [] |
| 3. Finance and accounting | _____ | 4. Problems of employees | _____ | |
| 5. Manufacturing | _____ | 6. Public relations | _____ | |
| 7. Personnel | _____ | 8. Others (Please specify) | _____ | |
-
9. Not applicable _____

1.3a. To what extent does your company carry out marketing research?

- | | | | | | | |
|---|---|---|---|---|---|-----|
| We carry out hardly
any marketing research | | We carry out a very great
deal of marketing research | | | | |
| | 1 | 2 | 3 | 4 | 5 | [] |

b. Which of the following marketing research activities has your enterprise been engaged in: (Please tick as many as apply)

- | | | | |
|--------------------------|-----------|----------------------------|-----------|
| 1. Advertising | _____ [] | 6. Short-range forecasting | _____ [] |
| 2. Pricing | _____ [] | 7. Long-range forecasting | _____ [] |
| 3. Market share analysis | _____ [] | 8. New product acceptance | _____ [] |
| 4. Packaging | _____ [] | 9. Market potential | _____ [] |
| 5. Promotion | _____ [] | 10. Distribution channel | _____ [] |
| | | 11. Others (specify)_____ | [] |

c. To what extent do you carry out marketing research in advance of product improvement and new product development in the last 5 years?

Not at all 1 2 3 4 5 A very great deal []

d. In what ways does your enterprise carry out marketing research? (Please tick as many as apply)

- | | Yes | No | [] |
|---------------------------------|-------|-------|-----|
| 1. Using full-time employees | _____ | _____ | [] |
| 2. Using part-time employees | _____ | _____ | [] |
| 3. Using outsiders | _____ | _____ | [] |
| 4. Others (Please specify)_____ | | | [] |

1.4. The present corporate objectives of your enterprise are: (if more than one, please put the three most important ones in rank order)

- | | | | |
|---------------------------------|-------|---------------------------------------|-----------|
| a. Enlarge production capacity | _____ | b. Increase profits | _____ [] |
| c. Develop new products/markets | _____ | d. Reduce cost | _____ [] |
| e. Improve product quality | _____ | f. Increase turnover | _____ [] |
| g. Increase market share | _____ | h. Acquire new supplies | _____ |
| i. Upgrade enterprise | _____ | j. Develop long-term supply contracts | _____ |
| k. Others (Please specify) | _____ | | |

1.5a. Have you used advertising to promote your product in the last 3 years?

Yes _____ (Please answer b). No _____ (Please go to c) []

b. What media have you used for your advertising? (tick as many as possible).

- | | | | |
|---------------|-------|---------------------|-----------|
| A. Newspaper | _____ | E. Direct mail | _____ [] |
| B. Television | _____ | F. Outdoor | _____ [] |
| C. Radio | _____ | G. Others (Specify) | _____ [] |
| D. Magazines | _____ | | |

c. If you have not used advertising in the last 3 years, the reason is: (If more than one, please put in rank order)

- | | |
|--|-----------|
| a. Lack of funds | _____ [] |
| b. Products readily sold without advertising | _____ [] |
| c. Not cost effective | _____ |
| d. Others (Please specify)_____ | |

1.6. How important is personal selling to increase your turnover?

Not at all important 1 2 3 4 5 Very important []

1.7. In the past 3 years, what percentage of your products have been improved (Improved products/Total products)? (%)

10 or less 11-20 21-30 31-40 41-50 51-60 61-70 71-80 81-100
_____ _____ _____ _____ _____ _____ _____ _____ _____ []

1.8a. In the past 3 years, what percentage of new products (including failed new products in markets) has your enterprise developed (New products/Total products)?

10 or less 11-20 21-30 31-40 41-50 51-60 61-70 71-80 81-100
_____ _____ _____ _____ _____ _____ _____ _____ _____ []

b. How important do you think it is to develop new products for your enterprise?

Not at all important 1 2 3 4 5 Very important []

c. What problems do you find in developing new products? (If more than one, please put the three most important ones in rank order)

- a. Lack of funds _____ []
- b. Lack of R & D strength and conditions _____ []
- c. Lack of marketing research skills _____ []
- d. Lack of ideas _____
- e. Not enough enterprise benefits _____
- f. We don't need new products to increase our profits _____
- g. Too risky _____
- h. Others (Please specify) _____

1.9. In the past 3 years, what investment has your enterprise made?

Your enterprise has:

- 1. Not made any investment _____ []
- 2. Upgraded plant and equipment _____ []
- 3. Developed new products _____ []
- 4. Increased production capacity _____ []
- 5. Developed integration, merger, and acquisition _____ []
- 6. Others (Please specify) _____ []

1.10. Given funds, would you prefer to: (Please tick one)

- a. Upgrade plant and equipment _____ []
- b. Develop new product _____
- c. Increase production capacity _____
- d. Increase advertising budget _____
- e. Increase sales promotion budget _____
- f. Increase employee's welfare _____
- g. Others (Please specify) _____

(ii) Which one is more suitable for your company future development?

A B C D E []

1.13 To what extent do you identify your customers?

1. We clearly define particular customer needs and develop particular products for them. _____ []

2. We don't segment the market very effectively. _____

3. We don't distinguish market - we sell to everyone. _____

1.14a. What is the extent of formal marketing planning?

Not at all 1 2 3 4 5 Completely []

b. What principal contents does your marketing plan cover?
(Please tick as many as apply)

1. Sales volume goals	_____ []	2. Market share goals	_____ []
3. Profit goals	_____ []	4. Target market	_____ []
5. Product line	_____ []	6. Price	_____ []
7. Distribution channel	_____ []	8. Sales force	_____ []
9. Advertising	_____ []	10. Product service	_____ []
11. Action programs	_____ []	12. Controls	_____ []
13. Others (Please specify)	_____		[]

c. If you have a formal marketing plan, how effective do you think this plan is?

Not effective at all 1 2 3 4 5 Very effective []

1.15a. What effort does your enterprise make to measure the cost-effectiveness of marketing expenditures?

No effort at all 1 2 3 4 5 Substantial effort []

b. Compared with that in 1987, your marketing expenditure in 1988 has been:

1. Increased _____ 2. Decreased _____ []
3. Unchanged _____ 4. Unknown _____

1.16a. How many salesmen are there in your enterprise? _____

b. Compared with those in 1987, your salesmen have been:

1. Increased _____ 2. Decreased _____ []
3. Unchanged _____ 4. Unknown _____

1.17. Does your management receive current sales and market information?

Not at all 1 2 3 4 5 Highly current []

c. How easy is it for your enterprise to buy your major raw material? Very easy Extremely difficult
 1 2 3 4 5 []

III. CONTROL EFFECT

3.1. To what degree are you influenced by government in running your business? No influence Major influence
 1 2 3 4 5 []

3.2. To what extent is your production controlled by compulsory plan? No control at all Completely controlled
 1 2 3 4 5 []

3.4. To what extent is your major supply controlled by compulsory plan? No control at all Completely controlled
 1 2 3 4 5 []

3.6. To what extent is your sales controlled by compulsory plan? No control at all Completely controlled
 1 2 3 4 5 []

3.7. What percentage of your major product was sold by your enterprise in 1988: (%)
 5 or less 6-20 21-50 51-80 81-100
 _____ []

3.8. The products which will be sold by your enterprise tend to be:
 1. Decreasing _____ 3. Increasing _____ []
 2. Unchanged _____ 4. Unknown _____

3.9. To what extent are there pricing control for your major product?

(i). In terms of the number proportion of physical goods (Number of product controlled/Total product) %

10 or less 11-20 21-30 31-40 41-50 51-60 61-70 71-80 81-100
 _____ []

(ii). In terms of the sales proportion of the product (Sales of product controlled/Total sales of product) %

10 or less 11-20 21-30 31-40 41-50 51-60 61-70 71-80 81-100
 _____ []

3.10. The price set by the State for your major product is: Very low Very high
 1 2 3 4 5 []

3.11. Compared with that in 1987, the range of State pricing in 1988 were:

Fixed price Guiding price
 1. Reduced _____ [] _____ []
 2. Unchanged _____ _____
 3. Increased _____ _____

3.12. The proportion of State pricing in future tends to be:

	Fixed price	[]	Guiding price	[]
1. Decreasing	_____		_____	
2. Unchanged	_____		_____	
3. Increasing	_____		_____	
4. Unknown	_____		_____	

3.13a. Is there a budget level above which your investment decision have to be made by higher organization?

Yes. (Please answer following questions) _____ []
 No. (Please go to question 3.14) _____

b. Below the budget investment level, to what degree is your investment decision influenced by government?

No influence	Complete control	
1 2 3	4 5	[]

c. Above budget investment level, to what degree do you have an influence on investment decision?

No influence	Complete control	
1 2 3	4 5	[]

3.14. To what degree can you decide on how to use retained profit?

Not at all	Completely	
1 2 3	4 5	[]

3.15. The fund of new product development of the retained profit in 1988 was: (%)

1. Under 10	_____	5. 41 - 50	_____	[]
2. 10 - 20	_____	6. 51 - 60	_____	
3. 21 - 30	_____	7. 61 - 70	_____	
4. 31 - 40	_____	8. Above 70	_____	

IV. COMBINED EFFECT

4.1. Have you achieved any kind of integration, merger, and acquisition:

Yes _____ (Please answer question A) []
 No _____ (Please go to question 4.2)

A. What kinds: (Please tick as many as apply)

a1. With raw material suppliers	_____	[]
a2. With wholesalers or retailers	_____	[]
a3. With competitors	_____	[]
a4. With the enterprises which are unrelated with current business	_____	[]
b1. With the enterprises which are of the same ownership types	_____	[]
b2. With the enterprises which are of different ownership types (Please specify)	_____	[]

V. ENTERPRISE IDENTIFICATION

5.1. Position of respondent:

1. Managing Director _____ 2. Marketing Director _____ []
3. Marketing Manager _____ 4. Other Manager/Director _____
5. Others (Please specify) _____

5.2. Region where the enterprise is located:

1. North China _____ 4. Mid-South China _____
2. Northeast China _____ 5. Southwest China _____
3. East China _____ 6. Northwest China _____

5.3. Industries the enterprise operates in: (If more than one, please put in sales rank order)

1. _____ 2. _____ 3. _____ 4. _____

5.4. Type of your major product:

1. Industrial goods _____ []
2. Consumer goods _____
3. Industrial service _____
4. Consumer service _____
4. Others (Please specify) _____

5.5a. In what year was your major product launched? _____

b. Has it been improved since it was launched?

- Yes _____ (Continue to answer c and d) []
No _____ (Go to question 5.6)

c. How many times has it been improved since it was launched?

_____ Times. []

d. To what extent has it been improved since it was launched?

Very little 1 2 3 4 5 Very much []

5.6. Stage of your major product category:

1. Introduction _____ 2. Early growth _____ []
3. Late growth _____ 4. Early maturity _____
5. Late maturity _____ 6. Decline _____
7. Don't know _____

5.7. Type of enterprise:

- a. State-owned _____ b. Cooperative & joint venture _____ []
c. City collective _____ d. Private (individual) _____
e. Village & town _____ f. Contracted _____
g. Leased _____ h. Shareholder's _____
i. Others (Please specify) _____

5.8. Number of employees

- | | | |
|----------------------|-------|-----|
| 1. Less than 50 | _____ | [] |
| 2. 51 -- 200 | _____ | |
| 3. 201 -- 600 | _____ | |
| 4. 601 -- 2,000 | _____ | |
| 5. 2,001 -- 10,000 | _____ | |
| 6. 10,000 -- 50,000 | _____ | |
| 7. 50,000 -- 100,000 | _____ | |
| 8. More than 100,000 | _____ | |

5.9. Sales (In 10 thousand unit): ¥

- | | | |
|-------------------|-------|-----|
| 1. Less than 50 | _____ | [] |
| 2. 51 - 100 | _____ | |
| 3. 101 - 500 | _____ | |
| 4. 501 - 1000 | _____ | |
| 5. 1001 - 5000 | _____ | |
| 6. More than 5000 | _____ | |

5.10. Profit after interest & taxes (In 10 thousand unit): ¥

- | | | |
|-------------------|-------|-----|
| 1. Less than 50 | _____ | [] |
| 2. 51 - 100 | _____ | |
| 3. 101 - 500 | _____ | |
| 4. 501 - 1000 | _____ | |
| 5. 1001 - 5000 | _____ | |
| 6. More than 5000 | _____ | |

5.11. Percentage of sales exported into other countries: (%)

- | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-----|
| 0 | 1-10 | 11-20 | 21-30 | 31-40 | 41-50 | 51-60 | 61-70 | 71-80 | 81-100 | [] |
| _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ | |

5.12. How is your financial performance compared with the average for your industry, in terms of:

(i) Return on Capital

- | | | | | | | | |
|------------|---|---|---|---|---|-------------|-----|
| Much worse | 1 | 2 | 3 | 4 | 5 | Much better | [] |
|------------|---|---|---|---|---|-------------|-----|

(ii) Profit growth

- | | | | | | | | |
|------------|---|---|---|---|---|-------------|-----|
| Much worse | 1 | 2 | 3 | 4 | 5 | Much better | [] |
|------------|---|---|---|---|---|-------------|-----|

Don't know _____

3. What is the principal background of the key individuals (if applicable) in your company?

	Chairman of Board	Managing Director	Marketing Director
1. Engineering	_____	_____	_____
2. Finance/Accounting	_____	_____	_____
3. Manufacturing	_____	_____	_____
4. Marketing	_____	_____	_____
5. Sales	_____	_____	_____
6. Others	_____	_____	_____
	[]	[]	[]

4. The present corporate objectives of your company are: (if more than one, please put the three most important ones in rank order)

A. Increase profits	_____	E. Increase market share	_____	[]
B. Increase turnover	_____	F. Improve product quality	_____	[]
C. Develop new products	_____	G. Develop new markets	_____	[]
D. Diversification	_____	H. Others _____		

5a. What proportion of your total turnover is accounted for by improved products in the last 3 years (improved products/total products) (%)?

10 or less	11-30	31-50	51-70	71-100	[]
_____	_____	_____	_____	_____	

b. What proportion of new products has been launched in the last 3 years in terms of:

(i) Number of new products/number of total products (%):
(including failed new products in markets)

10 or less	11-30	31-50	51-70	71-100	[]
_____	_____	_____	_____	_____	

(ii) Turnover of new products/ turnover of total products (%):

10 or less	11-30	31-50	51-70	71-100	[]
_____	_____	_____	_____	_____	

c. What problems do you find in developing new products? (If more than one, please put in rank order)

A. Lack of funds	_____	[]
B. Lack of R & D competence	_____	[]
C. Lack of marketing research skills	_____	[]
D. Not cost effective	_____	
E. Too risky	_____	

d. How important do you think is it to develop new products for your company survival? Not at all important Very important

1 2 3 4 5

[]

6a. To what extent can your company's policy be summarized by "identify changing customer wants and develop products and services which match them better than competitors"?

Not at all	1	2	3	4	5	Completely	[]
------------	---	---	---	---	---	------------	-----

b. If your choice in question 6a is 4 or 5, how successful have you been in implementing it?

Not successful 1 2 3 4 5 Very successful []

c. What have been the major difficulties in implementing the policy? (If more than one, please put in rank order).

- 1. Not enough time _____ []
- 2. It is difficult to coordinate other functions _____ []
- 3. Margins are too low. _____ []
- 4. Constrained by existing technology _____
- 5. Do not know how to effectively implement it _____
- 6. Others _____

7a. Which one of the following statements can best describe what your company has actually done in the last two years? (Tick one letter)

A B C D E []

Where:

A = Concentrate on reducing costs, achieving high production efficiency and productivity, and increasing production capacity.

B = Make products with good quality and features and improve them over time and then try to sell them.

C = Concentrate on promoting and selling what we can make.

D = Identify changing customer wants and develop products to serve them better than competitors.

E = Identify the closest rivals, learn their strengths and weaknesses, and forecast their behaviour and develop marketing strategies to capitalize on their weaknesses.

b. Which one of the above statements do you think will be most suitable for your company development over the next two years?

A B C D E []

8. To what extent does your company coordinate the activities of the marketing department with the activities of other department?

Not at all 1 2 3 4 5 A very great deal []

9a. What is the extent of formal corporate planning? No plan at all A detailed written plan
1 2 3 4 5 []

b. Does your corporate plan involve identifying targeted customer groups and products to be supplied to them?

Yes _____ No _____ []

10a. What is the extent of formal marketing planning? No plan at all A detailed written plan
1 2 3 4 5 []

b. To what extent is your managing director involved in the formulation of marketing plan?

Not at all 1 2 3 4 5 Completely []

c. To what extent does your company develop different marketing plans for different segments of the market?

Not at all 1 2 3 4 5 Completely []

THE COMPANY MARKETS

11a. The overall supply situation in your major product market is one of:

Extreme shortage		Excessive supply	
1 2 3	4 5		[]

b. How do you perceive the threat of present competition to your company's survival?

No threat		Very serious	
1 2 3	4 5		[]

c. Your major product is in:

1. A growing market _____	3. A stable market _____	[]
2. A declining market _____	4. Unknown _____	

12. In your major supply market for raw material or components, the general situation is one of:

Extreme shortage		Excessive supply	
1 2 3	4 5		[]

NATIONAL & CORPORATE POLICY

ANSWER QUESTIONS BELOW (13-14) FOR YOUR OWN BUSINESS UNIT (BU) IF APPROPRIATE OR ELSE IN TERMS OF CORPORATE POLICY:

13a. To what degree is the BU's investment decisions influenced by Government.

No influence		Major influence	
1 2 3	4 5		[]

b. To what extent is the BU influenced by the corporate headquarters.

No influence		Major influence	
1 2 3	4 5		[]

c. To what degree is the BU's production planning controlled by the corporate headquarters?

Not controlled at all		Completely controlled	
1 2 3	4 5		[]

d. To what degree are the BU's raw materials allocated by the corporate headquarters?

Not controlled at all		Completely controlled	
1 2 3	4 5		[]

e. To what degree is the BU influenced by the corporate headquarters in the choice of the markets or customers?

Not controlled at all		Completely controlled	
1 2 3	4 5		[]

- f. To what extent is there pricing control by the corporate headquarters for the BU's major product? Not controlled at all Completely controlled
- 1 2 3 4 5 []
- 14a. Is there a budget level above which the investment decisions of the BU have to be made by your corporate headquarters?
- Yes (Please continue to answer following questions) ___ []
- No (Please skip to question 15) ___
- b. Below the budget investment level, to what degree is the BU's investment decision influenced by the corporate headquarters?
- No influence 1 2 3 4 5 Complete control []
- c. Above the budget investment level, to what degree does the BU have any influence on investment decision?
- No influence 1 2 3 4 5 Complete influence []
15. What are your major constraints for your business development: (Please put the three most important ones in rank order)
- A. Funds ___ []
- B. Product/technical innovation ___
- C. Product competitiveness in feature and quality ___ []
- D. Availability of raw material ___
- E. Marketing & sales ___ []
- F. Poor cost and efficiency position ___

COMPANY IDENTIFICATION

- 16a. Type of your major product:
1. Industrial goods ___ 2. Industrial service ___ []
3. Consumer goods ___ 4. Consumer service ___
5. Retail/wholesale ___
- b. Sales (in £ million units):
1. Less than 1 ___ 5. 100 -- 249 ___ []
2. 1 -- 9 ___ 6. 250 -- 499 ___
3. 10 -- 49 ___ 7. 500 or more ___
4. 50 -- 99 ___
- c. How does your financial performance compares with the average for your industry, in terms of:
- (i). Return on Capital
- Much worse 1 2 3 4 5 Much better []
- (ii). Profit Growth
- Much worse 1 2 3 4 5 Much better []

APPENDIX B3: MATHEMATICAL PRESENTATION OF RATIONALE OF
PRINCIPAL COMPONENT ANALYSIS

The rationale of PCA can be enunciated in the following mathematical terms¹.

We assume $X' = [X_1, X_2, \dots, X_p]$ to be a p -dimensional random variable with mean μ and covariance matrix Σ . The problem of PCA is attempting to find a new set of variables (principal components), Y_1, Y_2, \dots, Y_p , which are uncorrelated and present a decreasing order of their variances. Each Y_j can be expressed as a linear combination of X :

$$(4.1) \quad Y_j = a_{j1}X_1 + a_{j2}X_2 + \dots + a_{jp}X_p = a_j'X$$

or
$$Y = a'X$$

where $a'_j = [a_{1j}, a_{2j}, \dots, a_{pj}]$ is a row vector of constants. Then, we impose the condition that the Y 's are uncorrelated, namely the orthogonality condition:

$$(4.3) \quad \sum_{k=1}^p a_{kj}^2 = 1$$

or
$$a'a = I$$

where I is the identity matrix, namely a $p \times p$ matrix with unity on the diagonals and zeros elsewhere.

¹ This part is mainly based on Kendall (1975) and Chatfield and Collins (1980), unless it is otherwise referenced.

The first principal component is derived by choosing a_1 so that Y_1 has the largest variance, that is, the choice of a_1 will maximise the variance of $a_1'X$ which is subject to the constraint that $a'a = I$. The second principal component is decided by choosing a_2 so that Y_2 has the largest variance for all combinations of the form of equation 4.1 which are uncorrelated with Y_1 . Likewise, Y_3, \dots, Y_p are so derived that they are uncorrelated and have diminishing variance.

In finding the first component, a_1 is so chosen that the variance of Y_1 is maximised, which is subject to the orthogonality condition $a'a = I$. Because

$$(4.3) \quad E(Y) = a'\mu$$

$$(4.4) \quad \begin{aligned} \Sigma &= E[(X - \mu)(X - \mu)'] \\ &= E[XX'] - \mu\mu' \end{aligned}$$

With equation 4.1, 4.3, and 4.4, we derive the objective function

$$(4.5) \quad \begin{aligned} \text{Var}(Y_1) &= E[\{Y_1 - E(Y_1)\}^2] \\ &= E[\{a_1'(X - \mu)\}^2] \\ &= E[a_1'(X - \mu)(X - \mu)'a_1] \\ &= a_1'E[(X - \mu)(X - \mu)']a_1 \\ &= a_1'\Sigma a_1 \end{aligned}$$

To maximise the variance, the method of Lagrange multipliers is used, which is the standard procedure for maximising a function of multiple variables with one or more constraints. We need to find the stationary value of equation 4.5 which is subject to the condition $a_1'a_1 = I$. we form a new function

$$L(a_1) = a_1'\Sigma a_1 - \tau(a_1'a_1 - 1)$$

where τ is the Lagrange multiplier. To find the stationary points, we have

$$(4.6) \quad \frac{\delta L}{\delta \mathbf{a}_1} = 2\Sigma \mathbf{a}_1 - 2\tau \mathbf{a}_1 = 0$$

that is

$$(4.7) \quad (\Sigma - \tau I) \mathbf{a}_1 = 0$$

If equation 4.7 has a solution for \mathbf{a}_1 , instead of the null vector, $(\Sigma - \tau I)$ has to be a singular matrix, namely

$$|\Sigma - \tau I| = 0$$

In the equation, τ , a non-zero solution for equation 4.7, is an eigenvalue of Σ . Since

$$\begin{aligned} \text{Var} (\mathbf{a}_1' X) &= \mathbf{a}_1' \Sigma \mathbf{a}_1 \\ &= \mathbf{a}_1' \tau I \mathbf{a}_1 \\ &= \tau \end{aligned}$$

and we want to maximise this variance, the largest eigenvalue τ is chosen as τ_1 . Then eigenvector \mathbf{a}_1 can be derived from equation 4.7.

For the second principal component ($Y_2 = \mathbf{a}_2' X$), there are two constraining conditions: (1) orthogonality ($\mathbf{a}_2' \mathbf{a}_1 = 0$) and (2) no correlation between Y_1 and Y_2 . We have

$$(4.8) \quad \begin{aligned} \text{Cov} (Y_2, Y_1) &= \text{Cov} (\mathbf{a}_2' X, \mathbf{a}_1' X) \\ &= E[\mathbf{a}_2' (X - \mu)(X - \mu)' \mathbf{a}_1] \\ &= \mathbf{a}_2' \Sigma \mathbf{a}_1 \end{aligned}$$

This should be zero. From equation 4.6, we know $\Sigma \mathbf{a}_1 = \tau \mathbf{a}_1$; thus, the second constraining condition is equivalent to $\mathbf{a}_2' \mathbf{a}_1 = 0$.

To maximise the variance of Y_2 , two Lagrange multipliers are needed, due to the two constraining conditions. The two multipliers will be denoted by τ and Φ . We define the function

$$L(\mathbf{a}_2) = \mathbf{a}_2' \Sigma \mathbf{a}_2 - \tau(\mathbf{a}_2' \mathbf{a}_2 - 1) - \Phi \mathbf{a}_2' \mathbf{a}_1$$

To find the stationary values, we perform

$$(4.9) \quad \frac{\delta L}{\delta \mathbf{a}_2} = 2(\Sigma - \tau \mathbf{I}) \mathbf{a}_2 - \Phi \mathbf{a}_1 = 0$$

We premultiply the equation by \mathbf{a}_1' , then we have (note that $\mathbf{a}_2' \mathbf{a}_1 = 0$)

$$2\mathbf{a}_1' \Sigma \mathbf{a}_2 - \Phi = 0$$

Since in equation 4.8, we require $\mathbf{a}_2' \Sigma \mathbf{a}_1 = 0$; hence Φ is also zero at the stationary value(s). Then, equation 4.9 becomes

$$(\Sigma - \tau \mathbf{I}) \mathbf{a}_2 = 0$$

namely

$$|\Sigma - \tau \mathbf{I}| = 0$$

Similarly, this time the second largest eigenvalue of Σ is chosen, and \mathbf{a}_2 is the corresponding eigenvector.

In a general form, to derive the principal components Y_1, Y_2, \dots, Y_p , which are subject to the constraining conditions, the problem is to find the required τ 's which are the p characteristic roots of

$$|\Sigma - \tau \mathbf{I}| = 0$$

The τ 's are called the eigenvalues of Σ ; the \mathbf{a} 's are the corresponding eigenvectors. The solution of this standard form of equation can be easily obtained by a computer program (we will see that in the case of the discriminant function, we will have the same kind of equation).

**APPENDIX B4: MATHEMATICAL PRESENTATION OF PRINCIPLES OF
DISCRIMINANT ANALYSIS**

If there are p predictor variables, X_1, X_2, \dots, X_p , a linear combination can be expressed as²

$$Y = v_1X_1 + v_2X_2 + v_3 X_3 + \dots + v_pX_p$$

with the unknown coefficients $v_1, v_2, v_3, \dots, v_p$. When there are K groups with a total of N cases, the F -ratio is used to test the significance of the overall difference among several group means in analysis of variance. It thus appears to be an appropriate criterion for separating groups:

$$\begin{aligned} F &= MS_b/MS_w \\ &= SS_b/(K-1) / SS_w/(N-K) \\ &= SS_b/SS_w \times (N-K)/(K-1) \end{aligned}$$

where MS_b and MS_w are the between-groups and within-groups mean-squares respectively, and SS_b and SS_w the between-groups and within-groups sums-of-squares respectively. The larger the disparity, the larger is F . Since the multiplier $(N-K)/(K-1)$ is a constant for any given problem (where N and K are fixed), it is discarded, resulting in a revised definition of the F -ratio

$$\tau = SS_b/SS_w$$

It is called the discriminant criterion. Moreover, because

² The following elucidation of basic principles of discriminant analysis is based on Tatsuoka (1970, 1971) unless it is further referenced.

$$SS_b = \sum_{g=1}^k n_g (\bar{Y}(g) - \bar{Y}.)^2$$

$$SS_w = \sum_{g=1}^k (n_g - 1) s_y^2$$

$$= \sum_{g=1}^k \sum_{i=1}^{n_g} (Y(g)_i - \bar{Y}(g))^2$$

and

$$s_y^2 = \sum_{i=1}^p Y_i^2 s_i^2 + 2 \sum_{i>j} v_i v_j r_{ij} s_i s_j$$

where s_y^2 is the standard deviation of Y , s_i the standard deviation of X_i , r_{ij} is the correlation between X_i and X_j , then the discriminant criterion τ becomes a function of the combining coefficients. The task of discriminant analysis is that of (1) expressing the discriminant criterion τ as a function of the combining coefficients v_1, v_2, \dots, v_p , and (2) determining that set of coefficients which maximises τ by means of differential calculus.

Expressing the Discriminant Criterion

Assume $X_{\alpha g i}$ to be the X_α ($\alpha = 1, 2, \dots, p$) of the i th case in the g th group ($g = 1, 2, \dots, k$);

$\bar{X}_{\alpha g}$ be the X_α -mean of the g th group

and \bar{X}_α , the grand mean of X_α

let $\mathbf{v}' = [v_1, v_2, \dots, v_p]$

$\mathbf{X}'_{gi} = [X_{1gi}, X_{2gi}, \dots, X_{pgi}]$

$\bar{\mathbf{X}}'_g = [\bar{X}_{1g}, \bar{X}_{2g}, \dots, \bar{X}_{pg}]$, $\bar{\mathbf{X}}' = [\bar{X}_1, \dots, \bar{X}_p]$

Then we have

$$Y_{gj} = \mathbf{v}' X_{gj}$$

$$Y_g = \mathbf{v}' X_g$$

and

$$\bar{Y} = \mathbf{v}' \bar{X}$$

Further, we define a $p \times N$ matrix

$$X = [X_{11} \ X_{12} \ \dots \ X_{1n_1} \ | \ \dots \ | \ X_{k1} \ \dots \ X_{kn_k}]$$

where $N = n_1 + \dots + n_k$ is the total sample size.

Next, we define a row vector

$$\bar{Y}'_g = [\underbrace{\bar{Y}_1, \bar{Y}_1, \dots, \bar{Y}_1}_{(n_1 \text{ elements})}, \underbrace{\bar{Y}_2, \dots, \bar{Y}_2}_{(n_2 \text{ elements})}, \dots, \underbrace{\bar{Y}_k, \bar{Y}_k, \dots, \bar{Y}_k}_{(n_k \text{ elements})}]$$

and correspondingly, a $N \times p$ matrix

$$X_{g\cdot} = [\underbrace{X_1 X_1 \ \dots \ X_1}_{(n_1 \text{ columns})} \ | \ \underbrace{X_2 \ \dots \ X_2}_{(n_2 \text{ columns})} \ | \ \dots \ | \ \underbrace{X_k \ \dots \ X_k}_{(n_k \text{ columns})}]$$

Finally, let

$$\bar{Y}' = [\underbrace{\bar{Y}, \bar{Y}, \bar{Y}, \dots, \bar{Y}}_{N \text{ repeated entries}}]$$

and

$$\bar{X}_{\cdot\cdot} = [\underbrace{\bar{X} \ | \ \bar{X} \ | \ \bar{X} \ | \ \dots \ | \ \bar{X}}_{N \text{ repeated columns}}]$$

From the above, we have

$$Y' = \mathbf{v}' X$$

$$\bar{Y}'_g = \mathbf{v}' X_{g\cdot}$$

and

$$\bar{Y}' = \mathbf{v}' \bar{X}_{\cdot\cdot}$$

Thus

$$\begin{aligned}
 SS_W &= (Y - \bar{Y}_g)'(Y - \bar{Y}_g) \\
 &= (Y' - \bar{Y}'_g)(Y' - \bar{Y}'_g)' \\
 &= (v'X - v'\bar{X}_{g\cdot})(v'X - v'\bar{X}_{g\cdot})' \\
 &= [v'(X - \bar{X}_{g\cdot})][v'(X - \bar{X}_{g\cdot})]' \\
 &= v'[(X - \bar{X}_{g\cdot})(X - \bar{X}_{g\cdot})']v \\
 &= v'Wv
 \end{aligned}$$

where

$$W = (X - \bar{X}_{g\cdot})(X - \bar{X}_{g\cdot})'$$

is a $p \times p$ matrix whose diagonal elements are equal to

$$\sum_{g=1}^k \sum_{i=1}^{n_g} (X_{\alpha gi} - \bar{X}_{\alpha g})^2$$

and off-diagonal elements are

$$\sum_{g=1}^k \sum_{i=1}^{n_g} (X_{\alpha gi} - \bar{X}_{\alpha g})(X_{\beta gi} - \bar{X}_{\beta g})$$

$$(\alpha = 1, 2, \dots, p; \beta = 1, 2, \dots, p)$$

Thus W is called the within-groups sums-of-squares-and-cross-products matrix, or within-groups SSCP matrix.

In the same way, the between-groups sum-of-squares SS_b can be expressed as

$$\begin{aligned}
 SS_b &= (\bar{Y}_g - \bar{Y})'(\bar{Y}_g - \bar{Y}) \\
 &= (\bar{Y}'_g - \bar{Y}')(\bar{Y}'_g - \bar{Y}')' \\
 &= (v'\bar{X}_{g\cdot} - v'\bar{X}_{\cdot\cdot})(v'\bar{X}_{g\cdot} - v'\bar{X}_{\cdot\cdot})' \\
 &= [(v'(\bar{X}_{g\cdot} - \bar{X}_{\cdot\cdot}))][v'(\bar{X}_{g\cdot} - \bar{X}_{\cdot\cdot})]' \\
 &= v'[(\bar{X}_{g\cdot} - \bar{X}_{\cdot\cdot})(\bar{X}_{g\cdot} - \bar{X}_{\cdot\cdot})']v
 \end{aligned}$$

or

$$SS_b = v'Bv$$

Where

$$B = (\bar{X}_{g\cdot} - \bar{X}_{\cdot\cdot})(\bar{X}_{g\cdot} - \bar{X}_{\cdot\cdot})'$$

is a $p \times p$ matrix with the between-groups sums-of-squares of X_α ,

$$b_{\alpha\alpha} = \sum_{g=1}^k n_g (\bar{X}_{\alpha g} - \bar{X}_\alpha)^2$$

as the diagonal elements, and the between-groups sum-of-cross-products,

$$b_{\alpha\beta} = \sum_{g=1}^k n_g (\bar{X}_{\alpha g} - \bar{X}_\alpha) (\bar{X}_{\beta g} - \bar{X}_\beta)$$

$$(\alpha = 1, 2, \dots, p; \beta = 1, 2, \dots, p)$$

as the (α, β) -element. B is called the **between-groups SSCP matrix**.

Maximising the Discriminant Criterion

Using the expressions of the within-groups and between-groups sums-of-square, we are able to express the discriminant criterion as a function of the unknown combining coefficients:

$$\tau = \frac{SS_b}{SS_w} = \frac{\mathbf{v}'\mathbf{B}\mathbf{v}}{\mathbf{v}'\mathbf{W}\mathbf{v}}$$

Now the next task in discriminant analysis is to determine the set of coefficients which maximises the discriminant criterion. This is undertaken by taking the partial derivative of τ about each component v_i of \mathbf{v} and setting the result equal to zero:

$$\frac{\delta\tau}{\delta\mathbf{v}} = \frac{2[(\mathbf{B}\mathbf{v})(\mathbf{v}'\mathbf{W}\mathbf{v}) - (\mathbf{v}'\mathbf{B}\mathbf{v})(\mathbf{W}\mathbf{v})]}{(\mathbf{v}'\mathbf{W}\mathbf{v})^2} = 0$$

Dividing both numerator and denominator by $\mathbf{v}'\mathbf{W}\mathbf{v}$ and using the definition of the discriminant criterion, this equation becomes

$$\frac{\delta\tau}{\delta\mathbf{v}} = \frac{2(\mathbf{B}\mathbf{v} - \tau \mathbf{W}\mathbf{v})}{\mathbf{v}'\mathbf{W}\mathbf{v}} = 0$$

that is

$$(\mathbf{B} - \tau \mathbf{W})\mathbf{v} = 0$$

This may be further transformed as

$$(\mathbf{W}^{-1}\mathbf{B} - \tau\mathbf{I})\mathbf{v} = 0$$

provided \mathbf{W} is non-singular, i.e. $|\mathbf{W}| \neq 0$ (generally this will be true). This equation is equivalent to

$$|\mathbf{A} - \tau\mathbf{I}| = 0$$

where \mathbf{A} (standing for $\mathbf{W}^{-1}\mathbf{B}$) is a $p \times p$ matrix with known elements, \mathbf{v} is an unknown p -dimensional column vector, and τ is an unknown scalar. The equation, as in the case of principal component analysis, can be easily solved using a computer program.

Extension to Classification Situations

Based on the coefficients $\mathbf{v}' = [v_0, v_1, v_2, \dots, v_p]$, we can compute the discriminant score for each case:

$$Y_i = \mathbf{v}'\mathbf{X}_i$$

Using the discriminant score, we can following a rule to classify cases into one of the K groups. If the set of statements G_1, G_2, \dots, G_K exhausts all the possibilities concerning the group membership of a case, Bayes' rule can be followed for the classification (Tatsuoka 1971, p. 229), and the technique used in SPSS^X package for discriminant analysis is based on this rule (Norusis 1985). The

probability that a case with a discriminant score of Y falls into group K is given by

$$P(G_k|Y_j) = \frac{P(Y_j|G_k)P(G_k)}{\sum P(Y_j|G_k)P(G_k)}$$

where: (1) $P(G_k)$, the prior probability of group membership, is the probability of a case belonging to group K when it is drawn at random from a mixed population of all K groups. It can be obtained by several means. If the sample is regarded as representative of the population, the observed proportions of cases in each group can be used as estimates of the prior probabilities (Norusis 1985).

In some studies, even a large sample may result in a small number of cases in one or more groups, and thus the researchers often choose a fixed number of cases per group. In this case, the prior probability of group membership may be obtained from other sources. If there is no available information about the prior probability of group membership, or there is the equal likelihood of case belonging to each of the K groups, equal prior probabilities for all groups may be chosen.

(2) $P(Y_j|G_k)$ is called the conditional probability of Y_i given group K , that is, if the case i is assumed to belong to group K , the probability of the score combination is calculated given the group membership. It gives an idea of the likelihood that a case with the score is a member of a particular group.

(3) $P(G_k|Y_j)$ denotes the posterior probability. It is the probability that case i is a member of group K , given that its score combination

is Y_i . It can be calculated from $P(Y_i|G_k)$ and $P(G_k)$ by using Bayes' rule. A case is assigned to the group for which its posterior probability $P(G_k|Y_i)$ is the largest (Tatsuoka 1971, p. 230).

APPENDIX B5: INTERVIEW WITH A SWEDISH COMPANY

Interviewee: Development Manager

Interviewer: Hong Liu University of Warwick

Date: 24 October, 1988

TABLE Profile of the Company

Items	Characteristics
Type of Major Products	Factory Automation Traffic Application
Number of Employees	101 -- 500
Turnover (million)	£10 -- 49
Profit after Interest and Tax (million)	£1 -- 9

Question 1. (The definitions of the direct and indirect control effects have been given) Is the classification of direct and indirect control valid in the context of your company? Can you depict what kinds of control are involved in your company in general terms?

Answer: My company employs several hundreds of thousands of employees, and I can of course only talk for what I have seen from my horizon. There is certainly a very big difference between consumer- and professional electronics businesses, which themselves are not comparable with whitegoods and lighting.

I will, however, try to give the answers as little bias as possible.

I think your definitions are quite valid.

In a multinational company with factories in different countries, there is no chance to be influenced by direct control as you define it. Simply, information channels and market understanding are too slow to follow market fluctuations because of the distance from customers to international upper management. Instead upper management uses indirect control means such as annual procedures for approval of investment budgets for development, and also for investments in production equipment and in the build-up of marketing channels.

There is however little control of the detailed contents of the budget applications. If a site, like ours, is successful year after year and if the application is still in the strategic area of the international business unit (e.g. industrial automation), the applicant is usually boosted by the fact that he has done the most intelligent analysis of his activity's situation. This is because he is the one who understands the business and because it is in his interest to make the activity grow.

If, on the contrary, a supply centre in a country is less successful for some time, upper management might take a closer look to find out if the activity is strategic and should be kept alive in spite of losses or if the activity should be lowered or closed. Our company has, I would say, a good will to assist the local centres to find good solutions; after all, the local plants are their "bread and butter".

Question 2: What impact do you feel direct control or quasi-direct control has on the company behaviour, such as the company's perception of competitive threats and the company's commitment to customers?

Answer: Death! Markets are changing so fast that in order to bring the right products to the market before they become old-fashioned, development speed is a key issue. Direct control always slows down as you know.

Question 3: What sort of corporate control do you think has the major influence on the company orientation? It has been claimed that the corporate centre set the culture in which lower level managers propose and implement strategy. Do you find any evidence in your company supporting this argument?

Answer: Certainly trying to establish a company culture, or international business unit culture (in case of too diversified activities in the company) is extremely important. Such a culture may have a lot of ingredients, from work procedures to the desired image in the market.

Make extensive use of sweat-shirts, ski-tours, sailing, and so on to build teams. But most important of all, make people feel motivated to work long hours.

One important condition to successfully implement a good company culture is not to change people in key positions too often; my personal opinion is that a senior director should stay in position more than four years (but perhaps less than ten). And virtually no price can be too high to find the right candidate for this job.

Sometimes we fail in this area; it is tempting to give/accept promotion to/by a good fellow when he appears to be a skilled person.

Never forget that decisions at senior management level (even if excellent and accepted) often take several years to give payoff.

Question 4: You mentioned that the company used to be product-oriented, this orientation was somewhat unsuccessful, and the company should be customer-oriented. It appears that the company also operated successfully with product orientation for a long time. What factors have made the product orientation of the company unsatisfactory?

Answer: In short, I think the main reason is because the communication channels have been so much improved.

In the past it was good enough to bring a brown radio with one loudspeaker to the market in Sweden from a factory in Sweden, in Germany from a German factory etc. There was not so much international competition. Products were simple, and any improvement was appreciated by the customer.

Now, when a global market approach is a necessity to give the necessary production volumes you need to survive (unless you can ride on strong patents, cultural or political barriers etc) Swedes will no more be satisfied with Swedish radios. So many competitors are willing to supply a lower cost product, or a product that can be supplied in red-, green-, and white colours and with other options.

If you don't listen extremely carefully to what the customer wishes and immediately develop a product which both suits him and your own situation of course, the customer is lost.

Another danger of being too product oriented is that the products will get a lot of features that might not give any real benefits to the

customer (development engineers would be more than happy to develop all sorts of specials, especially if they have invented them themselves). You then get extra cost that the customer doesn't want to pay for and the losses are a fact.

Question 5: It seems that your company is still in the process of changes from product orientation to customer orientation. What do you think are the major factors inhibiting the change from product orientation to customer orientation in the company?

Answer: I can think of many, but one worth mentioning is having considerable more research in a company than the competitors have. This will lead to advanced products that might come out on the market before it is developed. An example is the video story where we were the big innovators, but the Japanese took the market with another, simpler, system (VHS).

Although we developed the technically best video recording system, recorders were not used as expected. A video recorder is mainly used to play-back, not to make recordings. People don't use them for recording TV programs, they use them for looking at rented movie tapes.

Another important factor is to have efficient market channels, to be able to sense what the key market needs, and develop the right product for that market.

APPENDIX B6: INTERVIEW WITH A LARGE CORPORATION IN CHINA

Interviewee: Director of Corporation Development

Interviewer: Hong Liu, University of Warwick

Date: 7 April, 1989

TABLE Profile of the Corporation

Item	Characteristics
Nature of Ownership	Shareholder
Type of Major Product	Computer System, Instrument, Satellite TV Reception Technology
Number of Subsidiaries ¹	30
Number of Employees ²	296
Turnover ³	77
Profit after Tax ⁴	4.4

1. Figure for 1989.

2. Figure for 1989. Estimated based on the interview;
excludes subsidiaries.

3. Figure for 1987; Unit: in million yuan.

4. Figure for 1987; Unit: in million yuan.

Question 1: How was the company initiated?

Answer: The company was founded in 1984. Actually the reason was very simple: at that time numerous influential R&D results were not properly utilised. Once the results were taken out of laboratories and the researchers were rewarded, they would be put on shelves. This happened not only in research institutes but also in universities. No one considered how to realise the societal and economic values of research. For instance, for a researcher to be promoted as a senior

engineer, all depends on his research yields rather than their final economic effect. This traditional concept has dominated for a long time.

The problem was clearly present and every one was aware of it. But never did any one take the initiative in solving it. It was to exploit R&D results and convert them into economic values that the company was founded.

Question 2: How did your company establish customers' awareness of the company and products, especially at its initial stage - in Western countries the company has public relation department and uses advertising?

Answer: We also capitalise on these approaches. We make full use of TV, newspaper, as well as company's magazines and other materials for publicity. But the media of advertising used were gradually developed. At the early stage, because of financial constraints, the company relied mainly on direct mail, brochures, and other low cost means.

Question 3: As a shareholder's company, does your company still have the "grandmother" (the government supervisory body that has direct authority over the company)?

Answer: Yes, it does. In China it is impossible for an enterprise to be rid of the "grandmother". But our grandmother is enlightened; she does not control you but helps you. Many problems need her help to be solved.

In our company, the ownership is separate from management. The company is run by the managing director, who is under the leadership of the board of directors. Strategic issues are decided by the board of directors, such as business policy and allocation of retained profits at the end of a year.

Question 4: The company involves the relationship with both the board of directors and government. Does your company find the differences in terms of their managerial influences?

Answer: The government agent mainly inspects the financial statements, levies taxes, and exercises other governmental functions. It also relays policies from the central government, and conducts financial audit. Above all, in China, you cannot do without the grandmother. For instance, to be able to go abroad on business, you have to undergo various procedures through the grandmother. Whereas in Western countries, as long as you have a passport, you can directly go abroad. Without the grandmother, nobody takes notice of you. This is only a simple example; there are plenty of this kind. Since our grandmother is enlightened, she does not become involved in the company business operation.

Question 5: There are two types of innovations: those which directly come out of laboratories and may not understand market needs and wants; those which are developed based on information on markets. In high-technology industries, which kind do you think play a more important role?

Answer: Both. For example, a few years ago the Chinese Scientific Academy developed an anti-magnetic electric source. Usually

if there had not been our company, the product would not have been exploited. We found the markets in control systems and improved the products based on user's suggestions. Gradually, the full product line was developed.

Question 6: Has it ever happened in your company that the products developed in laboratories could not find markets?

Answer: Products in high-technology industries have a short life cycle. For instance, the competitors have produced a more advanced anti-interference electric source. You need to monitor the markets, and ought to be aware of whether your markets are disappearing; otherwise you will be in trouble. We felt it imperative to have information on markets. Therefore, with the growth of our business, we set up the marketing department.

Question 7: Your company was founded in 1984; when did you build up the marketing department?

Answer: Last year (1988).

Question 8: How many staff are working in the department?

Answer: Three.

Question 9: What responsibilities do they have?

Answer: Market research, international business development, feasibility study for new product development, and market development. For instance, suppose a foreign company needs a kind of product, the marketing department will find out if we have it, if we can produce it, and if any enterprise in the country has or produces it.

The staff in the department all have qualifications in business management; the fields of both their undergraduate and postgraduate studies were in business management. Also they have been specially trained in marketing.

The functions of the marketing department have gradually been developed by experience. Now the department directly participates in any business negotiations.

Question 10: You mentioned that you used advertising. How does your company plan the budget for advertising: based on affordable approach or a percentage of sales?

Answer: We use a great deal of advertising. The annual expenditures for advertising are about ¥70-80 thousand. At the early stage, the expenditure of advertising was budgeted based on what the company could afford. As our businesses developed, we started to utilise the approach of percentage-of-sales, but not strictly.

Advertising budget ought to be allocated by the method of percentage-of-sales. Nevertheless, the company is running through the managerial system of MBO, and there are 30 subsidiaries in the Group. For advertising to be cost-effective, we centralised a part of advertising budget. In addition, the parent company has spent a lot on the company image. Some of the image advertising incurs costs; some does not. For instance, TV programs on the company made for TV station and interviews between reporters and the managing director are examples of free advertising.

Question 11: It seems that the Chinese Scientific Academy is a main source of innovation for the company; does your company have its own R&D force?

Answer: Yes. There are 250 researchers in our company: about 30 senior engineers, and 70-80 researchers having postgraduate equivalent or above qualifications. About 100 researchers are working on new product development.

Cooperative research will be undertaken if our R&D conditions are inadequate. For example, many cooperative research projects have been established with the Qinghua University and the Beijing University, which have very strong R&D resources. Generally, cooperative projects have to benefit both the organisations and individual researchers.

Question 12: Does your company develop corporate planning?

Answer: Yes. In 1987, diversification and exportation were our corporate objectives. As a consequence of implementing the strategy, the company made about ¥1.5 million profits in 1988, though the implementation only took place for a short period.

In 1989, the government has adopted the monetary policy of cutting down monetary supply. Hence, while maintaining the same strategy as 1988 in domestic markets, the company has shifted its focus onto international markets. It aims at making ¥15 million profits in 1989. As a result, the company's businesses have been developed in America, Australia, and Hong Kong.

Question 13: Has the corporate plan been written in detail or only in the key individuals' minds?

Answer: The plan has not been written.

Question 14: How does your company perceive the intensity of competition?

Answer: Very intensive. 800 companies in the area of Zhongguan Village are all our competitors. But every company has its own image and management style.

Question 15: What are the major factors which make your company successful?

Answer: Reputation. The company enjoys a better reputation out of the companies in the region. It is considered as upright and reliable.

Question 16: Does your company monitor the competitors in terms of their product development and business strategies?

Answer: Yes. Among 800 companies, most of them are quite small, which can not compete with us; only a few large companies are primary competitors. We monitor where they are moving. Of course, the new product development is their confidential domain.

Before all the companies in the region were established, many of us were working in the same fields or even in the same enterprise. We are also the leading researchers in the industry. Therefore, we are well aware of each other in terms of management styles and business strategies. Despite competing with each other, we are still good friends. Monitoring does not necessarily mean attempting to cause them trouble.

In spite of competition between us, mutual support does occur. For instance, if our customers need some products which we do not have but the competitors have, we will introduce them to the competitors; the same is true for the competitors. However, there are also the situations in which some companies place entry barriers to their competitors.

Question 17: For manufacturing enterprises in many other industries, a shortage of raw materials is a major problem. In your industries, do you have this problem?

Answer: Generally speaking, this problem does not exist in our high-technology industry. Key supplies are mainly imported.

Question 18: What is the relationship between the parent company and the subsidiaries?

Answer: They are our subsidiaries, and share our "reputation" - the company name (X X), such as "Dalian X X", "Wuxi X X", or "Tianjin X X". We provide them with products at a premium price and technical support as well. For example, if a subsidiary will negotiate a business contract without a competent team, the parent company will send appropriate people to help it. The Profits will be distributed between the subsidiary and parent company. The subsidiaries and parent company are a system; if the reputation of the parent company is improved, it helps the subsidiaries and vice versa.

Question 19: Does your company have any mechanism to control the subsidiaries in case they deviate from the central corporate policy?

Answer: It is unlikely for this to occur because, before the business relationship is established, they are carefully inspected and chosen. Not anyone who approaches us can be our partners. So far no such kind of thing has taken place.

Question 20: If a subsidiary wants to invest in some projects, is it necessary to get the permission from the parent company?

Answer: Not necessarily. It has its own board of directors; this kind of important decisions will be made by them.

Question 21: Do the subsidiaries have to hand over a part of their profits to the parent company annually? What is the rule to distribute the profits?

Answer: Yes; after they retain the bonus, welfare, and production development funds, the rest of their profits will be delivered to the parent company.

Question 22: What are the major constraints on the company business development at present?

Answer: The company confronts the same problems as a Western company does. For example, if the prediction of markets fails to match the market situation and more inventory results than the markets need, losses are inevitable.

The determinant for success in high-technology industries is technology, which eventually depends on people. Without capable people, the company cannot be expected to be successful. These people must be willing to follow you rather than those who tail after you

when you are in your heydays and leave you when you are in adversity. Therefore the ways you train and attract your employees are very important. For instance, a manager from Hong Kong came to do business with us representing company A first time and company B second time.

Hence, the company has implemented the "share system"; every employee is a "shareholder" of the company - this is a breakthrough and still at the experimental stage. The success and failure cases of business practice in Western countries have been carefully studied.

It is important for employees to commit themselves to the company in the light of their career rather than only for money. The amount of money they receive should be higher than the average salary level so that they could lead a reasonably easy life. But money should not be the sole goal. Otherwise, salaries can never be too high and they always leave for the company with higher salaries.

Whether a company is successful or not has much to do with the qualification and managerial ability of the managing director. If the managing director has a dictatorial managerial style, and always thinks of his own benefit, the company is inevitably going bankrupt. The employees may pretend to commit themselves; as long as opportunities arise, they will leave and even bring the company's secrets with them.

Relatively higher salaries are a basic condition to keep employees in that the workload in the company is much more than that in normal state-owned enterprises. Why do people come to the company to do much more work for the same salaries? But to pay higher salaries, the company must be effective and efficient.

Therefore, every linkage in the company can be a constraint. On the whole, for the company to be successful, it is vital for the employees to be confident of the company's future. The management team should be competent so that the employees follow the company's policy, and consistent in conduct so that the company has cohesion.

Question 24: For a state-owned enterprise to make investment, if the investment is above a ceiling, the project has to go through a hierarchical procedure to get permissions from government. Does your company have to undergo a similar procedure for investment?

Answer: No. The managing director makes the investment decisions. He has the authority in finance, staffing, and business operation. Thus he plays a key role in the company development. If he is tightly controlled, he can do nothing and assumes no responsibilities either. The responsibility, authority, and benefit ought to be combined.

At the end of a year, if the company performance is satisfactory, the board of directors will award the managing director with a bonus based on the company policy. A certain proportion of the profits will be used as the bonus fund for employees; the amount to be distributed will be decided by the managing director. If more profits than planned are achieved, more bonus can be distributed if the company is prepared for paying the "bonus tax" (when the bonus exceeds the defined amount, tax will be levied).

Question 25: Does your company have a department or a group of staff that are set up to aid management decision making?

Answer: Some companies have; some are not formalised, like ours. But there are two regular meetings every week in the company. One is the management meeting in which the managers from all departments participate. At the meeting, the strategic issues, such as company's business policies and government policies involved in the company, are discussed; but the final decisions are made by the managing director. Another is the releasing conference in which the company's policies are issued and discussed among the employees. Therefore, the decisions made by the managing director have taken both managers' and employees' suggestions and opinions into consideration.

Question 26: When selecting partners, what factors does your company consider?

Answer: Two factors: one is whether the market is substantial in the region where the enterprise is located; the other is whether the enterprise has a good reputation in the region and a competent management team. One of our objectives is to establish a nation-wide sales network and increase company's market share. If the company does not capture the markets, the competitors will because it is impossible for all the users in the country to come to Beijing for our products.

Question 27: Has your company run employees' training programs, either on-job or off-job?

Answer: Yes, we have. Since the workload of employees is heavy, the training is mainly undertaken on-job. By and large, when entering the company, newcomers will be trained for some time; the training program is arranged by the department in which the employee will work.

At the beginning stage of the company, the majority of employees had only 'A' levels and equivalent qualifications, and therefore more training programs needed to be run. Afterwards, the employees recruited were postgraduates or had equivalent qualifications - even the salesmen on sales counters are postgraduates. Thus training programs are more specialised, being tailored according to particular situations.

Question 28: How many new products did your company launch last year?

Answer: Every year at least one or two major new products, and myriads of small new products, are launched. Last year our "286 model" was successfully accepted in a international bid.

	MEAN	STD DEV	CASES	LABEL
MKTRESCH	3.31474	1.18006	251	DEGREE OF MKT RESEARCH
MKTPLAN	3.67984	1.19700	253	EXTENT OF MARKETING PLANNING
CORPPLAN	3.83665	1.14246	251	U-EXTENT OF CORPORATE PLANNING
MKTSEGM	3.89641	1.18542	251	EXTENT OF MARKET SEGMENTATION
COORDINA	3.80400	1.03628	250	U-IF COORDINATE BUS. ACTIVITIES
NPROINFL	3.81818	1.06465	253	INFLUENCE ON NEW PRODUCT DEV
NPROLAU1	2.06400	1.12113	250	NUMBER PERSONTAGE OF NEW PRODUCT DEV
NPROLAU2	2.21774	1.04985	248	TURNOVER PERSONTAGE OF NEW PRODUCT DEV
PROIMPRV	2.46000	1.10512	250	PERSONTAGE OF PRODUCT IMPROVEMENT
PERFORM1	3.62500	.93973	248	FINANCIAL PERFORMANCE-RETURN ON CAPITAL
PERFORM2	3.59677	.96009	248	FINANCIAL PERFORMANCE-PROFIT GROWTH
PROMAKET	3.64940	.94477	251	SUPPLY SITUATION IN MAJOR PRODUCT
RIVTHRET	3.44444	.95772	252	SENSE OF COMPETITION THREATS
GOVNINFL	2.53968	1.10162	252	GOV INFLUENCE ON COMPANY BUSINESS
PRICNTRU	2.09796	1.32697	245	U-EXTENT OF PRICE CONTROL
CORPINFL	3.52049	1.31296	244	U-OVERALL INFLUENCE OF HEADQUARTERS
PROCONTR	2.23361	1.33285	244	PRODUCTION CONTROL
MATCONTR	1.80247	1.29927	243	MATERIAL CONTROL
SALCONTR	2.08571	1.19973	245	SALES CONTROL

IRRELATION MATRIX:

	MKTRESCH	MKTPLAN	CORPPLAN	MKTSEGM	COORDINA	NPROINFL	NPROLAU1	NPROLAU2	PROIMPRV
MKTRESCH	1.00000								
MKTPLAN	.50246	1.00000							
CORPPLAN	.39010	.45647	1.00000						
MKTSEGM	.33223	.38663	.33210	1.00000					
COORDINA	.35130	.11606	.11283	.17427	1.00000				
NPROINFL	.18837	.04810	.08156	.09493	.08095	1.00000			
NPROLAU1	.07867	.09317	.09973	.12535	.01258	.70461	1.00000		
NPROLAU2	.14418	.09363	.16362	.04666	.10452	.58889	.63284	1.00000	
PROIMPRV	.19900	.09363	.16362	-.00566	.06062	-.03188	-.05581	.06664	1.00000
PERFORM1	-.00327	-.02931	.10355	.04423	.03495	.04919	.04987	.09589	.01401
PERFORM2	-.01331	.00974	.08984	.01923	.06575	.00347	-.00400	.01401	-.06391
PROMAKET	.00932	.07783	.01565	.03307	.02557	-.02964	-.04290	-.04231	-.07220
RIVTHRET	.04323	.10060	.05361	-.03531	.09734	-.09746	-.05912	-.06498	.07220
GOVNINFL	.08413	.08669	.01246	.06626	.09734	-.07322	.05522	.03012	.11373
PRICNTRU	.04096	-.08754	-.18654	-.10760	-.07461	-.02932	.04326	.08466	.12829
CORPINFL	.07353	-.01353	.01918	-.06933	-.02878	-.05252	.13735	.08466	.12829
PROCONTR	.07054	-.01668	-.07112	.00956	.00209	.05252	.13735	.08466	.12829
MATCONTR	.01652	.01817	-.10203	-.05875	-.04042	-.03052	.11155	.13318	.12634
SALCONTR	.07730	-.05426	-.10172	-.04892	-.05104	.02879	.13734	.14291	.17649

	PERFORM1	PERFORM2	PROMAKET	RIVTHRET	GOVNINFL	PRICNTRU	CORPINFL	PROCONTR	MATCONTR
PERFORM1	1.00000								
PERFORM2	.68432	1.00000							
PROMAKET	-.08054	-.00635	1.00000						
RIVTHRET	-.13142	-.17519	.28719	1.00000					
GOVNINFL	-.08213	-.05595	-.00008	.13277	1.00000				
PRICNTRU	-.04530	-.06103	-.13499	.06024	.14794	1.00000			
CORPINFL	-.03470	-.07054	-.05007	.17098	.10837	.45493	1.00000		
PROCONTR	.03033	.00680	-.05561	.12919	.18214	.62051	.54351	1.00000	
MATCONTR	.01301	.08970	-.10621	.01919	.07429	.63106	.39406	.69857	1.00000
SALCONTR	-.07975	-.02144	-.05896	-.01761	.12405	.62274	.48273	.55499	.55207

SALCONTR

SALCONTR 1.00000

DETERMINANT OF CORRELATION MATRIX = .0018297

BARTLETT TEST OF SPHERICITY = 1455.0797, SIGNIFICANCE = .00000
 THERE ARE 36 (10.5%) OFF-DIAGONAL ELEMENTS OF AIC MATRIX > 0.09

FINAL STATISTICS:

VARIABLE	COMMUNALITY	* FACTOR	EIGENVALUE	PCT OF VAR	CUM PCT
MKTRESCH	.54405	1	3.45453	18.2	18.2
MKTPLAN	.67447	2	2.91126	15.3	33.5
CORPPLAN	.55882	3	2.06363	10.9	44.4
MKTSEGM	.47139	4	1.76284	9.3	53.6
COORDINA	.41322	5	1.21887	6.4	60.1
NPROINFL	.07542	*			
NPROLAU1	.75760	*			
NPROLAU2	.79593	*			
PROIMPRV	.71585	*			
PERFORM1	.82726	*			
PERFORM2	.83021	*			
PROMAKET	.63572	*			
RIVTHRET	.66537	*			
GOVNIINFL	.15920	*			
PRICNTRU	.71676	*			
CORPINFL	.50681	*			
PROCONTR	.74645	*			
MATCONTR	.67869	*			
SALCONTR	.63789	*			

40 THERE ARE 52 (30.0%) RESIDUALS (ABOVE DIAGONAL) THAT ARE > 0.05

VARIMAX ROTATION 1 FOR EXTRACTION 1 IN ANALYSIS 1 - KAISER NORMALIZATION.

VARIMAX CONVERGED IN 5 ITERATIONS.

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
PROCONTR	.85775				
PRICNTRU	.83177				
MATCONTR	.80847				
SALCONTR	.77937				
CORPINFL	.69816				
GOVNINFL					
MKTPLAN		.81636			
CORPPLAN		.73028			
MKTRESCH		.71947			
MKTSEGM		.67216			
COORDINA		.63444			
NPROINFL					
NPROLAU2			.88358		
NPROLAU1			.86469		
PROIMPRV			.82452		
PERFORM2				.90662	
PERFORM1				.90406	
PROMAKET					.78646
RIVTHRET					.78516

1 0 title factor analysis of MKT behaviour in China

	MEAN	STD DEV	CASES	LABEL
NPRORESH	3.45626	1.03099	583	C-MKT RESEARCH BEFORE NEW PRODUCT DEV
MKTRESCH	3.49402	.96357	585	DEGREE OF MKT RESEARCH
MKTPLAN	3.74338	1.04717	604	EXTENT OF MARKETING PLANNING
KNWRIVAL	3.67159	.94618	609	C-KNOWLEDGE OF COMPETITORS
PLANEFFA	3.75168	.98667	596	C-EFFECTIVENESS OF MKT PLAN
MKTKNOWL	3.33563	1.04019	581	C-MD KNOWLEDGE OF MAKETING
COSTMEAS	3.19040	1.10262	604	C-EXTENT OF COST MEASUREMENT
NEWINFOR	3.72565	.90044	616	C-NEWNESS OF MARKET INFORMATION
PERFORM1	3.33559	1.03056	590	FINANCIAL PERFORMANCE-RETURN ON CAPITAL
PERFORM2	3.39765	1.04741	596	FINANCIAL PERFORMANCE-PROFIT GROWTH
PROIMPRV	3.18525	1.36349	583	PERSONTAGE OF PRODUCT IMPROVEMENT
MKTSEGM	2.09238	.70680	617	EXTENT OF MARKET SEGMENTATION
NPROLAU1	2.76271	1.29828	590	NUMBER PERSONTAGE OF NEW PRODUCT DEV
PROMAKET	2.74355	1.10822	620	SUPPLY SITUATION IN MAJOR PRODUCT
POTNINFL	3.24715	1.15312	615	C-THREATS OF POTENTIAL ENTRY
INTENSTY	3.56058	1.04779	619	C-INTENSITY OF COMPETITION PERCEIVED
RIVTHREI	3.09003	1.11132	622	SENSE OF COMPETITION THREATS
MATMAKET	4.01935	.89854	620	SUPPLY STATE IN MAJOR INPUT MARKET
BUYMATDI	3.82951	.94362	610	C-DIFFICULTY OF BUYING MATERIALS
GOVNIINFL	3.11650	1.18855	618	GOV INFLUENCE ON COMPANY BUSINESS
PROCONTR	2.64136	1.27991	619	PRODUCTION CONTROL
PRICNTRC	3.45531	1.51070	593	C-PERCENTAGE OF PRICE CONTROL
MATCONTR	2.76337	1.26096	617	MATERIAL CONTROL
SALCONTR	2.31987	1.27248	619	SALES CONTROL

404 CORRELATION MATRIX:

	NPRORESH	MKTRESCH	MKTPLAN	KNWRIVAL	PLANEFFA	MKTKNOWL	COSTMEAS	NEWINFOR	PERFORM1
NPRORESH	1.00000								
MKTRESCH	.52652	1.00000							
MKTPLAN	.26820	.33200	1.00000						
KNWRIVAL	.27071	.31787	.36957	1.00000					
PLANEFFA	.18563	.26712	.49308	.26540	1.00000				
MKTKNOWL	.24753	.23662	.27761	.28481	.19288	1.00000			
COSTMEAS	.30175	.33436	.32692	.27563	.41657	.20979	1.00000		
NEWINFOR	.28348	.38503	.40148	.50748	.38035	.36112	.32650	1.00000	
PERFORM1	.16794	.14556	.15484	.21818	.14658	.20323	.12722	.25687	1.00000
PERFORM2	.22562	.17319	.16559	.23268	.17299	.24079	.12308	.17941	.75593
PROIMPRV	.17126	.23625	.10538	.13590	.12800	.13397	.17271	.17941	.12481
MKTSEGM	.12892	.18659	.21612	.17515	.12499	.17184	.12506	.18835	.07773

	NPROESH	MKTRESCH	MKTPLAN	KNWRIVAL	PLANEFFA	MKTKNOWL	COSTMEAS	NEWINFOR	PERFORMI
NPROLAI	.16322	.20482	.08794	.11372	.17417	.06049	.14663	.14613	.03917
PROMAKET	.03416	.00896	-.00819	-.01505	-.01413	-.07814	.09240	-.06191	-.11945
POTNINFL	.09187	.10168	.01020	.06977	.05578	.01977	.11282	.02290	-.03002
INTENSTY	.11036	.13830	.07932	.10636	.11637	.07643	.17198	.07401	.06396
RIVTHRET	.08718	.12404	.02501	.01465	.02040	.00802	.10026	.00926	-.11763
MATMAKET	.04913	.18071	.06181	.12463	.04277	.06608	.02602	.17134	.04847
BUYMATDI	.08494	.07192	.10009	.12571	.04658	.09594	.02743	.11216	.00935
GOVNIINFL	.02492	.03249	.07456	.03884	.01084	.05463	.06902	-.04919	.04870
PROCONTR	.02519	.05018	.07408	-.02854	.06324	.03889	.04060	.05831	.05535
PRICNTRC	.05982	.10447	.13424	.09307	.02661	.02562	.05117	.06594	-.02076
MATCONTR	-.01827	.02652	.05120	.02574	-.00247	.04121	-.08247	.03776	-.02076
SALCONTR	-.05243	-.06504	.06289	-.04272	.00012	-.01223	-.07907	.00748	-.04241

	PERFORM2	PROIMPRV	MKTSEGM	NPROLAI	PROMAKET	POTNINFL	INTENSTY	RIVTHRET	MATMAKET
PERFORM2	1.00000								
PROIMPRV	.16844	1.00000							
MKTSEGM	.09524	.23783	1.00000						
NPROLAI	.13022	.60792	.13317	1.00000					
PROMAKET	-.09023	.03130	-.05588	.08108	1.00000				
POTNINFL	-.02053	.05983	-.01264	.07606	.36594	1.00000			
INTENSTY	.04561	.09980	-.01365	.11240	.29927	.57386	1.00000		
RIVTHRET	-.11731	-.00822	-.07063	.04341	.39109	.61010	.50252	1.00000	
MATMAKET	.01944	-.00379	.11142	.05511	-.13237	-.01146	-.05110	-.01471	1.00000
BUYMATDI	.00412	-.00942	.10284	.05766	-.02340	.08248	.05887	.14093	.46764
GOVNIINFL	-.04882	-.01887	.06357	-.11024	-.07630	.05500	-.06971	.04228	.05302
PROCONTR	.08131	-.05819	.06040	-.07782	-.19835	-.08203	-.10392	-.09061	.13896
PRICNTRC	.07421	.08459	.04143	.04429	-.03191	.01986	-.04390	-.03580	.15820
MATCONTR	.00949	-.01086	.05503	.00607	-.10839	-.05726	-.07886	.02559	.08290
SALCONTR	-.00069	-.07464	.06783	-.09819	-.20664	-.10232	-.14041	-.08422	.07511

	BUYMATDI	GOVNIINFL	PROCONTR	PRICNTRC	MATCONTR	SALCONTR
BUYMATDI	1.00000					
GOVNIINFL	.12044	1.00000				
PROCONTR	.11945	.38935	1.00000			
PRICNTRC	.11090	.16805	.17933	1.00000		
MATCONTR	.14566	.26972	.41091	.10780	1.00000	
SALCONTR	.01565	.40490	.63642	.14827	.39352	1.00000

DETERMINANT OF CORRELATION MATRIX = .0013263

KAISER-MEYER-OLKIN MEASURE OF SAMPLING ADEQUACY = .74689
 BARTLETT TEST OF SPHERICITY = 3512.5433, SIGNIFICANCE = .00000
 THERE ARE 40 (7.2%) OFF-DIAGONAL ELEMENTS OF AIC MATRIX > 0.09

FINAL STATISTICS:

VARIABLE	COMMUNALITY	* *	FACTOR	EIGENVALUE	PCT OF VAR	CUM PCT
NPROESH	.33704	*	1	4.03163	16.8	16.8
MKTRESCH	.45730	*	2	2.83418	11.8	28.6
MKTPLAN	.54280	*	3	2.18113	9.1	37.7
KNWRIVAL	.44172	*	4	1.48906	6.2	43.9
PLANEFFA	.47169	*	5	1.43175	6.0	49.9
MKTKNOWL	.29879	*	6	1.38147	5.8	55.6
COSTMEAS	.45307	*				
NEWINFOR	.53993	*				
PERFORM1	.84764	*				
PERFORM2	.85283	*				
PROIMPRV	.78251	*				
MKTSEGM	.23887	*				
NPROLAU1	.74571	*				
PROMAKET	.43169	*				
POTNINFL	.71738	*				
INTENSTY	.62306	*				
RIVTHRET	.71024	*				
MATMAKET	.70739	*				
BUYMATDI	.68116	*				
GOVNINFL	.46591	*				
PROCONTR	.68583	*				
PRICNTRC	.17344	*				
MATCONTR	.43962	*				
SALCONTR	.70362	*				

THERE ARE 83 (30.0%) RESIDUALS (ABOVE DIAGONAL) THAT ARE > 0.05
 VARIMAX ROTATION 1 FOR EXTRACTION 1 IN ANALYSIS 1 - KAISER NORMALIZATION.

VARIMAX CONVERGED IN 6 ITERATIONS.

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6
MKTPLAN	.72826					
NEWINFOR	.70074					
PLANEFFA	.67358					
COSTMEAS	.64140					
KNWRIVAL	.61937					
MKTRESH	.60547					
NPRESH	.52455					
MKTKNOWL	.48603					
POTNINFL	.84358					
RIVTHRET	.82817					
INTENSTY	.76533					
PROMAKET	.60160					
SALCONTR			.82284			
PROCONTR			.81471			
GOVNINFL			.66732			
MATCONTR			.65117			
PRICNTRC						
PERFORM1				.90078		
PERFORM2				.89298		
PROIMPRV					.86535	
NPROLAU1					.84929	
MKTSEGM						
MATMAKET						.82772
BUYMATDI						.80888

N of Cases = 188

Correlation:

	MKTIMPL	TMKTU1	TMKTU2	TMKTU3	TMKTU4	TMKTU5
MKTIMPL	1.000					
TMKTU1	-.064	1.000				
TMKTU2	.346	-.018	1.000			
TMKTU3	-.084	1.000	-.064	1.000		
TMKTU4	.081	-.018	1.000	-.007	1.000	
TMKTU5	-.136	.073	.044	.025	-.007	1.000

Equation Number 1 Dependent Variable.. MKTIMPL IMPLEMENTATION OF MKT CONC

Descriptive Statistics are printed on Page 5

Beginning Block Number 1. Method: Enter TMKTU1 TMKTU2 TMKTU3 TMKTU4 TMKTU5

Variable(s) Entered on Step Number	1..	TMKTU5	REGR FACTOR SCORE	5 FOR ANALYSIS	1
2..	TMKTU4	REGR FACTOR SCORE	4 FOR ANALYSIS	1	
3..	TMKTU2	REGR FACTOR SCORE	2 FOR ANALYSIS	1	
4..	TMKTU3	REGR FACTOR SCORE	3 FOR ANALYSIS	1	
5..	TMKTU1	REGR FACTOR SCORE	1 FOR ANALYSIS	1	

Multiple R	.42404	Analysis of Variance	DF	Sum of Squares	Mean Square
R Square	.17981	R Square Change	5	22.81290	4.56258
Adjusted R Square	.15728	F Change	182	104.05944	.57176
Standard Error	.75614	Signif F Change			
		Regression			
		Residual			

F = 7.97996 Signif F = .0000

AIC	-99.19819
PC	.87427
CP	6.00000
SBC	-79.77954

Var-Covar Matrix of Regression Coefficients (B)
Below Diagonal: Covariance Above: Correlation

	TMKTU5	TMKTU4	TMKTU2	TMKTU3	TMKTU1
TMKTU5	.00333				
TMKTU4	3.435E-05	.01045			
TMKTU2	-1.596E-04	-.04747	-.02675		
TMKTU3	-8.378E-05	.02145	.06723	-.07399	
TMKTU1	-2.329E-04	.00340	.08593	-.01708	-.02833
		2.721E-04	-.00295	-.02833	.00298
		5.437E-05	-8.400E-05		

XTX Matrix

	TMKTU5	TMKTU4	TMKTU2	TMKTU3	TMKTU1	MKTIMPL
TMKTU5	1.00835	.01055	-.04791	-.02704	-.07479	.15111
TMKTU4	.01055	1.01152	.02169	.06805	-.08361	-.10490
TMKTU2	-.04791	.02169	1.01010	.08693	.01728	-.36732
TMKTU3	-.02704	.06805	.08693	1.01307	-.02870	-.16248
TMKTU1	-.07479	-.08361	.01728	-.02870	1.01327	.05958
MKTIMPL	-.15111	.10490	.36732	.16248	-.05958	.82019

----- Variables in the Equation -----

Variable	B	SE B	95% Confdnce	Intrvl B	Beta	SE Beta	Correl Part	Cor	Partial	Tolerance	VIF
TMKTU5	-.129267	.057665	-.243044	-.015490	-.151114	.067410	-.135865	-.150487	-.163918	.991718	1.008
TMKTU4	.088573	.057005	-.023903	.201048	.104905	.067516	.084339	.104306	.114417	.988616	1.012
TMKTU2	.317397	.058299	.202368	.432425	.367320	.067469	.346204	.365479	.374233	.990001	1.010
TMKTU3	.130590	.054306	.023441	.237740	.162482	.067568	.119563	.161431	.175484	.987100	1.013
TMKTU1	-.048141	.054600	-.155872	.059589	-.059581	.067575	-.064387	-.059190	-.065218	.986907	1.013
(Constant)	3.550861	.055949	3.440468	3.661253							

----- in -----

Variable	T	Sig T
TMKTU5	-2.242	.0262
TMKTU4	1.554	.1220
TMKTU2	5.444	.0000
TMKTU3	2.405	.0172
TMKTU1	-.882	.3791
(Constant)	63.466	.0000

Collinearity Diagnostics

Number	Eigenval	Cond Index	Variance Proportions					
			TMKTU1	TMKTU2	TMKTU3	TMKTU4	TMKTU5	MKTIMPL
1	1.15693	1.000	.36468	.40963	.00409	.01224	.04437	
2	1.10353	1.024	.00727	.03550	.00701	.21165	.15627	
3	1.07770	1.036	.03615	.00289	.56028	.22175	.07786	
4	.99970	1.076	.17617	.00106	.13568	.18792	.43445	
5	.87776	1.148	.00478	.50952	.01822	.27591	.26279	
6	.78438	1.214	.41095	.43691	.27472	.09053	.02425	

Step	MultR	Rsq	AdjRsq	F (Eqn)	SigF	RsqCh	FCh	SigCh	In:	Variable	BetaIn	Correl	REGR FACTOR SCORE	REGR FACTOR SCORE	REGR FACTOR SCORE	REGR FACTOR SCORE
1										TMKTU5	-.1359	-.1359	5 FOR ANA			
2										TMKTU4	.0834	.0843	4 FOR ANA			
3										TMKTU2	.3545	.3462	2 FOR ANA			
4										TMKTU3	.1608	.1196	3 FOR ANA			
5	.4240	.1798	.1573	7.980	.000	.1798	7.980	.000		TMKTU1	-.0596	-.0644	1 FOR ANA			

0 Outliers found. No casewise plot produced.

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	2.6900	4.4657	3.6064	.3493	188
*ZPRED	-2.6236	2.4603	.0000	1.0000	188
*SEFPRED	.0620	.2526	.1304	.0354	188
*ADJPRED	2.6592	4.4218	3.6053	.3489	188
*RESID	-2.0530	1.7030	.0000	.7460	188
*SRESID	-2.7150	2.2523	.0000	.9865	188
*SDRESID	-2.7614	2.2901	.0007	1.0030	188
*DRESID	-2.1237	1.7608	.0011	.7712	188
*SDRESID	-2.8134	2.3175	.0005	1.0073	188
*MAHAL	.2610	19.8734	4.9734	3.3566	188
*COOK D	.0000	.0618	.0057	.0084	188
*LEVER	.0014	.1063	.0266	.0179	188

Total Cases = 253

XTX Matrix

	TMKTC6	TMKTC1	TMKTC4	TMKTC3	TMKTC5	TMKTC2	MKTIMPL
TMKTC6	1.00648						
TMKTC1	.01714	1.01224					
TMKTC4	.03123	-.00440	1.01517				
TMKTC3	-.03374	.03128	.02440	1.00460			
TMKTC5	.04574	-.03423	.00330	1.00930			
TMKTC2	.04402	.10340	.11894	.04734	1.00930		
MKTIMPL	-.02887	.42363	.01881	-.10786	.24081	.18342	.71338

Variables in the Equation

Variable	B	SE B	95% Confdnce	Intrvl B	Beta	SE Beta	Correl Part	Partial	Tolerance	VIF
TMKTC6	-.027268	.043335	-.112506	.057970	-.028873	.045887	-.059635	-.034055	.993558	1.006
TMKTC1	.420619	.045691	.330747	.510492	.423626	.046018	.415831	.421056	.987904	1.012
TMKTC4	.017920	.043899	-.068428	.104267	.018812	.046084	.005175	.018671	.985061	1.015
TMKTC3	-.100522	.042727	-.184564	-.016481	-.107855	.045844	-.129656	-.107608	.995425	1.005
TMKTC5	.221641	.042293	.138453	.304828	.240813	.045951	.267997	.239701	.990784	1.009
TMKTC2	.175415	.044477	.087930	.262900	.183422	.046508	.164199	.180390	.967207	1.034
(Constant)	3.801237	.042686	3.717275	3.885198						

----- in -----

Variable	T	Sig T
TMKTC6	-.629	.5296
TMKTC1	9.206	.0000
TMKTC4	.408	.6834
TMKTC3	-2.353	.0192
TMKTC5	5.241	.0000
TMKTC2	3.944	.0001
(Constant)	89.051	.0000

Collinearity Diagnostics

Number	Eigenval	Cond Index	Variance Proportions						
			Constant	TMKTC1	TMKTC2	TMKTC3	TMKTC4	TMKTC5	TMKTC6
1	1.25578	1.000	.18259	.11832	.23899	.00112	.15983	.01316	.06140
2	1.08881	1.074	.02452	.12998	.02606	.20536	.03380	.29460	.19213
3	1.04029	1.099	.22620	.00000	.11586	.02105	.10009	.18214	.29628
4	.99114	1.126	.02779	.05958	.04256	.62670	.00421	.16012	.07859
5	.97122	1.137	.03340	.45670	.01518	.03601	.40836	.05128	.00812
6	.85569	1.211	.32516	.02071	.19483	.08269	.00413	.28249	.23499
7	.79708	1.255	.18034	.21471	.36652	.02707	.28959	.01622	.12849

End Block Number 1 All requested variables entered.

Step	MultR	Rsq	AdjRsq	F (Eqn)	SigF	RsqCh	FCh	SigCh	In:	Variable	BetaIn	Correl	REGR	FACTOR	SCORE	FOR	ANA
1									In:	TMKTC6	-.0596	-.0596	REGR	FACTOR	SCORE	6	FOR ANA
2									In:	TMKTC1	.4150	.4158	REGR	FACTOR	SCORE	1	FOR ANA
3									In:	TMKTC4	-.0032	.0052	REGR	FACTOR	SCORE	4	FOR ANA
4									In:	TMKTC3	-.1167	-.1297	REGR	FACTOR	SCORE	3	FOR ANA
5	.5354	.2866	.2741	22.834	.000	.2866	22.834	.000	In:	TMKTC5	-.2548	-.2680	REGR	FACTOR	SCORE	5	FOR ANA
6									In:	TMKTC2	.1834	.1642	REGR	FACTOR	SCORE	2	FOR ANA

0 Outliers found. No casewise plot produced.

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	2.3364	5.1755	3.8305	.4936	348
*ZPRED	-3.0266	2.7247	.0000	1.0000	348
*SEPPRED	.0517	.2155	.1085	.0254	348
*ADJPPRED	2.3541	5.1820	3.8297	.4938	348
*RESID	-2.3360	1.7491	.0000	.7788	348
*ZRESID	-2.9736	2.2265	.0000	.9913	348
*SRESID	-2.9896	2.2463	.0005	1.0019	348
*DRESID	-2.3611	1.7804	.0008	.7956	348
*SDRESID	-3.0251	2.2598	.0000	1.0050	348
*MAHAL	.5078	25.1194	5.9828	3.3618	348
*COOK D	.0000	.0442	.0031	.0054	348
*LEVER	.0015	.0724	.0172	.0097	348

Total Cases = 630

ON GROUPS DEFINED BY MKTIMPL IMPLEMENTATION OF MKT CONCEPT

253 (UNWEIGHTED) CASES WERE PROCESSED.
 91 OF THESE WERE EXCLUDED FROM THE ANALYSIS.
 0 HAD MISSING OR OUT-OF-RANGE GROUP CODES.
 28 HAD AT LEAST ONE MISSING DISCRIMINATING VARIABLE.
 63 WERE EXCLUDED BY THE SELECT= VARIABLE.
 162 (UNWEIGHTED) CASES WILL BE USED IN THE ANALYSIS.

NUMBER OF CASES BY GROUP

MKTIMPL	UNWEIGHTED	NUMBER OF CASES WEIGHTED	LABEL
1	74	74.0	NOT AT ALL
2	88	88.0	A LITTLE
TOTAL	162	162.0	

GROUP MEANS

MKTIMPL	MKTPLAN	MKTSEGM	COORDINA	CORPPLAN	MKTRESCH	NPROLAU2	RIVTHRET	MKTSTATE
1	4.08108	4.02703	4.09459	3.98649	3.64865	2.44595	3.25676	1.17568
2	3.56818	3.80682	3.55682	3.81818	3.11364	1.95455	3.61364	1.06818
TOTAL	3.80247	3.90741	3.80247	3.89506	3.35802	2.17901	3.45062	1.11728

MKTIMPL	PROCONTR	SALCONTR	CORE-INFL	PERFORM1	PERFORM2
1	2.05405	1.94595	3.45946	3.65319	3.71642
2	2.42045	2.12500	3.64773	3.53409	3.43152
TOTAL	2.25309	2.04321	3.56173	3.60494	3.56173

MKTIMPL	MKTPLAN	MKTSEGM	COORDINA	CORPPLAN	MKTRESCH	NPROLAU2	RIVTHRET	MKTSTATE
1	1.06959	1.20471	0.87849	0.97212	1.18706	1.08718	0.84498	0.38314
2	1.05912	1.14328	1.01549	1.16998	1.06600	0.96976	0.98765	0.25350
TOTAL	1.09112	1.17323	0.98963	1.08409	1.15084	1.05091	0.93949	0.32276

MKTIMPL	PROCONTR	SALCONTR	CORPINFL	PERFORM1	PERFORM2	PROCONTR	SALCONTR	CORPINFL
1	1.33336	1.16915	1.38672	0.93524	0.92928			
2	1.37900	1.21118	1.24143	0.95831	1.01478			
TOTAL	1.36646	1.19184	1.30903	0.94808	0.98398			

POOLED WITHIN-GROUPS CORRELATION MATRIX

	MKTPLAN	MKTSEGM	COORDINA	CORPPLAN	MKTRESCH	NPROLAU2	RIVTHRET	MKTSTATE	PROCONTR	SALCONTR	CORPINFL
MKTPLAN	1.00000										
MKTSEGM	0.48882	1.00000									
COORDINA	0.27418	0.23045	1.00000								
CORPPLAN	0.47233	0.37360	0.28360	1.00000							
MKTRESCH	0.36846	0.32130	0.34309	0.05466	1.00000						
NPROLAU2	-0.02523	-0.03468	0.10279	0.08146	0.11153	1.00000					
RIVTHRET	0.15096	0.06871	0.13528	-0.08547	-0.01943	-0.01989	1.00000				
MKTSTATE	-0.00852	-0.03663	0.00880	-0.12400	-0.01557	0.00403	0.02074	1.00000			
PROCONTR	-0.08367	0.0408	-0.02880	-0.12400	-0.01557	0.00403	0.15549	-0.01766	1.00000		
SALCONTR	-0.16717	-0.13766	-0.12481	-0.18884	0.00628	0.14466	0.00157	0.04849	0.53488	1.00000	
CORPINFL	-0.08586	-0.13402	-0.01975	-0.08000	0.05724	-0.00732	0.16139	0.01705	0.55575	0.44716	1.00000
PERFORM1	-0.07958	0.00957	0.11736	0.10482	-0.04358	-0.13256	-0.16344	-0.08600	0.11399	-0.06762	-0.01448
PERFORM2	-0.01136	-0.03873	0.03233	0.08632	0.00743	0.05052	-0.15855	-0.01807	0.09967	0.01135	0.00017

PERFORM1 PERFORM2

PERFORM1 PERFORM2 1.00000

CORRELATIONS WHICH CANNOT BE COMPUTED ARE PRINTED AS 99.0.

WITH 1 AND 160 DEGREES OF FREEDOM

VARIABLE	WILKS' LAMBDA	F	SIGNIFICANCE
MKTPLAN	0.94483	9.342	0.0026
MKTSEGM	0.99120	1.420	0.2352
COORDINA	0.92627	12.74	0.0005
CORPPLAN	0.99398	0.9687	0.3265
MKTRESCH	0.94604	9.126	0.0029
NPROLAU2	0.94541	9.239	0.0028
RIVTHRET	0.96397	5.980	0.0156
MKTSTATE	0.97231	4.557	0.0343
PROCONTR	0.98205	2.925	0.0892
SALCONTR	0.99436	0.3424	0.3424
CORPINFL	0.99484	0.8306	0.3635
PERFORM1	0.99332	1.076	0.3011
PERFORM2	0.97914	3.408	0.0667

PRIOR PROBABILITIES

GROUP	PRIOR	LABEL
1	0.45679	NOT AT ALL
2	0.54321	A LITTLE
TOTAL	1.00000	

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION	AFTER FUNCTION	WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
1*	0.29733	100.00	100.00	0.4787316	0	0.7708161	39.957	13	0.0001

* MAPPS THE : CANONICAL DISCRIMINANT FUNCTIONS REMAINING IN THE ANALYSIS.

FUNC 1

MKTPLAN	0.46406
MKTSEGM	-0.07466
COORDINA	0.35781
CORPLAN	-0.26530
MKTRESCH	0.29474
NPROLAU2	0.42833
RIVTHRET	-0.41812
MKTSTATE	0.30039
PROCONTR	-0.18254
SALCONTR	-0.08093
CORPINFL	0.07169
PERFORM1	0.13221
PERFORM2	0.12726

STRUCTURE MATRIX:

POOLED WITHIN-GROUPS CORRELATIONS BETWEEN DISCRIMINATING VARIABLES
AND CANONICAL DISCRIMINANT FUNCTIONS
(VARIABLES ORDERED BY SIZE OF CORRELATION WITHIN FUNCTION)

FUNC 1

COORDINA	0.51740
MKTPLAN	0.44315
NPROLAU2	0.44069
MKTRESCH	0.43799
RIVTHRET	-0.35454
MKTSTATE	0.30951
PERFORM2	0.26766
PROCONTR	-0.24795
MKTSEGM	0.17276
PERFORM1	0.15041
CORPLAN	0.14270
SALCONTR	-0.13806
CORPINFL	-0.13214

1 0.59094
2 -0.49693

TEST OF EQUALITY OF GROUP COVARIANCE MATRICES USING BOX'S M

THE RANKS AND NATURAL LOGARITHMS OF DETERMINANTS PRINTED ARE THOSE OF THE GROUP COVARIANCE MATRICES.

GROUP LABEL	RANK	LOG DETERMINANT
1 NOT AT ALL	13	-3.923640
2 A LITTLE	13	-3.677858
POOLED WITHIN-GROUPS COVARIANCE MATRIX	13	-3.097240

BOX'S M APPROXIMATE F DEGREES OF FREEDOM SIGNIFICANCE
110.84 1.1133 91, 75514.0 0.2161

CLASSIFICATION RESULTS FOR CASES SELECTED FOR USE IN THE ANALYSIS -

ACTUAL GROUP	NO. OF CASES		PREDICTED GROUP MEMBERSHIP	
	1	2	1	2
GROUP 1	74	52	70.3%	22
NOT AT ALL			29.7%	
GROUP 2	88	22	25.0%	66
A LITTLE			75.0%	

PERCENT OF "GROUPED" CASES CORRECTLY CLASSIFIED: 72.84%

CLASSIFICATION RESULTS FOR CASES NOT SELECTED FOR USE IN THE ANALYSIS -

ACTUAL GROUP	NO. OF CASES		PREDICTED GROUP MEMBERSHIP	
	1	2	1	2
GROUP 1	33	20	60.6%	13
NOT AT ALL			39.4%	
GROUP 2	30	9	30.0%	21
A LITTLE			70.0%	

PERCENT OF "GROUPED" CASES CORRECTLY CLASSIFIED: 65.08%

630 (UNWEIGHTED) CASES WERE PROCESSED.
 320 OF THESE WERE EXCLUDED FROM THE ANALYSIS.
 0 HAD MISSING OR OUT-OF-RANGE GROUP CODES.
 181 HAD AT LEAST ONE MISSING DISCRIMINATING VARIABLE.
 139 WERE EXCLUDED BY THE SELECT= VARIABLE.
 310 (UNWEIGHTED) CASES WILL BE USED IN THE ANALYSIS.

NUMBER OF CASES BY GROUP

MKTIMPL	UNWEIGHTED	NUMBER OF CASES WEIGHTED	LABEL
1	192	192.0	MKT BEHAVIOUR
2	118	118.0	NON-MKT BEHAVIOUR
TOTAL	310	310.0	

GROUP MEANS

MKTIMPL	MKTRESCH	COSTMEAS	MKTSEGM	PLANEFFA	KNWRIVAL	NEWINFOR	NPRORESH	MKTKNOWL
1	3.79688	3.44792	2.22396	3.95833	3.84375	3.95313	3.76563	3.51042
2	3.22881	2.85593	1.91525	3.56780	3.59322	3.50847	3.26271	3.15254
TOTAL	3.58065	3.22258	2.10645	3.80968	3.74839	3.78387	3.57419	3.37419

MKTIMPL	MKTPLAN	RIVTHRET	NPROLAU1	SALCONTR	PROCONTR	GOVNINFL
1	4.10417	3.21354	3.09375	2.19271	2.52083	3.02604
2	3.61017	2.91525	2.26271	2.61864	2.82203	3.27966
TOTAL	3.91613	3.10000	2.77742	2.35484	2.63548	3.12258

MKTIMPL	MKTRESCH	COSTMEAS	MKTSEGM	PLANEFFA	KNWRIVAL	NEWINFOR	NPRORESH	MKTKNOWL
1	0.90107	1.02196	0.71400	0.92001	0.90175	0.84562	0.99857	0.94890
2	0.89070	1.05632	0.62122	0.91967	0.95396	0.82427	1.01634	1.00959
TOTAL	0.93733	1.07282	0.69554	0.93783	0.92847	0.86372	1.03310	0.98630

MKTIMPL	MKTPLAN	RIVTHRET	NPROLAI	SALCONTR	PROCONTR	GOVNINFL
1	0.87405	1.09316	1.31904	1.24040	1.24891	1.18646
2	1.00455	1.00916	1.18702	1.26030	1.25835	1.10078
TOTAL	0.95501	1.07019	1.33128	1.26308	1.25903	1.15937

POOLED WITHIN-GROUPS CORRELATION MATRIX

	MKTRESCH	COSTMEAS	MKTSEGM	PLANEFFA	KNWRIVAL	NEWINFOR	NPRORESH	MKTKNOWL	MKTPLAN	RIVTHRET	NPROLAI
MKTRESCH	1.00000										
COSTMEAS	0.28793	1.00000									
MKTSEGM	0.19696	0.12587	1.00000								
PLANEFFA	0.18115	0.35882	0.10102	1.00000							
KNWRIVAL	0.25864	0.22291	0.09138	0.27566	1.00000						
NEWINFOR	0.33462	0.27964	0.17153	0.32261	0.53820	1.00000					
NPRORESH	0.52111	0.29520	0.12678	0.21950	0.32430	0.32466	1.00000				
MKTKNOWL	0.22995	0.16353	0.18444	0.19188	0.24857	0.24666	0.21999	1.00000			
MKTPLAN	0.29548	0.25550	0.14241	0.46875	0.30208	0.40333	0.25734	0.02916	1.00000		
RIVTHRET	0.09751	0.12461	-0.05406	-0.04524	0.01107	-0.00363	0.03721	-0.00755	0.02818	1.00000	
NPROLAI	0.12978	0.17874	0.11494	0.18654	0.06492	0.14670	0.09170	0.01862	0.15344	-0.01255	1.00000
SALCONTR	0.02845	-0.02527	0.11818	0.05965	0.00417	0.07335	-0.00907	0.04543	0.12991	-0.04584	-0.03613
PROCONTR	0.06969	0.03051	0.15176	0.08761	-0.05038	0.06303	0.02824	0.03242	0.12991	-0.05158	-0.01399
GOVNINFL	0.03907	-0.02033	0.08960	-0.02301	-0.04817	-0.06897	-0.00139	0.03011	0.04964	0.05223	-0.06670

	SALCONTR	PROCONTR	GOVNINFL
SALCONTR	1.00000		
PROCONTR	0.70979	1.00000	
GOVNINFL	0.45202	0.44736	1.00000

CORRELATIONS WHICH CANNOT BE COMPUTED ARE PRINTED AS 99.0.

WILKS' LAMBDA (U-STATISTIC) AND UNIVARIATE
WITH 1 AND 308 DEGREES OF FREEDOM

VARIABLE	WILKS' LAMBDA	F	SIGNIFICANCE
MKTRESCH	0.91313	29.30	0.0000
COSTMEAS	0.92798	23.90	0.0000
MKTSEGM	0.95341	15.05	0.0001
PLANEFFA	0.95899	13.17	0.0003
KNWRIVAL	0.98278	5.397	0.0208
NEWINFOR	0.93732	20.60	0.0000
NPRORESH	0.94395	18.29	0.0000
MKTKNOWL	0.96886	9.899	0.0018
MKTPLAN	0.93672	20.81	0.0000
RIVTHRET	0.98163	5.765	0.0169
NPROLAU1	0.90783	31.27	0.0000
SALCONTR	0.97310	8.513	0.0038
PROCONTR	0.98646	4.226	0.0406
GOVNIINFL	0.98868	3.526	0.0614

PRIOR PROBABILITIES

GROUP	PRIOR	LABEL
1	0.61935	MKT BEHAV
2	0.38065	NON-MKT BEHAV
TOTAL	1.00000	

FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION	AFTER FUNCTION	WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
1*	0.30041	100.00	100.00	0.4806338	0	0.7689912	79.065	14	0.0000

* MARKS THE 1 CANONICAL DISCRIMINANT FUNCTIONS REMAINING IN THE ANALYSIS.

STANDARDIZED CANONICAL DISCRIMINANT FUNCTION COEFFICIENTS

FUNC 1

MKTRESCH	0.22833
COSTMEAS	0.16534
MKTSEGM	0.26293
PLANEFFA	0.01335
KNWRIVAL	-0.14738
NEWINFO	0.15650
NPRORESH	0.09070
MKTKNOWL	0.10211
MKTPLAN	0.29408
RIVTHRET	0.20266
NPROLAU1	0.44544
SALCONTR	-0.27834
PROCONTR	-0.10164
GOVNIINFL	-0.04747

STRUCTURE MATRIX:

POOLED WITHIN-GROUPS CORRELATIONS BETWEEN DISCRIMINATING VARIABLES
AND CANONICAL DISCRIMINANT FUNCTIONS
(VARIABLES ORDERED BY SIZE OF CORRELATION WITHIN FUNCTION)

	FUNC 1
NPROLAU1	0.58133
MKTRESCH	0.56275
COSTMEAS	0.50827
MKTPLAN	0.47423
NEWINFOR	0.47182
NPRORESH	0.44458
MKTSEGM	0.40333
PLANEFFA	0.37732
MKTKNOWL	0.32709
SALCONTR	-0.30333
RIVTHRET	0.24962
KNWRIVAL	0.24151
PROCONTR	-0.21373
GOVWINFL	-0.19521

GROUP	FUNC	1
1	0.42829	
2	-0.69688	

TEST OF EQUALITY OF GROUP COVARIANCE MATRICES USING BOX'S M

THE RANKS AND NATURAL LOGARITHMS OF DETERMINANTS PRINTED ARE THOSE OF THE GROUP COVARIANCE MATRICES.

GROUP LABEL	RANK	LOG DETERMINANT
1 MKT BEHAV	14	-3.116400
2 NON-MKT BEHAV	14	-3.877114
POOLED WITHIN-GROUPS COVARIANCE MATRIX	14	-3.046124

BOX'S M	APPROXIMATE F	DEGREES OF FREEDOM	SIGNIFICANCE
110.65	0.99981	105,	195296.5
			0.4822

CLASSIFICATION RESULTS FOR CASES SELECTED FOR USE IN THE ANALYSIS -

ACTUAL GROUP	NO. OF CASES	PREDICTED GROUP MEMBERSHIP	
		1	2
GROUP 1 MKT BEHAV	192	156 81.3%	36 18.8%
GROUP 2 NON-MKT BEHAV	118	53 44.9%	65 55.1%

425

PERCENT OF "GROUPED" CASES CORRECTLY CLASSIFIED: 71.29%

CLASSIFICATION RESULTS FOR CASES NOT SELECTED FOR USE IN THE ANALYSIS -

ACTUAL GROUP	NO. OF CASES	PREDICTED GROUP MEMBERSHIP	
		1	2
GROUP 1 MKT BEHAV	87	69 79.3%	18 20.7%
GROUP 2 NON-MKT BEHAV	52	20 38.5%	32 61.5%

PERCENT OF "GROUPED" CASES CORRECTLY CLASSIFIED: 72.66%