CHANGES IN BUSINESS ENVIRONMENT IN KENYA: A STUDY OF THEIR INFLUENCE ON FOOD MANUFACTURING FIRMS IN NAIROBI.

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DECLARATION

This research paper is my original work and has not been submitted for examination in any other university.

Fred M. N. Chune

Signature:.................................... Date: 6. 11. 98

The research paper has been submitted for examination with my approval as a university supervisor.

Dr. Evans Aosa

Chairman

Department of Business Administration Date: 6.11.98

Dedication

To my family: Wife Bilha

and our children Julie, Collins and Rachel

AND

my mother Priscilla

and late father Jonathan Chune,

all my brothers and sisters

WHO

have been a source of great inspiration

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ABSTRACT

The study was carried out between May and July, 1998. The principle objective of the study was to identify changes in food manufacturing firms internal corporate behaviuor which may be as a result of changes in the external environment. The firms studied were those in Nairobi. Fifteen food manufacturing firms agreed to participate in the study. Questionnaires were completed and provided information in this report.

To assess the influence of changes in external business environment, primary data was collected through personally administered questionnaires. They had both structured and unstructured questions. It was observed that food manufacturing firms studied indicated changes in the internal behaviour due to changes in their external environment. Government policy and competitive activities appear to be the major factors in the external environment that affect internal behaviour. Government's policy should therefore aim at creating an enabling environment for business firms to pursue their business objectives. These changes in the external environment have led firms to concentrate on their brands, competition information gathering and advertising as a competitive strategy.

The changing business environment is influencing firms to change the way in which they carry on their operations. Firms have been forced to focus on the external environment and determine which elements they can manage by changing their internal posture. The study reveals various internal changes that have been adopted by firms to react to the changing external environment.

CHAPTER ONE

1.0 INTRODUCTION.

1.1 Background

The business environment in Kenya has been changing since the country attained independence in 1963. After independence, the new government chose an interventionist approach towards the management of the economy. This was done through policies that gave the state a prominent role in production and regulation of economic activities. This approach included protective trade policies and creation of government monopolies that reduced competition.

The interventionist policy led to overvalued exchange rates and large prolonged budget deficits. This undermined long term growth. In the 1970's the government introduced a web of regulations and licences for most economic activities, restriction of trade and allocation of foreign exchange. State owned enterprises were created and given special access to scarce credit. During the same period, the government was unwilling to rely on foreign capital and had an underlying distrust for the allocation of resources through the market forces. There developed negative bias towards the private sector due to distrust of market forces. This was used to justify government interference in economic activities. In addition there occurred too many administrative bottlenecks in the system of government administration. These bottlenecks led to very high costs for private businesses due to inefficient public services. This scenario resulted into serious micro and macro-imbalances in the economy during the period 1980 - 85. (Swamy G, 1994) Observations made by World Bank indicate that governments in developing countries have regulated purely economic aspects of firm's behaviour hampering competition and often causing high costs in lost output and income (World Development Report, 1991).

This government regulation that leads to barriers to entry and exit can do enormous harm by encouraging unprofitable and inefficient firms and discouraging new entrants. Under these restrictive trade practices, benefits accrue to large firms from manipulation of the system itself rather than from innovation or adoption of new technologies and efficient production that would be demanded from the rigour of competitive markets at home and abroad (World Development Report, 1991).

From 1986 to date efforts by the Kenyan government have been made to move the economy from an interventionist type to a market driven orientation. The government has attempted to free the market through the implementation of changes like structural adjustment programmes and other regulatory machinery in order to provide an enabling environment for free market operations to thrive. This change in government policy has opened up the economy to intense competition especially in previously protected sectors. The food manufacturing industry has not been spared in this scenario. Imports from other countries have been introduced to the Kenyan market posing threats to local industries. Due to liberalisation of trade and licencing procedures, food manufacturing firms are proliferating and providing competition to existing firms. In order to remain competitive and grow, firms in the food manufacturing industry have to adopt certain corporate postures that will enable them withstand competition providing for survival and growth for the firms. The posturing requires that firms properly study external environment to shield the organisations from any external threats and allow them to exploit opportunities identified in the external environments.

1.2 The Research Problem

Various changes have occurred in the business environment in Kenya in recent years. These changes have had profound influence on corporate behaviour of firms in Kenya. This has been demonstrated by studies in Kenya such as Shimba (1993) on financial institutions, Bett (1995) on the dairy industry, Abekah (1996) on the Kenya Petroleum industry and Kombo (1997) on Motor Industry franchise holders. In this study we shall focus on food manufacturing sub-sector and try to identify changes in behaviour of food manufacturers which may be as a result of changes in their external environment. The number of food manufacturers has generally increased leading to intense competition. Food manufacturers can now source their inputs from cheapest sources including importation from outside countries. An investigation of the influence of these business environmental changes on food manufacturing firms in Nairobi seems not to have been studied hence the interest in this area by the researcher. In this study we focus on food manufacturing sector and try to identify changes in behaviour of food manufacturers which may be as a result of changes in the external environment.

1.3 Objective of the Study

The main objective of this study is to identify any changes in food manufacturers internal corporate behaviour which may be as a result of changes in the environment.

1.4 Significance of the Study

It is hoped that the findings of this study will be of interest to:-

(a) Management of various food manufacturing firms who may wish to know more about factors that are important in formulating strategy to respond to their changing external environment.

(b) Government in its endeavour to industrialise by looking at factors that can be influenced to encourage industrial development.

(c) Scholars who may wish to use the findings of the study for further research in other industries.

1.5 Operational Definitions

External Environment

A firms external environment consists of all the conditions that affects its strategic options but are typically beyond its control (Pearce, and Robinson, 1991).

Differentiation:

This refers to how the different functional departments of an organisation are designed to carry out transactions with the environment (Huse and Cumming, 1985).

Integration:

This refers to the degree of coordination required among an organisation's departments (Huse and Cumming, 1985).

1.6 Structure of the Project

This project contains five chapters. Chapter one (1) gives the background information on the Kenyan business environment since independence, statement of the problem, objective of the study, significance of the study and offers some operational definitions. Chapter two (2) covers literature review where the conceptual framework, managing of the business external environment and the Kenyan business environment are discussed. In chapter three (3) research methodology is outlined and include type of the study, population of interest, data description and collection method and the data analysis techniques applied on this data. Chapter four (4) covers data analysis and research findings. In chapter five (5) discussions and conclusions are presented followed by recommendations and limitations of the study.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Conceptual Framework

An organization is defined as a social entity that is a goal directed, deliberately structured activity system with an identifiable boundary (Bendian, 1980). An organisation has an external environment with which it interacts. This interaction creates both opportunities and threats to the organisation. Hicks and Gullet (1975) observed that the individual motivation for an organisation accepting environmental challenges are numerous and multi-level. Long term organisational viability or survival is dependant on some form of interaction with the external environment from which energy, resources and even customers are sought. Hicks and Gullet (1975) conclude that environmental approval for continuation is only available if the organization recognizes its challenges.

Ansoff and Mc Donell (1990) observe that the management system used by a firm is a determining component of the firms responsiveness to environmental changes. This determines the way the management perceives environmental challenges, diagnoses their impact on the firm, decides what to do and implement the decisions. They further observe that in response to the increasing turbulence of the environment, systems have been forced to become progressively more responsive and more complex.

A further analysis of business environmental changes is by Buchholz (1992) who observes that public policy is becoming an even important determinant of corporate behaviour as market outcomes are being increasingly altered through public process.

He argues that it is important for business management to understand the conceptual differences between the market system and the public process which involves allocation of goods and services with the public as a major point of focus towards achieving public welfare. The role of the external environment is identified as a determinant of internal corporate behaviour.

Jackson and Morgan (1978) view an organization as an open system. This view places an enormous weight on the external environment of organizations as being influential for their internal functioning. As an open system an organization has an exchange relationship with the environment and must import energy from the environment to survive. They look at an organization as a natural system i.e. an organic entity which changes and grows as its environment changes.

According to Jackson and Morgan (1978), environments vary according to the amount of changes taking place in them. They observe that the complexity of knowledge needed to operate in any environment is also important. Thus if an environment is simple, it requires little sophisticated or technical knowledge for the organisation to be successful to be successful. A complex and rapidly changing environment increases the need for differentiation and integration of an organisation. A complex environment requires that the management creates highly specialised departments to develop expertise that handles the demands of uncertainty due to environmental changes. Increased integration is necessary as frequent changes require more information processing and adjustments within and across departments. Differentiation increases since each department has to develop structures that are best suited to the part of environment it deals with.

O'Connor (1994) observed in a study he conducted in USA to determine factors influencing surviving and failed organisations that firms that survived hardships worked to protect themselves from the vulnerability of their external environment. This observation was made after studying two hundred and twenty one firms over a ten year period.

Levitt (1988) argues that the effectively functioning organisation makes change its open ally. This keeps barriers for success low. Any organisation has therefore to monitor its external environment in light of the current changes which include global competition, technological changes, renewed value of human capital, demographic changes that presage market shifts and the changing role and shift in government activities.

2.2 Managing the External Environment

It has to be appreciated that an organisation's external environment (domain) is usually changing and is uncertain. The environment influences the organisation through the need for information and the need for resources (Daft, 1986). In general, managements of organisations in relatively stable environments are easier than management of those in relatively turbulent environment. An organisation has various options to pursue in order to relate positively to its external environment. Galbraith (1977) suggests various ways of external environmental management. He observes that an organisation can adopt various strategies with which to interact with the external environment. This strategies include independent strategies of competitive response, public response and voluntary response. An organisation may also adopt co-operative strategies of implicit co-operation, contracting and co-optation. Finally an organisation can enter into a coalition and incase any of the above tactics fail, the organisation can engage in strategic manoeuvring where an organisation enters into mergers and joint ventures in an effort to influence the external environment. Daft (1986) observes that in order for the organisation to adopt to the change in external environment it can pursue various strategies. These includes creation of positions and departments, creation of boundary spanning roles through organisation differentiation and integration. He further proposes other strategies that include planning and forecasting, changing of the domain, government/political lobbying activities and joining trade associations.

Pearson (1988) states that among the factors that distinguish competitors from the rest includes understanding that consistent innovation is key to a company's survival and that the most powerful changes that these companies can make are those that create value for the customers and potential customers in the external environment.

Hofer and Schendel (1978) observe that in general organisations depend much more for their long run success and survival on improving on their effectiveness (i.e., how well they relate to their environment) than on improvements in their efficiency. It can therefore be concluded that organisations need to focus on external environmental changes and on being effective in order to survive.

Mc Kenna (1988) observed that in view of the diversity in companies brought about by technology which leads to production of more goods and services and less product differentiation, efforts should be made towards niche marketing and changes in corporate structure and evolution of distribution channels. The false security of market share is no longer tenable in the current turbulent business environment.

Therefore in order to select appropriate environmental management strategies, management needs to engage in any of the following activities:

(a) Change appropriate elements of the environment i.e. strategies aimed at those elements that cause company problems, provide it with opportunities and allow the company to change successfully.

(b) Choose strategies that focus on pertinent elements of the environment.

(c) Implement strategies that offer the most benefit at the lowest cost.

2.3 The Kenyan Business Environment

In Kenya food manufacturing started during the colonial era where it was meant to satisfy settler consumer needs which had hitherto been satisfied through the import/ export houses established around 1905. The major purpose was to use Kenya to satisfy supply of consumer goods within East Africa instead of importing all the manufactured goods, including those which were made largely from primary products produced in East Africa. A few industries processing primary products for sale within the East African market and for export in case of such items like tea were established in Kenya before World War II (Coughlin and Ikiara, 1988).

Included here were companies like East African Breweries (1922), African Highland Produce Company (1924), Kenya Tea company (1924), East African Meat Commission (1935) and Unga Meals Limited (1935). By 1961 the food import bill was rated as being very high. Therefore food processing became an area of import substitution industrialisation (I.S.I) strategy (Coughlin and Ikiara, 1988). Due to rapid urbanisation and rising income, the market for processed foodstuff was bound to expand.

Companies like Glaxo and Cow and Gate were established in 1964. Cadburry Schweppes was established in 1970.

Through government sessional paper No. 4 of 1981, the government endeavoured to put in place a programme to improve and expand food processing facilities. It also sought to improve management of marketing and distribution of food products (sessional paper No. 4, 1981).

In Kenya various changes in the business environment have occurred in the recent years. The first major change has been the formulation and implementation of Structural Adjustment Programmes (SAPs) with the aim of broadening the role of market signals and aligning high relative prices more closely with those of world markets. SAPs in Kenya are being implemented in areas of trade policy, tax regime, civil service reform, energy sub-sector, social sub-sector and privatisation of state owned enterprises. The implementation of these SAPs has been legitimized through various government policy documents including the Sessional Paper No. 1 of 1986 on Economic Management for Renewed Growth, Sessional Paper No. 1 of 1994 on Recovery and Sustainable Development to the year 2010, the 7th and 8th National Development Plans. The emphasis in current policy is therefore aimed at aligning incentive structures to promote efficiency in resource used by use of markets for price determination.

Technology changes in the Kenyan business environment have also been realised. Technology is defined here as the invention or innovation from applied science or engineering (Berkowitz 1994). Each wave of technological innovation can replace existing products or companies. This is more evidenced in the computer industry (Information technology). Roach (1991) observes that increasing technology overdose has led to short product replacement cycles. This addiction to technology has led to a flourishing information infrastructure. The attendant problem has led to high fixed costs regime for firms leading to less fixed flexibility.

Technology is a factor of current state of technology, nature of product or service and cost involved (Hicks and Gullet 1978). For organisations to survive they must keep up with current technology since technological changes have an impact on personnel and organisational structures. Technology can cause tensions and impair effectiveness. It can also affect the psychological system since it can influence work groups, frequency of contacts, type of structures (mechanistic/organic) especially when a firm's environment is in transit from stable to unstable environment.

These technological changes have led to changes in how businesses are managed. Technologically, concentration has been more on minor improvements rather than major discoveries. In most cases, technology in Kenya has basically been transferred from foreign countries through operations of multinational corporations. Minor strides of technological change have been realised in the informal sector (Jua Kali Sector).

Technological change is currently a target of increased government regulation like areas of environmental regulations compliance. This is done through bodies within the government machinery.

Competition in the Kenyan business environment has also intensified due to relaxation of controls leading to a freer trading environment. The freeing of many world trade barriers has resulted into global competition for supply of goods and services. The Kenyan customer is now exposed to a greater variety of goods and services both from within and from external markets. Due to diminishing purchasing power of customers caused by economic hardships, customers are placing greater weight on quality and value in making purchase decision. This means that organisations should emphasise on managing business processes and integrating business functions in order to remain competitive. In addition, consumer needs and proliferation of consumer styles are favouring firms that offer faster delivery, better service, lower prices and faster product development processes that address the changing customer needs. Competition has seriously affected firms that previously enjoyed monopoly status especially through state regulations. Many firms producing similar products have been formed leading to intense competition. In addition many firms are pursuing policies which they perceive to be enhancing product quality with the aim of delivering value to customers. To achieve product quality that satisfies customers, organisations are re-looking at their internal processes in order to cut down on cost and improve efficiency. Such measures include activities like down-sizing, process re-engineering and out sourcing some of their services.

Other changes in the Kenyan environment include regulatory forces e.g. the Restrictive Trade Practices and monopolies Act, and Standard's Act Cap 496 of 1974 on product quality regulations. This regulatory changes dictate how organisations operate in order to comply. These changes include those covering taxation, product quality, consumer protection and employee protection among others. The increasing business activities have led to an increasing amount of legislative control of businesses by the government purely to protect consumers from business firms, protect companies from each other (Commercial Court), and more rigour in government agencies enforcement. The growth of public interests group like the Kenya Consumers Association have also improved consumer awareness.

Economic forces at the macro level of the economy have also had an impact. An inflationary economy has been in operation leading to high cost of production of goods and services. Economic recession has slowly crept in due to government's deficit financing and withdrawal of donor funding among other reasons (Quarterly Budget Review 1996/97). High interest rates at rate of between 30 - 35% have increased the cost of borrowing and reduced risk taking. One observation on Kenyan economy is that it has been undergoing recession implying a slow economic activity leading to decrease in production. Firms have been forced to retrench staff leading to increase in unemployment with the attendant reduction in money to spend.

The advent of economic integration with the aim of creating a common East African Market is also changing the business environment. Common Market with tariff-free structure is likely to stimulate demand for goods and services produced by firms within Kenya. This is a result of a transitional agreement signed by the heads of states of Kenya, Uganda and Tanzania establishing a permanent tripartite commission for the East African Co-operation. This commission has developed the East African Co-operation Development Strategy. This is a programme which seeks to establish a single market and investment area for the region by the year two thousand. Its area of focus has been development of new products and services, new markets and new modes of trade (Institute of Economic Affairs).

Changes have also been realised in the demographic environment. There has generally been a shift in the population from rural to urban areas. Secondly, there has been an increase in population from the city centre to suburbs. There is also a slow growth in birth rate. These demographic changes influence consumer patterns and human resource availability.

Collectively the above changes have led to a competitive environment with the market playing a major role in the allocation of goods and services in Kenya. A number of studies have been done on the impact of the changing business environment in Kenya. Shimba (1993) on financial institutions looked at the impact of business environmental changes on financial institutions and observed that liberalisation had an impact on the functioning of financial institutions especially the banking sector. Bett (1995) studied the dairy industry and observed that liberalisation had led to a turbulent environment in the dairy industry which affected the strategic decisions made. Kombo (1997) on motor industry franchise holders found that the changed environment due to liberalisation forced these franchise to re-look at their operations.

Aosa (1992) investigated aspects of strategy formulation and implementation within large private manufacturing companies and observed among other conclusions that environmental turbulence tended to pose challenges to management. Other studies in the area of impact of changes in business environment on business operations include those by Abekah (1996) on the Kenyan petroleum industry. All these studies tend to emphasise a relationship between changes in business external environment and internal company operations.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Type of study

The objectives of this study will be achieved through conducting a survey on a population of 52 food manufacturers in Nairobi. This represents a total number of food manufacturers in Nairobi as per records held at Kenya Industrial Research and Development Institute (KIRDI).

Tull and Albaum (1973) define a survey research as a systematic gathering of information from (a sample of) respondents for the purpose of understanding and/or predicting some aspect of the behaviour of the population of interest. Since we are concerned with the behaviour of firms (population of interest) a Survey study is appropriate. It is possible in a survey to collect quantitative data and this facilitates comparisons. Since the population of interest is 52 firms, a survey using census is justified as this type of study enhances confidence in the conclusions made. A census study is also appropriate whenever the population is small and population units are varied i.e. each population unit is likely to be very different from other units. A census study is also feasible from a cost, time and accuracy stand point. (Parasuraman, 1986)

3.2 Population of Interest

The population of interest consist of 52 food manufacturing firms in Nairobi. These are registered under the International Statistical Industry Code (ISIC) 311 with the Kenya Industrial Research and Development Institute. These firms produce food products. Most are located in Industrial area in Nairobi. Their products are mainly consumed in Nairobi and its environs. They source their raw materials from both local suppliers and foreign markets as a result of liberalization. Some of them market their products in foreign markets as a result of trade liberalization.

3.3 Data description and collection

The study used both secondary data and primary data. Primary data was collected using a questionnaire which contained both structured and unstructured questions. The questions were open ended and of the closed type (Appendix III). The questionnaires were administered personally by the researcher. The questionnaire was pretested on a small sample of respondents and necessary modifications were made to enable the questionnaire assist in achieving the objective of the study.

3.4 Data analysis techniques

Data in this study was analysed using descriptive statistics. This included tables proportions/percentages and mean scores to achieve the objectives. The 5- point Likert scale was used with 5 taken to mean highest level and 1 taken as lowest level. The Likert scale was used as it provided for expression of intensity of feeling and that it appears reliable. The scale is also simple to construct. Likert scale also provides a score only for respondents (Tull & Albaum, 1973). The statistical package for IBM PC SPSS/PC+ was used to analyse data secured using the 5-point Likert scale. This involved applying factor analysis statistical technique.

Factor Analysis

It is a form of data analysis technique for analysing interdependence between questions variables or objects. The goal is to generate understanding of the underlying structure of questions, variables or objects and combine them into new variables. Most of the attributes in a study may be redundant since they may be measuring the same thing. Factor analysis can therefore be used to determine which variables are redundant and what they are measuring.

Steps of factor analysis.

Factor analysis involves the following steps;

(i) Identification of a set of correlations between all combinations of the variables of interests.

(ii) A set of initial factors is extracted from the correlation matrix.

(iii) The initial factors are rotated to find a final solution. Factor loadings, although not correlations can still be interprated as indicators of the association between the variables and the factor. The factors structure matrix is the output of the program and shows variable - factor correlation.

Factor

Is a variable or construct that is not directly observable but needs to be infered from the input variables. The factor also might be viewed as a grouping of those input variables that measure or are indicators of the factor.

In order to improve on interpratability of data a process of varimax rotation is used and searches for a set of factor loadings close to 0 and some loadings close to -1 or +1.

The logic is that interpretation is easier when the variable correlation are either closer to +1 or -1 indicating a clear association between the variable and the factor or close to 0 indicating a clear lack of association. A subjective judgement guided by theory is needed to determine which perspective the principal construct or varimax components are more valid. The number of factors is determined and identified before the analysis from theory and knowledge of the situation. The data are factor analysed until the constructs emerge as factors. Factor analysis procedure attempts to retain as much of the information as possible and to make the remaining variables meaningful and as easy to work with as possible (Parasuraman, 1986).

In this study, various variables were used to probe into areas like marketing, planning, government policy, organisation structure etc.

CHAPTER FOUR

4.0 DATA ANALYSIS AND FINDINGS

A total of 15 firms agreed to participate in the study. Their responses are hereby analysed as follows

Table 4.1 Distribution of firms by age

Year Established	Number of Firms	Percentage (%)
Before 1963	7	47
1964 - 1970	2	13
1971 - 1980	0	0
1981 to Date	6	40
Total	**15**	**100**

Source: Interviews

According to the table, most of the firms were in existence before 1963 representing 47% with the other major group being established after 1981 accounting for 40%.

Table 4.2 Distribution of firms based on ownership

Ownership	Frequency	Percentage (%)
Local	12	80
Foreign	2	13
Local and Foreign	1	7
Total	**15**	**100**

Source: Interviews

According to the above table, most of the food manufacturers studied are basically local companies accounting for 80% of all the firms interviewed.

Table 4.3 Size of firms based on number of employees

Number of Employees	Frequency	Percentage (%)
Below 100	8	53
101 - 500	5	33
501 - 1,000	1	7
Over 1,000	1	7
Total	**15**	**100**

Source: Interviews

From the table above, most of the firms in the food industry have less than 500 employees representing 86% and are therefore medium in size.

Existence of planning department

Respondents were asked to indicate whether a planning department existed in their firms or not. The response was as per the table below.

Table 4.4

Response	Number of firms	Percentage (%)
Yes	5	33
No	10	67
Total	**15**	**100**

Source: Interviews

From the table most companies representing 67% do not have a planning department. On further probing on this issue, many firms indicated that planning is done at the departmental level after which the plans are discussed at top management level. Hence it is not possible to have a centralised department dealing exclusively with planning as a major function.

Competition

Firms were requested to indicate the type of competition facing their firms. The responses were as per the table below.

Table 4.5

Response	Number of Firms	Percentage (%)
Very stiff	13	87
Fairly stiff	2	13
Not stiff	0	0
Total	**15**	**100**

Source: Interviews

From the above table competition in the food industry is stiff. On further probing of the respondents, this competition was said to emanate from entry of new firms and imported products.

Respondents were required to indicate which activities they engaged in to remain competitive. The following were some of the actions taken by firms to remain competitive:-

- Improvement in customer relationship by expanding the number of customer related employees.
- Advertisement.
- Sub-contracting physical distribution of goods to professional firms e.g.. Tibbett and Britten.
- Introduction of market research units as a function within the marketing department.
- Computerisation of operations for transactions processing, planning and decision making.
- Improvement of product quality to get certification by certifying organisations e.g. Kenya Bureau of Standards and S. G. S.

Brand of products

Respondents were requested to indicate the number of brands of products currently being manufactured within the firms and responses were as follows:

Table 4.6

Number of Brands	Number of Firms	Percentage (%)
1 - 5	3	20
5 - 10	10	67
Over 10	2	13%
Total	**15**	**100**

Source: Interviews

From the table above the range of brands of food manufacturers by many firms studied are below 10 representing 87% of the firms studied.

Brands developed within the last five years

Respondents were asked to indicate the number of brands of products developed within the last five years and the responses were as follows.

Table 4.7

Number of brands	Number of firms	Percentage (%)
None	2	13
1 - 5	10	67
5 - 10	1	7
Over 10	2	13
Total	**15**	**100**

Source: Interviews

From the table above it can be observed that few products have been developed within the last five years. Respondents indicated that the major cause of this low product development was mainly due to costs involved in new product development and imported products that are catering for some of the changing consumer taste. This has made development of new products expensive and unprofitable as any advantages will be wiped out by imported products. The respondents also observed that technology has reduced products shelf life leading to accelerated products maturity.

Among the factors advanced by respondents as to what determines the number of brands, market demand and competition were cited as being key. Internally, quality and technology determines what products could be produced based on market information.

Other Challenges

Respondents were asked to indicate other challenges that they have faced in the recent years due to changing business environment. Some of the challenges cited were as follows:

- Importation of contraband goods.
- Price wars in the industry.
- High interest rates on borrowed funds.
- Distribution problems caused by poor infrastructure i.e. Roads, Telephone, Water, Rail etc.
- Perceived inferior goods by export markets.
- Implementation problems of government policy e.g.. Anti-dumping and tariff management systems.
- Smuggling of goods which are finally injected into the market at lower prices.

Respondents were requested to indicate how they were facing these other challenges and whether they had foreseen them. Some of the strategies used to face these challenges included the following:-

- Government lobbying.
- Press warnings to create awareness.
- Insisting on production of quality products.
- Borrowing less and using more internally generated funds from the divisions with high cash generation position.

From the firms studied it appears many of the organisations in the food industry anticipated many of the challenges that they have encountered due to changes in the external business environment. However, the mode of response seem to have varied from one firm to the other.

FACTOR ANALYSIS RESULTS OF THIS STUDY

Factor analysis was used to analyze data related to the following:

a) Rating of factors considered important by respondents amongst a list of changes that have taken place in the environment in recent years. The aim was to determine those factors which the respondents considered as affecting their internal operations and rate them accordingly. This was done in order to relate the changes in the external environment with internal operations. Question number 3 of section 2 of the questionnaire was used to capture initial data. The raw data appears on Appendix V.

The final results after varimax rotation are shown in Appedix V. The results show the following.

(i) Factor 1 is loaded heavily by variables X3, X5, X6 and X7. It therefore implies that government policy is rated as an important factor in the external environment.

(ii) Factor 2 is loaded heavily by variables X1, X2, X4 and X10. These variables relate to marketing activities of competition and consumer tastes.

(iii) Factor 3 is loaded heavily by variables X8 and X9. These variables relate to East African Co-operation and privatisation of parastatals.

b) Rating of objectives within the organization in view of the changing business environment. Question number 9 of section 2 of the questionnaire was used to capture raw data for rating these objectives. The raw data appears on Appendix VI together with the results of factor analysis. Productivity and employee relation and technological position are highly rated as organisational objectives of the companies studied. However, many respondents indicated that pursuing all the objectives successful continue to be elusive due to the dynamic environment. The firms have selectively either settled for break even situations with increased employee development or profitability with minor technological changes. Technological leadership continue to be difficult due high cost of investment and risk. As most of the firms are local, raising of funds locally continue to be expensive due to high interest rates.

c) How the changes in the external business environment have affected certain internal variables which continue to receive a lot of emphasis in view of the changing business environment.

The results of factor analysis appearing in Appendix VII indicate the following.

(i) Factor one (1) is loaded heavily by variables Y2, Y6 and Y13.

(ii) Factot two (2) is loaded heavily by variables Y4, Y9, Y1 and Y5.

(ii) Factor three (3) is loaded heavily by variables Y10, Y12 and Y7.

(iv) Factor four (4) is loaded heavily by variables Y3, Y11 and Y14.

(v) Factor five (5) is loaded heavily by variable Y8.

Factor analysis tends to suggest competitive related factors as important in affecting internal posture. This include advertising, information on competitors and range of products. Staff related variables were rated as the second factor. As a result of changes in business environment, firms have reduced employees hence affecting the organization structure. The levels of the organization structure have changed significantly. Outsourcing of services under this factor has led to less staff.

The third factor relates to marketing activities of credit extension and price discounts. This seems to suggest that this activity is not rated highly. Changes on these variables have not been significant. Some respondents complained that they had been forced to withdraw credit to customers due to high outstanding credits. It was generally argued the current economic situation has led to less money in circulation as a result of loss of jobs, dumping of products at low prices and inflationary tendencies in the economy. Use of credit has been reduced to avoid having outstanding accounts receivables.

The fourth factor relates to distribution channels which seem to have increased due to price discrimination practiced by some firms. Field marketing staff have been increased to improve on customer interaction. The last internal change that has occurred has been in terms of sourcing of raw materials combined with the level of technology. It would appear that the level of technology is related to the type of raw materials used.

CHAPTER 5

5.1 DISCUSSIONS AND CONCLUSIONS

The main objective of this study was to identify any changes in food manufacturers internal corporate behavior which may be as a result of changes in the external environment. From the results of the firms studied, most of the food manufacturers are a mixture of old firms and newly established ones. Old firms in the study appear to be finding in difficulty to invest in new technology as this appear expensive. The technology in food manufacturing process appears to be undergoing slower rate of change. From a discussion with the respondents it is difficult to contract (reduced production) if the established capacity is not fully being utilized. Contraction takes longer that expansion hence most firms let obsolescence and natural wastage reduce capacity. Less firms seem to have been established between 1970 - 1980. This result tend to conform to the period when there was intense government regulation and licensing through government arms like the New Projects Committee (NPC), Foreign Exchange Allocation Committee (FEAC) which controlled the construction of new projects and allocated foreign exchange for importation of machinery and raw materials.

The nature of food products is such that most have a long product life cycle e.g. Weetabix, Biscuits. Due to this aspect, food manufacturers studied exhibited strategies that concentrated on brand extension e.g. Nestle food Ltd. and House of Manji.

As to ownership, many of the firms studied are locally owned. This may be due to ease of entry and low investments costs. The technology for food production is not sophisticated compared to other sectors e.g. Steel fabrication e.t.c. Most of the inputs used for food manufacturing are also locally available with a limited importation of raw materials. The study did not reveal a dramatic increase of food manufacturers in the recent five years and the explanation can be found in the influx into the market of imported products from other countries due to liberalization. Most respondents stated that South African products are currently providing stiff competition.

On competition, many respondents indicated competition as being very stiff due to imported products. There is also competition within the industry between substitutes product e.g. Beverage producers competing with carbonated drinks bottlers.

The number of brands of product per manufacturer seems to be low on average (less than 10). Many of the respondents observed that a large variety of brands is currently not tenable due to competition and costs of sustaining the brand. They also observed that where brands have been increased, product cannibalism has been realized where brand switching has been within a company's products as opposed to those of competitors. This has been more evident in the beverages and confectionery sub sector. As to what determines the number of brands, market related attributes were cited as being dominant. The respondents indicated consumer tastes and competition as being key in determining the number of brands. Factors in the external environment dictated the decision taken internally to respond to the changes.

On planning most firms studied did not have a central planning department. Due to the changing business external environment, many food manufacturers have decentralized their operations leading to decentralized decision making. Planning in most of the firms is being done at the departmental level. The plans are later consolidated at senior top management level or board level as the case may be. It was observed that departments or divisions have been given autonomy as they were interacting with different parts of the firm's external environment. The marketing departments appeared to be facing or interacting with more turbulent environment than other parts of the firms studied. It was therefore stated by respondents that it was difficult to have a central department entrusted with planning as a major function.

As to the number of employees most firms studied had 500 employees or less. Most respondents stated that the number of employees has generally reduced due to retrenchment and sub-contracting of certain operations. Areas of distribution of products are being subcontracted to professional business firms e.g. Tibbet & Britten. Maintenance services are also being subcontracted and staff who were involved in this operations have been retrenched. These decisions have reduced expenditures on fixed costs e.g payroll, maintenance of vehicles leaving the food manufacturing firms to concentrate on the core business of manufacturing and selling of their products. A few firms have created marketing research units as a way of responding to a changing external environment. This has enhanced their preparedness to cope with uncertainty in the environment. Firms have been forced to be outside focused and analyze variables like consumer tastes, competitive activity and government operations. Firms like House of Manji have relooked at their packing mode in order to satisfy the changing consumer tastes. Unlike previously when they used to pack their products in opaque packets they in addition pack in transparent packages as consumers in the lower end of the market seem to prefer this mode of packing. Kenya Co-operative Creameries (KCC) are now working on supplying milk using tankers to consumers in densely populated ares in order to compete in raw milk traders. On product development , many of the firms studied indicated having developed less than 5 products within the past 5 years. The respondents explained that product development has become too expensive and a risk undertaking due to imported products. Firms are concentrating on brand extension as opposed to new product development.

On strategy formulation most firms in the study indicated preference of diversification and joint venture as a preferred strategy. However, due to high interest rates, the cost of borrowing has reduced the rate of diversification. However, three of the firms in the flour milling sector have moved into production of confectioneries. Carbonated drinks manufacturers and Kenya Wine Agencies are concentrating their efforts on efficient distribution channels e.g. Carry-Home consumers and institutional purchasers. Expansion into the export market was cited as a strategy to offset local competition. Firms like Nestle Foods are using Kenya as a spring board to export into other East African countries.

Physical distribution of goods is being outsourced by certain firms. Respondents observed that due to poor infrastructure and cost of maintaining delivery vehicles and staff, they ad decided to sub contract distribution to professional firms e.g. Tibbet & Britten. However, certain quantities can still be purchased from the firms directly.

As to whether many of the changes would have been anticipated, some respondents acknowledged having anticipated most of the challenges. However, the mode of reacting to these challenges varies between firms. Product quality was cited by respondents as the most effective option to counter competition. Other firms indicated in addition, prompt service and timely delivery of products as strategy to counter competition.

5.2 RECOMMENDATIONS.

A changing external business environment is likely to be the norm in the business world currently and in future. Global competition, discerning consumers who place greater emphasis on quality and value in making purchase decisions are currently some of the most dominant variables in the changing external environment. Relationship building and customer retention should be the key aspect in the marketing of food products since they satisfy basic needs of consumers.

As competition continues to be intense firms in the food industry should look into the possibility of entering into strategic alliances e.g. Carbonated drinks and confectioneries. Food manufacturers should also intensify marketing activities in other East African countries in order to enjoy benefits of the emerging East African trading bloc.

Food products are consumed by all the income groups of the population. A mass marketing approach should be undertaken to expand area of coverage e.g. confectioneries. These is because some marketing strategies have tended to leave out the small consumers.

The government should ensure that interest rates are brought down to reduce the cost of borrowing. The current infrastructure in the country is poor. Many firms are forced to incur high expenses due to poor roads and ineffecient telecommunication system.

It is hoped that with increasing number of television stations, the cost of advertising through this media is likely to come down. Firms should therefore look at this mode of advertising in order to improve on their sales. The increase in supermarkets in the city estates should also be used more extensively as sales outlets with extensions of using the supermarkets as wholesale outlets for bulk purchases.

5.3 LIMITATIONS OF THE STUDY

Not all firms contacted agreed to allow for interviews. The contents of the study would have been larger had all the firms participated. Most of these firms perceived the information by the questionnaires as sensitive and declined to arrange for any interview.

Resource constraints were a major factor due to company officials being preoccupied with their official duties and postponing some of the appointments. This tended to slow the pace of data collection leading to low response rate.

5.4 RECOMMENDATIONS FOR FURTHER RESEARCH

There are certain issues that are still unresolved by this study. Further research should therefore be carried out to determine the impact of various strategies adopted by firms or companys' performance as reflected by its profits.

Research can also be conducted on food manufacturers outside Nairobi in order to determine how the changing business environment is affecting their operations.

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APPENDIX I

LIST OF FOOD MANUFACTURERS IN NAIROBI

1. Acif Oil Refinery Limited
2. Dubois Oil Mill and Soap Factory
3. Kapa Oil Refinery
4. Frozen Foods Kenya Limited
5. Kenyan Sunshine Products Limited
6. Mashambani Industries
7. Trufoods Limited
8. Californian Cookies
9. Elliots Bakery Limited
10. Cadbury Schweppes Limited
11. Kenya Sweets
12. Patco Industries
13. Wrigley Co. East Africa
14. Animal Feeds Kenya Limited
15. Belfast Millers
16. Ideal Manufacturing Company
17. Unga Feeds Nairobi
18. Primeal Limited
19. Sigma Feeds Limited
20. Gilbeys East Africa Limited
21. Kenya Distillers Limited
22. Kenya Wine Agencies Limited

23. Mohan Meakin Kenya Limited

24. Kuguru Food Complex Kenya Limited

25. Kenya Breweries Limited

26. Beechams of Kenya Limited

27. Nairobi Bottlers Limited

28. B. A. T. Kenya Limited

29. Mastermind Kenya Limited

30. Pickwell Products

31. Golden Grains Limited

32. House of Manji Limited

33. Jambo Flour Millers

34. Ken Wheat Industries

35. Kenya Millers Limited

36. Kenya Flour Millers Limited

37. Kabansora Millers Limited

38. Kirinyaga Flour Millers

39. Nairobi Flour Millers Limited

40. National Unga Industries

41. Nice Maize Millers

42. Pembe Flour Millers Limited

43. Premier Flour Millers Limited

44. Premier Cookies

45. Unga Maize Millers

46. Kenya Co-operative Creameries

47. Premier Oils

48. United Flour Millers

49. Itaaga Flour Millers

50. Ugali Products (1973)

51. Boots Products

52. East Africa Industries Limited

<u>Source</u>: Kenya Industrial Research and Development Institute (KIRDI) Kenya Industrial Directory and Ministry of Industry.

APPENDIX II

UNIVERSITY OF NAIROBI

FACULTY OF COMMERCE
DEPARTMENT OF BUSINESS ADMINISTRATION

lephone: 732160 Ext. 208
legrams: "Varsity", Nairobi
lex: 22095 Varsity

P.O. Box 30197
Nairobi, Kenya.

15th June, 1998

<u>INTRODUCTORY LETTER : CHUNE, FRED M.N. - D61/7162/96</u>

MR. CHUNE, FRED M.N. is a Masters student in the Faculty of Commerce, University of Nairobi. In partial fulfilment of the requirements of the Masters in Business and Administration (MBA) he is conducting a study on **"CHANGES IN BUSINESS ENVIRONMENT IN KENYA: A STUDY OF THEIR INFLUENCE ON FOOD MANUFACTURING FIRMS IN NAIROBI"**.

Your organization/firm has been selected to form part of this study. To this end, we kindly request your assistance in completing the questionnaire which forms an integral part of the research project. Mr. Chune will be responsible for the administration of the questionnaire. Any additional information you might feel necessary for this study is welcome.

The information and data required is needed for academic purposes and will be treated in strict confidence. A copy of the research project will be made available to your organization/firm upon request.

Thank you.

DR. EVANS AOSA
CHAIRMAN, DEPARTMENT OF BUSINESS ADMINISTRATION

APPENDIX III

QUESTIONNAIRE

SECTION I

COMPANY DATA

1. Year company started operating

____

2. Company ownership

Foreign ( )		Local ( )		Other (Specify)	( ) ____________

3. Current number of employees ____________________

4. Do you have a planning department?

Yes ( )

No ( )

5. How is the competition facing your organization (Please tick).

very stiff ( )

fairly stiff ( )

Not stiff ( )

6. Designation of respondent.

____

____

SECTION II

1. Number of brands of products produced by your organisation.

____
____
____
____

2. Briefly explain what determines the number of brands.

____
____
____
____

3. Below is a list of some changes that have taken place in the business environment in Kenya in recent years. Please indicate how important each of the factors is rated in your organisation.

KEY: 5. = Very important
4. = important
3. = Fairly important
2. = Unimportant
1. = Totally unimportant

		1	2	3	4	5
(a)	Increase of firms in your industry	( )	( )	( )	( )	( )
(b)	Consumer tastes	( )	( )	( )	( )	( )
(c)	Computerisation	( )	( )	( )	( )	( )
(d)	Trade liberalisation	( )	( )	( )	( )	( )
(e)	licensing procedures	( )	( )	( )	( )	( )
(f)	Taxation changes - Corporation	( )	( )	( )	( )	( )
(g)	Taxation changes - Individual	( )	( )	( )	( )	( )
(h)	East African co-operation	( )	( )	( )	( )	( )
(i)	Privatization of parastatals in your Industry	( )	( )	( )	( )	( )
(j)	Import tariffs	( )	( )	( )	( )	( )

4. What other business challenges has your organisation faced in recent years.

____
____
____

5. How have you faced each challenge?

____
____
____

6. Were any of these challenges experienced in the recent past anticipated by your organisation
Yes ( ) No ( )

If Yes which ones.

____

____

____

7. What activities have you been undertaking to be competitive? List them

____

____

____

____

8. Briefly state how you undertake your planning activities.

____

____

____

____

____

9. In terms of organisational objectives kindly indicate how you rate the following within your organisation.

KEY: 5. = Very important
4. = important
3. = Fairly important
2. = Unimportant
1. = Totally unimportant

	1	2	3	4	5
Profitability	( )	( )	( )	( )	( )
Return on investment	( )	( )	( )	( )	( )
Competitive position	( )	( )	( )	( )	( )
Technological position	( )	( )	( )	( )	( )
Productivity	( )	( )	( )	( )	( )
Employee relations	( )	( )	( )	( )	( )
Employee development	( )	( )	( )	( )	( )

10. Which one(s) of the following strategies has your organisation pursued within the last five years. (Please tick)

(a) Diversification ( )
(b) Retrenchment ( )
(c) Divestiture ( )
(d) Joint venture ( )
(e) Other (specify) ( )

____

____

____

11. Does your organisation develop new products and undertake major improvements on existing ones.
Yes ( ) No ( )

If yes, how many types of products have you developed within the last five years.

____

____

____

12. For each of the following indicate how they have been affected by the recent changes in the business environment.

KEY: 5. very much increased
4. moderately increased
3. not changed
2. moderately decreased
1. very much decreased

	1	2	3	4	5
(a) Number of employees	( )	( )	( )	( )	( )
(b) Range of products (brands)	( )	( )	( )	( )	( )
(c) Geographical distribution channels	( )	( )	( )	( )	( )
(d) Levels of the organisation structure	( )	( )	( )	( )	( )
(e) Improvement in technology	( )	( )	( )	( )	( )
(f) Information on competitors	( )	( )	( )	( )	( )
(g) Raw materials sourcing					
(i) imported	( )	( )	( )	( )	( )
(ii) Domestic	( )	( )	( )	( )	( )
(h) Range of services being outsourced externally	( )	( )	( )	( )	( )
(i) Extension of credit to customers	( )	( )	( )	( )	( )
(j) Use of price discrimination	( )	( )	( )	( )	( )
(k) Use of price discounts	( )	( )	( )	( )	( )
(l) Advertising expenditure	( )	( )	( )	( )	( )
(m) Training and development expenditure	( )	( )	( )	( )	( )

13. How is your current distribution channel arrangement.
(a) Department of your firm. ( )
(b) Government agency. ( )
(c) Independent wholesalers. ( )
(d) Independent retailers ( )
(e) Other (specify). ( ) ____________________

Thank You

APPENDIX IV

Variables used in factor analysis

a) Factors considered important in the external environment that affect internal operations.

X_1 - Increase of firms in industry

X_2 - Consumer tastes

X3 - Computerization

X4 - Trade Liberalization

X5 - Licensing Procedures

X6 - Taxation changes(Corporation)

X7 - Taxation changes (individual)

X8 - East African Cooperation

X9 - Privatization of Parastatals

X10 - Import Tariffs

b) Rating of organization objectives due to changes in business environment.

Z1 - Profitability

Z2 - Return on investment

Z3 - Competitive position

Z4 - Technological position

Z5 - Productivity

Z6 - Employee relations

Z7 - Employee development

c) Rating of changes in the internal variables which have occurred as a result of changes in the external environment.

Y1 - Number of employees

Y2 - Range of products(brands)

Y3 - Geographical distribution channels

Y4 - Levels of organization structure

Y5 - Improvement in technology

Y6 - Information on competitors

Y7 - Raw material sourcing (imported)

Y8 - Raw material sourcing (Domestic)

Y9 - Range of services being outsourced

Y10 - Extension of credit to customers

Y11 - Use of price discrimination

Y12 - Use of price discounts

Y13 - Advertising expenditure

Y14 - Training and development

APPENDIX V:

QUESTION 3 **RATING OF FACTORS WHICH HAVE CHANGED IN THE EXTERNAL BUSINESS ENVIRONMENT IN KENYA.**

RESPONDENTS **VARIABLES**

	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10
1	3	2	1	1	2	1	2	2	4	1
2	5	5	5	4	4	3	4	4	4	4
3	1	3	5	5	5	5	4	1	1	4
4	5	5	1	5	1	3	1	1	1	5
5	4	1	1	1	1	1	1	1	4	1
6	5	5	3	5	4	1	2	4	4	5
7	5	5	1	5	5	2	5	3	1	2
8	3	4	3	3	4	3	5	3	3	4
9	3	4	2	3	4	3	4	3	3	4
10	3	4	2	3	3	2	5	3	2	4
11	5	5	5	5	5	5	5	5	5	5
12	4	3	4	4	4	3	4	3	3	5
13	3	4	4	5	5	4	4	4	4	4
14	4	3	3	3	4	4	4	5	4	5
15	3	4	4	4	3	3	3	4	4	3

Analysis Number 1 Listwise deletion of cases with missing values

Extraction 1 for Analysis 1, Principal-Components Analysis (PC)

Initial Statistics:

Variable	Communality	*	Factor	Eigenvalue	Pct of Var	Cum Pct
		*				
X1	1.00000	*	1	4.52751	45.3	45.3
X2	1.00000	*	2	1.81257	18.1	63.4
X3	1.00000	*	3	1.67787	16.8	80.2
X4	1.00000	*	4	.91716	9.2	89.4
X5	1.00000	*	5	.40899	4.1	93.4
X6	1.00000	*	6	.27727	2.8	96.2
X7	1.00000	*	7	.17687	1.8	98.0
X8	1.00000	*	8	.14787	1.5	99.5
X9	1.00000	*	9	.02821	.3	99.7
X10	1.00000	*	10	.02567	.3	100.0

---- F A C T O R   A N A L Y S I S ----

Factor Matrix:

	FACTOR 1	FACTOR 2	FACTOR 3
X1	.09893	.91649	-.20683
X2	.68198	.39169	-.51053
X3	.78896	-.19326	.31160
X4	.76921	.04520	-.54447
X5	.85028	-.21881	.16348
X6	.74421	-.41814	.05139
X7	.70734	-.29160	.18445
X8	.69834	.46984	.44446
X9	.08630	.48570	.82548
X10	.75246	.12411	-.19633

---- F A C T O R   A N A L Y S I S ----

Final Statistics:

Variable	Communality	*	Factor	Eigenvalue	Pct of Var	Cum Pct
		*				
X1	.89252	*	1	4.52751	45.3	45.3
X2	.87916	*	2	1.81257	18.1	63.4
X3	.75691	*	3	1.67787	16.8	80.2
X4	.89018	*				
X5	.79757	*				
X6	.73133	*				
X7	.61939	*				
X8	.90598	*				
X9	.92478	*				
X10	.62014	*				

---- F A C T O R   A N A L Y S I S ----

Varimax Rotation 1, Extraction 1, Analysis 1 - Kaiser Normalization.

Varimax converged in 7 iterations.

Rotated Factor Matrix:

	FACTOR 1	FACTOR 2	FACTOR 3
X1	-.45672	.68562	.46244
X2	.20981	.91385	.00283
X3	.82194	.14239	.24708
X4	.45346	.79419	-.23197
X5	.84562	.25487	.13244
X6	.83494	.15606	-.09923
X7	.77393	.12192	.07452
X8	.43536	.37191	.76034
X9	.03345	-.19918	.94020
X10	.49081	.61150	.07289

---- F A C T O R   A N A L Y S I S ----

Factor Transformation Matrix:

	FACTOR 1	FACTOR 2	FACTOR 3
FACTOR 1	.80822	.56014	.18169
FACTOR 2	-.52570	.54728	.65124
FACTOR 3	.26535	-.62187	.73680

Symbol	Variable	Coordinates	
1	X1	-.457	.686
2	X2	.210	.914
3	X3	.822	.142
4	X4	.453	.794
5	X5	.846	.255
6	X6	.835	.156
7	X7	.774	.122
8	X8	.435	.372
9	X9	.033	-.199
10	X10	.491	.612

APPENDIX VI

QUESTION 9 RATING OF ORGANISATION OBJECTIVES DUE TO CHANGES IN THE BUSINESS ENVIRONMENT

RESPONDENTS	Z1	Z2	Z3	Z4	Z5	Z6	Z7
1	1	1	1	1	1	1	1
2	5	5	4	4	4	4	4
3	5	5	5	5	5	5	5
4	3	5	4	5	5	4	4
5	1	1	1	1	1	1	1
6	3	2	4	2	4	2	3
7	5	5	4	4	4	4	2
8	3	4	4	4	4	3	3
9	4	3	4	3	4	4	4
10	3	4	3	4	4	3	4
11	5	5	5	5	5	5	5
12	3	3	4	4	4	4	5
13	3	4	4	3	4	4	4
14	2	3	4	4	4	3	3
15	4	4	3	4	4	3	4

- - - -   F A C T O R   A N A L Y S I S   - - - -

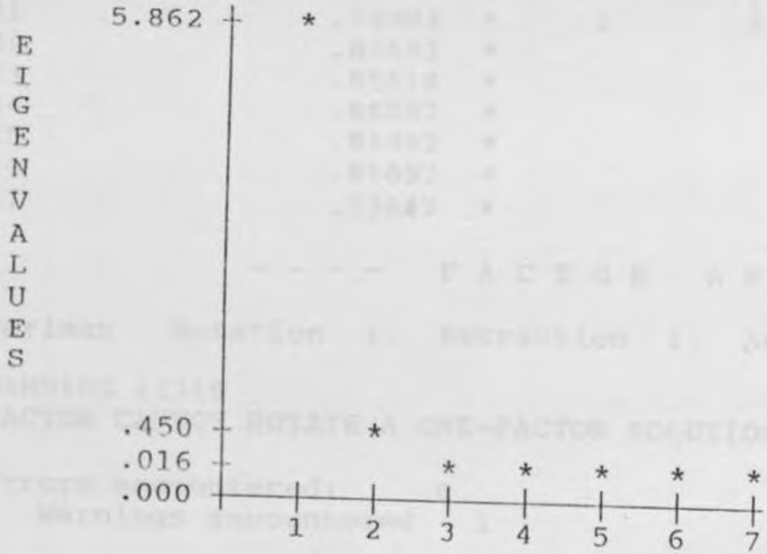
Analysis Number 1 Listwise deletion of cases with missing values

Extraction 1 for Analysis 1, Principal-Components Analysis (PC)

Initial Statistics:

Variable	Communality	*	Factor	Eigenvalue	Pct of Var	Cum Pct
		*				
Z1	1.00000	*	1	5.86237	83.7	83.7
Z2	1.00000	*	2	.44981	6.4	90.2
Z3	1.00000	*	3	.30041	4.3	94.5
Z4	1.00000	*	4	.22079	3.2	97.6
Z5	1.00000	*	5	.10450	1.5	99.1
Z6	1.00000	*	6	.04644	.7	99.8
Z7	1.00000	*	7	.01568	.2	100.0

---- F A C T O R   A N A L Y S I S ----



PC Extracted 1 factors.

---- F A C T O R   A N A L Y S I S ----

Factor Matrix:

	FACTOR 1
Z1	.86025
Z2	.91462
Z3	.92530
Z4	.92767
Z5	.95584
Z6	.95759
Z7	.85934

```
le      Communality  *  Factor   Eigenvalue   Pct of Var   Cum Pct
                     *
Z1          .74003   *    1       5.86237        83.7         83.7
Z2          .83653   *
Z3          .85618   *
Z4          .86057   *
Z5          .91362   *
Z6          .91697   *
Z7          .73847   *

           - - - -  F A C T O R   A N A L Y S I S  - - - -

Varimax  Rotation  1,  Extraction  1,  Analysis  1 - Kaiser Normalization.

WARNING 11310
FACTOR CANNOT ROTATE A ONE-FACTOR SOLUTION.

Errors encountered:     0
  Warnings encountered   1
```

APPENDIX VII

QUESTION 12 RATING OF CHANGES IN THE INTERNAL VARIABLES WHICH HAVE OCCURED AS A RESULT OF CHANGES IN THE EXTERNAL ENVIRONMENT

RESPONDENTS	VARIABLES													
	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14
1	4	4	5	3	3	4	4	3	3	3	4	4	5	5
2	4	3	5	4	4	4	4	4	4	5	4	5	4	3
3	2	3	5	5	4	4	3	3	4	1	4	3	5	5
4	4	3	3	3	5	5	5	1	3	5	2	5	5	2
5	2	4	5	5	4	4	5	4	3	5	5	5	4	4
6	1	5	5	5	5	3	3	2	4	5	3	3	2	1
7	4	4	5	2	3	4	5	5	3	5	4	4	4	2
8	3	4	4	3	4	4	4	3	3	2	3	3	3	3
9	3	4	3	3	3	4	4	5	3	2	3	4	4	3
10	3	4	4	3	4	4	4	5	3	3	3	4	3	3
11	3	4	3	3	4	4	4	4	3	3	3	3	3	3
12	3	4	4	3	3	4	4	4	4	2	3	3	4	4
13	4	4	5	4	4	4	5	4	4	5	4	5	4	4
14	3	4	4	4	3	4	4	3	3	4	3	4	4	4
15	3	4	4	4	3	4	5	5	4	4	4	5	4	3

- - - - F A C T O R   A N A L Y S I S - - - -

Analysis Number 1 Listwise deletion of cases with missing values

- - - - F A C T O R   A N A L Y S I S - - - -

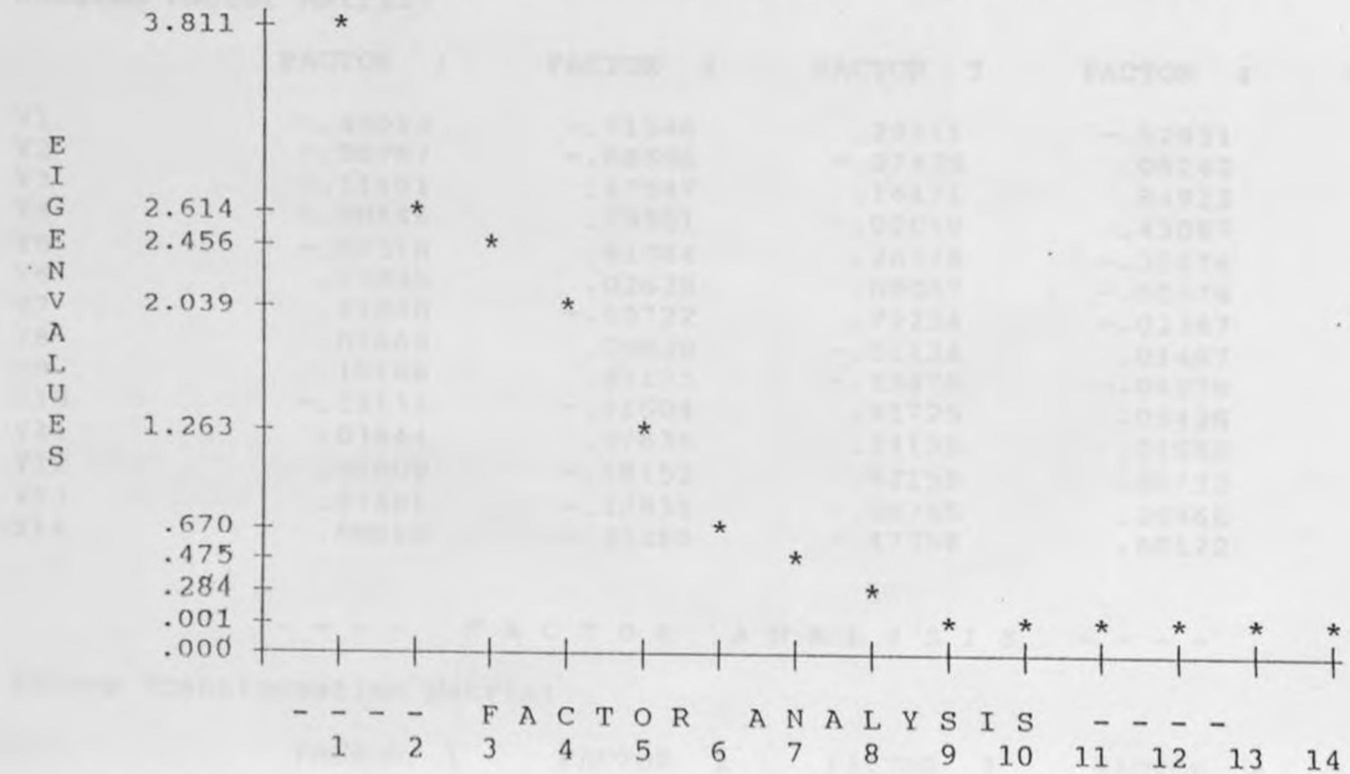
Extraction 1 for Analysis 1, Principal-Components Analysis (PC)

Initial Statistics:

Variable	Communality	*	Factor	Eigenvalue	Pct of Var	Cum Pct
			*			
Y1	1.00000	*	1	3.81080	27.2	27.2
Y2	1.00000	*	2	2.61450	18.7	45.9
Y3	1.00000	*	3	2.45631	17.5	63.4
Y4	1.00000	*	4	2.03900	14.6	78.0
Y5	1.00000	*	5	1.26310	9.0	87.0
Y6	1.00000	*	6	.67005	4.8	91.8
Y7	1.00000	*	7	.47504	3.4	95.2
Y8	1.00000	*	8	.28428	2.0	97.2
Y9	1.00000	*	9	.14381	1.0	98.3

Y10	1.00000	*	10	.11977	.9	99.1
Y11	1.00000	*	11	.07118	.5	99.6
Y12	1.00000	*	12	.03899	.3	99.9
Y13	1.00000	*	13	.01167	.1	100.0
Y14	1.00000	*	14	.00149	.0	100.0

---- FACTOR ANALYSIS ----



---- FACTOR ANALYSIS ----

PC Extracted 5 factors.

---- F A C T O R   A N A L Y S I S ----

Varimax Rotation 1, Extraction 1, Analysis 1 - Kaiser Normalization.

Varimax converged in 10 iterations.

---- F A C T O R   A N A L Y S I S ----

Rotated Factor Matrix:

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
Y1	.45012	-.71546	.29311	-.12831	.07952
Y2	-.90797	-.08596	-.07435	.08240	.08736
Y3	-.11101	.17547	.14171	.84932	-.09564
Y4	-.00646	.79551	-.02099	.43087	-.21733
Y5	-.07516	.61084	.20378	-.35276	-.55929
Y6	.73829	.02629	.09067	-.55576	.13311
Y7	.21040	-.50722	.71254	-.02387	.19039
Y8	-.07869	.00830	-.01124	.01487	.97960
Y9	.10198	.81173	-.19879	-.04898	.24941
Y10	-.22134	-.01604	.91725	.09426	-.19072
Y11	.03444	.07635	.24135	.81955	.40791
Y12	.36609	-.18152	.82158	.20732	.04099
Y13	.89481	-.22831	-.00755	.20868	-.04188
Y14	.50610	-.23288	-.47358	.60122	.07062

---- F A C T O R   A N A L Y S I S ----

Factor Transformation Matrix:

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR
FACTOR 1	.62493	-.64673	.40383	-.02951	.16507
FACTOR 2	-.19791	.00081	.28112	.91106	.22755
FACTOR 3	.58469	.16824	-.70501	.28897	.22200
FACTOR 4	.47225	.57423	.40860	.10557	-.51879
FACTOR 5	.07352	.47296	.30643	-.27287	.77624

Factor Matrix:

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
Y1	.87928	-.10607	-.08326	-.13330	-.11873
Y2	-.52986	.25368	-.44973	-.54515	-.08487
Y3	-.16648	.81396	.08890	.24552	-.18775
Y4	-.57558	.33912	.22112	.60341	.08306
Y5	-.44164	-.37599	-.31094	.65145	.00793
Y6	.51936	-.59665	.24113	.27307	.34948
Y7	.77939	.17984	-.42930	-.00205	.14822
Y8	.10218	.24888	.18508	-.54363	.75105
Y9	-.49890	-.06329	.37756	.29849	.53747
Y10	.20820	.34414	-.79389	.36994	.08345
Y11	.11277	.90057	.19020	.03363	.20560
Y12	.67860	.35657	-.32671	.40497	.16806
Y13	.69073	.00118	.54111	.33214	-.13396
Y14	.26956	.33033	.78002	-.06139	-.32729

---- F A C T O R   A N A L Y S I S ----

Final Statistics:

Variable	Communality	*	Factor	Eigenvalue	Pct of Var	Cum Pct
		*				
Y1	.82319	*	1	3.81080	27.2	27.2
Y2	.85175	*	2	2.61450	18.7	45.9
Y3	.79368	*	3	2.45631	17.5	63.4
Y4	.86620	*	4	2.03900	14.6	78.0
Y5	.85754	*	5	1.26310	9.0	87.0
Y6	.88057	*				
Y7	.84607	*				
Y8	.96623	*				
Y9	.77342	*				
Y10	.93585	*				
Y11	.90332	*				
Y12	.88661	*				
Y13	.89817	*				
Y14	.90110	*				