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OPERATING IN TURBULENT TIMES :  
AN INVESTIGATION INTO THE CHARACTERISTICS  
OF STRATEGIC FLEXIBILITY EXHIBITED BY  
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FREDERICK OWEN SKAE

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### Abstract

Broadly stated, the major objective of this study was to investigate the extent to which South African export companies exhibited characteristics of strategic flexibility, which is seen to be the most viable strategic option for a firm operating within a turbulent environment. This entailed :-

(1) Determining the degree of environmental turbulence as perceived by South African export companies and identifying the most important elements of the external environment as perceived by these companies.

(2) Identifying the nature and strength of the various components of strategic flexibility possessed by South African export companies facing environments of either low, medium or high turbulence.

(3) Identifying the nature and strength of the various components of strategic flexibility possessed by South African export companies of different size.

In order to elicit this information, 1361 questionnaires were posted to the managing directors of export firms who were members of the South African Foreign Trade Organization.

The major findings of this study indicate that :-

(1) Political elements of the remote environment contribute most to environmental turbulence.

(2) Respondents identified economic elements as being the most important in terms of their potential impact on the long term profitability of the firm.

(3) Although at present the majority of the firms surveyed were classified as operating in medium levels of turbulence, in the future they perceive the external environment as becoming very turbulent.

(4) Generally speaking, the firms surveyed are ill-equipped to operate in a turbulent environment as they displayed signs of inflexibility in certain key aspects of their business. In this regard, particular mention must be made of their decision-making processes, the extent to which they had specialist planners, the techniques used to identify future trends in the environment, the extent to which computer technology was utilised in the firm and their structure.

(5) Finally, the results do not generally support the view that a relationship exists between the perceived degree of turbulence in the environment and the extent to which strategic flexibility exists in the firm. Often, however, the size of the firm was more of a determining factor on the components of strategic flexibility than the degree of turbulence in the environment. In this regard, particular mention must be made of the impact of size on the planning processes of the firm, the techniques used to monitor trends in the environment and the emphasis placed on management development and training.

Dedicated to the memory of  
Gareth Robert Skae  
1969 - 1988

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Owen Skae  
Rhodes University  
Grahamstown

CHAPTER ONE  
BACKGROUND TO THIS STUDY

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CHAPTER ONE  
BACKGROUND TO THIS STUDY

1.1. Introduction

In this chapter, discussion will focus on the South African economy, and how exports could potentially contribute to its substantial growth. Unfortunately however, export growth as the vehicle for the development of the South African economy is highly problematical, due to a number of debilitating external environmental factors. These constraining forces are resulting in turbulence and uncertainty for export firms and consequently, strategic flexibility becomes a prerequisite for successful performance. Strategic flexibility, it is suggested, is a mechanism whereby export firms can attempt to reduce the potential negative influences of operating in a turbulent environment.

1.2.1. The South African Economy - A Brief Perspective

Sunter makes the point that "South Africa is an average country with an average economy" (1987 :85). This is highlighted in the fact that the World Bank classifies South Africa as a developing country, with a middle - income economy (World Bank, Vol 1, 1983 :xxxiv). This means that 1985 Gross National Product per person exceeds "\$401 or more." (World Development Report, 1987 :xi). The basic indicators, with comparison to selected countries, are reflected in Table 1.1.

Table 1.1.  
Basic Indicators for Selected Countries

Country	GNP per capita		Ave Annual Rate of Inflation (%)	
	Dollars 1985	Ave Annual Growth Rate(%) 1965-1985	1965-1980	1980-1985
<b>Industrial Market Economies</b>				
USA	16 690	1.7	6.1	5.3
Japan	11 300	4.7	7.5	1.2
Germany (FDR)	10 940	2.7	5.1	3.2
Australia	10 830	2.0	8.8	9.1
UK	8 460	1.6	11.2	6.4
<b>Upper Middle Income Economies</b>				
Singapore	7 420	7.6	4.8	3.1
Hong Kong	6 230	6.1	8.1	7.9
Israel	4 990	2.5	25.2	196.3
Rep. Korea	2 150	6.6	18.7	6.0
Mexico	2 080	2.7	13.2	62.2
Yugoslavia	2 070	4.1	15.2	45.1
Poland	2 050	---	---	35.2
South Africa	2 010	1.1	9.9	13.0
Portugal	1 970	3.3	11.7	22.7
Brazil	1 640	4.3	31.6	147.7
<b>Lower Middle Income Economies</b>				
Botswana	840	8.3	8.0	5.2
Zimbabwe	680	1.6	5.7	13.2
Lesotho	470	6.5	8.6	11.4
<b>Low - Income Economies</b>				
Zaire	170	-2.1	24.5	55.3
Malawi	170	1.5	7.3	11.4
Mozambique	160	---	---	25.8

Source: Adapted from World Development Report, 1987, Table 1:202

Gross National Product per capita refers to "the aggregate value of production by South African owned factors of production during a specific period, valued at market prices" (Mohr, Van der Merwe, Botha, Inggs, 1988:74) per person or per head.

When one compares South Africa's Gross National Product per capita with other countries, then it can be seen from Table 1.1, that South Africa (at \$2010) falls far short of the so-called Industrial Market Economies; is closely equated to Mexico, Yugoslavia and Poland; and exceeds that of its neighbouring countries, who fall within lower middle income and low income economies.

In addition, South Africa's inflation rates for the periods reflected (1965 - 1980 and 1980 - 1985), compare unfavourably with all of the Industrial Market Economies, and although South Africa is classified as a developing country, growth in Gross National Product per capita is very poor compared to countries that fall within its own class, and even some countries classified below it. (e.g. Botswana and Lesotho).

If one considers other aspects relating to South Africa's economy, it can likewise be seen from Table 1.2, covering the period 1970 - 1981, that these average annual growth rates are also not favourable by world standards. The growth rate of South Africa's Gross Domestic Product, which is the "aggregate value of final goods and services produced in the South African economy during a specific period" (Mohr et al, 1988 :74) comes quite low down the international league table. Growing at only 3.7%, it places South Africa sixty-eighth in the world. Gross National Product per Capita, is ranked even lower (eighty-ninth) with the negligible growth rate of 0.9%. Gross Domestic Investment, which refers to "the total amount spent by producers in the private and public sectors on capital goods during the period concerned before provision is made for depreciation", (Mohr et al, 1988 :37) fared better than Gross National Product per Capita, but still very poor by world standards. Interestingly enough, one of South

Africa's neighbours, Botswana, showed the most growth in the period reflected, highlighting the fact that growth can occur in the Southern African region. A fair amount of attention will be spent in this chapter on discussion relating to some of the South - East Asian countries (the so-called Newly Industrialising Countries) and as can be seen, Hong Kong, the Republic of Korea and Singapore all rank very high in Gross Domestic Product and Gross National Product per capita growth. What should also be noticed from Table 1.2, is the fact that all of the countries that equate quite closely to South Africa in terms of Gross National Product per capita (refer to Table 1.1) namely, Mexico, Yugoslavia, Portugal and Brazil, exceed it in Gross Domestic Product growth rate and Gross National Product per capita growth rate.

Table 1.2.

Average Annual Growth Rate (%) of Selected Countries;  
1970 - 1981 (Rank Order by Country)

Country	GDP		GDI		GNP per capita	
	Rank	Value	Rank	Value	Rank	Value
Botswana	1	12.6	48	7.4	2	8.6
Malta	2	11.3	58	5.5	1	9.9
Hong Kong	4	10.0	13	14.2	5	7.4
Korea	6	9.0	16	12.1	6	6.9
Singapore	11	8.6	40	8.0	7	6.7
Brazil	14	7.7	41	8.0	14	5.3
Mexico	20	6.5	38	9.0	35	3.2
Yugoslavia	31	5.8	57	5.9	19	4.7
Japan	50	4.5	75	3.1	31	3.4
Portugal	61	4.2	80	2.2	60	2.3
South Africa	68	3.7	73	3.2	89	0.9

Source: Adapted from World Tables, World Bank, 1983:  
Table 10 : 556-559

At this point, it is important to note that international comparisons must be studied with caution, as they can be "subject to a large margin of error, which often renders them practically meaningless."

margin of error, which often renders them practically meaningless." (Mohr et al, 1988:62). These errors can arise from differences in definitions, methods of calculation, coverage of data between countries and errors in converting valuations in national currencies to a common unit of valuation and hence, it may be argued, that not too much can be read into the figures highlighted in Tables 1.1 and 1.2.

Nevertheless, the importance of these low figures (international comparisons aside), is put very much into context when it is considered that

"South Africa needs an average annual growth rate of over 4% just to provide jobs for the 300 000 or so additional workers (overwhelmingly black) coming on to the labour market each year." (Economist Intelligence Unit, No 4, 1987 :6).

If one then considers the period since 1981, it is clear to see that South Africa's growth rate has not been improved upon at all, as Table 1.3 shows.

Table 1.3.  
Percentage Change in Selected Constant Price Data<sup>1</sup>

Period	GDP Change	GDP per capita change
1982	-0.8	-3.3
1983	-2.1	-4.8
1984	5.1	2.4
1985	-1.2	-3.8
1986	1.0	-1.2
1987	2.6	0.3
1988:01	3.6	-
02	1.5	-

<sup>1</sup> Compared with preceding period. Quarterly changes reflect annual rates based on seasonally adjusted data.

Table 1.3 shows that South Africa only exceeded 4% in Gross Domestic Product growth in 1984, and what is particularly distressing is the fact that negative growth rates were recorded in 1982, 1983 and 1985. Growth rate in 1986 and 1987 was negligible, and although 3.6% was recorded in the first quarter of 1988, the poor growth in the second quarter is probably indicative of the fact that it is unlikely that South Africa will have a strong growth rate in 1988. The Gross Domestic Product per Capita change presents an even poorer situation. Positive growth rates are only recorded in 1984 and 1987, however these are so minor as to be almost insignificant. According to Bethlehem,

"we have a population increasing at about 2.5% a year, a black population increasing at 3%, and an urban black population increasing at 8%. This creates an imperative for growth". (Financial Mail, September 2 1988 :32)

Edwards is perhaps more to the point.

"The relationship between a nation's Gross National Product and its rate of population growth tends toward a straight line. Therefore, one of the ways to reduce our population growth is to vastly improve our Gross National Product, and, in turn, the rate of our industrial growth. This a matter of urgency". (Leadership, The High Road, April 1988 :57)

Table 1.4 shows South Africa's Gross National Product figures.

Table 1.4.

Percentage Change in Selected Constant Price Data<sup>1</sup>

Period	GNP Change	GNP per capita change
1982	-4.0	-6.5
1983	-0.9	-3.6
1984	5.4	2.6
1985	-1.1	-3.7
1986	1.1	-1.1
1987	3.6	1.3
1988:01	5.4	-
102	3.7	-

<sup>1</sup> Compared with preceding period. Quarterly changes reflect annual rates based on seasonally adjusted data.

In September 1988, the Reserve Bank reported that,

"Aggregate real gross national product grew at a seasonally adjusted annual rate of five and a half per cent in the first quarter of 1988 and of three and a half per cent in the second quarter. Substantially faster growth in real gross national product than in real gross domestic product - which could be attributed to a sustained improvement in the terms of trade as well as to a decline in net South African factor payments to the rest of the world - caused real gross national product per head of the South African population to advance quite impressively by approximately three per cent during the four-quarter period from the third quarter of 1987 to the second quarter of 1988." (South African Reserve Bank, September 1988: 6).

Nevertheless, it is submitted that this growth is insufficient even though changes in Gross National Product have latterly been marginally better than those in Gross Domestic Product. South Africa recorded negative growth rates in 1982, 1983 and 1985 and negative per capita growth rates in 1982, 1983, 1985 and 1986. Consequently growth rates in both Gross Domestic Product and Gross National Product fall far short of the population growth rate, and therefore it is vitally important that South Africa turn its attention to substantial growth, before the situation becomes one of disastrous proportions.

#### 1.2.2. Inward or Outward Orientation Policy - The Most Viable Policy for Growth?

Although a full discussion of this debate (which is founded in development economics) falls outside the scope of this study, it is still perhaps necessary to briefly mention some of its salient points.

As described by Singer and Gray (1988), there are essentially two schools of thought that exist regarding whether a country should follow an inward or outward orientation with regard to growth. Those

who advocate an inward orientation do so because they believe that exports "as the engine of growth will not necessarily be conducive to growth because external factors can or will exert constraining forces." (Singer and Gray, 1988 :395). These constraining forces may, for example, come about in the form of protectionism as other countries perceive the exporter to be a threat to their domestic markets if free trade is allowed. Those that stress an outward orientation on the other hand, "have faith in world demand and emphasize trade liberalization and moves towards outward-oriented policies as the best strategy for promoting growth." (Singer and Gray, 1988 :395).

Unfortunately, there is conflicting evidence as to the extent to which outward orientation is the most viable means for growth in a country. In 1987, the World Bank in giving support to outward orientation, reported that "rapid economic growth and efficient industrialization are usually associated with outward-oriented policies on trade." (World Development Report, 1987 :92). This was based on an empirical study concerning 41 developing economies classified according to the orientation of their trade strategy in two periods, 1963 - 1973 and 1973 - 1985.

Singer and Gray however make the point that "an outward orientation cannot be considered as a universal recommendation for all conditions and for all types of countries."(1988 :403). This finding was also based on an empirical study where a correlation analysis was undertaken between export orientation and growth rate of gross national product for lower and upper income per capita groups. This study involving the periods 1967 - 1973 and 1977 - 1983, extended on and contributed to a study undertaken by Kavoussi. (Kavoussi, 1985 is

cited in Singer and Gray, 1988). Singer and Gray confirmed Kavoussi's findings and came to the conclusion that "the correlation between export orientation and growth appears strong only under favourable market conditions, and is weaker for low-income countries for all periods."(Singer and Gray, 1988 :403). Thus, "adverse changes in world demand carried greater weight in determining export performance than changes in trade policy." (Singer and Gray, 1988 :395).

This conflict between which orientation is best for growth, does not appear as if it will be easily resolved, as there are compelling arguments on both sides. Singer and Gray's findings are useful in that they put forward some important reservations concerning outward orientation. Furthermore, they are perhaps right in suggesting that it is not necessarily a valid policy for all conditions and all countries. From this one might conclude that they do not reject it out of hand, but rather that it requires a pragmatic view as to the ability of outward orientation policies to ensure growth.

Nevertheless, the findings of Singer and Gray may influence thinking to the extent that an outward orientation policy may be deemed inappropriate for South Africa due to it being a developing, middle-income economy facing adverse market conditions. However, the present writer still considers it to be a valid mechanism for facilitating the urgent and rapid growth this country needs, for the following reasons:-

(a) The volume of savings South Africa can generate locally is insufficient to meet these long-term growth requirements and hence the country has to borrow substantially from abroad. (Bethlehem, 1988 :115). By increasing its outward orientation, South Africa can

generate foreign earnings thereby reducing this dependence on overseas borrowing.

(b) "Outward orientation encourages efficient firms and discourages inefficient ones." (World Development Report, 1987 :92). Efficiency in this sense can be equated with competitiveness which is essentially the major variable in determining trade success. In the present writer's opinion, highly competitive products will always find markets, notwithstanding the state of the market conditions. By having an outward orientation policy, South African businesses compete with foreign businesses thereby promoting effective and efficient utilization of natural resource endowments, human resources and technology. If one considers the manufacturing sector alone in South Africa from the period 1978 to 1985, it

"changed from a productivity winner to a productivity loser; from a growing to a contracting sector; from a gainer on both capacity utilization and efficiency to a loser on both; from a sector with a disinflationary pricing policy to one with an inflationary pricing policy; and from a relatively competitive to a relatively uncompetitive sector." (du Plooy, 1988 :89-90)

(c) Inward and outward orientations are not necessarily mutually exclusive but could be viewed as complementary strategies with "import-substituting industrialization creating the diversified industrial base for the production of manufacturing exports." (McCarthy, 1988 :15). This could be especially true where local markets are saturated or too small, thereby providing no potential for domestic growth.

(d) In contrast to the rest of Africa, South Africa has a rich economy with a sophisticated infrastructure. The potential for development in Africa could be great and South Africa could prove to be the most viable launching pad for the development of this

continent.

To those who advocate an inward orientation policy, these sentiments may not be too compelling. What is clear, however, is that South Africa has reached an impasse in its stage of industrial development. The import-substituting development policies have taken the "manufacturing sector a long way up the ladder of development, but has not lowered the average import propensity of the economy." (McCarthy, 1988 :21).

Essentially, at the end of the day, "the malaise of South African industry can only be cured if political wisdom prevails." (McCarthy, 1988 :22) and whatever orientation this country adopts is fraught with problems. However the relevant authorities and the advocates of inward - orientation would do well to heed the evidence of certain South - East Asian countries who have shown the enormous potential of exports as a growth facilitator. This evidence will be presented in the next section.

### 1.2.3. Exports - South Africa's Growth Facilitator?

In an article in the Eastern Province Herald, the Regional Manager of the South African Foreign Trade Organization, Mr Mike Smith, is reported to have said :-

"All the world's high growth rate countries are export - oriented. Without a doubt, this avenue provides the best growth opportunities for South Africa also. The relatively large world markets can provide the scope for both short and long term growth ." (August 11, 1988).

Smith is not alone in expressing these sentiments concerning exports. It is in the opinion of many authors, the most viable mechanism for contributing to the growth of the economy. (McCarthy, 1988 : 15-19,

Van Zyl, 1984 :42; Sunter, 1987 :85-89; Carte, May 18, 1986). Although it is true to say that exports are "only part of a bigger picture" as expressed by Richard Grant (Financial Mail, November 13, 1987:37), and recognizing the opinions of Singer and Gray, there are few people who can deny the importance and influence exports have had in generating growth in the South - East Asian countries. Refer to Tables 1.5 and 1.6 below where it can be seen that South Africa does not compare favourably with Korea, Singapore or Hong Kong in either export growth or the ratio of exports to Gross Domestic Product.

Table 1.5.  
Growth Rate of Exports

Period	South Africa	Rep of Korea	Singapore	Hong Kong
1975-1980	18.3	28.0	29.2	26.8
1980-1983	-8.2	11.9	4.1	3.6
1975-1983	7.5	22.7	19.1	17.6

Source : Adapted from United Nations, International Trade Statistics Year Book, 1986: Table K: 158-171

Although all countries represented above in Table 1.5 showed a decline in their exports in the period 1980 - 1983 from the preceding period; overall (1975 - 1983), Singapore and Hong Kong have more than double South Africa's growth rate, and Korea three times that of South Africa. (At this point, Table 1.2 should be referred to, which shows that the growth rates of these South East Asian countries for gross domestic product and gross national product per capita far exceeded that of South Africa as well).

Table 1.6.

## Ratio of Exports to Gross Domestic Product

Year	South Africa	Rep. of Korea	Singapore	Hong Kong
1975	14.1	24.7	95.3	64.2
1980	15.5	30.0	170.8	71.5
1983	12.2	31.8	131.2	78.2

Source : Adapted from United Nations, International Trade Statistics Year Book, 1986: Table K : 158-171

As is shown in Table 1.6, for each year reflected, the ratio of exports to Gross Domestic Product is far greater in Korea, Singapore and Hong Kong than it is in South Africa. The figures of the city states, Singapore and Hong Kong, show the incredible extent to which they are export driven.

Table 1.7.

Ratios of Selected Data  
Percentage to Gross Domestic Product

Period	Real Merchandise Exports	Real Exports of Goods and NFS <sup>1</sup>
1980	16.6	33.9
1981	14.2	30.2
1982	14.2	30.5
1983	13.0	29.2
1984	13.6	30.1
1985	17.0	33.6
1986	18.0	32.8
1987	17.6	31.2

<sup>1</sup> Non-factor services

Source : South African Reserve Bank, September 1988: S114

Table 1.7 shows the figures as supplied by the South African Reserve Bank. If one compares these to the data of the United Nations shown in Table 1.6, there is a slight discrepancy in the 1980 and 1983

figures for real merchandise exports. Nevertheless, they reflect the same trend, namely, that the ratio of exports to gross domestic product decreased between, 1980 and 1983. Subsequent to 1983, there has been an improvement, but if one compares the 1987 ratio to the 1980 ratio, there is overall, only an improvement of one percentage point. The ratio for real exports of goods and non-factor services to gross domestic product, shows a decline of 2.7 points from 1980 to 1987.

In contrast to South Africa however, the example of Korea is dramatic. When Korea launched its first five-year economic development plan in 1962, per capita Gross National Product in current prices was \$81. By the end of 1986, this figure had risen to \$2271. This essentially means that Gross National Product per capita grew nearly sixfold over the approximate 25 year period. Kim sees three factors as playing a role in Korea's economic development :-

"An outward-looking development strategy, a high level of the education of the people, and a favourable international economic environment." (1988 :7)

The importance of a high level of education and a favourable international economic environment cannot be denied as being prerequisites for development in any country, (factors which unfortunately at present do not apply to South Africa). Nevertheless there are certain authors who believe that the rapid growth of exports served as the primary developer of economic growth in Korea. (Kim, 1988 :8; Petri, 1988 :47).

#### 1.2.4. South Africa's Exports, The Present Contribution to Growth

Latterly, South Africa's export figures have not shown any improvement as Table 1.8 indicates.

Table 1.8.  
Percentage Changes in Selected Constant Price Data<sup>1</sup>

Period	Exports of Goods and NFS <sup>2</sup>	Imports of Goods and NFS
1982	0.1	-15.6
1983	-5.5	-17.1
1984	8.5	20.3
1985	10.1	-14.8
1986	-1.4	-2.6
1987	-2.6	3.9
1988:01	-6.7	78.4
02	6.9	2.9

<sup>1</sup> Compared with preceding period. Quarterly changes reflect annual rates based on seasonally adjusted data.

<sup>2</sup> Non - factor services

Source : South African Reserve Bank, September 1988: S112

Table 1.8 shows the percentage changes in South Africa's export and import figures for the period 1982 to mid - 1988. If exports are considered, then it is clear to see that the quite positive years of 1984 and 1985 have not been emulated since. In fact, subsequent to 1985, every year has shown a negative trend. Should the export figures be compared to the import figures, the negative import figures of 1982, 1983, 1985 and 1986 would have contributed favourably to growth. Lately however, the situation has reversed itself.

"In the course of the seven quarters from the end of the third quarter of 1986 to the middle of 1988, the diminishing excess of real exports of goods and non-factor services over real imports of goods and non-factor services (i.e. South Africa's shrinking 'net foreign balance') contributed a negative 2 percentage points to growth in the South African real gross domestic product." (South African Reserve Bank, September 1988 :3).

So although "South Africa still ranks among the top twenty trading nations of the world" (Strydom, 1987 :209) this factor must be offset by the following three factors :-

a. "South Africa's share in world trade is relatively small." (Strydom, 1987 :205). Table 1.9 shows that South Africa's exports have never exceeded 1.5% of world trade, and since 1965, this figure has steadily declined, until in 1985 it reached 0.9%.

Table 1.9.

Percentage Share in World Trade  
(Value Terms M = Imports, X = Exports)

		1965	1970	1975	1980	1985
Industrial Countries	X	73.8	76.8	70.0	65.8	70.6
	M	73.2	75.6	71.3	71.0	72.5
Oil Exporting Countries	X	5.8	5.8	13.9	16.0	8.0
	M	3.4	3.2	6.2	6.8	5.9
Non-Oil Developing Countries	X	20.2	16.9	15.4	17.1	19.7
	M	23.1	20.8	21.8	21.1	20.6
Asia	X	6.8	5.5	6.0	7.7	9.9
	M	8.2	6.8	7.3	8.3	10.7
Latin America	X	6.9	5.6	5.1	5.5	5.5
	M	6.2	5.8	6.4	5.9	3.9
South Africa	X	1.5	1.2	1.1	1.4	0.9
	M	1.4	1.3	1.0	1.0	0.6

Source :IMF, International Financial Statistics shown in Strydom, 1987 : 204)

b. In 1987 the Financial Mail reported that, "Export volume stands where it did in 1980." (November 13, 1987 : 36). See Table 1.10 below.

Table 1.10

Indices of Export Volume  
Seasonally adjusted 1985 = 100

Period	Excluding Gold	Including Gold
1980	93.9	95.4
1981	85.6	89.2
1982	85.1	89.2
1983	76.3	83.7
1984	84.0	90.9
1985	100.0	100.0
1986	103.6	98.7
1987	101.3	96.1

Source: South African Reserve Bank, September 1988 : S-67

As can be seen from Table 1.10, if gold is excluded, there has been an improvement of 7.4 points from 1980 to 1987, but if gold is included, the volume over the same period is virtually unchanged.

c. South African exports have not contributed in any significant way to Gross Domestic Product growth.

Discussion will now turn to the rationale for undertaking this study.

### 1.3. The Rationale for undertaking this Study

The rationale for undertaking this study was threefold :-

(1) The vital importance and potential contribution an export led policy could and should play in ensuring substantial growth for South Africa, has been identified. Therefore, increasing attention should be paid by academics, business and government to a study and development of exports.

(2) Notwithstanding the importance of exports, South African export growth is highly problematical and makes internationalization of the South African economy very difficult. This is due to certain constraining forces preventing export growth, of which perhaps, inflation, sanctions and a decline in world trade are the most important. These will now be discussed briefly.

a. High Inflation Rate

In 1987, the Economist Intelligence Unit reported that, inflation at "about 15,5 per cent at the end of September is some four times the level of the average of South Africa's main trading partners." (Economist Intelligence Unit, No 4, 1987 : 5). The importance of this is put into context if one considers that,

"Just to maintain export performance, the rand will have to depreciate against the main trading currencies by the difference between our inflation rate and that prevailing in the country of the relevant currency. At present, that suggests at least a 10% depreciation on average a year for the foreseeable future, while the economy is overwhelmed by the need to repay foreign debt." (Financial Mail, 1988, September 2 :31).

The ramifications of a high and prolonged inflation rate over the long term are enormous as South African prices become less and less competitive in international markets. The advantages of the present low exchange rate to exporters will eventually be nullified, unless serious steps are undertaken now to address the inflation problem.

b. Threat of Sanctions

b.i. Sanctions and Exports

The issue of sanctions and its potential effects on the South African economy is very often surrounded by rhetoric and emotive arguments,

making an objective and realistic assessment of sanctions very difficult.

Rhetoric and emotion aside, in 1987 the Economist reported that, "the bewildering range of sanctions nominally affects only about 8% of South African exports" and, "allowing for leaks and other distortions, official sanctions are reckoned to have cut exports by 3%, rather than the 8% that should in theory be banned." (The Economist, August 22, 1987 :54). This highlights the fact that the real overall present effect of sanctions on the South African economy and exporters are perhaps negligible. Notwithstanding this however, the psychological effect of a concerted sanctions drive against South Africa may have a negative influence on exporters due to the fact that they are loathe to commit themselves to expansion overseas for fear of avenues being closed off in the future. Therefore, any potential ambitions of expanding overseas may be terminated in favour of development into domestic markets, which could be perceived as being less risky. In addition, it would be unwise to underestimate the real effects of sanctions in respect of certain countries and commodities. "US sanctions legislation caused South Africa's exports to the United States to plunge by 44,4% in dollar terms in the first nine months" of 1987. (Business Day, March 8, 1988 :1). Thus although "its total exports, in rand terms, increased marginally in this period, indicating the country succeeded in finding alternative markets to the United States, "(Business Day, March 8, 1988 :2) - the added cost of finding alternative markets (sometimes secretly) may outweigh the benefit to certain businesses of the foreign sales. These alternative markets seem to have been found in Taiwan and Japan, as the Economist Intelligence Unit (No 1, 1988 :14) reported substantial increases in trade to these countries by South Africa. This added cost may

consequently force some firms to shelve any ideas of export in the medium and long term.

b.ii. Sanctions and Growth

"A sine qua non for economic growth, especially for a society in the process of industrialisation, is investment in fixed capital. However, investment requires financing, and financing, in its turn, is dependent on saving."  
(Bethlehem, 1988 : 114)

As Bethlehem points out, South Africa does not generate sufficient local savings in order to meet its long-term growth requirements and consequently like most developing countries, it has to borrow from abroad. Under a sanctions scenario however, the danger is that,

"Not only is South Africa denied access to savings sources abroad, it is being forced into the role of a capital exporter. This must seriously compromise its ability to grow at a rate sufficient to match the prospective increase in population." (Bethlehem, 1988 : 115).

There are however, certain commentators in South Africa who at times welcome the imposition of sanctions as a much needed growth stimulant. Assumptions often include the view that:-

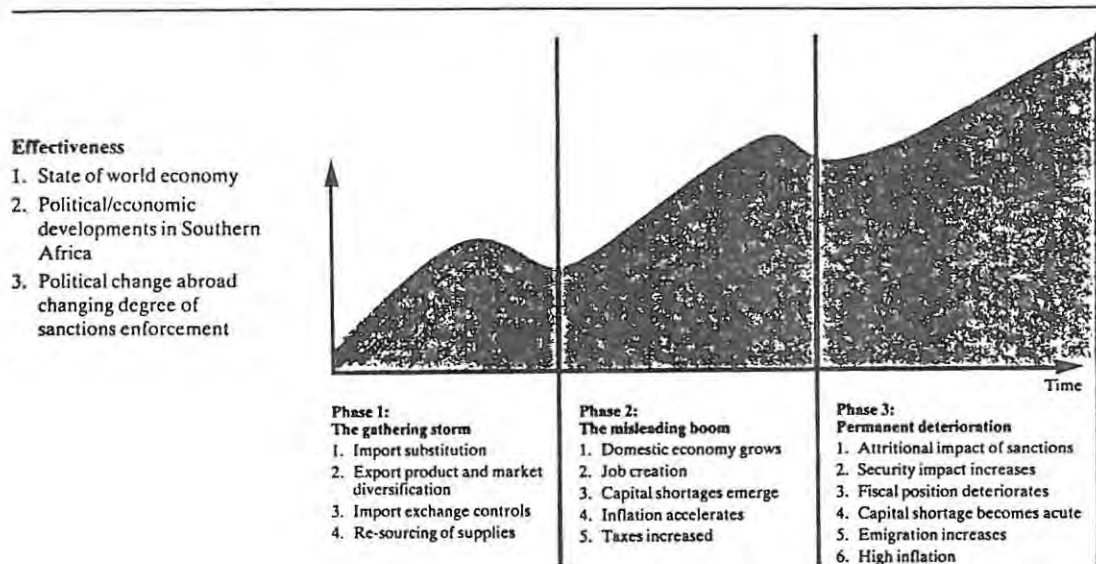
- \* Sanctions spur economic growth.
- \* Sanctions stimulate a restructuring of the economy.
- \* Import substitution leads to growth.
- \* Sanctions create new export markets.
- \* Sanctions create jobs.
- \* Sanctions will bring out the best in us.

(Perry and Associates, 1986 : 16)

The development of Armscor and Sasol are often quoted as examples of these views; views that could perhaps come from people who advocate an inward orientation growth policy. Consequently, sanctions are seen as the welcome harbinger of a forced form of inward - orientation. (This

debate has already been briefly discussed and as was mentioned, it is not an easy conflict to resolve). On the other hand, there are those who reject the above views as being myopic because, although perhaps true in the short term, in the long term it is postulated that sanctions will have a detrimental effect on the economy and export growth. (Perry and Associates, 1986 :23-24; Bhana, 1987 :123). This process is demonstrated in Figure 1.1.

Figure 1.1.  
The Sanctions Life-cycle



Source: Perry and Associates, 1986 :23

### The Gathering Storm

This phase is characterised by a number of threats and opportunities. Exporters are striving to find alternative 'open' markets overseas, (often through middlemen, implying greater cost) or turning their attention to domestic markets, consequently intensifying domestic competition. Sources of foreign products are closed off, forcing import substitution to occur, resulting in the opening up of potential

industries domestically. Alternative foreign suppliers are sought, again at greater cost and greater bargaining power against South African buyers. Stricter import and exchange controls are implemented and the difficulty of obtaining foreign exchange and capital increases.

#### The Misleading Boom

Perhaps the greatest effect here is as a result of import substitution. Locally reproduced products are now being marketed domestically, consequently resulting in growth and job creation. However closure to foreign economies result in capital shortages, placing a ceiling on growth. The government increases taxes, as access to foreign borrowings are closed off, further growth now being compromised severely.

#### Permanent Deterioration

South Africa's inability to generate sufficient local savings in order to meet growth requirements now takes on crisis proportions and the country heads down a negative spiral of deterioration.

Just as the inward/outward orientation growth debate is unlikely to be resolved, so too is the sanctions debate. Perhaps though, the only thing that is certain about sanctions, is that their effects are uncertain. Consequently, notwithstanding which camp one falls into, sanctions will present a number of serious challenges to both business and government in South Africa.

c. Declining World Trade

The third factor that makes export growth problematic is the aspect of declining world trade which is reflected in Table 1.11.

Table 1.11.

Growth of World Production and Trade (Average Annual Percentage Change in Volume Terms)

	1960- 1969	1970- 1979	1980 - 1983	1984	1985
<b>Production</b>					
All merchandise	6.0	4.0	0.0	5.5	3.0
Agriculture	2.5	2.5	2.0	5.0	2.0
Mining	5.0	3.5	-3.5	0.0	-2.0
Manufacturing	7.5	4.5	1.0	7.0	4.0
<b>Exports</b>					
All merchandise	8.5	5.2	0.5	9.5	3.0
Agriculture	4.0	3.0	1.5	4.0	-1.0
Mining	6.5	2.5	-5.5	2.0	-2.5
Manufacturing	10.5	7.5	2.0	12.0	6.0

Source: GATT, International Trade 1985/86 Geneva, 1986. Cited in Strydom, 1987 : 204)

Table 1.11 illustrates a steady decline in all the merchandise figures for both exports and production. 1984 proved to be an anomalous year as significant increases were reported. However, if the years 1980 to 1985 are averaged out, the result shows a decline which is in line with the trend.

The major factors which affected production and trade adversely were the following :-

"a decline in the growth of world demand, capital shortages in the major industrial countries, the international debt problem, import substitution policies, volatile exchange rates, and protectionist measures." (Strydom, 1987 : 203).

Van Zyl goes so far as to say, that there

"is in fact substantial agreement that the system (international trading environment) is in a state of disarray if not in crisis. Events during the last few years suggest that conflicting perceptions, priority differences and little sense of overall direction have led to both a policy and an intellectual vacuum in international economic co-operation" (1984 :43)

It is against this background of decline in world trade and international trade turbulence that South African exporters have to compete, notwithstanding sanctions and inflation as already discussed. In fact the Financial Mail reported that

"Exporters and economists say they're now more worried about world economic troubles in the wake of the Wall Street crash than more severe sanctions. Exporters can get around piecemeal sanctions at a price - by selling boycotted goods in the next best market or trading with middlemen. 'But when all countries stop growing or demanding your products' says Assocom economist Bill Lacey, 'you can't do much'." (November 13, 1987 : 36).

The question that South Africans should ask themselves however is, why is it that countries like Korea, Singapore and Hong Kong have grown in the face of a decline in international trade? Consequently, although the picture is a gloomy one, by saying "you can't do much" simply describes a defeatist attitude and one which does not foster pro-active behaviour or actions by government and business.

Nevertheless, South Africa will have to face the hard fact that it

"cannot sustain an annual growth rate of over 3% a year in the face of sanctions, debt repayments and severe socio-political inflationary pressures without external windfalls e.g. a large and sustained rise in the gold price or bumper agricultural conditions." (Economist Intelligence Unit, No.2, 1988 :16).

As a result, the road ahead promises to be a difficult and painful one for South Africa and in particular, in this instance, exporters.

In summary then , it is clear to see that South African exporters are operating within a turbulent environment as a result of high inflation, sanctions and declining world trade. Consequently, it was felt that South African export firms comprised a sound population of companies for studying strategic aspects of firms operating within a turbulent environment, in this case strategic flexibility.

Discussion will now turn to the objectives of this research.

#### 1.4. Objectives of this Study

##### 1.4.1. Objectives Stated

Broadly stated, the major objective of this study was to investigate the extent to which South African export companies exhibited characteristics of strategic flexibility which is seen by many authors to be the most viable strategic option for a firm operating within a turbulent environment. (Aaker and Mascarenhas, 1984; Eppink, 1978; Krijnen, 1979). This entailed:-

- (1) Determining the extent of environmental turbulence perceived by South African export companies and identifying the most important elements of the external environment as perceived by these companies.
- (2) Identifying the nature and strength of the various components of strategic flexibility possessed by South African export companies facing environments of either low, medium or high turbulence.
- (3) Identifying the nature and strength of the various components of strategic flexibility possessed by South African export companies of different size.

#### 1.4.2. The Importance of this Study

The problems facing exporters are acute and the net effect of these problems (for example sanctions), is that increased pressure will be brought to bear on a business environment already burdened by political, social and labour unrest (amongst other things). There can be no doubt then, that more than ever, South African business is operating in an environment characterised by a high degree of uncertainty. Consequently, as Norton suggests, many management practitioners (and academics),

"now realise that the easy years are over - to survive the current period of high stress and change they will have to be totally professional and rely on proper analysis of changing circumstances. Managers will have to work intelligently, not just hard - especially as we in South Africa have proportionally fewer to do the job."  
(Financial Mail, January 2, 1987 : 20)

Effective strategic planning is critical if business is to survive the turbulent years ahead. It has been noted by certain businessmen and academics however, that there is a high incidence of poor strategic planning amongst South African companies. (McIntosh and Archer, 1986: 101). Consequently any study researching strategic planning will greatly assist management and academics via a broadening of local knowledge.

#### 1.5. Delineation of Field and Clarification of Concepts

Strategy is by definition and nature a very broad and encompassing concept; in fact it is multi-dimensional. Ansoff, defines strategic management as

"a systematic approach to a major and increasingly important responsibility of general management : to position and relate the firm to its environment in a way

which will assure its continued success and make it secure from surprises." (1984 :xv).

This study is concerned with the strategic aspects of companies operating in a turbulent environment for which many authors see strategic flexibility as being the most viable option for a firm to adopt. This is so, it is suggested, because the flexible firm is able to re-position itself in order to take account of external changes that occur.

The two most important concepts that this study will deal with are environmental turbulence and strategic flexibility. These will be defined briefly:-

(1) Environmental Turbulence

The characteristics which determine the degree of environmental turbulence are as described by Ansoff (1984 : 10-13). These are as follows:-

- (a) Familiarity of Events.
- (b) Rapidity of Change.
- (c) Visibility of the Future.

For instance, if familiarity of events can be determined to be 'discontinuous and novel', the rapidity of change to be 'shorter than the firm's response', and the future to have 'unpredictable surprises', then it may be said that the firm is operating in a highly turbulent environment.

## (2) Strategic Flexibility

As the environment increases in turbulence and uncertainty, organizations increasingly exercise the option of developing strategic flexibility.

"Strategic flexibility may be defined as the ability of the organisation to adapt to substantial, uncertain and fast-occurring (relative to required reaction time) environmental changes that are substantial enough to impose severe long-term constraints and/or to create a need for strategic adaptations." (Aaker and Mascarenhas, 1984 :74).

These two concepts, which form the basis of this study, will be explored in more detail in Chapters 2 and 3.

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CHAPTER TWO  
THE EXTERNAL ENVIRONMENT OF BUSINESS

2.1. Introduction

The objective of this chapter is to discuss the external environment of business and the nature of a turbulent environment.

2.2. The relationship between a firm's strategy and the external environment.

It is widely held that strategy is concerned with the relationship between the firm and its environment. Ansoff emphasises this point when he states:-

"Strategic decisions are primarily concerned with external, rather than internal, problems of the firm and specifically with the selection of the product-mix which the firm will produce and the markets to which it will sell. To use an engineering term, the strategic problem is concerned with establishing an 'impedance match' between the firm and its environment or, in more usual terms, it is the problem of deciding what business the firm is in and what kinds of businesses it will seek to enter." (Ansoff, 1987a: 24)

Rue and Holland further elaborate on the relationship between a firm and its environment.

"A strategy for an organisation describes the way that organisation will pursue its goals, given the threats and opportunities in the environment and the resources and capabilities for the organisation. A strategy provides a basic understanding of how the organisation will compete. Three determinants of strategy are the external environment, the internal situation and the goals that are being pursued." (Rue and Holland, 1986 :4 - 5)

What is important to note here, is that notwithstanding whether the strategy is, deliberate or emergent (Mintzberg and Waters, 1985),

linear, adaptive or interpretive (Chaffee, 1985), incremental (logical or otherwise - Quinn, 1980; Pascale, 1984; Johnson, 1988) organic, reactive, ad hoc or systematic, (Ansoff, 1987), explicit or implicit, known or unknown; organisations form part of an external environment which in turn presents a number of challenges to the firm. Therefore in order to survive and maintain effectiveness in the long term, firms must position themselves in such a way that they are able to take advantage of opportunities that arise, while at the same time reducing the potential adverse affect the impact of threats might have. Firms must consequently strive for 'strategic fit' whereby they attempt to match the internal capabilities of the firm, to the challenges that exist outside of the firm in the external environment. (Smith and Grimm, 1987 :363; Daft, Sormunen and Parks, 1988 :123)

"This co-alignment delineates the activities through which organizational leaders establish the social or economic mission of the organisation, define its domain(s) of action, and determine how it will navigate or compete within its chosen domain(s)." (Bourgeois, 1980 :25).

Fundamental then to the study and practice of business strategy (and strategic management) is an explicit recognition that a relationship exists between a firm (or its strategy) and the external environment in which it operates. As a consequence therefore, an attempt must be made to understand what constitutes the external environment of business.

## 2.3 Environmental Characteristics

### 2.3.1. Environment Defined

According to William Dill :-

"At one level, environment is not a very mysterious concept. It means the surroundings on an organisation; the "climate"

in which the organisation functions. The concept becomes challenging when we try to move from simple description of the environment to analysis of its properties."  
(Dill, 1962 :95-96)

Many definitions exist as to what constitutes the external environment of business. What appears to be the common denominator in all the definitions is the fact that the external environment is largely uncontrollable by the firm. These uncontrollable factors shape the firm's choice of directions and actions, its internal processes, and ultimately its performance. (Pearce and Robinson, 1982 :103; Rue and Holland, 1986 :344; Steiner and Miner, 1986 :23; Smart and Vertinsky, 1984 :199; Bates, 1985 :97).

Notwithstanding the commonality regarding the external environment being uncontrollable,

"there are conflicting assumptions about the structure of organisational environments, the origins and processes of environmental change, and the means for enhancing the capacity of organisations to sense and act on pertinent environmental intelligence." (Lenz and Engledow, 1986 :338)

While a full discussion of the ramifications of this statement is outside the scope of this study, it is nevertheless still necessary to briefly discuss the various extant models of the external environment.

### 2.3.2. Models of the Environment

According to Lenz and Engledow, research on organisational environments is separated into five categories as follows:-

1. industry structure model
2. cognitive model

3. organisation field model
4. ecological and resource dependence model
5. era model

Each of these categories will be briefly discussed in turn.

#### 2.3.2.1. Industry Structure Model

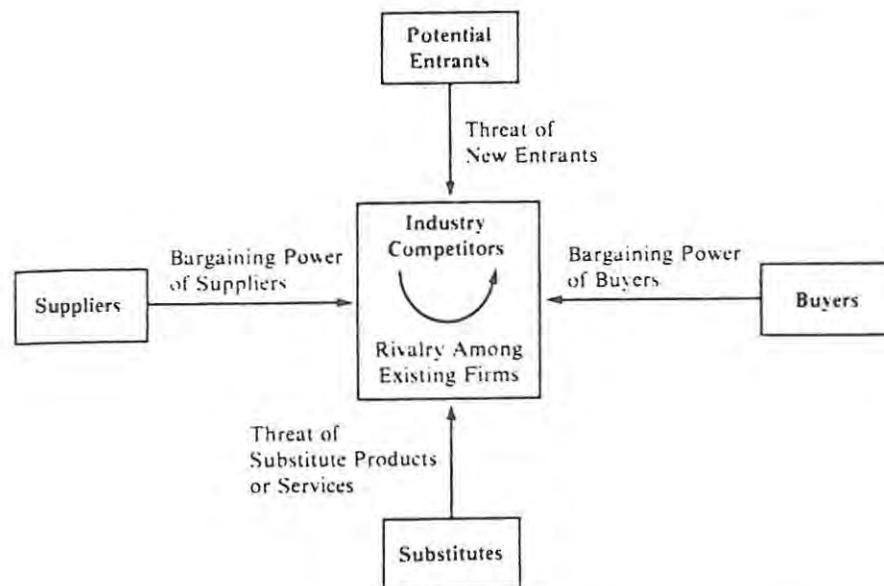
This may be briefly characterised as follows:-

"The environment is a pattern of competitive forces. Environmental change stems from the actions of competitors as well as external forces beyond industry boundaries. Change is evolutionary and occurs at an uneven rate. Knowledge of the environment should be obtained via a formal competitor analysis system." (Lenz and Engledow, 1986 : 337)

The major exponent of this model is generally recognised to be Porter (1980) who stresses that an industry environment consists of a particular set of competitive forces that create both opportunities and threats. Porter's model is reflected in Figure 2.1.

Figure 2.1.

The Five Competitive Forces that Determine Industry Profitability



Source : Porter, 1985 :5

As can be seen in Figure 2.1., there are five key competitive forces at play which influence the prices, costs, and investments required of firms in an industry, and which hence determine industry profitability.

(a) Suppliers

The bargaining power of suppliers can determine the cost of raw materials, capital and other inputs. The ability of suppliers to impose price or quantity limitations on inputs can have marked influences on an industry.

(b) Potential Entrants

The competitive environment can be dramatically affected by new companies entering the fray that hitherto, have not been involved in the industry. This may involve a completely new firm which has certain unique competitive capabilities, or a company outside of the industry acquiring a business already involved and equipping it with substantial resources.

(c) Buyers

Buyers comprising final consumers and/or customers, constitute the market for the product or service. These buyers with their corresponding needs and wants can provide various opportunities and threats in the competitive environment. Powerful buyers can demand costly service, hence in turn also influencing cost and investment factors.

(d) Substitutes

Substitute products limit pricing decisions on a company's products. For example, a consumer may purchase a substitute produce of inferior quality due to the perception that the perceived price differential advantage outweighs the perceived quality advantage. There is also the danger that substitute products may render all existing products in the industry obsolete, in the way that the transistor destroyed the radio valve.

(e) Industry Rivalry

The final force is that of the direct competitive rivalry between established firms in the industry. Companies vie with one another for, inter alia customers, market share and resources necessary to operated their businesses effectively and efficiently.

2.3.2.2. Cognitive Model

In this model, "Top management's collective understanding of its environment is assumed to be embodied in a cognitive structure." (Lenz and Engledow, 1986 :331). Hence one might argue that "the environment is a mental representation embodied in a cognitive structure and is fashioned out of experiences." (Lenz and Engledow, 1986 :337).

Conceptually, this model is perhaps the most difficult to comprehend in that it suggests that a particular manager's understanding of the

environment is as seen through his/her own eyes. Consequently the role of perceptions is very prevalent in this model. Reference to some examples may help clarify the notion of cognitive structures.

Schwenk (1985) summarises research in the areas of cognitive psychology and behavioural decision theory, dealing with human cognitive biases which may influence strategic decision making. Two examples referred to:-

(i) Illusion of Control

"A decisional bias has been identified which may affect decision-makers' perceptions of the need for contingency plans. This research suggests that decision makers tend to overestimate the extent to which the outcomes of a strategy are under their personal control. They tend to assume that through additional effort they can make their strategy succeed should problems arise." (Schwenk, 1985 :78)

The example referred to by Schwenk, is that of Heublein's ill-fated decision to acquire the Theo. Hamm company in the mid 1960's. Heublein's overestimation of their marketing expertise needed to reverse Hamm's market share decline, resulted in the newly-acquired company later being sold at a substantial loss.

(ii) Devaluation of Partially Described Alternatives

"Among a group of strategic alternatives, it is likely that the anticipated consequences of some of the alternatives will be more completely described than others. Decision-makers tend to devalue alternatives that are less thoroughly described. Since partially described alternatives involve uncertainty for decision-makers, they tend to negatively evaluate these against alternatives which are better described and therefore, resolve more uncertainty." (Schwenk, 1985: 78)

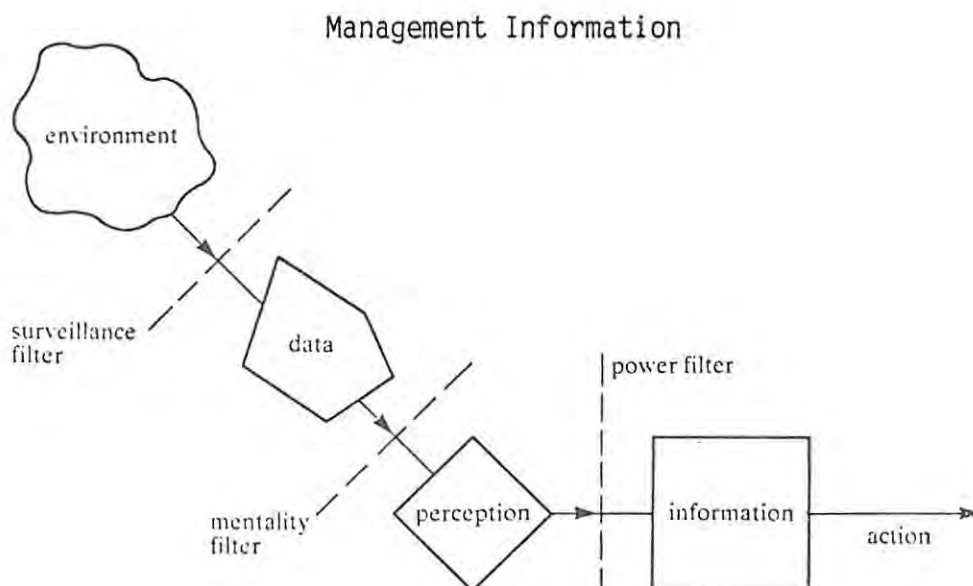
As an example to highlight this, Schwenk makes reference to John

Delorean's assertion that his K-Car proposal was not accepted by General Motors due to excessive demands from corporate level management for inordinate documentation on proposals for projects before accepting them. In this instance, the documentation was apparently deemed insufficient, the project was shelved in 1970 and as a consequence General Motors were unable to supply fuel efficient cars after the 1973 oil crisis.

The ramifications of these cognitive biases must be noted because perceptions of environmental and internal characteristics (rather than the 'objective' characteristics of the environment) are the important properties to consider in the strategy formulation process. In an operative sense, the interpretation of objective information is biased by the perceptual process - which if different between policy makers, will in turn result in differences in the formulations of policy decisions. (Anderson and Paine, 1975 :813)

Ansoff (1984) suggests that information flowing from the environment is 'filtered' in three ways. This process is reflected in Figure 2.2.

Figure 2.2.



(a) Surveillance Filter

For a faithful reflection of the environmental reality, it is necessary to use a technique which can capture the essential elements of that reality. If the filter is too restrictive, the data which finds its way into the firm will distort and oversimplify reality. Consequently, a firm may use a number of techniques such as, scenarios, competitive analysis and threats/opportunities analysis.

Data brought into the firm however, does not become a part of the information on which it is based until it passes two additional filters, namely the mentality and power filters.

(b) Mentality Filter

The mentality filter is based on the

" mental success model which is used by managers to identify parts of the data which they perceive to be relevant. Managers build their private success models through experience, trial and error, success and failures." (Ansoff, 1984 :334).

Should the data which is presented be at substantial variance, or contrary to historical experience, it is neglected or even rejected as irrelevant. By way of example, Ansoff cites Henry Ford I's refusal to recognise, in the 1950's, the end of the single model era in the automotive industry.

(c) Power Filter

This type of filter "can delay and impede acceptance of novel environmental signals." (Ansoff, 1984 :334). This filter refers to the way in which information is handled by those who hold key decision-making positions. According to Ansoff,

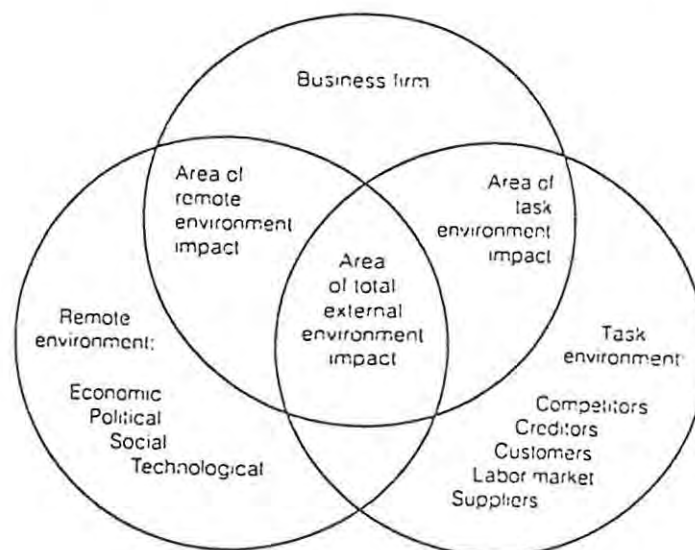
"novel information will not find its way into management responses, unless the managers with the strategic/creative mentalities have the power to assure its acceptance." (Ansoff, 1984 :334).

2.3.2.3. Organisation Field Model

In this particular model, the external environment of the business is segmented into two inter-related subsets of elements, those in the remote (general or macro) environment and those in the more immediately impinging task environment. (See Figure 2.3.)

Figure 2.3.

## The Firm's External Environment



### 2.3.2.3.1. The Remote Environment

"The remote environment is composed of a set of forces which originate beyond and usually irrespective of any single firm's operating situation. Encompassing political, economic, social and technological factors, the remote environment presents opportunities, threats and constraints for the firm, with the organisation rarely possessing the strength to exert any meaningful reciprocal influence." (Pearce and Robinson, 1982 :104).

There are generally four sub-environmental components which comprise the remote environment and on which most authors agree. (Harvey, 1982 :99-106; Glaser, 1985 :60; Kotler, 1972 :62-87; Pearce and Robinson, 1982 :104-111; Stoner and Wankel, 1986 :278; Narchal, Kittappa and Bhattacharya, 1987; Rue and Holland, 1986 :348-352; Van Wyk, 1982 :63). These are as follows:-

- (1) Economic considerations.
- (2) Political and governmental considerations.
- (3) Demographic, cultural and social trends.
- (4) Technology considerations and factors of production.

These will now be examined in brief, recognising that the factors considered, are not exhaustive:-

#### (1) Economic Considerations

Economic trends "refer to the nature and direction of the economy in which business operates." (Pearce and Robinson, 1982 :104).

Factors which the firm should consider:-

- a. The stage of the business cycle. The economy could be classified as being in a depression, recession, recovery or boom. This will tend to affect other economic factors either positively or negatively.
- b. State of growth in the economy and level of economic development. In this instance, the growth of gross domestic product and gross national product would be considered.
- c. Rates of inflation.
- d. Monetary policies and interest rates. More specifically:-
  - Prime interest rates
  - General availability of credit
  - Exchange rate policies
  - Foreign exchange availability
- e. Fiscal policies. More specifically:-
  - Tax rates for firms and individuals
  - Taxation of imports
- f. Other factors which are specific to exporters may include:-
  - Import regulations and tariffs in the importing country

Each economic force has the capacity to affect the well-being of the

South African business community, either positively or negatively.

"Consequently, companies must attempt to anticipate major repercussions from actions taken both within the domestic and international economic areas." (Pearce and Robinson, 1982 :105).

## (2) Political and Governmental Considerations

"The direction and stability of the political factor constitutes a major consideration for managers in formulating company strategy by defining the legal and otherwise governing parameters in which the firm must or may wish to operate." (Pearce and Robinson, 1982 :107).

Political factors to be taken note of:-

- a. Political regime in power. Different governments may have different beliefs regarding factors such as economic policy.
- b. Political stability of host country. Volatile changes in government may result in laws and regulations being amended continuously.

## (3) Demographic, Cultural and Social Trends

Social and cultural considerations refer to the

"beliefs, values, attitudes, opinions and lifestyles of the members of the firms's external environment, as developed from their cultural, ecological, demographic, religious, educational and ethnic conditioning." (Pearce and Robinson, 1982 :105-106).

Consequently, social forces to be taken note of:-

- a. Changing work values
- b. Changes in ethical and moral values
- c. Quality of life issues
- d. Predominant religious beliefs
- e. Level of education
- f. Changes in demographic factors such as national population age

distribution.

#### (4) Technological Considerations

The final set of considerations in the remote environment of business to be discussed, relate to technological considerations.

"Technology can be defined broadly as 'know-how', more specifically (with respect to a firm) as the information required to produce and/or sell a product or service." (Capon and Glazer, 1987 :2).

Three components of technology can be identified:-

- \* product technology - refers to the set of ideas embodied in the product
- \* process technology - refers to the set of ideas necessary to transform inputs into the required combination needed to derive the desired end-product.
- \* management technology - the set of ideas necessary to manage the product and process technology.

"A firm must be aware of technological changes that might affect its industry in order to resist obsolescence and promote innovation." (Pearce and Robinson, 1982 :108-109).

Consequently, there is always the danger that changes in the technological sector of the remote environment may render a product, process or management technology useless. Factors that should be considered concerning changes in technology are :-

- a. Position of core technology on the technological S-curve. As the limits at the top of the S-curve are reached,
  - "the cost of making progress accelerates dramatically.

Therefore, knowing the limit is crucial for a company if it is to anticipate change or at least stop pouring money into something that can't be improved." (Foster, 1986:34).

- b. Number of competing technologies.
- c. Frequency of new technologies being introduced (hence the extent to which new S-curves appear).

#### (5) The Remote Environment - Summary

Generally it is recognised that political, social, economic and technological factors comprise the remote environment of business. Although these factors are often discussed as distinct variables, there is nevertheless, a high degree of interaction and cause-effect relationships between them. What is not clear however, is precisely how these causalities interact with one another, and which environmental variable affects another. Perhaps, the relationships that exist are iterative, hence one can only surmise on causalities. What would be unwise though, is to regard the remote environment as only comprising one of these variables (for example economic). Management should take a holistic view of the remote environment and recognise that these four factors that comprise the remote environment are inextricably tied together.

#### 2.3.2.3.2. The Task Environment

The second subset of the organisation field model is the so - called task environment. This refers to those factors

"in the immediate competitive situation which provide many of the challenges that a particular firm faces when attempting to attract or acquire needed resources or when striving to market its goods and services in a profitable

manner." (Pearce and Robinson, 1982 :111).

It is usually asserted that the task environment is affected by the remote environment as environmental change originates among the broad trends of the remote environment and flows in a unidirectional path to the task level of the environment. (Lenz and Engledow, 1986 :333). This subset of the organisation field model is in many respects similar to Porter's industry structure model.

What tends to delineate or differentiate the task from the remote environment is that the firm tends to have more control over its task environment than the remote environment. (Pearce and Robinson, 1982 :111; Miles and Snow, 1978 :5, Child, 1972 :1-22). For example, firms can outperform competitors by superior marketing strategies. The factors which comprise the task environment are generally recognised to be:-

(1) Competitors

An understanding of competitors' actions can result in a firm responding timeously to changes that occur. This is frequently where most opportunities and threats arise as firms compete with one another for market share or customer loyalty.

(2) Customer Profiles

By developing an understanding of customer needs and wants and developing customer profiles incorporating demographic and psychographic data (of present and prospective buyers), firms are

"better able to anticipate changes in the size of markets and to allocate resources in support of forecasted shifts in consumer demand patterns." (Pearce and Robinson, 1982 :113).

(3) Suppliers and Creditors : Sources of Resources

By analysing the state of its relationship with its suppliers and creditors, a business is able to forecast the availability of the resources which it will need to acquire in order to implement and sustain its competitive strategies.

(4) Personnel : Nature of the Labour Market

Fundamental to the success of any firm is the ability to attract and hold employees who are committed, motivated and who have the requisite skills.

2.3.2.3.3. The Organisation Field Model - Summary

The organisation field model describes the environment as encompassing two sub-sets; a remote environment consisting of political, economic, social and technological factors and a task environment consisting of competitors, suppliers, creditors, customers and labour markets.

"While this approach is generally accurate, it may give the false impression that these components and factors are easily identified, mutually exclusive, and equally applicable in all situations. In fact, the forces in the external environment are so dynamic and interactive that the impact of any single element cannot be wholly disassociated from the impact of other elements." (Pearce and Robinson, 1982 :116).

#### 2.3.2.4. Ecological and Resource Dependence Model

This particular model views the environment as,

"a system of resources and interconnected organisations. Environmental change is continuous and occurs when there is a variation in this system that affects the resources necessary for an organisation's survival. Environments are largely enacted by organisational subunits which give rise to multiple conceptions of 'the' environment." (Lenz and Engledow, 1986 :337).

The two most common approaches relevant to this model are firstly, the so-called 'open-systems' framework and secondly, the notion of hierarchy that disaggregates the overall environment into internally homogeneous levels.

##### (1) Open Systems Approach

This approach is characterised by the fact that, in

"Contradistinction to physical objects, any living entity survives by importing into itself certain types of material from its environment, transforming these in accordance with its own system characteristics, and exporting other types back into the environment." (Emery and Trist, 1965 :21).

An open system, in contrast to a closed system, interacts with the environment in that it receives inputs, transforms them and in turn emits the produced outputs into the environmental sub-systems (Craig, 1975). Hence, organisations are assumed to be the most important parts of the environment. (Lenz and Engledow, 1986 :334).

##### (2) Hierarchical Approach

Lenz and Engledow cite various authors who typify this approach.

However, there is little agreement concerning the number of levels of the environment or what comprises each level (1986:334). In one instance, it is suggested that environments are made up of four interrelated subsystems: the community, the culture, the habitat and the product. In another there are five levels : the extra-environment, the macroenvironment, the task environment, the auto-setting environment and the organisation.

#### 2.3.2.5. Era Model

The final model, sees the environment as a

"set of social structures, values, and role definitions characterising a particular period of time. Technology and experiments by individuals searching for self-fulfillment within the context of prevailing institutions are primary sources of environmental change." (Lenz and Engledow, 1986 :337).

This change occurs in a three stage process :-

- \* existing order
- \* turbulent transition
- \* new order

Through futurists' predictions or forecasts and/or consulting services, organizations try to gain knowledge of their environments and how these changes are going to affect their firm.

#### 2.3.2.6. A General Model of the External Environment of Business

Earlier it was noted that there are conflicting assumptions about the structure of organizational environments (Lenz and Engledow, 1986 :

338). What is important to note about each of the five models discussed earlier, is that they all have their own particular demerits. This is simply due to the fact, that each respective model excludes the essence of the salient characteristics of all the other models.

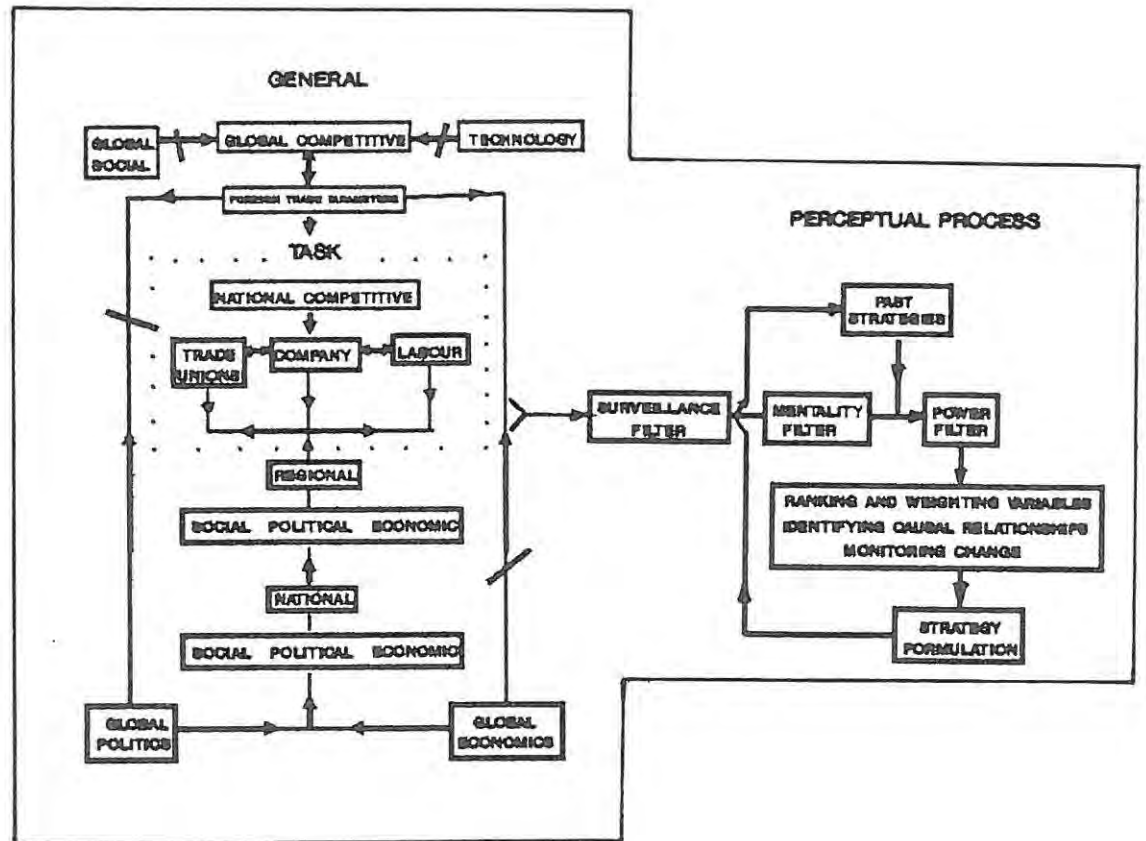
Consequently by way of contribution to the study and theory of the external environment of business, an attempt was made to construct a general model. In so doing, it was hoped to combine or incorporate all five of the separate models discussed earlier. (This model is based on a seminar conducted by the writer and Honours students in the Department of Business Administration at Rhodes University in 1988).

It was agreed that a general model should incorporate the following :-

1. A perceptual process that each person in the organization who views the external environment undergoes.
2. A recognition that each organization faces its own unique task environment.
3. This task environment in turn forms part of a broader, general environment and interacts with it.
4. This interaction stresses an open-systems perspective.
5. At any point in time, the environment may undergo a substantial upheaval or change.

Figure 2.4.

## A General Model of the Environment

2.3.2.6.1. Discussion of the General Model

The model contains three major components, namely, a perceptual process, a task environment and a general environment. With respect to the task and general environments it is arranged in such a way that the variables closest to the organization directly interact with it. In addition, the organization is in more of a position to potentially influence those variables in close proximity to it. As one moves

further away however, the environmental impact becomes more indirect and the organization's sphere of influence diminishes. Each aspect of the model will be discussed in turn :-

### 1. Perceptual Process

This forms part of the 'perceptual process' component of the general model and is linked to the task and general environments by the 'surveillance filter'. The Cognitive Model is the major contributor to this part of the model. Ansoff's filter's of mentality and power (1984 :334-335) were deemed appropriate.

A ranking and weighting, identifying of causal relationships and monitoring change criteria with respect to environmental variables was introduced. This once again, is based very much on the cognitive structures of the individual managers in the firm. Managers will rank and weight those variables that they consider to be most important in terms of having a positive or negative impact on the firm. Hence it is essentially a subjective process. In addition, this process will be strongly influenced by the functional backgrounds of the individual managers. For example, a production manager will place high emphasis on technological changes, whereas marketing managers may place more emphasis on the social changes in the external environment. The collective ranking and weighting, identifying of causal relationships and the monitoring of change by the individual managers is the essential determinant of the overall strategy of the firm. In this respect, the managing director of any firm has an enormous task in attempting to synthesize the differing perceptions of his/her

individual managers in such a way that the strategy that manifests itself, is effective.

## 2. Task Environment

This comprises the 'task' component of the general model and is contained within the 'general' environment.

### (a) Labour and Trade Unions

Labour and trade unions are seen as interacting very closely and intimately with the organization. Labour (particularly semi-skilled and skilled) is a vital part of the organization's functioning and must be seen to be so. It is also perhaps useful to view the interaction between the company, labour, trade unions and the broader socio-political environment as a system on its own, or in other words, the industrial relations system.

### (b) Competitive Environment

The competitive environment comprises of a national and global component, (assuming that the company conducts business beyond its own borders, or it sells a product/service that it produces globally). Porter's five competitive forces within any industry, is a major contributor to this part of the model. This competitive environment can be strongly and directly influenced by two elements in the general environment, in particular :-

### i. Foreign Trade Parameters

The extent to which the global competitive environment interacts with the national one is dependent upon foreign trade parameters which are determined largely by the global/national economic and political factors. These parameters may be of a favourable nature, i.e. they may enable a strong trading relationship to be established between two countries, or adverse relationships may result in the imposition of tariff barriers, sanctions and embargoes.

### ii. Technology

The advent of new technologies is another factor that may seriously affect an organisation's competitive position, whether it be a factor of production or an end product in itself. (The Era Model stresses the influence technology can have in initiating radical change in the environment).

### 3. General Environment

This comprises the balance of the general model. A firm's general environment may be considered as having global, national and regional characteristics, the important variables being political, social, economic and technological. The remote aspect of the organisation field model contributed to this part of the model.

#### 4. Open Systems

The dual arrows represented in the model, stresses the fact that an open system exists. This aspect of the model was influenced by the Ecological and Resource Dependence model.

#### 5. Change

Change is depicted by the broken lines on the outer bounds of the 'general' environment of the general model (for example, between 'technology' and 'global competitive'). This change can occur at any point in time, hence resulting in a turbulent transition, and the existence of a new order. The Era Model contributed to this part of the general model.

#### 2.3.2.6.2. Limitations of the General Model

A general model cannot specifically identify change, causal relationships or how complex the environment may turn out to be. What is important is that a manager is able to view the environment in terms of these three factors, and be able to describe and understand it. One can argue that most environments in general are becoming turbulent and if this is the case, there are serious limitations in using a general model to define one's business environment .

However, the present writer is of the opinion that the general model has merit in the fact that it recognizes that the environment

consists of a multiplicity of factors that must be taken into account in any assessment of the external environment. In this respect it is considered to be superior to each of the individual models discussed earlier.

#### 2.3.2.7. Models of the Environment - Summary

The preceding discussion has shown that a number of theories exist pertaining to the external environment of business, each with their own particular assumptions. A general model of the external environment was developed and in so doing, an attempt was made to combine all relevant factors pertaining to each particular model.

One limitation that was stressed however, is the inability of the model to identify change, causalities or complexities. This problem is particularly exacerbated if the environment is of a turbulent nature. This is an important consideration and hence discussion now turns to the characteristics of a turbulent environment.

#### 2.3.3. Characteristics of a Turbulent Environment

##### 2.3.3.1. Turbulence Defined

Turbulence, broadly defined,

"is a measure of change that occurs in the factors or components of an organisation's environment. At one end of a continuum of change there is a static environmental state (no change); at the other end, a turbulent or dynamic state where all factors are in constant flux." (Smart and Vertinsky, 1984 :200).

Emery and Trist distinguish between "four types of causal texture"

(1965 :24 - 26) :-

a. Placid, Randomised Environment

This is the simplest type of environmental texture. Elements in the environment are relatively unchanging in themselves and randomly distributed.

b. Placid, Clustered Environment

This is more complicated although still a placid environment. Elements in the environment are not randomly distributed but cluster together in certain ways. The notion of imperfect competition is incorporated in this category.

c. Disturbed - reactive Environment

In this particular environment there is more than one organisation of the same kind; in fact the existence of a similar organisation now becomes the dominant characteristic of the environmental field. Organisations will try to hinder the operations of other firms in order to improve their own standing in the environment.

"It now becomes necessary to define the organisational objective in terms not so much of location, as of capacity or power to move more or less at will, i.e. to be able to make and meet competitive challenge." (Emery and Trist, 1965 :26).

d. Turbulent Fields

This particular environment is characterised by dynamic processes,

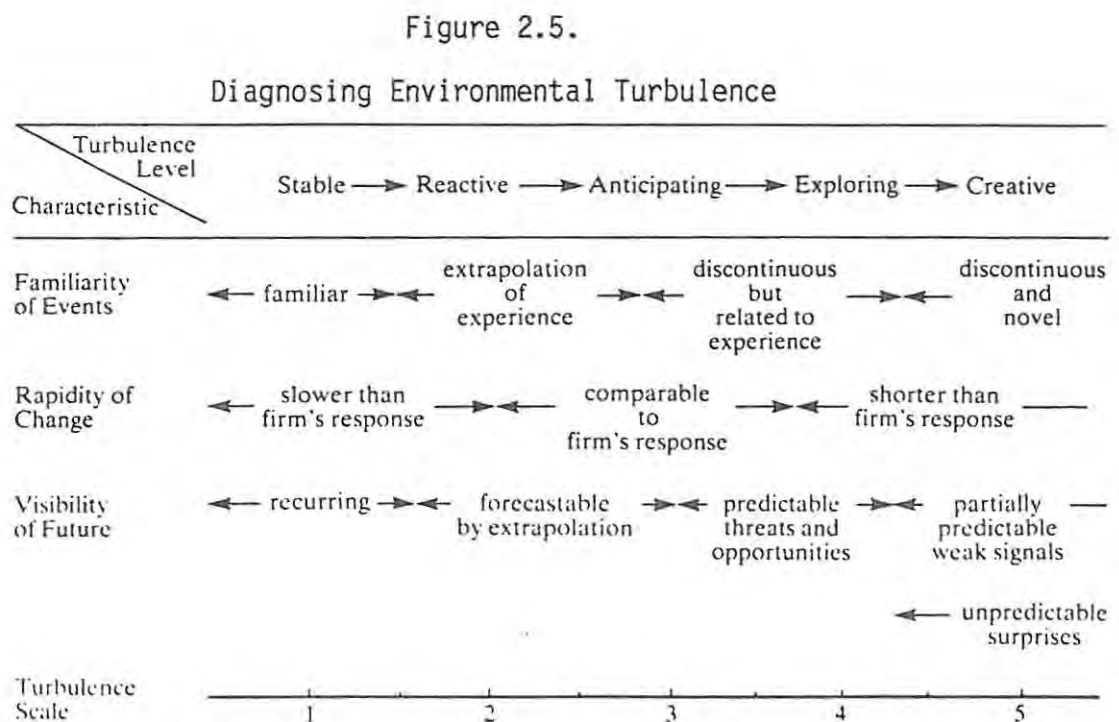
which can create significant variances for the relevant organizations. This dynamism is not only as a result of competitive interactions. Other factors, such as the interdependence between the economic and other facets of the society, now contribute to dynamism and hence turbulence.

### 2.3.3.2. Diagnosing Environmental Turbulence

According to Ansoff (1984 : 10) the degree of environmental turbulence is dependent upon three characteristics:-

- (a) Familiarity of events.
- (b) Rapidity of change.
- (c) Visibility of the future.

This can be shown in Figure 2.5.



Source: Ansoff, 1984 :12

From Figure 2.5, it can be seen that if familiarity of events are determined to be 'discontinuous and novel', the rapidity of change to be 'shorter than the firm's response', and the future to have 'unpredictable surprises' (which the present writer suggests is the same as being unfamiliar with events), then the firm is operating in a turbulent environment.

The amount of environmental turbulence is closely related to the degree of uncertainty facing a firm. An increased level of turbulence in the external environment of a business implies greater uncertainty on the part of the organisations as to how they should respond appropriately.

#### 2.3.3.3. Environmental Uncertainty

According to Javidan, environmental uncertainty is defined as the "perceived degree of predictability of the various components comprising the environment." (1984 : 384) What is important to note about this definition, is that it emphasises that organisational decision-makers are an important link between the organisation and its environment.

"They make their decision based on their perceptions of the happenings in their environment and their potential impact on their organisations." (Javidan, 1984 :384)

This view is compatible with Weick (1969) who suggests that individual perceptions need not correspond to any objective reality. Managers will perceive an environment consistent with their psychological set and consequently what one organisation perceives as being a placid,

randomised environment, may be perceived as dynamic and turbulent by another. In other words, organisation actions in response to the environment are congruent with managerial perceptions rather than objective environmental characteristics. (This is consistent with the Cognitive Model of the environment).

Nevertheless, there is some confusion relating to this notion of uncertainty. (Milliken, 1987 :133-136; Jauch and Kraft, 1986). Part of the confusion arises due to the fact that the term 'environmental uncertainty' has been

"used both as a description of the state of organisational environments and as a descriptor of the state of a person who perceives himself/herself to be lacking critical information about the environment." (Milliken, 1987 : 134)

The former implies one can objectively determine the state of the environment, the latter implies that the uncertainty is in the 'eye of the beholder'. In order to reduce the confusion, Milliken suggests that there are three types of uncertainty about the environment. (Milliken does however offer a general definition, that definition being, "an individual's perceived inability to predict something accurately." (1987 :136). Note again the role of perceptions). The three types of uncertainty suggested are as follows:-

(a) State Uncertainty (or Perceived Environmental Uncertainty)

Organisations experience state uncertainty when they perceive the "organisational environment, or a particular component of the environment, to be unpredictable." (Milliken, 1987 :136). Uncertainty about the state of the environment means that one does not understand how components of the environment might be changing.

(b) Effect Uncertainty

Effect uncertainty is the inability to predict what the nature of the impact of a future state of the environment or environmental change, will have on the organisation.

(c) Response Uncertainty

Response uncertainty is defined as a "lack of knowledge of response options and/or an inability to predict the likely consequences of a response choice". (Milliken, 1987 :137).

2.3.3.4. Environmental Change

The type of change in the environment is another important factor to be borne in mind when assessing the degree of turbulence facing a firm. Eppink makes reference, to three types of change (1978b :9-10).

(a) Operational Change

These changes are generally familiar and lead only to temporary changes in the level of activity of the organization. Hence there is no shift in the relation between a firm and its environment.

(b) Competitive Change

These changes involve more unfamiliarity and normally cause a major

transformation in the market position of a firm or industry. An example, may be the introduction of a new product.

(c) Strategic Change

These changes incorporate two factors :-

- (i) There is a high degree of unfamiliarity around it.
- (ii) The criterion of urgency is valid in that the firm must respond timeously to prevent it being adversely affected as a whole.

The important point to be made about strategic change, is that generally, these changes "originate in the indirect environment of the organisation and reach it via the components of its direct environment." (Eppink, 1978a :31). This view is consistent with the Organisation Field Model which suggests that the task environment is affected by the remote environment.

It is possible that events may have characteristics of two types of changes. Hence, Eppink suggests that this typology of changes be viewed as distinct points on a continuum. (1978b :10).

2.4. Summary and Conclusion - The External Environment of Business

What is clear from the literature surveyed is the lack of theoretical development about the external environment of business and exactly the causal relationships that exist between the external environment and internal environment of business. This state of affairs can be

ascribed to the fact that the forces in the

"external environment are so dynamic and interactive that the impact of any single element cannot be wholly disassociated from the impact of other elements," (Pearce and Robinson, 1982 : 116)

This problem is further exacerbated when the environment in which the firm is operating is characterised by a high degree of turbulence. Operating in such an environment may make analysis of events exceptionally difficult, if not impossible at times. Nevertheless, firms must still try and operate effectively if they are to survive. Indeed, dynamic organizations will find turbulent environments to be great sources of opportunity, rather than threats. One potential means of ensuring a firm's continued success and effectiveness in a turbulent environment, is the option of incorporating strategic flexibility into the organization. This concept will be examined in detail in Chapter 3.

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## CHAPTER THREE

### STRATEGIC FLEXIBILITY

#### 3.1. Introduction

The objective of this chapter is to explore in detail the concept of strategic flexibility. This will entail describing various types of flexibility, defining it and addressing the link between environmental turbulence and strategic flexibility. Then, the major portion of this chapter will be spent on discussing how firms can increase flexibility by referring to the various components of strategic flexibility. Finally, previous studies of strategic flexibility, drawbacks, alternatives and advantages to it will be presented.

#### 3.2. Types of Flexibility

In the previous chapter, a typology of operational, competitive and strategic environmental change was discussed.

"If one defines flexibility in relation to changes, then a logical consequence is to make a distinction in three types of flexibility, each suited to a specific type of change. Then one can conceive of operational, competitive and strategic flexibility, with each type linked to one type of change." (Eppink, 1978b: 10).

Hence the following situation arises :-

Figure 3.1.  
Types of Change and Corresponding Flexibility



This study is not concerned with operational or competitive flexibility and hence they shall not be explored at all. Nevertheless, the present writer is of the opinion that competitive and operational flexibility may on occasions be incorporated within the notion of strategic flexibility. While Eppink (1978a :42) considers "there are differences between what makes an organisation operationally, competitively or strategically flexible," it may, however, be argued that the extent to which a firm is flexible on the competitive and operational levels will collectively contribute to the overall strategic flexibility of the firm.

### 3.3. Flexibility Defined

According to Aaker and Mascarenhas, strategic flexibility

"may be defined as the ability of the organisation to adapt to substantial, uncertain and fast-occurring (relative to required reaction time) environmental changes that are substantial enough to impose severe long-term constraints

and/or to create a need for strategic adaptations." (Aaker and Mascarenhas, 1984:74).

Eppink (1978a :42) makes reference to the fact that there might be a difference between the components of flexibility on the one hand and adaptability on the other, in that adaptability refers to responsiveness to foreseen changes and flexibility refers to responsiveness to unforeseen changes in the external environment.

Eppink defines flexibility as

"a characteristic of an organisation that makes it less vulnerable to unforeseen external change or puts it in a better position to respond successfully to such a change." (Eppink, 1978a :42).

As can be seen from the above definition, Eppink specifically incorporates unforeseen change although he does state that there may be some overlapping between adaptability and flexibility (exactly what, is not elaborated upon). In the present writer's opinion, the difference is seen as being more semantic than anything else and to draw fine distinctions between adaptability and flexibility may be construed as being pedantic. In addition, if one argues that flexibility only takes account of unforeseen changes and that adaptability, only takes account of foreseen changes, it excludes the fact that there are differing kinds of uncertainty. As has already been discussed in Chapter 2, there exist three kinds of uncertainty namely state, effect and response uncertainty. This consequently means that although an event is foreseen (state uncertainty is low), the potential effect of that event on the firm and the appropriate response to it may be highly uncertain. Therefore it is submitted that to exclude foreseen events completely is incorrect. In the present writer's opinion, flexibility should therefore incorporate

adaptiveness and consequently may be better defined, as the ability of the organisation to adapt to uncertain and fast occurring external changes that are substantial enough to impose severe long-term constraints and/or to create a need for strategic adaptations. The focus therefore is on making it less vulnerable to changes and placing it in a better position to react and respond urgently and successfully.

The above definition therefore takes note of the fact that:-

- 1) various kinds of uncertainty exist (state, effect and response).
- 2) changes in the environment are fast-occurring in that they demand a rapid response by the firm.
- 3) flexibility can incorporate both 'passive' and 'active' concepts. (Eppink, 1978a : 39 - 41). These concepts will each be discussed in turn :-

(i) Passive Flexibility

The word passive is used here in the sense that it is defined in terms of limiting the impact of environmental change on the organization. For example, a firm diversifies in order to spread the risk of operating in one market segment only.

## (ii) Active Flexibility

Scott (1965 :141) has defined flexibility as "the ability to adjust or adapt to change." This consequently implies a more conscious decision on the part of the company to be proactive. According to Eppink and Scott, the need for flexibility "stems from the inherent uncertainties connected with the prediction of future developments." (Eppink, 1978a:41). Accordingly, flexibility can be enhanced along two lines :-

(a) Developing contingency plans that take account of unexpected changes that occur (for example 'what if.....?')

(b) Having deliberate postponement flexibility. (Scott, 1965 :142). In this instance the firm actually waits until further information becomes available. This does not imply any inaction on the part of the firm. On the contrary, the situation is constantly monitored until management consider a realistic and correct decision can be made.

### 3.4. The Link Between Environmental Turbulence and Strategic Flexibility

Inherent in Aaker et al and Eppink's definition of flexibility are attributes pertaining to a turbulent environment. As has already been discussed, organizations operate within an environment for which the firm must strive to establish a sound degree of strategic fit if it is to be effective (and hence survive) in the long term. However, as the turbulence in the environment increases, firms are "increasingly

confronted with uncertainty because of their environment, to that effect that the consequences of their actions are less predictable." (Krijnen, 1979 :63). This implies that the firm must continuously change its strategic posture in order to maintain a degree of strategic fit with its changing environment and hence intercept adequately the consequences of functioning in such an environment. This circumstance requires that the firm be flexible as the "flexible firm has the ability to change itself in such a way that it remains viable." (Krijnen, 1979 :64).

Krijnen (1979 :64) suggests that this change takes place in three ways :-

- The firm is able to adapt flexibly to circumstances and events taking place in the environment, which were neither predictable or foreseeable;
- The firm is able to alter itself by taking into account developments in the environment which are likely to occur. In this case the firm anticipates these changes by means of planning;
- The organisation develops activities by means of which it tries to influence the environment so that the firm does not have to adapt itself.

It is submitted that the first two options are closely related to one another - the difference appears to depend on the degree of turbulence in the environment; more turbulence requires flexible responses on the

part of the firm. In the present writer's opinion, the third option is applicable in only certain circumstances as it is held that organisations only occasionally have the power to manipulate and control their environments (Child, 1972). For example a company may buy out another growth company in the same industry which it perceives as being a threat to its market share. This ability to control the environment is, however, more the exception than the rule.

Ansoff (1984 : 14-15) suggests four kinds of management systems that exist in relation to successive levels of turbulence :-

- Management by (after the fact) control of performance, which is adequate when change is slow.
- Management by extrapolation, when change accelerates but the future can be predicted by extrapolation of the past.
- Management by anticipation, when discontinuities begin to appear but change, while rapid, is still slow enough to permit timely anticipation and response.
- Management through flexible/rapid response which occurs under conditions in which many significant challenges develop too rapidly to permit timely anticipation.

Ansoff's fourth option also points to the fact that a high degree of turbulence in the external environment demands flexible responses from the firm.

### 3.5. Approaches to Increasing Flexibility

A number of approaches to increasing strategic flexibility have been suggested by various authors. These components which individually or collectively, can influence the overall strategic flexibility of the firm are as follows :-

#### 3.5.1. Diversification

This is best described "by the maxim of not putting all of one's eggs in a single basket." (Ansoff, 1987 :65). This is the primary strategy for creating external flexibility by a firm, and it can either be defensive or aggressive.

##### (a) Defensive External Flexibility

This particular strategy is such that it reduces the relative impact of an event (Eppink, 1978a :11) or minimizes the shock of catastrophes (Ansoff, 1987 :65). Hence it may be described as passive in its outlook. This type of flexibility can be measured in several ways:-

1. By the number of independent customers which take a substantial portion of the firm's sales.
2. By the number of market segments in the firm's scope of operations which belong to different economies, or the geographic dispersion of the firm.

3. By the number of independent technologies underlying the firm's scope of operations. (Ansoff, 1987 :65; Eppink, 1978b :11).

This strategy is such that if a particular product market or technology is attacked or subjected to adverse external changes, the firm can immediately fall back on others. This strategy would be particularly useful in the international context where a firm marketing in several countries would be less sensitive to the economic and political conditions in any one country.

#### (b) Aggressive External Flexibility

"Aggressive flexibility is more elusive and harder to implement and measure. Instead of minimizing the shock of catastrophes, it maximizes the chance of participating in breakthroughs." (Ansoff, 1987 :65).

Hence it is more active in its stance. This would include participation in different technologies, technologies that are in ferment and emphasis on research and development which would place the firm in a position to exploit new developments. The idea here, is that the firm will have a running start when any opportunity emerges. What is important to note, is that even

"if the firm does not make the actual breakthrough, with a strong and responsive research and development organization it can exploit expeditiously and intelligently breakthroughs made by others." (Ansoff, 1987 :66).

#### 3.5.2. Internal Flexibility

The internal flexibility is attained by configuring the firm's resources, capacities, skills and capabilities in such a way that they can:-

\* reduce the delay in responding to the external changes that occur.

\* reduce the costs of response to the external changes that occur. (Eppink, 1978b :11). Consequently, the internal flexibility component can incorporate any, some or all of the following:-

### 3.5.2.1. Investment in Under-Used Assets (Aaker et al, 1984 : 76)

#### (a) Liquidity

According to Ansoff (1987 :66) the traditional yardstick of internal flexibility is liquidity of the firm's resources.

"The ultimate flexibility is, of course, total financial liquidity - having the firm's assets quickly convertible into money. But this path is possible only in the very few firms which are neither capital, nor technologically intensive." ( Ansoff, 1984 :78).

When a firm is liquid, it has the capability to absorb and respond to unfavourable developments and to be in a position to exploit favourable trends when they occur.

#### (b) Buffering (Thompson, 1967 :20-24; Emery, 1969 :26)

"To maximize productivity of a manufacturing technology, the technical core must be able to operate as if the market will absorb the single kind of product at a continuous rate, and as if inputs flowed continuously, at a steady rate and with specified quality. (Thompson, 1967 :20).

Unfortunately, this is not always the case in practice and hence, organisations seek to 'buffer' adverse environmental influences that can detrimentally affect this continuous process. This buffering may

be illustrated by the stockpiling of raw materials and inventories when supply conditions are irregular, and then inserting them steadily into the production process. (Mascarenhas, 1981/1982 :55).

#### 3.5.2.2. Reducing Commitment of Resources to a Specialised Use

Firms who make heavy commitments of resources to specialized capital assets always run the potential danger of a sudden future shift in the external environment (new technological innovation) rendering these assets antiquated or even totally obsolete. Hence, what once may have been an entry barrier (for example a highly advanced automated manufacturing process, producing at low cost) providing the firm with protection from potential competitors, subsequently turns out to be an exit barrier since the firm is locked into these specialized assets that cannot be changed easily. Therefore capital asset investment decisions are sometimes achieved at the expense of maintaining flexibility and of retaining options and alternatives. (Harrigan, 1980 :165; Aaker and Mascarenhas, 1984 :76). In this instance, the firm would try to improve on its logistic flexibility. "This concept refers to the possibility to undertake new activities with the existing equipment without undue costs." (Eppink, 1978a:44).

The suggestion here then, is that the firm try and incorporate multi-purpose equipment thereby increasing the number of activities that can be performed. (Emery, 1969 :27; Eppink, 1978a :139; Eppink, 1978b:13).

Another suggestion is that the firm be a technological follower (Aaker and Mascarenhas, 1984 :77) or borrower. Borrowing,

"saves an organisation many of the costs associated with innovation: (a) the costs of actual invention, (b) the costs of testing, (c) the risks of error in evaluation." (March and Simon, 1958 :188).

This is in line with Ansoff quoted earlier, who states "with a strong and responsive research and development organisation it can exploit expeditiously and intelligently breakthroughs made by others." (Ansoff, 1987 :66). Hence technological following does not mean innovation abdication; it simply is a means of reducing the risk incorporated in commitment of resources to a specialized use.

Finally, from an international perspective, entering a foreign market via export licensing, subcontracting, and avoiding vertical integration, "are designed to reduce investment and increase the flexibility to terminate or step up the investment." (Aaker and Mascarenhas, 1984 :77).

### 3.5.2.3. Managerial and Structural Flexibility

The final components to be discussed concerning the internal flexibility of the firm, pertain to managerial and structural aspects.

Fundamental to these components is increasing the decisiveness of management in the face of unforeseen events. There are essentially four contributing factors which can delay effective management response to a change in the external environment:-

\* systems delay - due to the time spent on observing, interpreting, collating, transmitting and communicating the information to

responsible managers. Further delays arise in reaching common understanding and processing the subsequent decisions.

\* verification delay - some managers may doubt the real ramifications of the change and hence wait for additional information.

\* political delay - if a certain manager's domain has potentially contributed to the crises developing, delaying tactics or even complete denial may be applied in order to save face.

\* unfamiliarity rejection delay - unfamiliar changes may be rejected as being improbable and invalid because they do not follow past experience. (Ansoff, 1984 :316).

The factors that can contribute to increasing the decisiveness of the firm and hence the overall flexibility, are processes, management technology, structure, values and people.

These will be discussed in turn:-

#### (1) Processes

Fundamental to the implementation of a firm's strategies are various mechanisms needed to co-ordinate, influence and control the necessary activities undertaken. These are called organizational processes. (Steiner and Miner, 1986 :219). Certain of these processes will now be discussed.

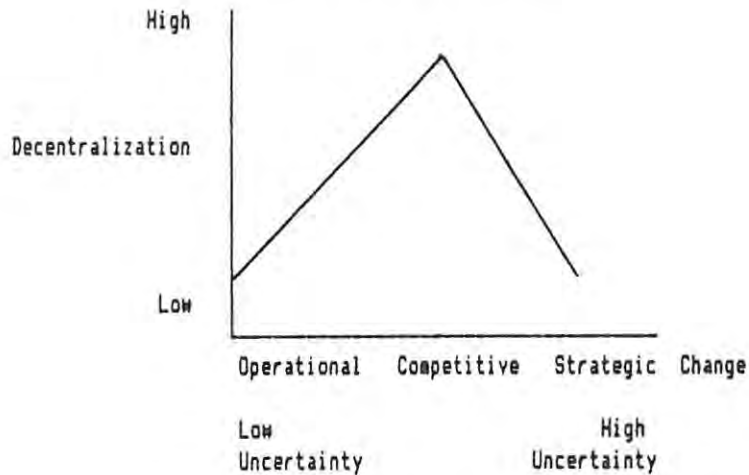
(a) Decision-making Process

Decision-making is important with respect to flexibility because an organization confronted with change has to respond suitably. "In fact, the quality of the decisions managers reach is the yardstick of their effectiveness." (Gibson, Ivancevich and Donnelly, 1976 :341).

Of particular importance to the decision-making process, is the extent to which the authority for making decisions is centralized or decentralized. Ever since the landmark studies of the contingency theorists, Burns and Stalker (1961) and Lawrence and Lorsch (1967), it has been widely held that the more unpredictable and uncertain the environment, the lower down the organisation, decisions should be made (that is, tending toward decentralization). Eppink (1978a :56) questions the extent to which this occurs when strategic change is confronting the firm. In his opinion, the two studies cited above (Burns and Stalker, and Lawrence and Lorsch) only really are appropriate when change is of the operational or competitive nature. However, when change is strategic, decentralized decision making is not capable of handling the problem and a more centralized mode is needed. (In support, the suggestions of Ansoff (1974) and Burton and Damon (1975) are cited). This suggests a curvilinear kind of relationship which is depicted as follows, in Figure 3.2.

Figure 3.2.

The Relationship Between Type of Flexibility and Degree of Decentralization



Adapted from Eppink, 1978a :56

Eppink's study, conducted amongst three firms affected by the oil crisis (this exploratory study is discussed in more detail in Section 3.7.), verified this Curvi-linear relationship, in that both decentralization and centralization of decision making were found in the firms studied.

"One of the main factors affecting the speed of the decision process was the possibility to reach a consensus on the most important problems. In all three companies this was enhanced by recentralizing decision making on strategic issues and some very important operational problems. At the level of operational problems a shift towards more decentralization could be noted. This was done to prevent the communication channels from becoming blocked by too much information. (Eppink, 1978b :12).

This view is consistent with Mintzberg (1983:141). From this it can be surmised that there is not a total move towards centralization of decision making. Eppink does not address what type of management style is most appropriate in this instance which is something in the

present author's opinion that should have been - but clearly what is needed here is a style of management that takes account of centralization and decentralization where necessary and applicable.

"Management style refers to the approach that managers adopt to their tasks and reflects their collective philosophy about the priorities of the business." (Viljoen, 1987:237).

Although management style can be classified in several different ways (Brodwin and Bourgeois, 1984), Viljoen (1987) suggests that there are three broad categories of style:-

\* Autocratic Management - suggests a high degree of centralization. There is a clear distinction between the thinkers and doers, strategies and plans are simply devised by management and then communicated to the rest of the organization.

\* Collaborative Management - is more 'open' than autocratic management. It allows a certain degree of decentralization by incorporating people lower down in the organization giving input and opinions to decisions.

\* Participative Management - is the most open in that it allows for both top down and bottom up decision making. Hence, a high degree of decentralization. Top management are then freed to pay more attention to strategic issues, other issues are delegated and employees are encouraged to actively participate in decision making.

In the present writer's opinion, it is participative management that is the most appropriate style to take account of strategic change or decisions involving high uncertainty. This is so, it is suggested, because it incorporates scope for both decentralization and

centralization of decision making when applicable and necessary. In times of high uncertainty, top management should not be burdened at all with any extraneous issues not incorporated in strategic decisions. Hence, in order to ensure that the organisation continues to operate effectively whilst the key issues are dealt with, operational and competitive issues should be completely delegated. By fostering a climate of participative management, the organization will always ensure that employees are ready and equipped to deal with any problem top management may delegate to them. In addition, in times of high uncertainty, top management cannot make decisions in vacuo and they will need timeous and correct information both from the external environment and internal functions of the company. For this, they will have to rely on people lower down in the firm and by having participative management styles in the organisation there is a greater likelihood that when asked to do so, employees will give the requisite information timeously. In fact, they may even go as far as to pre-empt senior management's request for information by supplying it before top management themselves perceive a need for it.

Consequently, it is suggested that participative management enhances the strategic flexibility of the firm.

(b) Degree of Formalization

Also founded on contingency theory, formalization refers to the extent to which rules and procedures are in existence in an organisation.

"Formalization, or standardization, is measured by the proportion of codified jobs and the range of variation that is tolerated within the rules defining the jobs. The higher the proportion of codified jobs and the less the range of

variation allowed, the more formalized the organization." (Hage, 1965 :295).

There appears to be a high degree of consensus that a relative lack of formalization in an organization aids flexibility. By having a low degree of formality, management are able to react quickly to changes in the external environment without going through a lot of bureaucratic procedures. (Eppink, 1978b :12).

"Formal rules cannot be formulated that will be suitable for any appreciable time period, so it seems better not to rely heavily on them". (Lawrence and Lorsch, 1969 :26).

### (c) Planning Process

The final process to be discussed is that of planning.

"Planning processes refer to the basic level of sophistication inherent in organizational activities designed to derive and facilitate the implementation of intended strategies." (Robinson and Pearce, 1988 :43).

Three important facets of the planning process will be discussed, namely the question of formality and informality, the use of qualified planners in an organization, and planning horizons.

#### i. Formality or Informality

It is generally recognised that there are essentially two processes - a formal process and an informal process. (Thune and House, 1970; Leontiades and Tezel, 1980 :65-67; Rue and Holland, 1986 :16; Steiner and Miner, 1986 :80; Ireland, Hitt, Bettis and De Porras, 1987 :469; Pearce, Robbins and Robinson, 1987 :125; Pearce, Freeman and Robinson, 1987; Ramanujam and Venkatraman, 1987 :453).

Formal planning is organized and developed on the basis of a set of procedures. It is usually explicit, involves set activities and people designated to undertake them, finally culminating in a written plan. Informal planning on the other hand, is ad-hoc, tends to rely more on intuition and 'gut-feel'. It usually does not incorporate designated people, but certain people may be mobilised temporarily when needed. Hence, it tends to be unsystematic and more often than not, does not involve a written plan. Organizations are rarely totally formal or informal in their approach but tend towards one or the other. As to which is 'better' for an organisation, has not been resolved. After giving a systematic, critical review of eighteen empirical studies, Pearce, Freeman and Robinson conclude :-

"Regardless of the methodological approach adopted in the 18 studies that have attempted to establish the utility of formal strategic planning for firm economic performance, conflicting findings have emerged. Empirical support for the normative suggestions by strategic planning advocate that all firms should engage in FSP has been inconsistent and often contradictory." (Pearce, Freeman and Robinson, 1987 :670-671).

For example, Thune and House in a study conducted among thirty six large manufacturing firms concluded that

"formal planners, from the time they initiated long-range planning through 1965, significantly outperformed informal planners with respect to earnings per share, earnings on common equity and earnings on total capital employed." (Thune and House, 1970 :84).

In certain industries however, no clear association was found. Fulmer and Rue, in a study conducted amongst large firms from three major individual groupings concluded that

"the most consistent results appear in the service industries where the non-planners outperformed the planners in all cases, and in the durable industries where the planners out-performed the non-planners in all cases." (Fulmer and Rue, 1974 :6).

For the third industrial grouping, no association was found and hence

Fulmer and Rue were not able to conclude whether long-range planning pays or does not pay.

Leontiades and Tezel (1980 :74), in their study conducted amongst companies selected from Fortune magazine's 1000 largest industrial firms, found no sign of formal planners outperforming informal planners.

In a recent study undertaken by Pearce, Robbins and Robinson (1987) involving 97 manufacturing firms, they found a strong positive correlation between the degree of planning formality and firm performance.

Unfortunately however, the great majority of these studies and the others cited by Pearce, Freeman and Robinson have ignored the state of the environment. Consequently, notwithstanding the inconclusiveness of these studies overall, there is little that can be drawn from them in terms of determining which of the two processes is more prevalent and applicable in turbulent environments - and hence which would enhance the strategic flexibility of the firm. In fact, very few empirical studies have been undertaken in this regard and those which have, have also tended to be inconclusive.

The first study of note was that of Lindsay and Rue (1978) conducted amongst 199 corporations. In this they found that

"firms tend to adopt more complete formal long-range planning processes as the turbulence of the business environment increases." (Lindsay and Rue, 1978 :116).

Although significant for large firms, the result for small firms was

insignificant.

In a study conducted amongst companies in the United States Saving and Loan Industry, Javidan found that the

"effect of environmental uncertainty seems to be moderated by two variables; the perceived need for internal change, and the perceived value of long-range planning in formulation and implementation of such a change." (Javidan, 1984 :392)

The second variable is of particular importance. All the respondents in the study agreed that they were operating in an industry characterized by high uncertainty. Despite this consistency of opinion regarding the state of the external environment, the 'limited' and 'extensive' planners showed major differences in their responses to these conditions. Limited planners felt that extreme degrees of environmental uncertainty rendered long-range planning of no value due to the inability to forecast the future. Environmental scanning was highly informal, had no written long-terms plans and employed no planning staff. Extensive planners on the other hand felt that although long-range planning was difficult, it was still a valuable tool in helping them adjust to new environmental demands. Environmental scanning was conducted by specialized staff and some limited effort was spent in the formulation of multiple scenarios and contingency plans. In addition, company size was found to have no significant impact on the variables. Hence this study showed that the extent of planning was not dependant on environmental uncertainty, but moderated rather by management's perception of the ability of planning as a tool to deal with uncertainty.

Grinyer, Al-Bazzaz and Yasai-Ardekani (1986 :7), in a study conducted

amongst 48 British companies, hypothesized that formality of planning would decrease as environmental turbulence increased. However, no significant relationship between formality of planning and environmental turbulence was found (Grinyer et al, 1986 :13). Rather, the formality of planning emerged more as a means of co-ordination and control within diversified, divisionally structured companies.

This view is consistent with that of Woodburn who in a study conducted amongst South African companies concluded that

"the greater the differentiation and environmental uncertainty caused by growth, diversification and organizational complexity, the greater become the integrative needs provided by the range of facilities of corporate planning. The survey results reveal a facet previously ignored in the classic concept of corporate planning. While environmental uncertainty does play a part in determining the degree of an organisation's involvement in the corporate planning process, the complexity of the organisation itself plays a stronger and more dominant role in dictating the degree of involvement. In the South African context, planning is primarily a powerful internal integrator of complex organizations, and only secondarily a management technique for coping with uncertain future business environments." (Woodburn, 1983 :140)

It will be noticed from the above, that Woodburn goes further than Grinyer et al in discussing the impact of uncertainty (and turbulence) but he does make the point that the question of formality being decreased under conditions of extreme uncertainty is only a tentative suggestion (Woodburn, 1983 :152).

Thus from the literature surveyed, the relationship of formality and informality under conditions of turbulence, is just as inconclusive as the debate in general.

The point of concurrence of the above studies seem to suggest that,

the use of planning under conditions of uncertainty seems to be dependent upon :-

- \* Management's perceptions of its value as a tool
- \* Size of the company
- \* The complexity of the company i.e. the extent to which it is divisionalized or diversified.

From the point of view of flexibility, the third point mentioned above is perhaps of particular importance. As was discussed earlier, diversification is itself an approach to increasing flexibility and hence diversification may be seen as a response to increased turbulence in the environment. This diversification then requires a greater amount of planning on the part of the company. From this then, a positive relationship may be seen between turbulence and the amount of planning. For the companies that do not diversify, the relationship may not be so clear. Nevertheless, in the present writer's opinion, for companies not to plan at all because they perceive it to be fruitless on the basis of high turbulence, is too extreme. Companies should try and take account of changes in the environment and by building flexibility into the plans need not necessarily become 'locked-in' to a particular course of action. (Koontz, O'Donnell and Weihrich, 1984 :122). On the question of formality of this planning process, the relationship is also not very clear. However, the present writer is of the opinion that as the degree of turbulence in the environment increases, firms tend to become more informal in their approach. This does not suggest that firms do not plan at all, but rather that a balance should be struck

between the rigidity of highly formalized planning on the one hand and no planning on the other. Hence, it is suggested that informal processes are the most suitable in enhancing the strategic flexibility of the company.

Unfortunately, Eppink (1978) and Aaker and Mascarenhas (1984) offer little insight into the issues raised in the above section which is seen as a shortcoming in their studies.

#### ii. Specialized Planning Staff

One way of balancing the problem of whether to be formal or informal in the planning process when operating in a turbulent environment, is to delegate the role of environmental scanning and the development of corporate plans and strategies to specialized planning personnel. The advantages of this is that the company has a body of people monitoring the external environment permanently and presenting top management with on-going reports concerning strategic issues. The company can then act on this information when and where necessary and appropriate.

According to Grinyer et al,

"the application of more sophisticated forecasting and evaluative technique by appropriately qualified staff reduces the probability of major mistakes, and tends to reduce variability of returns, even if it cannot generate creative new strategies which depend more on entrepreneurial vision and judgement." (Grinyer et al, 1986 :6-7).

(In fact, it may be argued in the present writer's opinion, that top management in general and the chief executive in particular is freed from the technical rigours of scanning and can then develop these creative strategies). Consequently, Grinyer et al hypothesized

"that companies will tend to use more qualified planners with more sophisticated forecasting and evaluative techniques, where environmental turbulence is high." (Grinyer et al, 1986 :7).

In terms of delegation of the stages of the planning process, Grinyer et al make the point that in turbulent environments, top management is more likely to be strongly involved in all stages of corporate planning for the following reasons :-

- \* Issues addressed are likely to be more fundamental and critical to the viability of the company.
- \* A faster speed of response is appropriate.
- \* Formal standard operating procedures are less likely. (Grinyer et al, 1986 :8).

Consequently, it is suggested that as the turbulence in the environment increases, the planning department is granted more status by ensuring that the head is in fact a very senior manager in the company and hence has instant access to top management. In addition, it must be noted that the first point above could be equated with Eppink's (1978b :10) strategic change, and the second and third points correspond with processes discussed earlier; recentralization of certain decisions in times of severe turbulence and low formalization respectively. Hence it may be argued that planning departments can enhance the strategic flexibility of the firm.

Unfortunately, Grinyer et al were unable to derive any significant relationships, the present writer nevertheless considers their logic to be sound and hence the hypothesis advanced by them, could take the form of a normative statement. Having said this, it should also be

borne in mind that the size of the company and requisite resources could be a factor in determining whether or not a planning department exists.

### iii. Planning Horizons

The final factor to be addressed under the ambit of planning processes is the planning horizons of the company. Planning horizons are important as they firstly determine the extent to which managers actively think into the future and secondly, they determine the extent to which particular resources in the company are committed to a particular activity for a certain time period. (Das, 1987 :204). They may vary from a simple one year budget plan, to a two hundred and fifty year commitment to a massive capital and resource undertaking (for example an open-cast mine). In this respect two factors are important:-

- \* The time span of the plan.
- \* The frequency with which the plan is reviewed. This allows management to evaluate progress towards achievement of its objectives.

In terms of how increased turbulence in the environment would affect both the time span and the frequency of review, the studies conducted have not proved to be conclusive. Eppink reported a shortening of the planning horizon in all three companies, in his study :-

"The main reason behind this was that in such a planning a large number of variables had to be taken into consideration, the changes in which may either compensate one another or can give a compounded effect. This could

give such great differences in outcomes of the forecasts that it would be difficult to take action, provided that the forecasts could be made at all." (Eppink, 1978a: 130)

In their study, Lindsay and Rue (1978 :119) were not able to find a significant shortening of the horizon as turbulence increased. In Javidan's study (1984 :389), the respondents all reported far greater uncertainty in 1981 as opposed to 1976. Nevertheless, although a relatively short-term orientation prevailed over the five year period, the difference in orientation did not reach statistical significance.

In a study conducted amongst Belgium companies, Caeldries and van Dierdonck (1988:43) reported that "no relationship was found between the degree of competitive turbulence and the use of a particular planning horizon." Nevertheless,

"only 10 per cent of all firms in our sample have formal strategic plans with a planning horizon of 6 years or more. One very likely explanation is that - given a rapidly changing environment - firms are finding it increasingly difficult to plan for such long time periods." (Caeldries and van Dierdonck, 1988 :41).

Many companies tend to favour a three to five year period, and this is verified by a number of studies, (Caeldries and van Dierdonck, 1988 :43; Bhatti, 1981 :65; Boulton, Franklin, Lindsay and Rue, 1982a :83); Fulmer and Rue, 1974 :4).

In terms of frequency of review, Lindsay and Rue reported

"a surprising inverse relation between 'planning review frequency' and Environmental Turbulence was discovered. Apparently, because of the difficulty of forecasting under turbulent environmental conditions, managers see less need for frequent evaluation of their long-range-plans." (Lindsay and Rue, 1978:119).

Boulton et al (1982a :85) reported no significant change in the five year period from the first study in 1974 to the second in 1979.

According to Caeldries and von Dierdonck,

"Normally, one would expect that as a firm's environment becomes more turbulent, more frequent revisions are called for (and vice-versa). Our research observations do not support this argument." (Caeldries and van Dierdonck, 1988:44)

On the balance then, it appears that common business practice and formality rather than environmental factors tends to prevail. Nevertheless, there is a body of thought that holds that as turbulence increases, the frequency of review should increase - even to the extent of a continuous surveillance. Ansoff's, *Strategic Issue Management* highlights this approach (Ansoff, 1980 :134). Koontz et al (1984 :123) also make reference to reviewing plans regularly.

On the question of time span, the issue is perhaps not as clear. Intuitively one might argue that as the turbulence increases, the future becomes less clear and hence planning horizons should be shorter. However, it is a common fact that Japanese industries are renowned for their very long-term orientation and their success as a global player certainly cannot be disputed. The present writer is of the opinion that although turbulence increases and the future becomes unclear, managers should still strive to think as far ahead as possible. Too much emphasis on short-term results can often prove to be detrimental in the long run and those companies who do not actively think about the future (and who use high turbulence as an excuse for not doing so) will in the present writer's opinion be worse off than those who do. By ensuring that the company is strategically flexible and that the plans are continuously reviewed, firms can avoid the possible negative affects that may occur if a sudden environmental change forces a drastic revision of a plan for which management is

ill-equipped. Hence it is suggested that a balance be struck, and by striving for longer-term plans with frequent review, strategic flexibility can be enhanced.

## (2) Management Technology

"Management technology refers to the techniques and methods used by managers for the conduct of business. It can be used among other things for forecasting, information processing and decision-making," (Eppink, 1978a :57).

In this respect two factors are important:-

- \* The extent to which the company monitors the environment.
- \* The techniques used by the company to aid strategic decision making.

### i. Environment Monitoring

For firms operating in a turbulent environment, the message is clear. The firm should ensure that the environment is continuously monitored and as many elements of the environment as possible "in order that changes may be immediately detected by those responsible for defining projects in response to environmental change." (Nicholls, 1980:75).

Ansoff suggests a

"'staff' group which is concerned with detection of trends, evaluation of their impact and timing, assessing the time required for response, and alerting decision makers about sudden and important issues." (Ansoff, 1980:135)

This, the present writer suggests, could be the role of a planning department discussed earlier. Consequently, by ensuring that the firm constantly monitors the environment with multi-channels of

information, the strategic flexibility of the firm is increased. (Gilbreath, 1987 :48).

## ii. Techniques Used

According to Ansoff,

"the complexity and speed of the firms response must match the complexity and the speed of the environmental challenges. The firm will not succeed either through simplistic or over elaborate responses. Thus, it is necessary that management build progressively complex systems in order to deal with progressively more complex environments." (Ansoff, 1984 :27).

In this regard, Ansoff makes reference to the well known concept of 'bounded rationality' advanced by Herbert Simon. Bounded rationality holds that individuals and organizations cannot resolve problems once they surpass a particular level of complexity. From an organizational sense this suggests that as the external environment reaches a high level of complexity certain managers will not understand what is going on, nor be in a position to respond with rational and effective strategies. Consequently, Ansoff poses the question,

"How to reconcile the conflict between the need for increased complexity dictated by requisite variety, and the need for simplicity dictated by bounded rationality?" (Ansoff, 1984 :28).

The answer appears to be in reduction of complexity, but not using simplistic responses to complex challenges.

"Thus, if management is reluctant to increase the complexity of the firm's systems to a level necessary to make them responsive to the environment, it should simplify the strategic position of the firm by exiting from turbulent business areas." (Ansoff, 1984 :28).

Consequently, rather than simply extrapolating the past or trying a forecast into the future - firms should incorporate more sophisticated techniques into their firm such as competitor analysis, threats/

opportunity analysis and scenarios.

Computer technology can also aid in the disseminating of information expeditiously and consequently it is suggested that by incorporating more sophisticated techniques that aid the strategic decision making process, firms can increase their strategic flexibility.

### (3) Structure

"A turbulent environment requires that institutions and enterprises be ready, willing and able to change themselves. Without changing themselves they cannot adopt effectively to external change." (Ackoff, 1977 :649).

Structure refers to the relatively fixed relationships among employees of an organization. It incorporates factors such as division of labour and co-ordination amongst tasks (Mintzberg, 1983 :2), the lines of authority and communication between various levels of the organization and the information and data flow between these levels (Chandler, 1962 :14).

It is generally held that as environmental turbulence increases, the more organic the structure should become. (Burns and Stalker, 1961; Lawrence and Lorsch, 1967; Mintzberg, 1983 :137). Burns and Stalker (1961 :119-125) distinguish between two polar management systems. A mechanistic structure is characterised by, amongst other things, a specialised differentiation of functional tasks, high centralization and a precise definition of rights and obligations and technical methods attached to each functional role, and vertical communication lines. The organic form on the other hand,

"is appropriate to changing conditions, which give rise constantly to fresh problems and unforeseen requirements for action which cannot be broken down or distributed

automatically arising from the functional roles defined within a hierarchic structure." (Burns and Stalker, 1961 :121).

It is characterized amongst other things by, lateral communication rather than vertical, communication being of a consultative rather than command nature, decentralization and adjustment and continual re-definition of individual tasks through interaction with others. The study conducted by Lawrence and Lorsch (1967) went further than Burns and Stalker in that they looked at different departments as opposed to the organisation as a whole. They made the important discovery that different parts of the organization deal with different elements of the environment, hence the organization or the environment could not be assumed to be uniform or singular. Consequently the organization's internal structure could be expected to differ from department to department, reflecting the different environmental elements with which they interacted. In this respect they introduced two important concepts, differentiation and integration. However, on formality of structure their findings closely corroborated that of Burns and Stalker. In essence, the more certain the environment, the more formal the structure (mechanistic) and the more uncertain the environment, the less formal the structure (organic).

According to Mintzberg, in times of dynamism

"the organization cannot easily predict its future, and so it cannot rely on standardization for coordination. It must use a more flexible, less formal coordinating mechanism instead - direct supervision or mutual adjustment. In other words, it must have an organic structure." (Mintzberg, 1983 : 138).

It is generally recognised that there is no best way to organize and hence numerous examples exist of differing structures that organizations may adopt. Essentially, they come down to a functional,

divisional (along product or geographic lines), matrix or combination structure. The characteristics of each type is assumed to be well known and hence a detailed description of each is deemed to be outside the scope of this study. What is important however, is how each of these structures can contribute to the structural flexibility of the firm, defined by Krijnen as "the possibility to change the existing structure itself in an easy way, when this proves to be necessary." (1979 : 65). Krijnen has provided insight into the appropriate structure in this regard. These will be discussed briefly in turn :-

#### i. Functional

This is deemed to be inappropriate for dealing with environmental turbulence and is only really appropriate when the organisation is small, product-market combinations are few and the environment is stable. (Krijnen, 1979:66; Ansoff and Brandenburg, 1969).

"Top management threatens to be quickly over burdened by the abundance and multiplicity of decisions to be made by her. The odds are that because of this less attention is paid to the problems at long range." (Krijnen, 1979 :66).

#### ii. Divisional

This is deemed to be an appropriate form of structure for organisations that increase in size and which have a number of different product-market combinations. This then ensures that the organisation is able to take account of the greater differentiation and integration (Lawrence and Lorsch, 1967) necessary to operate effectively. From the point of view of operating in a turbulent environment, appropriateness is deemed only to be moderate however.

"Strategic adaptations of the firm as a whole however are

not easily realised as divisions will often resist changes of a strategic nature which top management wishes to execute." (Krijnen, 1979 :68).

### iii. Matrix

The fundamental attribute of the matrix type structure is its lack of permanence. Structurally, this type is seen to be very flexible

"since the staff considers changes more as a rule than as an exception; therefore the resistance against changes is small." (Krijnen, 1979 :72).

Consequently in order to increase the structural flexibility of the firm and hence the ultimate strategic flexibility, firms must recognise that certain structures are inappropriate for dealing with environmental turbulence. Consequently, a move towards organic structures that take account of high differentiation will increase the strategic flexibility of the firm. By recognising the shortcomings of certain of the generic structures with respect to flexibility and designing appropriate structures that do (e.g. moving from functional to decentralized product divisions or matrix), firms can greatly increase their responsiveness and decisiveness in dealing with external changes.

### (4) Values

A value may be defined as "a conception, implicit or explicit, of what an individual or group regards as desirable." (Guth and Tagiuri, 1965 :124-125).

Values are important in two respects:-

- \* Personal values provide the standards and criteria upon which people make choices and decisions.
  
- \* They structure the way in which people perceive their world and the decisions they have to make. (Guerrier and MacMillan, 1981 :22-23).

Just as individuals have values, so too have organizations. These may be explicit (i.e. stated in plans and procedures) or implicit - quite simply 'the way things are done around here.'

What is important however, is that the individual's values correlate with those of the organisation. If they do not, then dysfunctional and discrepant behaviour will result. "Hence a major managerial task is to attempt to develop value consistency within their organizations." (Viljoen, 1987 :236).

For a firm operating in a turbulent environment and hence which requires flexibility and change, one might expect therefore the values of the organisation (and hopefully the individual) to embody change and flexibility.

"The values of an organisation can be formally expressed in the reward and sanction system as well as in the criteria that are applied for the recruitment of personnel." (Eppink, 1978a :46).

This consequently implies two things. Firstly in order to inculcate a value system that tolerates change within an organisation and hence increases the flexibility, firms must reward employees for being innovative and adaptive. Secondly, only employees and managers who are prepared to tolerate change and be pro-active in their outlook should be allowed into the organisation in the first place. (Krijnen,

1979 :66).

(5) People

Closely allied to the above point of recruitment, is the final aspect to be discussed under the ambit of managerial and structural flexibility - namely the people in the organisation. It is a truism, that at the end of the day, it is the management and employee capabilities in the organisation that will determine whether or not it is successful. Reacting to strategic change puts a heavy extra decision load on an organisation, and consequently, a high degree of stress on all managerial and lower-level staff. Working long hours and making decisions in an atmosphere of uncertainty are some of the prospects to be expected by potential employees. Therefore,

"people who can work under such circumstances have to be very fit physically and should possess a personality structure that enables them to work effectively in situations of high uncertainty." (Eppink, 1978b :12).

Two factors that management should address then in developing their people, are training and development and job rotation. By exposing management and employees to training and development from various sources, companies can encourage initiative and an openness of mind. In addition, by exposing employees to all facets of the business a holistic view of the company can be created and tolerance of understanding of other functional area's problems can be facilitated. Employees and managers can then be transferred and moved with the least amount of friction, thereby increasing flexibility.

### 3.5.3. Summary

Strategic flexibility is an extremely multi-faceted concept which incorporates both external and internal factors. The common denominator is that in all aspects of the business, the organisation fosters a climate that is willing to respond quickly and effectively to any change (particularly unforeseen) that may occur. By diversifying, either defensively or aggressively firms can lessen the shock of sudden changes. By investing in under-used assets, reducing commitment of resources to a specialised use and creating fluidity in managerial and structural aspects, firms can increase their internal flexibility and thereby increase decisiveness and speed of response.

### 3.6. Measuring Flexibility

Aaker and Mascarenhas (1984 :78-79) suggest ways that firms can measure flexibility by conducting what they term a "flexibility audit." The undertaking of a flexibility audit will require two steps:-

- a. The items providing the basis of the audit need to be identified.
- b. Assess the firm's flexibility with respect to the selected items.

Please refer to Tables 3.1 and 3.2 which provide a set of illustrative measures of flexibility in an objective/quantitative and subjective/qualitative manner respectively. As will be noticed, many of these

factors have been discussed in detail already.

Table 3.1.  
Flexibility Audit - Objective Assessment

<b>Research and Development</b>	<ul style="list-style-type: none"> <li>Number of technologies underlying firm's position</li> <li>Number of R&amp;D projects</li> <li>Number of R&amp;D people</li> <li>Percent of market served by competitive technology</li> <li>Number of products over which R&amp;D can be amortized</li> </ul>
<b>Finance</b>	<ul style="list-style-type: none"> <li>Current ratio</li> <li>Acid-test ratio</li> <li>Debt/equity ratio</li> <li>Current assets/fixed assets</li> <li>Amount of funds that could be generated from sale and leaseback of assets</li> <li>Price/earnings ratio</li> <li>Amount of funds available for acquisition without raising equity</li> <li>Excess cash flow from normal activities</li> <li>Payback period on investments</li> <li>Discretionary/nondiscretionary expenditures ratio</li> <li>Value of nonoperating assets that can easily be liquidated</li> </ul>
<b>Operations</b>	<ul style="list-style-type: none"> <li>Percent of supply obtained from principal supplier</li> <li>Number of alternate suppliers of raw materials and components</li> <li>Number of duplicate production facilities in the production network</li> <li>Capacity utilization rate, especially at earlier production stages</li> <li>Percent of inputs that are produced by upstream facilities owned by the firm</li> <li>Percent of output going to downstream facilities owned by the firm</li> <li>Percent of assets that have alternative uses</li> <li>Number of different products that can be purchased with existing facilities</li> <li>Number of days of sales that inventory can support without production</li> </ul>
<b>Marketing</b>	<ul style="list-style-type: none"> <li>Percent of sales obtained from top three customers</li> <li>Number of independent customers</li> <li>Number of separate market segments served by the firm</li> <li>Number of new product concepts under development</li> <li>Number of different channels of distribution being used</li> </ul>
<b>International</b>	<ul style="list-style-type: none"> <li>Number of countries in which firm is involved</li> <li>Number of countries serviced only by exporting licensing number of countries in which firm is involved</li> <li>Number of duplicate points for international supplies and markets</li> <li>Number of employees who could not easily be transferred to other business areas</li> </ul>
<b>Managerial/Structural</b>	<ul style="list-style-type: none"> <li>Number of SBUs</li> <li>Number of staff personnel that could be assigned to new products</li> <li>Number of people with general management experience</li> </ul>

Source : Aaker and Mascarenhas, 1984 :78

Table 3.2.

## Flexibility Audit - Subjective Assessment

<b>Research and Development</b>	Strength of the R&D cooperation relative to competitors New product introduction strength Support for competing R&D projects Ability to obtain licensing rights for new technology
<b>Finance</b>	Separability of assets for liquidation purposes Capital reinvestment requirements Ability to adjust timing of payments and receipts, factor receivables, and adjust credit policies Ability to break up large investment projects and execute them in smaller, independent parts depending on availability of funds Ability to modify operating and investing activities to generate funds Restrictions on additional financing in existing financing agreements
<b>Operations</b>	Existence of joint costs that make dropping activities difficult Possibility of changing configuration of resources Possibility of scheduling production activities in a different sequence Transferability of assets to new product markets Cost of closing down operations Interchangeability of parts of different products
<b>Marketing</b>	Constraints of firm's past image on future activities Strength of customers' loyalty to buffer competitors' actions Legal, competitive, and customer constraints on adjusting price Ability to change channels of distribution
<b>International</b>	Possibility of using subcontracting given the available expertise of host country firms Ability to engage in licensing given the possibility of creating a competitor in Third World markets Ability to obtain permits from host government to expand into other business lines in host country
<b>Managerial/ Structural</b>	Ability of employees to find employment elsewhere Social, regulatory, and financial constraints regarding employee layoffs Existence of a management development program Presence of multichannel information systems with the environment Extent of decentralization Ability to easily add and divest divisions with present organizational structure Use of participative decisionmaking that helps implementation Existence of standard operating procedures, rigid rules, and company traditions Transferability of managers and their skills to new businesses Encouragement of the reward system to try something new, its orientation towards the short-run profit vs. long-run effectiveness Ability of employees to cut through red tape and to communicate laterally in the organization Presence of interfunctional transfers within an organization to broaden employees' outlook Presence of role overlapping to reduce dependency on particular individuals

Source : Aaker and Mascarenhas, 1984 :79

### 3.7. Prior Research on Strategic Flexibility

A number of studies subsequent to Burns and Stalker (1961) and Lawrence and Lorsch (1967), pertaining to the firm and the external environment have been conducted. These have spawned the so-called contingency theories. In addition studies have been conducted

pertaining to specifically turbulent or uncertain environments (Lindsay and Rue, 1978; Boulton, Lindsay, Franklin and Rue, 1982b; Javidan, 1984; Woodburn, 1983). However to the best knowledge of the present author, only two empirical studies have been conducted pertaining to strategic flexibility (Eppink, 1978; Aaker and Mascarenhas, 1984) and certainly none in the South African context. A number of authors have written conceptually about it (Ansoff, 1987; Ackoff, 1977; Nicholls, 1980; Krijnen, 1979) but the real test of the concept's validity and relevance only really occurs when the concept itself, is subjected to some form of empirical study. The two empirical studies cited earlier will be briefly discussed:-

### 3.7.1. D.J. Eppink

Eppink conducted a study amongst three companies who had been affected by the 1973 oil crisis. An exploratory study was undertaken on the basis that the research area was relatively underdeveloped and consequently generation of hypotheses difficult. Personal interviews (21 in total) were conducted amongst various hierarchical levels of the companies and the following questions were asked :- (Eppink, 1978a :65-67).

1. To what extent was the oil crisis a surprise?
2. What was the impact of the oil crisis?
3. What analyses were made during the oil crisis?
4. What measures were taken by the companies?
5. What factors influenced the response process?
6. What changes took place in organizational characteristics?

7. What is top management's role in the response process?
8. What changes were made in the planning system?

According to Eppink,

"From this study, it appeared that none of the firms had made an explicit estimation of the costs of flexibility, nor of the need of flexibility. Although in all three firms there was a distinct appreciation of the problem area, it was not dealt with in any way that could be called serious." (Eppink, 1978b :14).

Hence, although Eppink provided some important insights into factors pertaining to flexibility, his results are not conclusive especially with respect to the relationship between environmental turbulence and strategic flexibility.

### 3.7.2. D.A. Aaker and B. Mascarenhas

The study conducted by Aaker and Mascarenhas involved a larger sample of companies than Eppink's study (20 as opposed to 3). Like Eppink, personal interviews were conducted and these interviews were then supplemented by published cases and the business press.

"Of major interest was how executives coped with uncertainty and, in particular, the use or nonuse of flexibility." (Aaker and Mascarenhas, 1984 :74).

The two major observations that emerged from this study were :-

- a. The considerations of alternative ways to increase flexibility tended to be limited and ad hoc rather than comprehensive, systematic or formal.
- b. Judgements about flexibility tended to be subjective and informal. Flexibility levels were rarely monitored or even measured. (Aaker and

Mascarenhas, 1984 :74-75).

Consequently, the study by Aaker and Mascarenhas can also be seen as being inconclusive in terms of the relationship between environmental turbulence and strategic flexibility. Aaker and Mascarenhas, suggest why this might be so:-

"One reason might be that internal and external constraints on the style and experience of the executive and the company tended to restrict the options considered. Another explanation is that the literature lacks a comprehensive structuring of the many alternative approaches to flexibility." (Aaker and Mascarenhas, 1984: 74-75).

It is suggested therefore, that the notion of strategic flexibility should be vigorously conceptualised and studied, in order to increase the understanding and acceptance of it as a viable mechanism for coping with a turbulent environment.

### 3.8. Drawbacks of Strategic Flexibility

It must be pointed out however that there are certain potential drawbacks and limitations to strategic flexibility.

First, incorporating strategic flexibility into the firm can be an expensive option and hence become uneconomic (Scott, 1965:143; Koontz, O'Donnell and Weihrich, 1986 :122; Ansoff, 1987 :66; Emery, 1969 :28; Eppink, 1978a :40-41) thereby adversely affecting the firm's efficiency. For example building a multiple-purpose plant would entail expensive capital outlays. Should it not be used optimally by the company, it would result in inefficient uses of resources. In this instance, the flexibility can be viewed as an insurance premium and therefore the flexibility option has to be evaluated in terms of risks

entailed and possible benefits accruing.

Second, flexibility may be used as an excuse for a lack of decisiveness on the part of management. This essentially implies that the company is only paying lip service to the need for flexibility (Scott, 1965 :142) for as has been discussed already, decisiveness should be an important part of strategic flexibility.

Third, there can be excessive preoccupation with flexibility which may lead to continual revisions of plans. In this instance, the instability caused by frequent changes may in fact result in a hindrance to the achievement of plans (Scott, 1965:143; Eppink, 1978a :41).

These drawbacks do not really entail fundamental criticisms of strategic flexibility itself, rather they illustrate abuses of it. Hence, in incorporating strategic flexibility, management must evaluate its attributes carefully and take a balanced and pragmatic view of it, recognising that in certain instances, too much strategic flexibility can be undesirable to the firm.

### 3.9. Alternatives to Strategic Flexibility

Aaker and Mascarenhas (1984 :80-81) outline certain alternatives to strategic flexibility.

i. Insurance

Through the payment of a fixed premium certain risks can be insured against.

ii. Control

This may involve contracting, co-opting, coalescing or third-party soliciting (Robbins, 1983: 162-163). In all of these instances the firm attempts to control its external environment wherever possible to ensure that no unfavourable changes take place. This may involve entering into long-term supplier agreements, merging with competitors, takeovers or lobbying of societal and political organisations.

iii. Avoidance

In this instance, the firm may simply develop decision rules that tend to avoid risk altogether.

iv. Contingency Planning

This involves generating a limited number of alternatives with specific strategies attached to each, which are triggered if particular events occur.

### 3.10. Advantages of Strategic Flexibility

Perhaps strategic flexibility's greatest strength is its capacity to deal with completely unforeseen events. In this respect, it has certain advantages over the previous alternatives to strategic flexibility listed.

It must be borne in mind that it is not possible to insure against all types of risks and firms controlling their external environment is generally the exception rather than the rule.

In addition, firms cannot work under the assumption that they are operating in a riskless environment and hence perpetual avoidance of risks is not always possible.

Contingency planning is certainly meritorious in certain instances but it still essentially assumes the future to be foreseeable. Flexibility, on the other hand is particularly useful in coping with undefined futures and events not envisioned by contingency planning. However, in the present writer's opinion, contingency planning should still be incorporated into the planning processes of the firm. As discussed earlier, contingency planning incorporates an active element and the benefit of it is that encourages the firm to be proactive in its outlook. Hence, they should really be viewed as complementary to one another rather than as alternatives.

Finally, the concept of strategic flexibility must be seen within the

context of Ansoff and Brandenburg's criteria of organisational effectiveness (1969 :359-362).

They list four criteria:-

- a. Steady-state efficiency, which measures efficiency when the levels of throughput and the nature of throughput remain relatively stable over time.
- b. Operating responsiveness, which measures the abilities of an organisation to make quick and efficient changes in the levels of throughput.
- c. Strategic responsiveness which measures the firm's ability to respond to changes in the nature (rather than volume) of its throughput.
- d. Structural responsiveness measures the capabilities of an organisation to change itself.

What should be clear, is the extent to which strategic flexibility of the firm can contribute to three of the four criteria (operating, strategic and structural) being met, and therefore contribute directly to the organisational effectiveness of the firm.

### 3.11. Conclusion and Summary

This chapter has presented a comprehensive discussion of the concept

of strategic flexibility, which is seen as the best strategic option for a firm operating in an environment characterised by a high degree of environmental turbulence. Firms can increase their strategic flexibility by diversifying, reducing commitment of resources to a specialised use and focusing on means of increasing managerial and structural flexibility.

"A final judgement about the need for flexibility and the most appropriate approach will rest upon an analysis of the potential environmental changes and upon a cost-benefit evaluation of flexibility and its alternatives." (Aaker and Mascarenhas, 1984 :81).

Discussion will now turn to the research objectives and hypotheses to be tested in Chapter 4.

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CHAPTER FOUR  
THE RESEARCH OBJECTIVES AND HYPOTHESES

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CHAPTER FOUR  
THE RESEARCH OBJECTIVES AND HYPOTHESES

4.1. Introduction

Chapters 3 and 4 reviewed the literature and provided insight into the two key variables underpinning this study, namely, the external environment of business and environmental turbulence, and strategic flexibility respectively. The objective of this chapter is to discuss the research objectives and the hypotheses to be tested.

4.2. The Research Objectives

The research objectives were stated in Chapter 1. Before presenting the hypotheses of this study it may be useful to restate the objectives of this research.

4.2.1. The Main Objective

The main objective of this study was to investigate the extent to which South African export companies exhibited characteristics of strategic flexibility. As has already been discussed in Chapter 1, South African export companies are operating in an environment characterised by a high degree of external turbulence. It is suggested that strategic flexibility offers the most viable strategic option for a firm operating in such an environment.

This main objective subsequently entails the following sub-objectives:-

(1) To determine the extent of environmental turbulence perceived by South African export companies and to identify the most important elements of the external environment as perceived by these companies.

(2) To identify the nature and strength of the various components of strategic flexibility, possessed by South African export companies facing environments of either low, medium or high turbulence.

(3) To identify the nature and strength of the various components of strategic flexibility, possessed by South African export companies of different size.

#### 4.3. Formulation of Hypotheses

Hypotheses are generally recognised to be an important part of the research process. (Kerlinger, 1973 :20; Leedy, 1985 :5). They are important from the point of view that they "give direction to your thinking with respect to the problem and thus aid in solving it." (Leedy, 1985 :5). Kerlinger (1973 :18) defines an hypothesis as "a conjectural statement of the relation between two or more variables."

Formulation of hypotheses though is no easy task. As stated by Tull and Albaum,

"it is usually more difficult to ask good questions than it is to answer them; by the same token it is often more

difficult to develop good hypotheses (alternatives) than it is to test them (choose among them)." (Tull and Albaum, 1973 :15).

This problem was particularly pertinent in this study because in previous studies concerning strategic flexibility, no hypotheses had been tested and hence the present researcher had no point of reference. Eppink's study being of an exploratory nature and containing a very small sample size seems justified in not formulating hypotheses (Eppink, 1978 :65). It is not clear from the Aaker and Mascarenhas study (1984) whether hypotheses were formally tested or not. As no reference was made to any hypotheses being tested, the present researcher assumes that there were not any. Notwithstanding the lack of hypothesis testing in previous studies however, the present study made the decision to formally test hypotheses for the following reasons:-

- \* There is a growing body of conceptual knowledge pertaining to theoretical aspects of strategic flexibility.
- \* Some studies have been conducted already.
- \* Hypotheses are powerful tools for the advancement of knowledge as they help the investigator to confirm or disconfirm theory. (Kerlinger, 1973 :20-21).

Consequently, it was intended that statements of hypotheses in this study would contribute to knowledge by formally testing conceptual writings and adding to the knowledge already gained by previous descriptive studies. Sometimes,

"one must go beyond descriptive analysis in order to verify specific statements, or hypotheses, about the population(s) of interest. Data analysis aimed at testing specific hypotheses is usually called inferential analysis."

(Parasuraman, 1986 :595).

Consequently in the generation and subsequent testing of hypotheses, the researcher hoped to infer whether any relationship existed between environmental turbulence and strategic flexibility. Hypotheses are based upon expectations (Cox, 1979 :255) or assumptions (Leedy, 1985 :63 -64). The expectations and assumptions upon which this study of strategic flexibility is based, have been discussed fully in Chapter 3.

It must be borne in mind however, that the researcher was not able to develop a composite score of strategic flexibility. Strategic flexibility is a multi-dimensional concept and enormous difficulty would have been encountered, in trying to attach a quantitative weighting to individual components of strategic flexibility, which when totalled, would comprise the overall strategic flexibility score of the firm. In addition, it could not be assumed that each component of strategic flexibility is of equal importance and could thus be weighted equally. Consequently, the decision was made to test the individual components of strategic flexibility, and ascertain the extent to which a relationship existed between them and the state of the perceived turbulence in the environment, or the size of the firm.

Before stating the hypotheses, it is important to note that hypotheses were generated only in relation to two of the three sub-objectives outlined earlier. (Section 4.2.). The first sub-objective pertaining to the nature of the external environment only incorporates descriptive properties and hence hypotheses were deemed unnecessary. The hypotheses pertaining to differing environmental turbulence and

the size of the firm, are as follows:-

#### 4.3.1. The Major Hypotheses

The following hypotheses relate to the second sub-objective stated earlier, namely to identify the nature and strength of the various components of strategic flexibility possessed by South African export companies facing environments of either low, medium or high turbulence.

##### **Hypotheses 1**

- H1a** Firms operating in an environment characterised by a high level of environmental turbulence, will have a greater number of independent customers which take a substantial portion of sales, than those operating in an environment characterised by a medium or low level of environmental turbulence.
- H1b** Firms operating in an environment characterised by a high level of environmental turbulence, will have a greater number of countries to which they export, than those firms operating in an environment characterised by a medium or low level of environmental turbulence.
- H1c** Firms operating in an environment characterised by a high level of environmental turbulence, will have a higher number of products and product lines that do not share common factors, than those firms operating in an environment characterised by a medium

or low level of environmental turbulence.

**H1d** Manufacturing firms operating in an environment characterised by a high level of environmental turbulence, will place greater importance on research and development, than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

This set of hypotheses is concerned with the diversification aspect of strategic flexibility. The first three hypotheses relate to defensive external flexibility (those that reduce the relative impact of an event). The 'common factors' referred to in H1c can include, amongst other things, customers, production facilities and distribution channels.

The fourth hypothesis relates to aggressive external flexibility (the firm maximises the chance of participating in breakthroughs).

## **Hypotheses 2**

**H2a** Firms operating in an environment characterised by a high level of environmental turbulence, have the capacity to add more products, product lines and divisions (where applicable) to their current line of business, than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

- H2b** Firms operating in an environment characterised by a high level of environmental turbulence, have the capacity to divest more products, product lines and divisions (where applicable) from their current line of business, than those firms operating in an environment characterised by a medium or low level of environmental turbulence.
- H2c** Export firms operating in an environment characterised by a high level of environmental turbulence, have a lower cost of entering new export markets, than those firms operating in an environment characterised by a medium or low level of environmental turbulence.
- H2d** Export firms operating in an environment characterised by a high level of environmental turbulence, have a lower cost of exiting existing export markets, than those firms operating in an environment characterised by a medium or low level of environmental turbulence.
- H2e** Firms operating in an environment characterised by a high level of environmental turbulence, will focus on technological following rather than innovating or imitating, which will be adopted by those firms operating in an environment characterised by a medium or low level of environmental turbulence.
- H2f** Firms operating in an environment characterised by a high level of environmental turbulence, will use multi-purpose equipment to a greater extent than those firms operating in an environment

characterised by a medium or low level of environmental turbulence.

**H2g** Firms operating in an environment characterised by a high level of environmental turbulence, will have a higher number of multi-channels of export than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

The above set of hypotheses pertain to that aspect of strategic flexibility which reduce the commitment of resources to a specialised use. H2a to H2d are specifically concerned with gauging the extent to which South African export companies are affected by exit or entry barriers in general.

The other three hypotheses (H2e to H2g) are more concerned with specific aspects of the firm's operations which may increase or decrease specialised commitment of resources and thereby have a positive or negative affect on the exit or entry barriers facing the firm.

H2e stresses the point that by being a technological follower (as opposed to an innovator or imitator) a firm can still to a certain extent, participate in technological breakthroughs (unlike the imitator). However the firm does not have the heavy concomitant investment in specialised resources which are necessary to ensure continual innovation (the innovator).

H2f attempts to ascertain the extent to which the firm's production facilities can undertake new activities without undue costs.

H2g is concerned with the extent to which firms can switch channels of distribution, easily and quickly.

### **Hypotheses 3**

Hypotheses 3, pertain to the managerial and structural flexibility component of strategic flexibility, which are essential to the development of the decisiveness of the firm. The particular sub-component of managerial and structural flexibility and the relevant corresponding hypotheses to be tested, will be presented and briefly discussed below:-

#### **1. Processes**

##### **1.a. Decision-Making Process**

**H3a** Firms operating in an environment characterised by a high level of environmental turbulence, will use participative management processes to a greater extent than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

Participative management it is suggested is the best style of management suited to operating in a turbulent environment, for unlike

autocratic and collaborative management, it allows great scope for decentralization and re-centralization of decision-making as the circumstance demands.

1.b. Degree of Formalization

**H3b** Firms operating in an environment characterised by a high level of environmental turbulence, will have a lesser degree of formalization than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

By having low formalization, management are able to react quickly to changes in the external environment without following tedious rules and procedures.

1.c. Planning Process

**H3c** Firms operating in an environment characterised by a high level of environmental turbulence, will use 'loosely structured' planning to a greater extent, than 'high formality' or 'no planning', which will be adopted by those firms operating in an environment characterised by a medium or low level of environmental turbulence.

**H3d** Firms operating in an environment characterised by a high level of environmental turbulence, will use specialist planners to a greater extent than those firms operating in an environment

characterised by a medium or low level of environmental turbulence.

**H3d1** Firms operating in an environment characterised by a high level of environmental turbulence, will have had a separate planning department for a greater number of years than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

**H3d2** Firms operating in an environment characterised by a high level of environmental turbulence, will place the planning department higher up the organizational hierarchy in terms of importance, than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

**H3d3** Firms operating in an environment characterised by a high level of environmental turbulence, will use more qualified planners than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

**H3e** Firms operating in an environment characterised by a high level of environmental turbulence, will have longer planning horizons than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

**H3f** Firms operating in an environment characterised by a high level of environmental turbulence, will review their strategic plans

more frequently than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

1.c.i. Formality or Informality

The relevant hypothesis is H3c. Informality of planning is suggested as being most appropriate in a turbulent environment as it strikes a balance between the rigidity of highly formalised planning on the one hand and no planning on the other.

1.c.ii. Specialized Planning Staff

The relevant hypotheses are H3d to H3d3. In times of high environmental turbulence, it is suggested that companies employ full time planners who are afforded high hierarchical status, whose task it is to monitor the environment continuously and make recommendations to top management concerning the strategic direction of the firm.

1.c.iii. Planning Horizons

The relevant hypotheses are H3e and H3f. The first hypotheses concerns the length of the planning horizon and the second hypotheses frequency of review. Although operating in a turbulent environment, firms should strive to actively think as far ahead into the future as possible. By ensuring that the company is strategically flexible and that the plans are continuously reviewed, firms can avoid the possible negative affects that may occur if a sudden environmental change

forces a drastic revision of a plan for which management is ill-equipped.

## 2. Management Technology

**H3g** Firms operating in an environment characterised by a high level of environmental turbulence, will monitor all sectors of the external environment more frequently than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

**H3h** Firms operating in an environment characterised by a high level of environmental turbulence, will have more sources of information on the external environment than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

By continuously monitoring the external environment (H3g) and having more sources of information on it (H3h), firms operating in a turbulent environment have a greater likelihood of detecting any changes that may occur and therefore acting decisively upon them.

**H3i** Firms operating in an environment characterised by a high level of environmental turbulence, will use more sophisticated and complex environmental evaluative techniques than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

Firms operating in a turbulent environment, should utilise more complex evaluative and monitoring techniques in order to effectively understand the complex environment.

**H3j** Firms operating in an environment characterised by a high level of environmental turbulence, will use computer technology to a greater extent in environmental analysis than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

By utilising computer technology, firms can disseminate information expeditiously, thereby increasing the response time of the firm and ultimately its overall flexibility.

### 3. Structure

**H3k** Firms operating in an environment characterised by a high level of environmental turbulence, will have organic structural characteristics rather than mechanistic structural characteristics, which shall predominate in those firms operating in an environment characterised by a medium or low level of environmental turbulence.

Turbulence in the environment places many stresses and strains on the organization. This implies that the firm's structure be able to adapt and shift in accordance with changes in the external environment. This suggests that it possess organic (fluid) properties as opposed to

mechanistic properties which imply rigidity and hence poor responsiveness to change.

#### 4. Values

**H3i** Firms operating in an environment characterised by a high level of environmental turbulence, reward and encourage innovation from employees to a greater extent than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

Operating in an environment characterised by change implies that the firm foster a climate within the organization that is receptive to change, even to the extent of welcoming it. Consequently, the firm should encourage the individuals in the organization to innovate and produce new ideas and reward them for doing so.

#### 5. People

**H3m** Firms operating in an environment characterised by a high level of environmental turbulence, will undertake management development and training to a greater extent than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

**H3n** Firms operating in an environment characterised by a high level of environmental turbulence, will make greater use of job rotation than those firms operating in an environment

characterised by a medium or low level of environmental turbulence.

The first hypothesis, H3m, concerns management development and training. By exposing staff to training and development from various sources, companies can encourage initiative and an openness of mind.

H3n concerns job rotation. By exposing employees to all facets of the business, an holistic view of the company can be created and a tolerance and understanding of other functional area's problems can be facilitated. This is vital when the firm is facing turbulent changes in the environment and requiring flexible and rapid response.

#### 4.3.1.1. The Major Hypotheses - Conclusion

In the development of the major hypotheses, the researcher was guided by the conceptual writings and empirical studies concerning strategic flexibility discussed in Chapter 3. However it was not possible to subject all relevant aspects of flexibility to empirical analysis. Strategic flexibility is very much a multi-dimensional and broad concept, encompassing many areas of strategic management. To test all aspects and factors would have been a logistical impossibility. Consequently certain aspects, in particular "the investment in under-used assets" component of strategic flexibility, were excluded. Obtaining financial data is often very difficult as companies are often unwilling to give this information freely. Consequently no hypotheses that test this particular aspect of strategic flexibility

were generated. This unfortunately must place a limitation on the study though, simply because not all of the relevant components of strategic flexibility were subjected to empirical testing. However, the researcher is of the opinion that a sufficient number of hypotheses were generated overall which would give an indication of the relationship between perceived environmental turbulence and strategic flexibility.

#### 4.3.2. The Secondary Hypotheses

The secondary hypotheses relate to the third sub-objective stated earlier namely, identifying the nature and strength of the various components of strategic flexibility possessed by South African export companies of different size.

There is a body of thought, that suggests that there are other factors more important than the state of environment which can determine strategic aspects of the firm. One such factor is the size of the company (measured by number of employees). Consequently, hypotheses were generated to assess the extent to which the size of the company had an effect on strategic flexibility. As discussed earlier in Chapter 3, one of the drawbacks of strategic flexibility is that it is an expensive strategic option for a firm to pursue. Large companies consequently are perhaps the only companies with the requisite resources necessary to strive for strategic flexibility. Consequently, all the secondary hypotheses have this as an underlying rationale - all components which enhance the strategic flexibility are achieved because the large company has the resources to do so. Two

areas were focused on, the diversification aspect and certain components of managerial and structural flexibility. No hypotheses for the 'commitment of resources to a specialized use' component of strategic flexibility were generated, simply because small firms would not have been in a position to implement these to any substantial degree.

#### Hypotheses 4

**H4a** Large firms will have a greater number of independent customers which take a substantial portion of sales than small firms.

**H4b** Large firms will export to more countries than small firms.

**H4c** Large firms will have more products and product lines that do not share common factors than small firms.

**H4d** Large manufacturing firms will place greater importance on research and development than small firms.

This set of hypotheses is concerned with the diversification aspect of strategic flexibility. Essentially, large companies are in a stronger position to pursue both defensive external flexibility and aggressive external flexibility because they have the resources to do so.

#### Hypotheses 5

Hypotheses 5, pertain to the managerial and structural flexibility

component of strategic flexibility. Not all the hypotheses stated earlier under the major hypotheses were restructured under the secondary hypotheses. For example, planning horizons, and frequency of review were seen as being more unique to the state of the environment than the size of the company. The particular sub-component of managerial and structural flexibility and the relevant corresponding hypotheses to be tested will be discussed briefly below:-

## 1. Processes

### 1.a. Decision-Making Process

**H5a** Large firms will use participative management processes to a greater extent than small firms.

As companies increase in size, centralization of decision-making no longer becomes feasible. Firms are subsequently forced to decentralize decision-making, for which participative management styles are the best facilitative mechanisms.

### 1.b. Degree of Formalization

**H5b** Large firms will have a lesser degree of formalization than small firms.

There are two possibilities that may arise if a firm increases in size. Firstly, as companies increase in size, more rules and

procedures are established to maintain control. Secondly, however, the situation may arise that as companies are forced to decentralize, elaborate rules and procedures are dispensed with in order to have congruence between the decision making style (participative) and the degree of formalization. H5b is consistent with the second view.

#### 1.c. Planning Process

H5c Large firms will use 'high formality' of planning to a greater extent than 'loosely structured' planning, or 'no planning', which will tend to be adopted by small firms.

H5d Large firms will use specialist planners to a greater extent than small firms.

H5d1 Large firms will have had a separate planning department for a greater number of years than small firms.

H5d2 Large firms will place the planning department higher up the organizational hierarchy in terms of importance than small firms.

H5d3 Large firms will use more qualified planners than small firms.

#### 1.c.i. Formality or Informality

The relevant hypothesis is H5c. This hypothesis conflicts with the corresponding major hypothesis H3c which stated that informality would

prevail in times of turbulence. This view holds that as company size increases, the planning aspect becomes more of an integrative and coordinating mechanism over the diverse activities of the business, rather than as an anticipatory management function concerning the firm's relationship with its external environment. Therefore this control aspect demands more formality in planning and hence overall flexibility is diluted in this instance by size.

#### 1.c.ii. Specialized Planning Staff

The relevant hypotheses are H5d and H5d3. As large companies have the resources necessary to appoint full-time specialist planning staff, it is expected that they would be in more of a position to do so than small companies.

#### 2. Management Technology

H5e Large firms will monitor all sectors of the external environment more frequently than small firms.

H5f Large firms will have more sources of information on the external environment than small firms.

H5g Large firms will use more sophisticated and complex environmental evaluative techniques than small firms.

H5h Large firms will use computer technology to a greater extent in environmental analysis than small firms.

Again, as large companies have the resources to do so, they are in a better position to monitor all sectors of the environment (H5e) and they have more sources of information on the environment (H5f). In addition, they can employ people who have the technical know-how to undertake complex evaluations of the environment (H5g) and they have the resources to invest in computer technology (H5h).

### 3. Structure

**H5i** Large firms will have organic structural characteristics rather than mechanistic structural characteristics which will predominate in small firms.

As organizations increase in size, a mechanistic structure ultimately becomes unsuitable. Firms are forced to divisionalize and decentralize authority to take account of the increased complexity of the organization. Consequently there is a move towards organic structures.

### 4. People

**H5j** Large firms will undertake management development and training to a greater extent than small firms.

Development and training of personnel is an expensive and time-consuming exercise, hence it is suggested that only large companies are in a position to do so extensively and effectively.

#### 4.4. Conclusion

This concludes discussion on the objectives and hypotheses pertinent to this study. Discussion will now focus on the methodological issues relevant to this study, in Chapter 5.



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RESEARCH METHODOLOGY

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CHAPTER FIVE  
THE RESEARCH METHODOLOGY

5.1. Introduction

Chapter 4, presented and discussed the research objectives and the hypotheses to be tested in this study. The objective of this chapter is to discuss the methodological issues relevant to this study.

5.2. Definition and Nature of the Population to be Studied

The population, or universe, is the entire group of items, elements or measurements which the researcher wishes to study and about which one intends to make inferences. (Hawkins and Weber, 1980 :294; Boyd, Westfall and Stasch, 1981 :299).

5.2.1. The Population

For the purposes of this study, the population was defined as the member firms of the South African Foreign Trade Organization (commonly referred to as SAFTO).

5.2.2. SAFTO

According to SAFTO's chairman, Mr. W. Clewlow, the organization (which in 1988 saw its 25th year of operation), "has assisted South African

exporters to develop the expertise demanded by the international market-place" (Packard, 1987 :7). The Minister of Economic Affairs and Technology, D.W. Steyn, sees SAFTO as specifically supplementing the work of the government's Department of Trade and Industry in the private sector, "particularly in the field of new export launches, training and education, research, and technical publications on international trade." (Packard, 1987 :5). At the end of 1986, the Financial Mail (December 5, 1986 :58) reported that, "SAFTO had 400 membership applications last year - a record." From this, one might surmise that its credibility as an organization aiding the private sector in export initiatives, is increasing.

### 5.2.3. Justification for SAFTO member firms as the Study Population

This study is concerned with assessing the extent to which South African export firms are strategically flexible.

In the researcher's opinion, the following reasons justified SAFTO's member firms as comprising the population for this study:-

1. SAFTO, is committed to developing South Africa's exports. It has a high degree of private sector involvement (both within the organization and without) and is consequently the only real private sector organization in South Africa that specifically serves the needs of exporters.

2. The Financial Mail (December, 1986 :58) reported that membership totalled 1500 in 1986. This was considered to be a large enough

number of subjects to draw inferences from.

3. As membership of the organization is voluntary, the researcher was of the opinion that only those companies who expressed genuine interest in exporting would be members anyway. Consequently SAFTO members invited to participate in a study concerning export activities may be favourably pre-disposed to participate in it.

4. The researcher was granted permission by SAFTO to utilise their members as the study population. Consequently, the researcher was given access to a population of companies which all involved themselves in exporting to some extent.

5. A number of companies that the researcher expected to be members of the organization in fact turned out to be. In addition it must be said that SAFTO's Chairman, Mr. W. Clewlow is Chief Executive of one of the largest companies in South Africa.

#### 5.2.4. Census rather than Sample

Sampling refers to

"the selection of a fraction of the total number of units of interest to decision makers for the ultimate purpose of being able to draw general conclusions about the entire body of units." (Parasuraman, 1986 :446).

A census on the other hand refers to a study of the entire number of units, or in other words, the population or universe. Studies concerning the entire population are not very commonplace as there are certain advantages of a sampling study over a census study. The major advantages are normally a saving of cost and time (Parasuraman, 1986

:446). In addition, sampling studies can often be more accurate than census studies. (Parasuraman, 1986 :446; Kerlinger, 1973 :411). For example, census studies may involve numerous logistical problems in co-ordinating large numbers of interviews, the net effect being that they are supervised inadequately and the quality of research is thereby affected. However a census study is normally justified when the following two conditions apply (and it is for these reasons that a census was decided upon).

(1) A Feasibility Condition

"A census study will be reasonable whenever a population is relatively small." (Parasuraman. 1986:449).

Although it was stated earlier that the reported membership to SAFTO was considered large enough to undertake a study on, it is still relatively small by comparison to other populations (for example all companies in South Africa), and therefore comprised a manageable number. It was therefore felt, that the feasibility condition criterion was met.

(2) A Necessity Condition

Unfortunately, SAFTO was unable to supply certain biographic and demographic information pertaining to their member companies. In addition, a confidentiality factor prevailed and the organization considered itself not to be at liberty to divulge certain information anyway. Consequently, the researcher was only presented with the

addresses of the members which made the derivation of a representative sample difficult to achieve.

As any attempt at sampling may have resulted in biases, it was felt that the necessity condition criterion prevailed, (in addition to the feasibility condition) and hence the decision made to conduct a census of the member firms.

#### 5.2.5. The Survey Population

Earlier the membership of SAFTO was reported as being 1500. When the researcher received the addresses of the members it was discovered that SAFTO's membership also comprised individual people. As individuals did not form part of the defined population, they were simply excluded. Consequently, the survey population at June 1987, comprised 1371 member firms of SAFTO.

#### 5.3. The Survey Design and Implementation

In this section, the selection of the technique for data collection, the selection and measurement of the variables that relate to the hypotheses to be tested, the management of the data gathering process and the pilot study undertaken will be addressed.

### 5.3.1. Technique of Data Collection

#### 5.3.1.1. Methods of Administration

A number of criteria are relevant for ascertaining which technique should be utilized in a particular situation. These criteria are (1) complexity of data being collected (2) required amount of data (3) desired accuracy of resultant data (4) level of control (5) time requirements (6) acceptable level of non-response and (7) cost. (Tull and Hawkins, 1987 :105-116).

There are generally recognised to be two major techniques of data collection, each with their own particular advantages and disadvantages. These are observation methods and survey methods.

Observation methods relate to direct examination of overt behaviour of the subjects concerned (Cox, 1979 :178). This method was discounted due to the enormous difficulty the researcher would have encountered, in trying to implement it. For instance, it is highly unlikely that any companies would have allowed the researcher direct access to observation of their strategic planning processes. In addition it would have incorporated enormous cost and time factors. Hence notwithstanding any merits or demerits of this method, it was not even considered as a viable technique to use.

The survey methods on the other hand, require the active participation of the subjects (unlike the observation methods) and the principal

advantage of these methods is that they can collect a large amount of data about an individual respondent at one time. (Aaker and Day, 1980: 122).

Survey methods are generally classified according to the method of communication used in the interviews. There are three principal methods recognised as falling under the survey method category:-

1. personal interviews
2. telephone interviews
3. mailed interviews (or questionnaires)

#### 1. Personal interviews

This entails the researcher and the respondent meeting face-to-face in the questioning situation. The positive attributes of this method are its ability to handle complex data and large amounts of information can be gathered from respondents interviewed. In addition, it can achieve a high response rate. On the negative side, however, it is time consuming, costly and can be susceptible to interviewer bias or error.

#### 2. Telephone interviews

This entails the researcher addressing the respondent over the telephone. The positive attributes of this method are the speed with which the information can be gathered, and relatively low cost, although these factors may be dependent on the size of the sample or

population surveyed. In addition, the response rate is relatively good. However, it lacks the ability to obtain detailed information and can like the personal interview also be susceptible to interviewer bias or error.

### 3. Mailed interviews or questionnaire

In this method, the questionnaire is delivered by mail to the respondent and once completed is returned in the same manner to the researcher. The positive attribute of this method are the low costs and relatively fast time factors present. In addition, it is relatively free from interviewer error or bias. However, it suffers from an inability to handle complex data, and poor response rates.

"When questionnaires are sent through the mails the percentage which is not returned may exceed 90%, although a non-response rate of 50% is more typical, and among skilled researchers 25% or less is common." (Boyd, Westfall and Stasch, 1981 :100).

#### 5.3.1.2. Degree of Structure and Disguise

Interviews are classified according to their degree of structure and disguise.

##### 1. Structure

Structure refers to the degree of standardization imposed upon the interview. A highly structured interview is one in which the question to be asked and the responses permitted are completely predetermined. An unstructured interview, on the other hand, allows wide latitude on the part of the interviewer and interviewee. Questions are open-ended

and hence neither party is restricted in the asking or answering of questions.

## 2. Disguise

Disguise involves the extent to which the respondent is aware (or is likely to be aware of) the nature and purpose of the survey. Sometimes interviews are disguised in order to reduce the bias that may occur as a result of respondents giving opinions on the overall topic being researched, rather than answering the individual question.

### 5.3.1.3. The Method Selected and Classification of Interview

If one considers the various survey methods and the degree of structure and disguise that might be applied to the data collection method, there are a large number of permutations that may arise in the techniques utilised in any study undertaken. In addition, as has been noted, there are certain advantages and disadvantages in each of the survey methods and certain factors which may or may not determine the degree of structure and disguise necessary. Essentially, the decision criteria concerning the mix, relevant to this study, came down to four factors:-

1. Complexity of the data
2. Amount of data
3. Time factor
4. Cost Factor

Although it is recognised that the personal interview lends itself well to the collection of complex and qualitative data, as in this survey; the amount of data to be collected, the time frame necessary and the cost involved in undertaking such a venture completely ruled out this method. The telephone interview method was essentially ruled out for the same reasons. Consequently the most suitable method was considered to be the mail questionnaire interview method. In addition, the questionnaire was to be structured and undisguised for the following reasons :-

1. As there was no reason why the respondents should not know the purpose of the study, it was decided that the study be nondisguised.

2. Data obtained in structured, nondisguised studies are easier to administer, tabulate, analyse and interpret. (Boyd, Westfall and Stasch, 1981 :103). As this study involved the gathering of a large amount of data it was considered that the advantages of structured nondisguised methods prevailed.

".....answers to formal questions of clear purpose can be counted and their apparent meaning determined in a more objective fashion than is true for data obtained by other methods." (Boyd, Westfall and Stasch, 1981 :104).

The selection and measurement of the variables (the questionnaire) relating to the hypotheses to be tested, will now be discussed.

### 5.3.2. Selection and Measurement of the Variables - The Questionnaire

Kinnear and Taylor define a questionnaire as a "formalized schedule for collecting data from respondents." (1979 :449). Of primary importance is the gathering of relevant and accurate data which will

enable the researcher to test the hypotheses that have been generated. Many authors are of the opinion that the design of a questionnaire is more of an art than a science (Boyd, Westfall and Stasch, 1977 :225; Kinnear and Taylor, 1979 :451). Consequently, it is ultimately really the creative imagination of the researcher, which will determine whether or not the questionnaire is successful in terms of gathering relevant and accurate data. Crimp makes the point that the "data must be actionable." (1985 :79). Nevertheless, one can apply certain systematic principles in developing the questionnaire and in this instance the researcher was guided by the following:-

"Ultimately, a sound questionnaire requires applying applicable principles, common sense, concern for the respondent, a clear concept of the needed information, and thorough pretesting." (Tull and Hawkins, 1987 :236).

Special attention was placed upon specifying what information should be sought, the content, phrasing and response format of the individual questions, the layout of the questionnaire and the need to pretest the questionnaire.

#### 5.3.2.1. Specification of Information Sought

Conventionally most questionnaires consist of a request for co-operation, instructions, identification data, classification data and the information required. The questionnaire utilised in this study followed this format except anonymity was guaranteed and hence no explicit statement of identity was deemed necessary. (Except those respondents who wanted a summary of the results of the study were asked to identify themselves). The questionnaire and associated material are contained in Appendices 1 and 2. The information sought was divided into 3 sections :-

### Section 1 : Demographic and Biographic Data

The purpose of this section was two-fold :-

1. There are certain authors who consider that classification information should be presented last (Churchill, 1979 :205). In this instance however, the researcher was of the opinion that none of the questions asked were of a complex or sensitive nature. Consequently it was felt that these simple questions would ease the respondent into the remainder (more important parts) of the questionnaire (Kinnear and Taylor, 1977:464), in addition to providing demographic and biographic data on the firms surveyed.

2. The researcher wished to determine the extent to which size had a determining factor on the components of strategic flexibility. Consequently, a question which ascertained the size of the firm was asked and this presented the independent variable necessary for the testing of the secondary hypotheses.

### Section 2 : Measurement of Perceived Environmental Turbulence

The purpose of this section was to provide the independent variable necessary for the testing of the hypotheses. Respondents were asked to assess the extent of turbulence within certain elements of the external environment, and then rank the five most important variables. From this, the researcher was able to classify firms according to low, medium and high perceived levels of environmental turbulence.

### Section 3 : Measurement of Components of Strategic Flexibility

The purpose of this section was to provide the dependent variables necessary for the testing of the hypotheses. Questions pertaining to particular components of strategic flexibility were posed, and from this, the researcher was able to assess the extent to which these components of strategic flexibility were influenced by differing levels of perceived environmental turbulence, or company size.

Discussion pertaining to the content phrasing and response format of the individual questions (by section of the questionnaire) follows in Section 5.3.2.2.

#### 5.3.2.2. Content Phrasing of Questions and Response Format

##### 1. Content Format

"Decisions concerning question content center on the general nature of the question and the information it is designed to produce, rather than on the form or specific wording of the question." (Tull and Hawkins, 1987 :244)

Of particular importance here, is to ascertain :-

- a) The need for the data asked for by the question
- b) The ability of the question to produce the data
- c) The ability of the respondent to answer accurately

(Tull and Hawkins, 1987 :244)

In relation to the first two points (a and b ) mentioned above, the researcher strived to wherever possible, find underlying theoretical

justification or justification from other authors to each question. In addition, only questions pertaining to the relevant hypotheses were asked.

In order to ensure that the questions were answered accurately, it was decided to post the questionnaire to the Managing Director of each firm. Generally, the Managing Director of any firm is seen as having four roles (whether explicitly or implicitly) namely a decision maker, policy maker, strategist and strategic manager (Rue and Holland, 1986 :15). Consequently, as the Managing Director is intimately involved with the setting of the overall strategic direction of the firm, they were seen as the person in the organization best equipped to answer all the questions accurately.

## 2. Phrasing of the Questions

"Question phrasing is the translation of the desired content into words and phrases that can be understood easily and clearly by the respondents." (Tull and Hawkins, 1987:254)

Every effort was made by the researcher to ensure that the questions were simple and straightforward, unbiased and unambiguous.

## 3. Response Format

There are essentially two categories of response to questions; an open-ended question or a closed question. Open ended questions leave the respondent free to offer any replies that seem appropriate to the question asked. As it was decided that the questionnaire be highly structured, this category of response was excluded except in a few circumstances where the respondent was offered the chance to outline

an element of the environment or component of strategic flexibility, which they perceived was overlooked by the researcher.

Closed questions on the other hand present fixed alternatives to the respondent. There are generally recognised to be three alternatives which fall under the closed question category :-

(1) Dichotomous Questions

These only offer two alternatives to the respondent and the major advantage of this approach is that they are particularly well suited for determining certain points of fact.

(2) Multiple - Choice Questions

The essential feature of a multiple-choice question is that it presents the list of possible answers from which the respondent must choose. It has advantages over dichotomous questions in that it presents more alternatives to the respondent. Multiple-choice questions also have advantages over open-ended questions. They tend to reduce interviewer bias and bias caused by varying levels of respondent articulateness. Tabulation and analysis are therefore easier. They are especially suitable when factual information is required.

However, they require extensive effort in development of sound alternatives which if not carefully selected may result in distortions to the data.

### (3) Scales

"The use of a rating scale requires the rater to place an attribute of the object being rated at some point along a numerically valued continuum." (Tull and Hawkins, 1987 :278)

There are numerous types of scales in existence and they are generally recognised to be most useful when gauging attitudes or opinions.

In addition, the advantages that they have over multiple-choice or dichotomous questions is that they are better suited to measuring issues that are not always factually descriptive.

Two problems that may arise in their use however, is that firstly the responses may suffer from middle-position bias as there appears to be a tendency for people to select the middle of the scale. One way to partially avoid this bias is to offer an even number of response categories when no neutral points are being addressed. Consequently the response will always be at least towards one end of the scale or the other. The second problem that may arise is that respondents tend to repeat the point selected in the preceding question when the alternatives appear in a vertical sequence. This may be avoided by occasionally reversing the scale and/or changing the format response.

Having now presented some background discussion to content, phrasing of questions and response format, discussion will now turn to the specific aspects of the questionnaire used in this study.

## Section 1 : Demographic and Biographic Data

As only factual descriptive information was required, the response format consisted of dichotomous and multiple-choice questions.

This section contains eight questions:-

### 1. Company Classification

It was decided that the first three major divisions of the Standard Industrial Classification of all Economic Activities (Department of Statistics, 1981 :13) would be most applicable to exporters. For firm's falling outside of the three options, an 'other' aspect was provided.

### 2. Number of Employees

A simple categorization in terms of employees. This information was to provide the independent variable for the testing of the secondary hypotheses.

### 3. Export Experience, Export Continuity, Export as Percentage of Total Sales, Increase or Decrease in 1986 Sales from 1985 and Export Products.

These five questions elicited particular information pertaining to exporting background and activities. The breakdown of export products

was adapted from Perry and Associates (1986 :20). The other four questions were adapted from the study conducted by Bodur and Cavusgil (1985 :8) amongst Turkish export firms.

#### 4. Managing Director's Functional Background

This question was to provide information on the functional background of the Managing Director.

#### Section 2 : Measurement of Perceived Environmental Turbulence

Earlier in Chapter 2, it was noted that a number of different perspectives concerning the external environment exist and by way of contribution, a general model of the external environment was constructed in an attempt to incorporate the different models.

As the external environment of the export firms surveyed, comprises the major independent variable of this study, some decision had to be made with regard to the structure of the external environment of South African export companies and how to measure the turbulence thereof.

Consequently the following was decided upon:-

1. As the focus of this study is essentially in ascertaining aspects of the relationship between strategic flexibility and environmental turbulence, the study would not concern itself with an in-depth analysis of the causal factors relating to the degree of turbulence in

the environment (although it is recognised that much research is needed here).

2. To incorporate all five models or the entire general model developed earlier in Chapter 2, into the study, would have been logistically impossible and further, some of the five models are perhaps inapplicable both in relation to the methodology and the area of study. It was therefore decided to explicitly utilise the Organisation Field model for the following reasons :-

- a. On balance, many authors favour this model (as cited earlier in Chapter 2).
- b. The four factors in the remote environment could be utilised in deriving a measure of environmental turbulence (Economic, Social, Political and Technological).

Further, it was decided to focus only on the remote environment (except for questions in relation to the nature of competition which fall under the task environment) for two reasons :-

- c. As stated earlier in Chapter 2, change originates in the remote environment and affects task environment phenomena.
- d. It may be argued that these environmental factors apply to all South African export companies in general and that to incorporate task environmental factors would have resulted in so many permutations relating to situational specific issues, analysis

would have been difficult. In fact, Thompson goes so far as to say that "no two task environments are identical." (1967 :28).

3. It is implicitly recognised that the Cognitive Model does have tremendous relevance too in this study. This is simply due to the fact that the Managing Director is the respondent and it is his/her perceived measure of the environment that this study is assessing.

4. Ansoff's definition of turbulence be utilised. (In this regard refer to Section 2.3.3.2. of Chapter 2) This definition was presented to the respondents in the preamble of instructions pertinent to the answering of the questions in section 2 of the questionnaire.

5. Only the overseas environment be taken into account. The researcher recognises that there are local conditions which may impact on the firm, but as this study was concerned with export firms or export activities only, local factors were excluded.

6. The study would only measure state uncertainty which was defined earlier in Chapter 2 as an inability to predict what the impact of environmental events or changes will be on the firm.

With the perceived threat of sanctions being highly prevalent,

"such a high level of state uncertainty might make it impossible to characterize the environmental changes well enough to ask the questions : what effect will these changes have on us, and what should we do about it?" (Milliken, 1987 :139).

7. Firms that exported to many countries may have encountered problems in attempting to answer the questions in respect of all the

countries, as environmental conditions may have differed markedly between certain countries. In order to facilitate ease of response, they were asked to base their response on the country (or group of countries) which were most important in terms of their exports, rather than considering all the countries.

Section 2 of the questionnaire consists of three parts:-

1. Part 1

Part 1, comprises 17 questions which attempt to assess the turbulence of individual components of the external environment. As the researcher was attempting to measure the respondent's perceived state (or opinion) of the environment, rather than an objective factual description, it was decided that an interval rating scale would be the most appropriate measure in the circumstances. A statement was presented, with a description of the state of the environment above each scale, and respondents were then asked to mark a point on the scale depending on the perceived degree of turbulence in the environment. It was decided to use a 6 - point (even number) interval scale in order to reduce middle-point bias. As no point of neutrality was being measured, an odd-number interval scale was deemed unnecessary.

In addition, in order to reduce the bias that may have occurred due to the effects of repetition in assigning the same point to successive questions arranged vertically, questions 11, 12, 14, 18 and 21 had the descriptive properties denoting environmental turbulence reversed.

A 'Do Not Know' box was provided for those respondents who were not in a position to make an assessment.

The questions, by sector of the external environment, were as follows:-

a. Economic Sector

The relevant questions are 9, 10, 13, 14, 15, 17, 18 and 20.

Questions 9, 10, 14 and 20 presented statements of general economic concern namely, fluctuations of Gross National Product, Demand for the firm's product, relative inflation rates and changes in consumer attitudes respectively. The balance of the statements presented concerned themselves with issues particularly pertinent to firms that export namely import regulations, tariff policies, exchange rate policies and foreign exchange availability.

b. Political Sector

The relevant questions are 16, 21, 22 and 23. Statements concerning the attitudes of the populace in the importing country towards South African products, political stability, the threats of sanctions and pressures from political lobbies were presented.

c. Social Sector

The relevant question is 19. One general statement concerning changes

in social values and ethics, was presented.

d. Technological Sector

The relevant question is 24. One general statement concerning the frequency of new technology introduction was presented.

e. Competitive Environment

The relevant questions are 11 and 12. Two statements which specifically differentiated between the effects of domestic and non-domestic competition in the importing country/s were presented. Question 11 referred to the 'aggressiveness' of domestic competitors and question 12 referred to the 'pressure' from non-domestic competitors. This was done due to the fact that foreign companies (and governments) have in certain instances placed pressure on particular countries to reduce their dealings with South African companies, so that these foreign companies can increase their own stake in the country of concern. (For example, the Australian coal industry putting pressure on European countries not to trade with South African coal companies). Hence although the aggressiveness of domestic competition may be low, pressure (whether economically or politically motivated) from non-domestic competitors may be high.

f. Other

The relevant question is 25. If in the opinion of the respondent any environmental variables had been overlooked, space was provided

whereby these variables could be written down and their rate of turbulence assessed.

## 2. Part 2

The relevant question is 26. This part of Section 2, presented a table of the summary of questions 10 - 25. Respondents were asked to rank those 5 environmental elements which were considered to be most important in terms of their impact on long term profitability. The rationale behind this was twofold :-

(1) It would give an indication of which environmental elements were considered to be most important.

(2) More importantly, it would enable the researcher to categorize the companies surveyed into low, medium or high levels of perceived environmental turbulence. (The independent variables necessary for the testing of the major hypotheses).

It was decided to ask the respondents to only rank five of the variables, for the following reasons :-

(a) As this ranking would determine how a company would be categorized in terms of turbulence, it was vitally important that respondents be as accurate as possible in their assessment. Increasing the number of variables to be ranked would have introduced negative factors such as irritation or an unthinking or uncaring attitude on the part of the respondent, thereby adversely affecting

this accuracy.

(b) Not all of the respondents would have been in a position to rank all the variables anyway. (Some may have responded (Do not Know) to certain of the statements presented).

(3) A ranking of five variables, which constituted almost a third of the total presented, was considered to be a number sufficient to categorize companies meaningfully.

### 3. Part 3

The relevant question is 27. The purpose of this question was to provide an assessment of how respondents perceived the unpredictability of the external environment in the future. The three statements presented in a multiple-choice response format, were adapted from Malaska (1985 :342).

#### Section 3 : Measurement of Components of Strategic Flexibility

Section 3, which comprises the longest section of the questionnaire (with 29 major questions and various sub-questions), provided the dependent variables necessary for the testing of the hypotheses.

##### a. Response Format

Section 3 contains instances of all types of response formats (dichotomous, multiple-choice and scale) for the following reasons:-

(1) Certain information required objective, factual description and therefore were suited to the dichotomous and multiple-choice format, rather than the scale format.

(2) As this was the longest section of the questionnaire, the researcher wished to prevent any repetitive bias that may have occurred from utilising the same response format throughout.

(3) Where questions were adapted from other authors, the researcher saw no reason to change their response format.

(4) Where scales were utilised, it was decided to continue with the six-point interval rating scale in order to reduce middle-point bias. In addition, the scales in questions 53 and 54 were reversed to reduce repetitive bias.

In discussing the questions used to test the hypotheses, the following format will be used. The component of strategic flexibility will comprise the main heading and the commensurate hypotheses (major and secondary) the sub-heading. The relevant questions that relate to the particular component of strategic flexibility and the relevant hypotheses will then be discussed.

## 1. Diversification

### a. Defensive External Flexibility

#### Hypothesis H1a and Hypothesis H4a

Questions 49, 50 and 51 (multiple-choice format) which measure the contribution made by the company's three largest customers, the number of these three that constitute foreign customers and the proportion of total export sales accounted for by the most important export market respectively, were constructed to test H1a and H4a. Question 49 was adapted from Ansoff (1984 :77 and 1987 :65). The less reliance the firm has on certain individual customers, the more flexible it becomes.

#### Hypothesis H1b and Hypothesis H4b

The relevant question is 48. A multiple-choice format, it was adapted from Aaker and Mascarenhas (1984 :75) and it measures the number of countries to which the firm exports. The more countries to which the firm exports, the more flexible it becomes.

#### Hypothesis H1c and Hypothesis H4c

The relevant question is 39. A multiple-choice format, it comprises the well-known classification constructed by Rumelt (1974). Four statements (namely single, dominant, related and unrelated) describing the business were presented. The more products the company has that do not share common factors, the more flexible it becomes. The 'common factors' referred to here, include amongst other things, customers, production facilities and distribution channels.

b. Aggressive External Flexibility

Hypothesis H1d and Hypothesis H4d

The relevant questions are 54b and 54c. Two dichotomous response format questions were presented to firstly ascertain whether or not the company follows a formal program of Research and Development and secondly, for those that do, whether or not it was an autonomous unit (its status). Those firms that formally participate in Research and Development and place higher status on it (by giving it autonomy) can be expected to be more flexible.

2. Reduce Commitment of Resources to a Specialised Use

Hypotheses H2a to H2d

The relevant questions are 47 and 54e. Six - point interval rating scales were presented in order to test the ability of the firm to add or divest products, product lines or divisions (if applicable) to or from their current line of business, and the cost of exiting or entering new export markets respectively. The greater the ability of the firm to add or divest, or the lower the cost of entering or exiting new markets, the more flexible it becomes.

Hypothesis H2e

The relevant question is 54d. This question presented in multiple-choice format, was constructed in order to test the company's

technological position. In designing the questionnaire, the researcher was presented with two options, either to use the Miles and Snow typology (1978 :31-80) of defenders, prospectors, analyzers, or the Ansoff typology of imitators, followers, innovators (1984 :110).

Although they are similar in many respects, the decision was eventually made to utilise Ansoff's typology. Unlike Miles and Snow, Ansoff specifically refers to a 'follower' position for which the researcher found support in the literature to be most appropriate for increasing strategic flexibility (Aaker and Mascarenhas, 1984 :77; March and Simon, 1958 :188).

#### Hypothesis H2f

The relevant question is 54a. A six - point interval rating scale was presented in order to test the ability of the firm's production equipment to be easily adapted in order to make related products. This has the effect of increasing the firm's logistic flexibility. Question 54a was adapted from Grinyer, Al-Bazzaz and Yasai-Ardekani (1986 :20), which they described as measuring 'technological inflexibility'.

#### Hypothesis H2g

The relevant questions are 52 and 53. Question 52 presented in a multiple-choice response format, tested the extent to which the firm had multi-channels of export in its single most important export market. It was decided to only measure the single most important

export market, in order to facilitate ease of response. Firms exporting to many countries and markets may have had numerous methods of export, thereby making response in respect of entire export activities difficult.

Question 53 presented in a six - point interval rating scale format, tested the ability of the firm to re-route its exports in order to avoid identification with its South African source. By increasing the multi-channels of export and having the ability to re-route its exports, the firm increases its flexibility.

### 3. Managerial and Structural Flexibility

#### (1) Processes

##### a. Decision-Making Process - Hypothesis H3a and Hypothesis H5a

The relevant question is 28. A multiple-choice question presenting three statements denoting autocratic, collaborative and participative management styles were given. Question 28 was adapted from Viljoen (1987 :239). The more participative the management style, the more flexible the organization becomes.

##### b. Degree of Formalization - Hypothesis H3b and Hypothesis H5b

The relevant questions are 41 and 43. Both presented in a six - point interval rating scale format, question 41 tested the extent to which companies have Management by Objective programmes and question 43 the

extent to which the organization is bureaucratic. Questions 41 and 43 were adapted from Viljoen (1987 :242). The less the formalization, the more flexible the organization becomes.

c. Planning Process

c.i. Formality or Informality - Hypothesis H3c and Hypothesis H5c

The relevant question is 30. A multiple-choice response format, presenting three statements denoting, highly formalized, loosely structured and no strategic planning, were given. Flexible firms will have loosely structured approaches, whereas large firms are expected to have high formality.

c.ii. Specialized Planning Staff - Hypotheses H3d to H3d3 and H5d to H5d3

The relevant questions are 29, 29a, 29b and 29c. Question 29 presented in dichotomous response format, ascertained whether or not the company had a separate planning department. For those that did, the balance of the questions in multiple-choice response format, tested the number of years the planning department had been in operation, the hierarchical position of the person who heads the department and the number of full-time specialist planners employed. Questions 29b and 29c were adapted from Grinyer, Al-Bazzaz and Yasai-Ardekani (1986 :21). By having full-time specialist planners who are afforded high status, the firm increases its flexibility. This is as a result of having people whose task it is to continuously monitor the

environment and make recommendations to top management on the strategic direction of the firm. In addition by being afforded high hierarchical status they have easy access to top management.

c. iii. Planning Horizons - Hypotheses H3e to H3f

The relevant questions are 37 and 38. Both presented in multiple-choice response format, question 37 measures the time span of the strategic plan and question 38, the number of times the strategic plan is reviewed. For any periods overlooked by the researcher, an 'other' category was provided.

The longer the time span of the plan (H3e) and the greater the frequency of review (H3f), the more flexible the firm becomes.

(2) Management Technology - Hypotheses H3g to H3j and H5e to H5h

The relevant questions are 31 to 36 and 54f. Questions 31 to 34 presented in a six - point scale format, tested the extent to which the company monitors changes in the political, social, economic and technological sectors of the external environment both at home and abroad. Continuously monitoring all sectors of the external environment increases the firms flexibility. (H3g and H5e).

Question 35 presented in a multiple-choice format, gave an indication of the sources of information on the environment used by the firm. The questions were adapted from Bodur and Cavusgil (1985 :10). An 'other' category was provided for variables overlooked. The more sources of

information utilised by the firm, the more flexible it becomes (H3h and H5f).

Question 36 was presented in two response formats. Firstly, respondents were asked to indicate which technique the firm utilised to identify future trends in the environment (dichotomous response) for which four alternatives of forecasting, scenarios, competitor analysis and threats/opportunities were presented. Secondly, on a six-point interval rating scale, they were asked to attach the value they placed on each technique utilised in identifying future trends. Question 36 was adapted from Ansoff (1984 :327). The more complex evaluation and monitoring techniques the firm uses, the more flexible it becomes (H3i and H5g). Complex evaluative and monitoring techniques must be used in order to take account of complexities in the environment.

Question 54f presented in a multiple-choice format, measured the extent to which the firm utilised computer technology in its manipulation of data on the external environment. The greater the extent of computer technology utilised, the more flexible the firm becomes (H3j and H5h). Computers have the capacity to interpret enormous amounts of information very quickly.

### (3) Structure - Hypotheses H3k and H5i

The relevant question is 40. A multiple-choice response format comprising five types of organizational structure namely, functional, product divisional, geographic divisional, combination and matrix were

presented. The greater the fluidity in structure, the more flexible the firm becomes.

(4) Values - Hypothesis H3l

The relevant question is 42. A six - point interval rating scale measuring the extent to which the company rewards innovation was presented. Question 42 was adapted from Viljoen (1987 :242). The greater the extent to which innovation is rewarded, the more flexible the firm becomes.

(5) People - Hypotheses H3m to H3n and H5j

The relevant questions are 44, 45 and 46. Question 44 presented in a six - point interval rating scale, measured the extent to which the company had formal management development and training programs. Question 45 presented in a dichotomous response format ascertained which methods were used by the company to develop and train managers. The greater the extent to which managers are developed and trained, the more flexible the organization becomes. (H3m and H5j).

Question 46 presented in a six - point interval rating scale, measured the extent to which the company had job rotation for middle and low-level employees. The greater the extent to which job rotation occurs in the organization, the more flexible it becomes.

#### (6) Other General Comments

The relevant question is 55. An open-ended response format, this question simply afforded the respondent the opportunity to express any general comments they wanted to make.

This concludes the discussion on the content, phrasing and response format of the questions. A discussion of the questionnaire layout follows below in Section 5.3.2.3.

#### 5.3.2.3. Questionnaire Layout

Two aspects are important with respect to questionnaire layout, the sequence of the questions and the physical characteristics of the questionnaire. In both instances, the researcher designing the questionnaire must pay due attention to the ease with which the respondent can answer. Any misunderstanding or irritation on the part of the respondent as a result of poor sequencing or layout may result in measurement errors or even non-response altogether.

The following steps were undertaken by the researcher in order to ensure that ease of response was facilitated :-

1. The questionnaire was designed in A5 booklet form with instructions and covering letter from the researcher on the front page. The respondent consequently received the questionnaire as one unit, with no loose papers. The telephone number of the researcher

was supplied in the event of the respondent requiring clarification of issues.

2. All questions contained clear instructions outlining exactly what the respondent was expected to do. Key words were underlined or presented in capital letters.

3. The first questions were simple and objective. By placing these first, it was hoped to ease the respondent into the balance of the questionnaire. (Tull and Hawkins, 1987 :266).

4. Every attempt was made to ensure that questions moved from one to the next in a logical manner. (Tull and Hawkins, 1987 :266).

5. The length of the questionnaire was seen as a potential problem affecting the response rate. Research on questionnaire length has generally not proved to be conclusive in terms of shorter questionnaires producing higher response rates (Roscoe, Lang and Sheth, 1975 :20; Kanuk and Berenson, 1975 :443; Tull and Hawkins, 1987 :108). For this reason, the researcher decided not to compromise on the length of the questionnaire as the objectives of the study demanded that a substantial amount of data be collected.

In designing the questionnaire, the researcher worked on the premise that interested respondents would complete the questionnaire anyway regardless of the length and instead, particular attention was paid to the type of question asked (Tull and Hawkins, 1987 :108). In addition the researcher strived to ensure adequate spacing between questions

with properly located answer spaces (Parasuraman, 1986 :371) in order to offset the possible negative influences that may have occurred due to the length of the questionnaire.

6. No consideration was given to the printing of the questionnaire into two languages (English and Afrikaans). As SAFTO essentially uses English as its language of communication, a single language questionnaire was deemed appropriate.

#### 5.3.2.4. Management of the Data Gathering Process

Of particular importance in mail interview surveys, is ensuring that all steps are taken to reduce the nonresponse rate. Research has indicated that the response to a mail survey may be increased by employing the following techniques:-

1. motivating factors such as:-

- a. ensuring the topic is meaningful
- b. respondents' answers are important
- c. use of rewards and incentives

2. Facilitating factors such as:-

- a. advance notification
- b. follow up reminders
- c. return envelopes, pre-stamped and self-addressed
- d. promise of copy of results

- e. assurances of respondent anonymity and confidentiality
- f. identity of the survey sponsor
- g. use of return deadlines
- h. use of colour, eye-catching labels and cryptic messages

(Cox, 1979 :294-296; Harris and Guffey, 1978 :290);  
 Kanuk and Berenson, 1975 :441-448; Tull and Hawkins,  
 1987 :122-127; Jones and Linda, 1978 :281-282).

In attempting to reduce the non response rate, the researcher has to

"balance the increased cost of each effort against the benefits of a more representative sample. The critical issue is how alike or different the respondents are from the nonrespondents on the variables of concern." (Tull and Hawkins, 1987:128).

In strategies for dealing with nonresponse, the effects can be estimated using subjective estimates, imputation estimates, trend analysis and measurement using subsamples. (Tull and Hawkins, 1987:129-131). However, it must be borne in mind that in mail surveys where there is respondent anonymity, subsampling of nonrespondents is expensive and time consuming.

In terms of this study, the researcher undertook the following (bearing in mind the cost constraints) to ensure that the response rate was as high as possible:-

1. A letter written by the General Manager of SAFTO, Mrs. A. Moore, was enclosed in the questionnaire package. This letter outlined the researcher's credentials and SAFTO's support for the research undertaking.

2. The questionnaire was designed in A5 booklet form, with the motivating factors and general instructions on the front cover. In motivating the importance of the study, the researcher stated the objective of the research and stressed the uniqueness of the South African situation and therefore the importance of their contribution to the success of the study. In addition, it was stated that the study did not contain sensitive issues (which the researcher believed may have resulted in nonresponse). Confidentiality was, nevertheless guaranteed.

3. The questionnaire was printed in yellow paper which the researcher considered to be suitably eye-catching, with the logo of Rhodes University clearly visible.

4. A summary of the results of the study was offered to interested respondents.

5. A deadline of 20 November 1987 was stressed.

6. Included in the questionnaire package was a business reply service envelope. This had two advantages. Firstly, the respondent was not obliged to pay for the return postage. Secondly, as the cost of this facility depends on the actual number of replies received, it offers financial benefits to a researcher where mail surveys are conducted and low response rates occur.

7. One reminder was posted ten days after the questionnaires were

despatched. This reminder was designed as a postcard, printed in blue and a map of South Africa symbolising the question of the country's outward orientation, was depicted.

#### 5.3.2.5. The Pilot Study

Pretesting of the questionnaire is seen as an indispensable and inexpensive means of ensuring the soundness of the questionnaire. It involves administering the questionnaire to a limited number of potential respondents, thereby subjecting it to an objective external evaluation. Generally, pilot studies are invaluable in ascertaining the extent to which :-

1. the study is perceived as being meaningful
2. the questions are ambiguous, misleading or confusing
3. any vital aspects have been omitted
4. the format of the questionnaire is acceptable
5. the suitability of the response options
6. the time taken to complete the questionnaire

The sample size of a pilot study is generally a subjective decision, usually depending on the confidence of the researcher as to the soundness of the questionnaire and the time and cost constraints (Parasuraman, 1986 :373). In deciding the composition of the pretest respondents, they should be similar to respondents who will ultimately participate in the study, but they may also include the researcher's colleagues and ultimate users of the data (Parasuraman, 1986 :373).

Details of Pilot Study Conducted

1. Ten companies in Port Elizabeth were randomly selected and the managing director's of each company were contacted telephonically. The objectives of the study were stated and their willingness to participate in the pilot study ascertained.
2. Port Elizabeth was selected as it is the nearest industrial centre to Grahamstown and therefore placed the researcher in relatively close proximity to the respondents, should the need for personal interviews have arisen.
3. Once the researcher had obtained guarantees of contribution from the respondents concerned, the questionnaire with a covering letter was posted to them. A pre-addressed and pre-stamped envelope was contained in the package.
4. Using the telephone as the communication medium, the researcher asked the respondents to pay particular attention to content, phrasing and response formats of the questions and the ease with which they were able to answer. A response sheet for their comments with a request that they record their time taken, was included in the pilot study questionnaire package.
5. Follow up telephone calls were undertaken a few days after date of despatch in order to discuss the questionnaire and remind respondents to complete it.

6. A 90% response rate was achieved. The researcher deemed this to be an appropriate level of response.

7. According to the respondents, no problems were experienced with the questionnaire. Consequently, personal interviews were deemed unnecessary and it was decided that the questionnaire remain unchanged.

8. The time taken to complete the questionnaire averaged between 19 and 35 minutes. As none of the respondents made negative comments about the time taken, the researcher considered 30 minutes to be a reasonable duration, and hence that was the time stated on the final questionnaires distributed.

#### 5.4. Conclusion

1361 questionnaires were despatched in early October 1987. In the opinion of the researcher, the use of the methodology described in this chapter was sufficiently sound to give meaningful results.

Discussion will now focus on the results of the study in Chapter 6.



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CHAPTER SIX  
EMPIRICAL RESULTS OF THE STUDY

6.1. Introduction

The objective of this chapter is to discuss the response rate to the mail survey, the statistical tests used to analyze the data, and the presentation and interpretation of the results.

6.2. Response Rate

Of the 1361 questionnaires despatched, 221 were returned (16.24%) of which 191 (14.03%) comprised usable responses. The researcher was disappointed with the low response rate, nevertheless it was decided that 191 responses constituted a large enough number of questionnaires from which to draw inferences. The possible reasons as to why the response rate was so low is perhaps as a result of the following (some evidence of this was noted in the non-usable portion of the replies):-

1. Given the sensitive nature of the sanctions situation, some companies were not prepared to report on any aspect of their export activities whatsoever. As discussed earlier in Chapter 5, the researcher foresaw this as being a potential problem affecting the response rate and hence attempted to convey to the respondent that the study contained no sensitive issues. Unfortunately some companies perceived this not to be the case.

2. Some companies' export activities were too small to warrant a meaningful response on their part. Although members of SAFTO, these companies had a very minor involvement in exports and hence their commitment to export was negligible.

3. Finally, some companies had commenced exporting so recently they too considered themselves not to be in a position to offer meaningful input to the research.

### 6.3. Statistical Analyses Conducted in this Study

The raw data was captured by the researcher and processed by a CDC Cyber 170 series 825 computer. Using the BMDP statistical software package, two methods of statistical analyses were decided upon; a frequency distribution and cross-tabulation analysis.

#### 6.3.1. Frequency Distribution

The frequencies procedure produces a table of frequency counts and percentages for each distinct variable in the analysis. This was particularly important in the descriptive analysis of the data, for in conducting a frequency distribution analysis, the researcher was able to ascertain measures of central tendency or averages.

When, as is often the case, one is dealing with large numbers of observations on a particular attribute or variable, it is desirable, if not essential, to obtain measures which can be said to be representative of the data as a whole." (Startup and Whittaker, 1982 :16)

Measures of central tendency can be useful in this respect.

Two were relevant in this study:-

(a) The Mode

The mode refers to the particular value, class or category that occurs with the highest frequency in the distribution (Hawkins and Weber, 1980 :24; Startup and Whittaker, 1982 :16).

This was useful in identifying :-

- i. The demographic and biographic characteristics of the respondent companies.
- ii. The modal rating of perceived turbulence for each individual element of the environment.
- iii. The modal ranking of the environmental variables as perceived by the respondent.
- iv. The modes of each component of flexibility being measured.

(b) The Mean

This is the most commonly used measure of central tendency. It is simply defined, as the sum of the observations divided by the number of observations and is sometimes referred to as the average.

This was useful in ascertaining the degree of perceived environmental

turbulence on average, for each individual environmental element. When combined with the ranking of the environmental elements, (only the five most important ranked elements of the environment by the individual respondents were used) classification of the companies into low, medium or high levels of perceived environmental turbulence was achieved. In addition, it gave an insight into which environmental variables tended to be ranked as the most important.

### 6.3.2. Cross-Tabulation

The cross-tabulation routine generates cross-tabulated frequencies as well as certain statistics which may be used to assess the strength of the relationship between variables and the level of statistical significance. In order to test the hypotheses in the study, two cross-tabulation analysis were run using the perceived degree of environmental turbulence and the size of the company as the independent variables respectively, and the components of strategic flexibility as the dependent variables. The test used in this analysis was the (Pearson) chi-square test. "The most familiar test for the independence of the rows and columns in a two-way table is the (Pearson) chi-square test." (Dixon, 1985 :153). In general,

"the chi-square test involves a comparison between an observed number of cases falling into each category and an expected number of cases on the basis of a theoretical distribution or a hypothesis to be tested." (Startup and Whittaker, 1982 :132)

In so doing, the researcher was able to ascertain the extent to which a statistical relationship existed between the independent and dependent variables, as well as the strength of that relationship.

#### 6.4. Research Findings

The analysis which follows is divided into three main sections, namely:-

##### 1. Company Characteristics

This frequencies analysis will give an insight into the demographic and biographic characteristics of the respondent companies, which was the information gathered in Section 1 of the questionnaire. Of particular importance here is the fact that this analysis will provide the independent variable (size of the company) necessary for the testing of the secondary hypotheses.

##### 2. Environmental Analysis

This frequencies analysis will provide the information necessary in order to fulfil the achievement of the first sub-objective of this study, namely to determine the extent of environmental turbulence perceived by South African export companies and to identify the most important elements of the external environment as perceived by these companies. Of particular importance here is the fact that this analysis will provide the independent variable (perceived environmental turbulence) necessary for the testing of the major hypotheses. This was the information gathered in Section 2 of the questionnaire.

### 3. Strategic Flexibility Analyses

This will entail a frequencies analysis and the testing of the hypotheses.

#### a. Overall Descriptive Analysis of the Components of Strategic Flexibility

This frequencies analysis will give an overall description of the components of strategic flexibility of the respondent companies, hence providing the dependent variables necessary for the testing of the hypotheses.

This was the information gathered in Section 3 of the questionnaire.

#### b. Testing of the Hypotheses

This will fulfil the achievement of the second and third sub-objectives of this study.

The second sub-objective was to identify the nature and strength of the various components of strategic flexibility, possessed by South African export companies facing environments of either low, medium or high turbulence. This relates to the testing of the major hypotheses.

The third sub-objective was to identify the nature and strength of the various components of strategic flexibility, possessed by South African export companies of different size. This relates to the

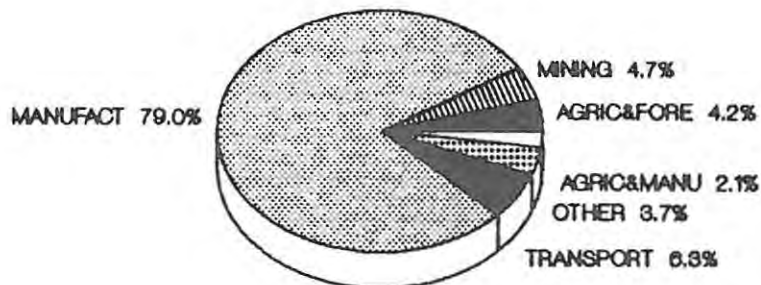
testing of the secondary hypotheses.

Discussion will now turn to each of these three main sections comprising the research findings.

#### 6.4.1. Company Characteristics

##### 1. Company Classification

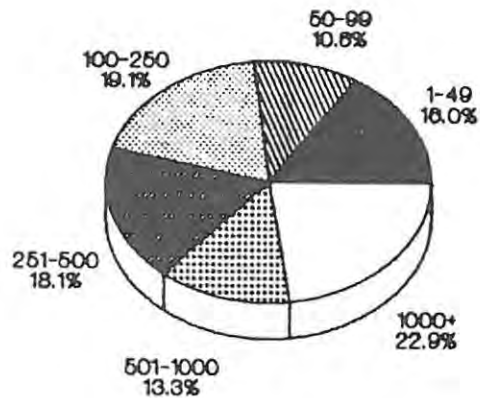
Figure 6.1.  
Company Classification



From Figure 6.1, one can clearly see that the majority of the respondent companies were manufacturing (79%), with transportation (6,3%) generally comprising of shipping companies, and mining companies (4,7%) second and third respectively. A few of the companies considered themselves to be equally involved in different industries and the 'other' element collectively comprises these permutations which individually, are too small to be of any significance.

## 2. Employee Numbers

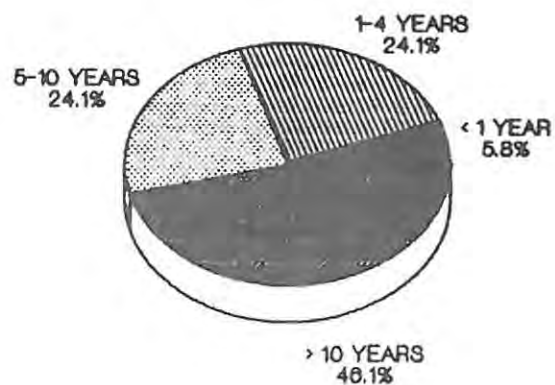
Figure 6.2.  
Employee Numbers



From Figure 6.2, one can see that there was a fairly even spread in the size of the companies surveyed. The majority of respondents had over a thousand employees (22.9%), whilst the least number of respondents fell into the 50-99 category (10.6%)

## 3. Export Experience

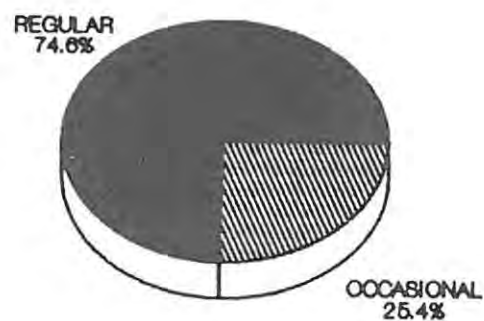
Figure 6.3.  
Export Experience



From Figure 6.3, it can be seen that the greater majority of companies had been exporting for longer than 10 years (46.1%). It is disappointing to note the small number of companies comprising (5.8%) and relative newcomers to export (24.1%). This might imply a lack of commitment on the part of South African companies to export, as so few companies have started exporting in recent years. Should this be the case it does not bode well in the future in terms of South African companies having a pre-disposition to export.

#### 4. Export Continuity

Figure 6.4.  
Export Continuity

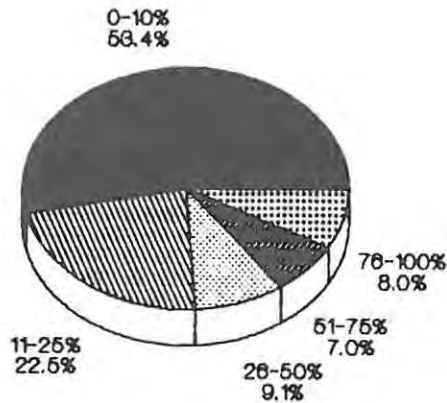


Clearly the majority of companies are regular exporters. This is pleasing to note, as it implies that these companies have already established channels of export and by being regular exporters are at least committed to exporting to some extent.

5. Percentage of Total Sales

Figure 6.5.

Percentage of Total Sales

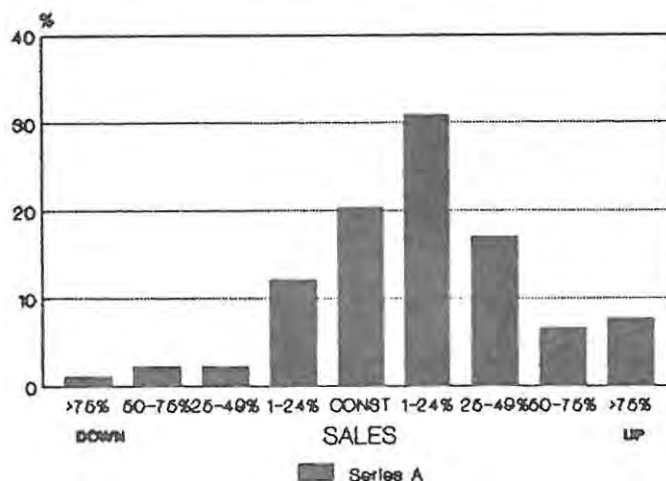


Although regular exporters, Figure 6.5. shows the disappointing result that for the greatest majority of the firms (53.4%), exports count for less than 10% of their total sales. If viewed in conjunction with the export experience of the companies surveyed, this perhaps exemplifies a lack of commitment by South African companies to export and hence does not also bode well for an outward orientation export policy.

6. Increase or Decrease in 1986 Export Sales over 1985

Figure 6.6.

Increase or Decrease in Sales



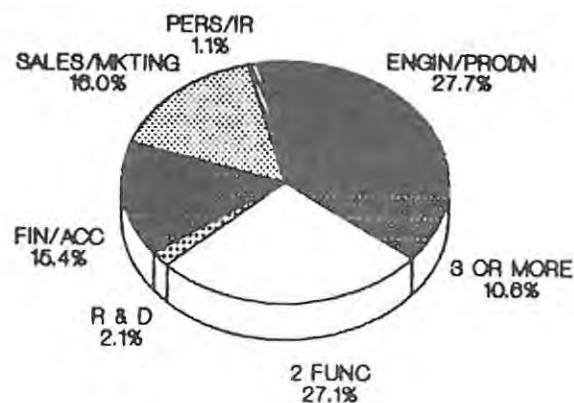
Generally, respondents reported increases in sales with the majority of respondents (30.8%) reporting an increase of 1% to 24%. It would appear then that no adverse factors affected sales substantially and perhaps on a positive note, export firms may construe this as a cue to further increase export sales.

However, after despatching the questionnaires it was noted that there may have been ambiguity in the question as to whether the question was measuring sales in monetary or volume terms. Unfortunately this potential ambiguity was not identified in the pilot study as the pilot study respondents did not appear to be confused in this regard. Consequently, this must be regarded as being an oversight on the part of the researcher and any interpretation of these particular results must be undertaken with caution as they do not draw a distinction between monetary and volume terms.

## 7. Managing Director's Functional Background

Figure 6.7.

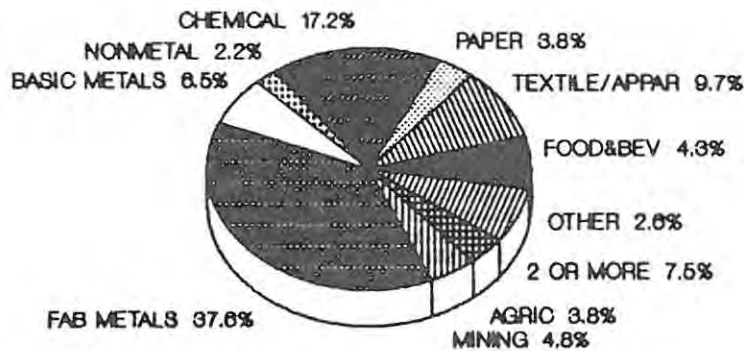
Managing Director's Functional Background



As the majority of respondent companies are manufacturing it is perhaps not unexpected that the majority of managing directors surveyed have an engineering and production background (27.7%). A large proportion (27.1%) indicated that they had two functional backgrounds.

## 8. Products

Figure 6.8.  
Products



As a large number of 'other' products were specified, the researcher was forced to reclassify the original classification presented in the questionnaire. This was done using the Standard Industrial Classification (Department of Statistics., 1981). The majority of companies exported fabricated metal products (37.6%) with the next highest export product being chemicals (17.2%). The other products all contributed less than 10% each.

Having presented the demographic and biographic characteristics of the respondent companies, discussion will now focus on the environmental

analysis relevant to this study.

#### 6.4.2. Environmental Analysis

Four analyses were important in assessing the state of the external environment as perceived by the respondents.

Firstly, the assessment of the perceived degree of turbulence in each element of the external environment.

Secondly, the ranking of those five elements which were perceived as being most important in terms of their impact on long term profitability.

Thirdly, by using the means of the individual measures of the perceived degree of turbulence for the five most important elements ranked by the individual companies, the researcher was able to classify companies into low, medium or high levels of perceived environmental turbulence. This consequently provided the independent variable necessary for the testing of the major hypotheses.

Finally, the overall opinions of the respondents concerning the state of environment turbulence in the future.

Before presenting and discussing these results, it is perhaps important to note that very few 'other' environmental variables were presented by the respondents (Question 25 of the questionnaire). This may have been as a result of the following :-

1. Respondents were of the opinion that all elements of the environment were adequately catered for by the questionnaire and hence no relevant elements had been overlooked by the researcher.
2. Respondents were not aware of other environmental elements of importance.
3. Respondents were aware of other environmental variables but simply did not present them because it was considered to be too bothersome to do so.

It is difficult to assess exactly which of these three conditions applied. However as every effort was made to ensure that all relevant environmental elements were contained in the questionnaire and the pilot study respondents did not consider any element to be have overlooked, the researcher is of the opinion that most relevant elements were catered for.

Two elements of note that were presented and which the respective respondents considered to have been overlooked were firstly, exchange rate fluctuations making pricing decisions difficult and secondly, unfavourable trade groupings against South Africa making it difficult for this country to enter foreign markets. However as so few of the respondents made reference to these elements, they had an insignificant effect on the results as a whole and hence were basically excluded from the analysis.

The four analyses relevant to the assessing of the state of the external environment as perceived by the respondents, will now be presented and discussed.

#### 6.4.2.1. Key to Abbreviations Used in Tables

The following abbreviations were used in the tables.

GNP Fluc	- Fluctuations of Gross National Product
Prod DD	- Demand for products
Dom Comp	- Aggressiveness of leading domestic competitors
Non-Dom Comp	- Pressure from leading non-domestic competitors
Imp Regs	- Foreign Government actions concerning import regulations
Inflation	- The relative inflation rate
Imp Tariffs	- Import tariff policies
Attitudes	- Attitudes of population towards South African products
XRate Pol	- Exchange Rate Policies
Forex Ava	- Foreign Exchange availability
Soc Values	- Changes in Social values and ethics
Cons Atts	- Changes in Consumer attitudes and preferences
Pol Stab	- Political Stability
Sanctions	- Threats of sanctions
Pol Lobbies	- Pressures from Political lobbies
Technology	- Frequency of new technology introduction

#### 6.4.2.2. Individual Measures of Perceived Environmental Turbulence

This analysis was important in assessing the degree of perceived environmental turbulence for each element of the external environment. This simply entailed calculating the mean of the ratings of perceived environmental turbulence for each element of the environment. The higher the mean, the greater the degree of turbulence. These results are presented in Table 6.1.

Table 6.1.

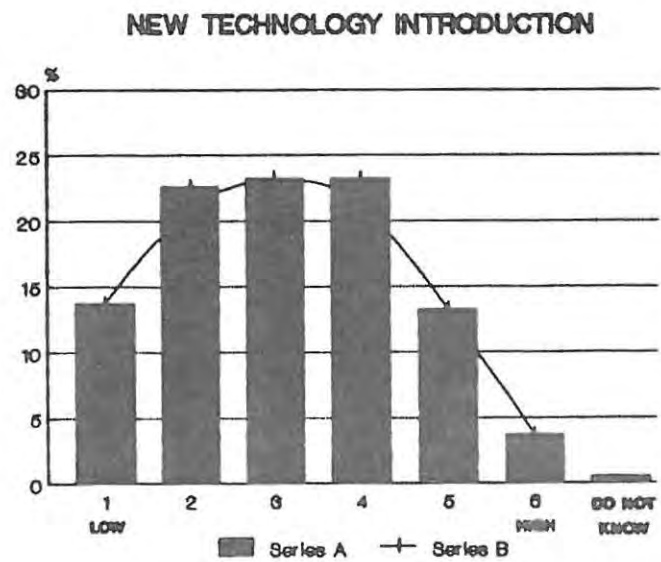
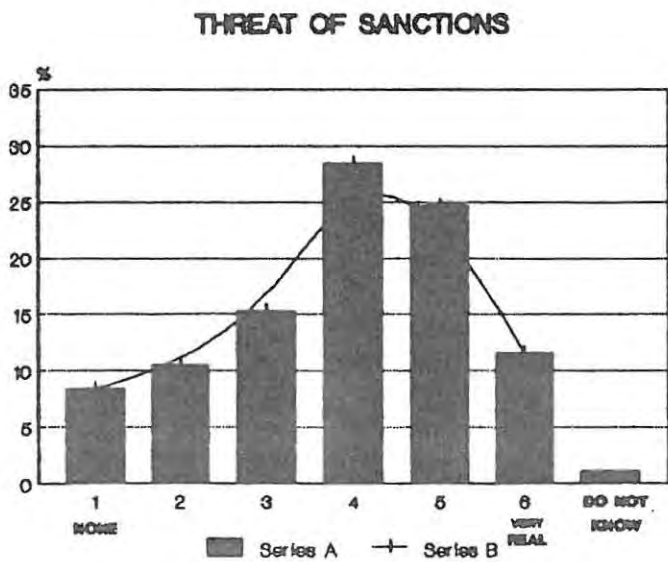
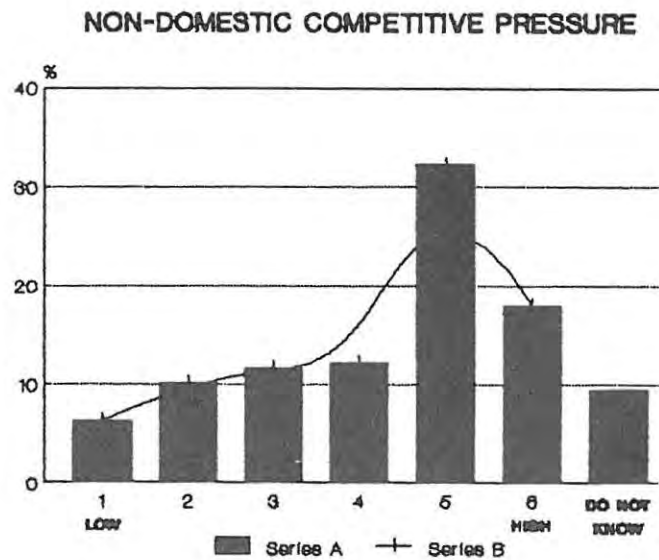
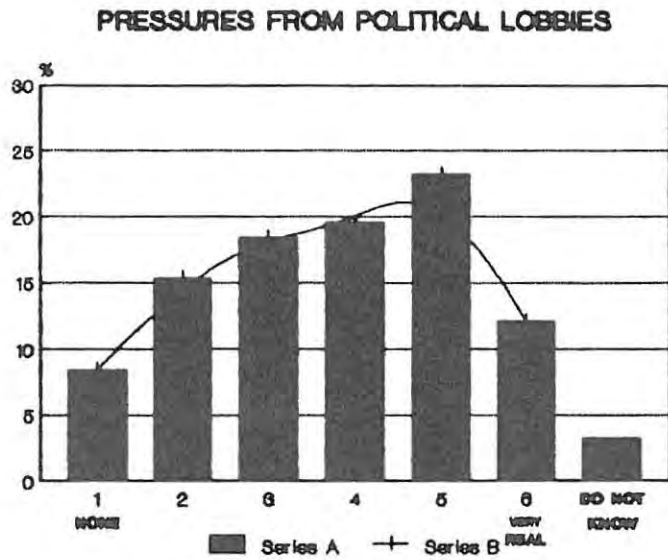
Perceived Degree of Environmental Turbulence by Element

Element	Mean (scale 1-6)	Position
Pol Lobbies	4.613	1
Non-Doa Comp	4.571	2
Sanctions	4.398	3
Technology	4.130	4
Inflation	3.857	5
Forex Ava	3.582	6
Attitudes	3.559	7
Doa Comp	3.408	8
Imp Regs	3.259	9
Pol Stab	3.054	10
XRate Pol	3.044	11
Prod DD	2.913	12
GNP Fluc	2.588	13
Soc Values	2.400	14
Imp Tariffs	2.375	15
Cons Atts	1.800	16

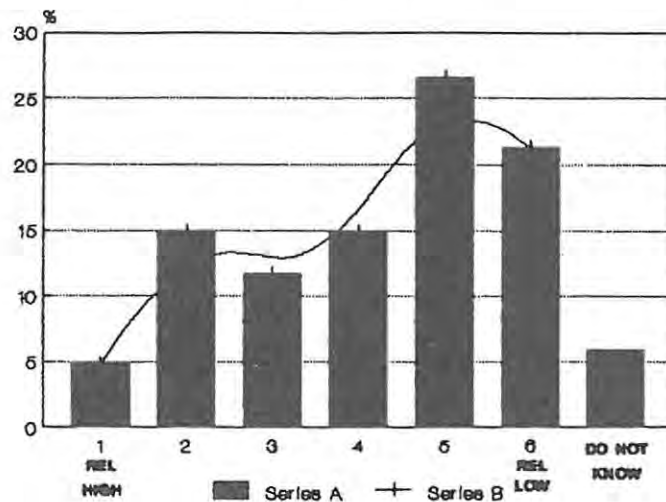
The position of the element must not be confused with respondents' ranking of the variables (to be discussed in Section 6.4.2.3.). The position in this instance refers to the element's degree of turbulence relative to the other elements. The first five elements are depicted graphically in Figure 6.9. Clearly they are all skewed to the right hence showing relatively high degrees of turbulence.

Figure 6.9.

Five Most Turbulent Elements of the External Environment



## INFLATION RATE



What is important to note from this analysis is the high incidence of political elements described as being turbulent. As was expected, the threat of sanctions would be perceived as contributing to turbulence in the environment. The fact that political lobbies are listed first is probably as a result of these bodies being the pressure groups initiating anti-South African legislation, such as sanctions. The attitudes of the population in the importing country towards South African products (position 7) tended to be slightly unfavourable therefore contributing marginally towards environmental turbulence. The final element of the political sector namely political stability (position 10), tended to be high, therefore contributing little to environmental turbulence.

In terms of the competitive sector there is a clear distinction between the turbulence created by non-domestic competitors on the one hand and domestic competitors on the other (in 2nd and 8th position respectively).

This was not unexpected as was discussed in Chapter 5 and is probably as a result of non-domestic competitors trying to increase their own stake in the countries of concern at South Africa's expense.

The frequency of new technology introduction (4th position) influencing environmental turbulence is probably as a result of the majority of respondent companies being manufacturing companies and therefore having the most potential to be affected substantially by technology changes. Having turbulence in the technological sector of the remote environment is not a surprising phenomenon if viewed in the international context, but from the South African perspective this is a particularly worrying factor. Should sanctions close South Africa off from overseas technology, South African businesses will be alienated from these technological changes thereby placing this country behind the international race in technological innovations and breakthroughs. This may result in this country being in the position of never being able to catch up.

South Africa's high inflation rate (position 5) relative to the importing countries was as expected, also a contributor to environmental turbulence. The following statements by two separate respondents reflect their concern at this high inflation rate.

"Biggest negative factor influencing exports from South Africa is the high local inflation rate! Especially affecting exports to the stable and lucrative markets of Europe (i.e. Germany and other EC-Countries)."

"The Government manipulation of the Rand/US dollar exchange rates, coupled with the inflationary pressures on exchange rates is going to force more and more exporters out of the market. Unless exchange rates drop, inflation will rapidly cause prices to be uncompetitive and force the present exporters either out of exporting or in our case out of business completely."

It is vitally important therefore that South Africa strive to reduce its inflation rate if it is to proceed with an export drive.

The other economic elements contributed less to environmental turbulence, the means tending towards medium or low levels of turbulence. Foreign exchange tended to be unavailable (position 6) therefore contributing marginally to environmental turbulence but import regulations (position 9), exchange rate policies (position 11) and import tariffs (position 15) tended towards predictability therefore contributing little to environmental turbulence.

Demand for the respondent's products was described as being stable (position 13) hence suggesting that at the time of the questionnaire being completed in October 1987, the threat of sanctions had not materialised in any substantial way. Fluctuations in Gross National Product tended to be low and changes in consumer attitudes and preferences were so minor as to be almost negligible (position 16).

Finally in the social element of the environment, changes in social values and ethics were also minor, therefore not contributing much to environmental turbulence.

#### 6.4.2.3. Ranking Of the Environmental Elements

This analysis was important in identifying those environmental elements the respondents considered to be most important in terms of the impact on long term profitability.

The overall rankings of all the elements are shown in Table 6.2.

Table 6.2.  
Overall Ranking of Environmental Elements

Element	Ranked					Total	Position
	1	2	3	4	5		
Prod DD	49	22	9	11	13	104	1
Sanctions	22	30	20	18	13	103	2
Non-Doa Comp	17	20	25	25	11	98	3
Forex Ava	30	10	14	3	10	67	4
Pol Lobbies	4	12	16	13	17	62	5
Imp Regs	2	8	15	18	17	60	6
Doa Comp	5	11	9	15	9	49	7
Imp Tariffs	13	11	7	9	8	48	8
XRate Pol	2	12	8	13	10	45	9
Inflation	4	6	8	13	11	42	10
Pol Stab	2	10	9	7	9	37	11
Attitudes	3	3	9	6	13	34	12
Technology	4	4	6	4	5	23	13
GNP Fluc	1	3	5	4	4	17	14
Cons Atts	1	3	2	3	6	15	15
Soc Values	0	0	1	2	2	5	16

Table 6.2. shows the total number of times each elements was ranked from one to five. Although this table shows the total rankings, it is perhaps slightly misleading in that it assumes an equal weighting for each ranking which is clearly not the case. An element ranked fifth does not carry the same weighting as an element ranked first. Consequently, it was decided to ascertain the mean of the ranking of each element of the environment for in doing so, a greater weighting was attached to those elements ranked more importantly. These results are shown in Table 6.3. The closer the mean is to 1, the more important the element is in its ranking.

Table 6.3.  
Mean of the Ranking of the Elements

Element	Mean (1 = Most NB)	Position
Prod DD	2.202	1
Forex Ava	2.299	2
Sanctions	2.709	3
Imp Tariffs	2.750	4
Non-Dom Comp	2.929	5
Technology	3.087	6
Dom Comp	3.245	7
Pol Stab	3.297	8
XRate Pol	3.378	9
GNP Fluc	3.412	10
Pol Lobbies	3.435	11
Inflation	3.500	12
Imp Regs	3.661	13
Cons Atts	3.667	14
Attitudes	3.676	15
Soc Values	4.200	16

As Table 6.3. presents a more accurate reflection of the ranking of the elements of the environment, these results will form the basis of the discussion.

What is interesting to note about the ranking of the elements is that economic factors tend to predominate as opposed to political, which tended to predominate in the degree of turbulence. In the top five, there are three economic elements namely, demand for the product (position 1), foreign exchange availability (position 2) and import tariffs (position 4).

The high ranking of demand for the product can probably be attributed to the fact that there is an implicit recognition that there will always be a market for a product that is in high demand

(notwithstanding whether there are, for example, sanctions or not). A demand for a product can be created by a company if that product satisfies a need and a want more effectively than any competitor, is sold at a competitive price and has the requisite quality. This implies therefore that this is the one element of the environment that can actually be controlled by businesses to some extent, and by ensuring that South African products are in high demand, export markets will be more easily found.

How one creates this high demand is of course another matter. Although the decision was made to exclude local factors from the study simply due to the logistical problems in doing so, a number of respondents made reference to certain local conditions in their general comments (question 55) that needed to be addressed if this country was to become competitive in exports and therefore create a demand for South African products. Consequently the discussion on creating demand for products would not be complete, if the comments made by certain respondents concerning local conditions were not presented.

These comments made by separate respondents are presented verbatim :-

"As 'converter' we depend on availability of raw materials and are severely handicapped by shortages due to monopolistic suppliers supported by tariff protection and low rand value making imports impossible i.e. too costly to enable us to compete for exports."

"RSA is losing out on various fronts; our SA products are non-competitive as most other countries especially from behind the Iron Curtain."

"Our business is mainly affected by the domestic policy of our government in respect of agriculture. If we were able to buy raw materials at the very low prices that are achieved on the export market for surpluses then we could

undertake a major export expansion."

"The internal problems in our economy (e.g. low productivity, political influences) will have to be addressed very soon and settled satisfactorily in order to proceed with a vitally important export drive."

"The South African manufacturer is inconsistent in quality control and production - bad quality and short deliveries are endemic."

"Due to the political situation loses the lucrative markets in Africa."

It is vitally important therefore, that these problems of low productivity, political influences, poor quality control, monopolistic practices and high inflation (discussed earlier in Section 6.4.2.2.) be addressed, if this country wishes to create a high demand for its products and therefore be an export driven country.

Foreign exchange availability (position 2) is important from the point of view, that a potential exporter will only trade with a particular country if that country's currency is reputable or it has access to a reputable currency. Import tariffs (position 4) which are essentially used as protectionist measures, determine the extent to which a country will allow certain products to be imported. Given the extent of South Africa's lack of competitiveness in the international arena, tariff barriers in certain countries may force South Africa out of export markets due to the fact that they have even less of an ability to compete against more recognized competitive countries (for example Japan). The researcher was surprised to note the low ranking of inflation (position 12) given its relatively high measure of turbulence and in fact, it is ranked below exchange rate policies (position 9) Gross National Product fluctuations (position 10) and slightly above import regulations (position 13) and changes in

consumer attitudes and preferences (position 14). One explanation of inflation's low ranking may be that respondents still considered the low exchange rate to be an offsetting factor, nevertheless the researcher did expect it to be ranked higher.

In the political sector, elements were well spread out in the ranking. As was expected, sanctions were ranked highly (position 3). Respondents tend to favour political stability (position 8) as this implies greater certainty in governmental policies and ideologies over long periods of time. Governmental actions are then perhaps easier to anticipate, making planning easier for the company. The effect of political lobbies had a low ranking which was surprising given its high degree of turbulence. Sanctions probably had a higher ranking in this regard (given the fact that political lobbies may be the pressure behind sanctions) due to the fact that the effects of sanctions are more immediately apparent and measurable than the effects of political lobbies. The attitudes of the population in the importing country towards South African products were seen as insignificant by the respondents (position 15).

In the competitive sector, the pressure from non-domestic competitors also had a high ranking (position 5), in addition to its high degree of turbulence and it was ranked higher than domestic competitors (position 7), hence highlighting the importance of this phenomenon again, namely that non-domestic competitors are trying to increase their state in the country of concern at South Africa's expense.

In the technology sector, the frequency of new technology introduction

had a fairly high ranking (position 6) which was pleasing to note, given the fact that it was seen as having a high degree of turbulence. Its high ranking might suggest that the companies surveyed are paying attention to developing new technologies, which is vitally important if South Africa is to keep pace with technological innovations and breakthroughs.

Finally, changes in social values and ethics (position 16) were seen as being very insignificant in affecting long term profitability.

#### 6.4.2.4. Classification of Companies into Low, Medium or High Levels of Perceived Environmental Turbulence

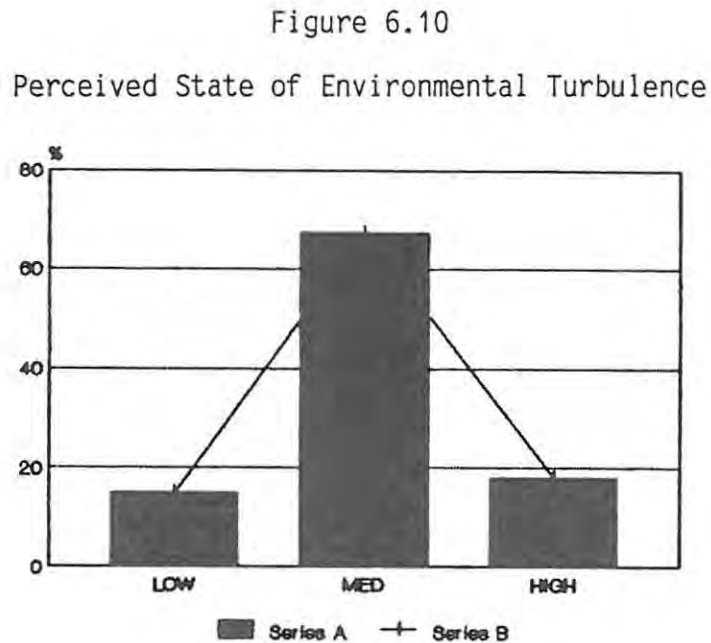
By using the means of the individual measures of the perceived degree of turbulence for the five most important elements ranked by the individual companies, the researcher was able to classify companies into low, medium or high levels of perceived environmental turbulence. This consequently provided the independent variable necessary for the testing of the major hypotheses.

The following mean scores of environmental turbulence were used to determine which category of turbulence the company would fall into:-

<u>Score</u>	<u>Turbulence</u>
1.00 - 2.67	Low
2.67 - 4.33	Medium
4.33 - 6	High

The differential between each score is essentially the same (1.67 for low and high levels, 1.66 for medium) hence ensuring that equal intervals were placed according to each category of turbulence.

The results are depicted graphically in Figure 6.10.



As can be seen from Figure 6.10, the curve follows a normal distribution with 14.9% of the companies categorized into low perceived environmental turbulence, 67.3% of the companies categorized into medium perceived environmental turbulence and 17.9% of the companies categorized into high perceived environmental turbulence. The high incidence of the medium category can be attributed to the fact that firstly, some elements ranked highly had low commensurate degrees of environmental turbulence. For example, demand for the product which had the highest position in the ranking of importance was positioned twelfth in terms of the degree of turbulence. Foreign exchange availability which had the second highest position in the

ranking of importance was positioned sixth in terms of the degree of turbulence. Secondly and conversely, some elements that were perceived as having a high degree of turbulence, were ranked low in terms of importance. For example, political lobbies which contributed most to turbulence, was positioned eleventh in terms of importance and inflation, positioned fifth in terms of contributing to turbulence, was positioned twelfth in terms of importance.

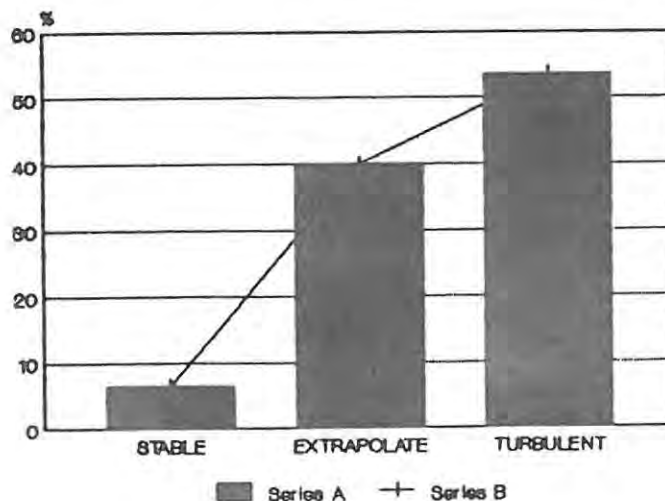
Consequently, the differences in positioning of the degrees of turbulence and importance of ranking tended to average out the overall positioning of the elements, thereby placing the majority of companies into the medium category of perceived environmental turbulence.

#### 6.4.2.5. Assessment of the Future Environment

In terms of the respondents' assessment of the future environment, there is however a drastic change in the state of the environment. This result is depicted graphically in Figure 6.11.

Figure 6.11.

Perceived Future Environmental Turbulence



Clearly the majority of respondents (53.5%) perceive the future as being turbulent and hence requiring novel approaches in planning. 40% of the respondents perceive the future as being relatively similar to the past, hence implying that the future can essentially be extrapolated from the past. Finally a very small percentage perceive the future as being stable.

This is an important result, since if the majority of the respondents perceive the future as being turbulent, then the capability of South African export companies to operate in such an environment must be assessed. Earlier in Chapter 3, it was argued that strategic flexibility is the best strategic option for a firm to adopt if it is operating in an environment characterised by a high degree of environmental turbulence.

At this juncture then, it is logical to turn to the presentation and discussion of the results of the components of strategic flexibility relevant to this study.

#### 6.4.3. Strategic Flexibility Analyses

For the sake of easy reading and cross-reference, the three results relevant to each component of Strategic flexibility will be presented and discussed under an umbrella heading of that particular component. These three results will be :-

1. An overall descriptive analysis of the particular strategic

flexibility component. The mode or mean (whichever is applicable) will be presented and discussed.

2. The major hypothesis relevant to the particular component will be restated and the chi-square result/s showing the nature and strength of the statistical relationship between the perceived degree of turbulence in the environment and the component of strategic flexibility will be presented and discussed.

3. The secondary hypotheses relevant to the particular component will be restated and the chi-square results showing the nature and strength of the statistical relationship between the size of the company and the component of strategic flexibility will be presented and discussed.

#### 6.4.3.1. Diversification

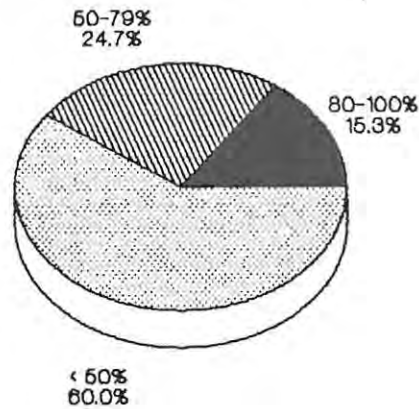
##### (1) Defensive External Flexibility

This is concerned with the extent to which the firm can reduce the relative impact of an event or minimize the shock of catastrophes. In measuring this, the researcher was concerned with the number of independent customers which take a substantial portion of sales, the number of countries to which the firm exports and the degree to which the firm had products and product lines which shared common factors.

##### (1)a. Independent Customers

Figure 6.12 shows the percentage contribution made by the three largest customers (whether domestic or foreign) to the company's total sales.

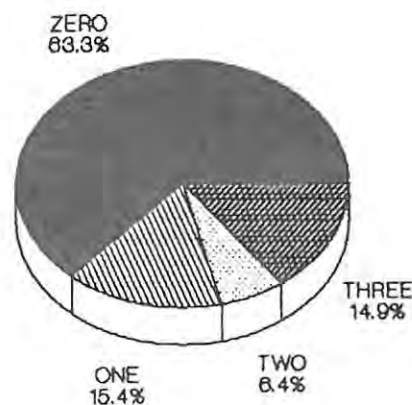
Figure 6.12.  
Contribution by Three Largest Customers



In this respect, the majority of the respondent companies (60%) must be regarded as being flexible as their three largest customers account for less than 50% of total sales.

Figure 6.13 shows the number of these that constitute foreign customers.

Figure 6.13.  
Number that Constitute Foreign Customers



Clearly the majority of sales of the respondent companies accrue from domestic customers, hence further verifying the fact that export sales only account for a small percentage of total sales. If one considers the cross-tabulated frequencies percentages between these two variables, this fact is very apparent.

Table 6.4.  
Cross-tabulated Frequencies Percentage

		% Contribution by 3 largest Customers			
		80 - 100	50 - 79	<50	Total
Foreign Customers	0	10.1%	13.8%	39.4%	63.3%
	1	1.6%	2.66%	11.1%	15.4%
	2	0.53%	3.2%	2.66%	6.4%
	3	3.2%	4.8%	6.9%	14.9%
	Total	15.4%	24.5%	60.0%	100.0 %

From Table 6.4. it can be seen that very few companies are completely export driven. Only 3.2% of the companies surveyed had 80% to 100% of their sales from 3 foreign customers as opposed to the majority of the companies surveyed (39.4%), which had their 3 largest customers contributing less than 50% of their sales but they were all domestic. In the light of this, the majority of companies here must be regarded as being flexible, as the potential threat of sanctions affecting the majority of these firms substantially, is very slight.

Paradoxically however, this is one aspect of strategic flexibility that the researcher considers to be unfortunate in the South African

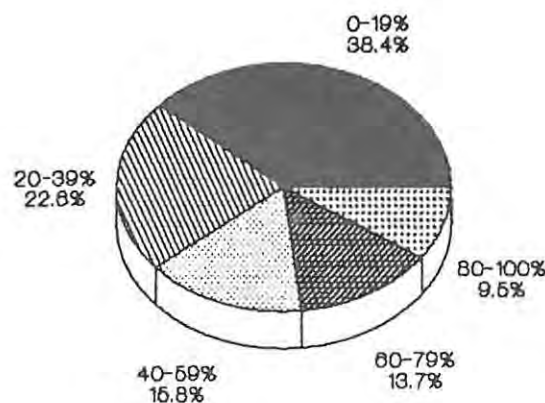
context, because although the above cross-tabulated frequencies show the negligible effect sanctions might have on these companies (which is a positive factor), it does show very clearly the poor commitment on the part of exporters to have a substantial export drive (a very negative factor).

What is probably occurring, is that the majority of these firms are simply exporting surplus production rather than committing themselves to allocating fixed proportions of their production capacity to export.

This attitude will unfortunately not contribute to South Africa having an outward orientation and with the threat of sanctions, the situation of not committing the firm to substantial export drives, is likely to prevail into the future.

Figure 6.14 shows the proportion of total export sales accounted for by the single most important export market.

Figure 6.14.  
Single Most Important Export Market



Again the majority of companies must be regarded as being flexible, as the most important export market only accounts for 0% - 19% of total export sales for 38.4% of the companies surveyed, as opposed to 80% - 100%, for 9.5% of the respondent companies.

### Major Hypothesis

**H1a** Firms operating in an environment characterised by a high level of environmental turbulence, will have a greater number of independent customers which take a substantial portion of sales, than those operating in an environment characterised by a medium or low level of environmental turbulence.

	<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
Contribution by 3 largest customers	1.026	.9058
Number that constitute foreign customers	3.599	.7307
Single most important export market	4.658	.7934

In order to test H1a, the above three factors pertaining to the number of independent customers component of strategic flexibility were cross-tabulated with the differing levels of perceived environmental turbulence. From the chi-square results, one can see that the null hypothesis of independence cannot be rejected because no significant statistical relationships exist. (Statistical convention classifies

0.050 as an acceptable level of significance.)

Hence, no relationship whatsoever exists between this component of strategic flexibility and the perceived degree of environmental turbulence and therefore H1a must be rejected.

#### Secondary Hypothesis

**H4a** Large firms will have a greater number of independent customers which take a substantial portion of sales than small firms.

	<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
Contribution by 3 largest customers	15.179	.1257
Number that constitute foreign customers	10.907	.7592
Single most important export market	26.214	.1588

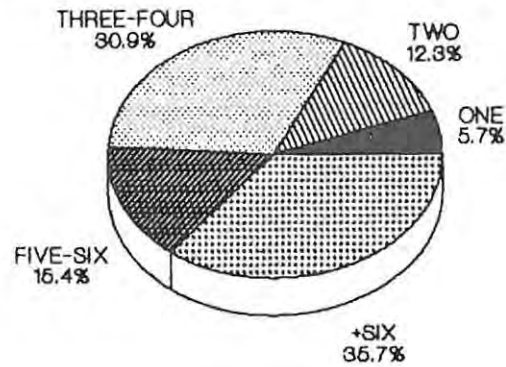
Although more statistically significant than H1a in the contribution by three largest customers and single most important export market, the chi-square results again show there to be no significant statistical relationships. H4a must therefore be rejected.

#### (1)b. Number of countries to which the firm exports

Figure 6.15 shows the overall breakdown of the number of countries to which the respondent companies export.

Figure 6.15.

## Number of Countries to which Firms Export



Viewed in the international context, the majority of respondent companies must be viewed as being flexible, as 35.7% of firms surveyed export to more than six countries, and 30.9% export to three to four countries. Given the small percentage of export sales by these firms, overall, the volume to each country must be very small, consequently suggesting that South African companies must have very small scale advantages in any one country. This is perhaps one of the contributing factors to South Africa's lack of competitiveness in international export markets.

### Major Hypothesis

**H1b** Firms operating in an environment characterised by a high level of environmental turbulence, will have a greater number of countries to which they export, than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
17.838	.0225

As the relationship is statistically significant, the null hypothesis of independence can be rejected and therefore this component of strategic flexibility is dependent on the degree of perceived turbulence in the environment. H1b is therefore accepted.

#### Secondary Hypothesis

**H4b** Large firms will export to more countries than small firms.

<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
49.085	.0003

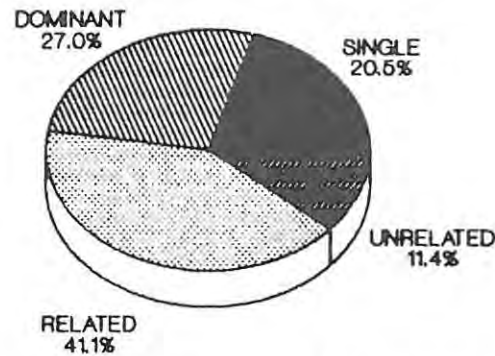
This relationship is statistically, highly significant and in fact shows the relationship between the size of the firm and the number of countries to which the firm exports to be stronger than the relationship between perceived environmental turbulence and the number of countries. This is probably directly attributable to the fact that a large firm has far greater resources to export to more countries than small firms. H4b is accepted.

#### (1)c. Products and Product Lines which Share Common Factors

Figure 6.16 shows the extent to which the respondent companies have products or product lines which share common factors.

Figure 6.16.

Common Factors Shared by Products or Product Lines



It would appear that the majority of firms surveyed, are tending towards flexibility with 41.1% of the respondents classifying themselves as having a related products business. The most flexible component, unrelated products business, comprises the least number of respondents (11.4%) but the balance which tend towards inflexibility (dominant businesses comprising 27% of the respondents and single businesses comprising 20.5% in total, comprise less than related and unrelated combined.

### Major Hypothesis

H1c Firms operating in an environment characterised by a high level of environmental turbulence, will have a higher number of products and product lines that do not share common factors, than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
4.359	.6282

The null hypothesis of independence cannot be rejected, because the statistical relationship is not significant. Hence no relationship exists between this component of strategic flexibility and the perceived degree of environmental turbulence and therefore H1c must be rejected.

### Secondary Hypothesis

**H4c** Large firms will have more products and product lines that do not share common factors than small firms.

<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
10.330	.7985

This result is even less significant than the result for H1c. No relationship exists therefore between the size of the firm and this component of strategic flexibility. H4c is therefore rejected.

### (2) Aggressive External Flexibility

This is concerned with the extent to which the firm maximizes its chances of participating in breakthroughs. In measuring this the researcher was concerned with whether or not firms followed a formal program of Research and Development and whether or not it was an autonomous unit. The frequencies are reflected in Figure 6.17.

Figure 6.17

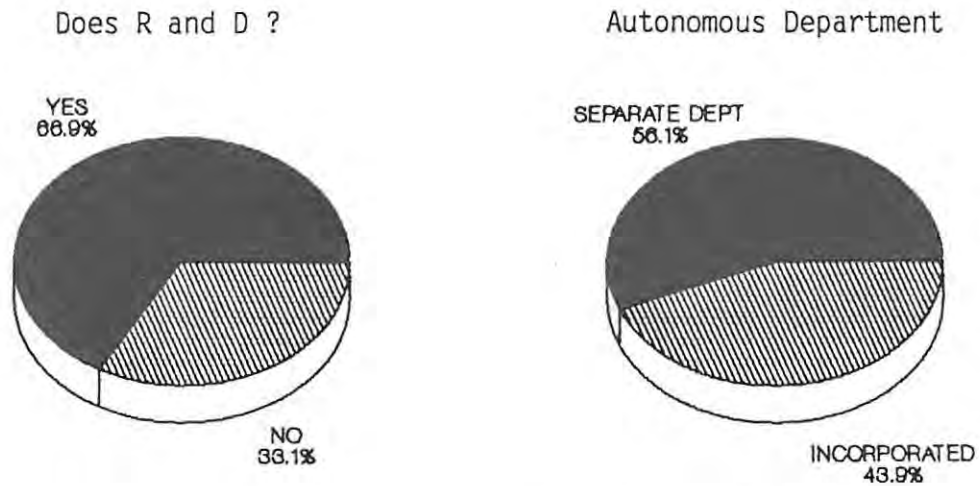


Figure 6.17 shows that the majority of manufacturing firms do conduct formal Research and Development (66.9%) and of those that do, the majority (56.1%) have autonomous Research and Development departments. The majority of manufacturing firms must therefore be regarded as being flexible.

### Major Hypothesis

**H1d** Manufacturing firms operating in an environment characterised by a high level of environmental turbulence, will place greater importance on research and development, than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

	<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
Does Research and Development	1.711	.4250
Autonomous Department	1.824	.4016

The null hypothesis of independence cannot be rejected because of the lack of significant statistical relationships. Hence no relationship exists between this component of strategic flexibility and the

perceived degree of environmental turbulence and therefore H1d must be rejected.

### Secondary Hypothesis

**H4d** Large manufacturing firms will place greater importance on research and development than small firms.

	<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
Does Research and Development	16.030	.0068
Autonomous Department	2.284	.8086

Size is definitely a determining factor as to whether or not a firm conducts Research and Development as the result is highly significant. Although the result for size determining autonomy is not significant, overall, H4d must be accepted for the following reason; generally speaking, those firms that do conduct formal Research and Development must place more importance on it than those who do not, irrespective of autonomy. Had the result for autonomy been significant as well, it would simply have served to strengthen the relationship being tested. The importance of this result then is that it shows size of the firm to be a more important determining factor of this component of strategic flexibility than the perceived degree of turbulence in the environment.

### (3) Diversification - Conclusion

The results for the major hypotheses have shown that generally no relationship exists between this component of strategic flexibility and

the perceived degree of turbulence in the environment except for one result - the number of countries to which the firm exports (which was more significant when cross-tabulated with company size). Although the frequencies results showed the majority of firms to be flexible both in relation to defensive external flexibility and aggressive external flexibility, the following must be noted:-

i. The defensive external flexibility appears to be more as a result of these export firms lack of commitment to export than anything else! On the positive side, this means that negative environmental influences such as sanctions will not have much of an effect on these firms but on the negative side, their contribution to exports is very small anyway.

ii. The aggressive external flexibility is dependent on the size of the firm and not the degree of perceived turbulence in the environment.

#### 6.4.3.2. Reduce Commitment of Resources to a Specialized Use

This component of strategic flexibility is concerned with the extent to which firms can avoid sudden future shifts in the external environment rendering their assets antiquated, or even totally obsolete. In measuring this, the researcher was concerned with the extent to which South African export companies are affected by exit or entry barriers in general, the technological position of the firm, the extent to which the firm's production facilities can undertake new activities without undue costs and finally the extent to which firms can switch channels of distribution easily and quickly.

(1) Exit or Entry Barriers in General

The mean results are presented in Table 6.5. The closer the mean is to six, the greater is the capacity of the firm to add or divest, or the greater is the cost to the firm in entering or exiting export markets.

Table 6.5.  
Exit or Entry Barriers in General

	Mean (Scale 1-6)
Capacity to Add :	
Products	4.048
Product Lines	4.013
Divisions	3.364
Capacity to Divest :	
Products	2.880
Product Lines	2.826
Divisions	2.630
Cost of Entering New Export Markets	3.670
Cost of Exiting Present Export Markets	2.764

Capacity to Add

In this regard, the firms surveyed must be viewed as tending towards flexibility with the means of products and product lines closer to six than they are to one. However, the capacity to add divisions is tending towards inflexibility.

Capacity to Divest

In all three respects (products, product lines and divisions) the

firms surveyed are tending towards inflexibility, with divisions being the most difficult to divest.

#### Cost of Entering

As the cost of entering new export markets is relatively high, the firms surveyed must be viewed as being inflexible in this regard.

#### Cost of Exiting

As the cost of exiting present export markets is relatively low, the firms surveyed must be viewed as being flexible in this regard. This is not a surprising result, given the small contribution export sales make to the total sales of the majority of these firms.

On balance then, the frequencies results show that in terms of exit and entry barriers the firms surveyed are tending towards inflexibility :-

- a. Although firms have the capacity to add products and product lines easily, this is not the case with divisions.
- b. They lack the capacity to divest products, product lines or divisions.
- c. Although present export markets can be exited at relatively low cost, alternative and new export markets entail a relatively high cost.

## Hypotheses

**H2a** Firms operating in an environment characterised by a high level of environmental turbulence, have the capacity to add more products, product lines and divisions (where applicable) to their current line of business, than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

	<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
Products	23.508	.0090
Product Lines	20.449	.0253
Divisions	16.029	.0988

Although the relationship for adding divisions is not significant, the chi-square results for adding products and product lines show significant results. On balance then, the null hypothesis of independence can be rejected and as the results support H2a for products and product lines, H2a is accepted.

**H2b** Firms operating in an environment characterised by a high level of environmental turbulence, have the capacity to divest more products, product lines and divisions (where applicable) from their current line of business, than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

	<u>Chi-square (x<sup>2</sup>)</u>	<u>p-value</u>
Products	10.763	.3763
Product Lines	8.082	.6208
Divisions	12.183	.2730

In contrast to the capacity to add products and product lines, the results show there to be no significant statistical relationships between the capacity to divest products, product lines or divisions and the perceived degree of turbulence in the environment. The null hypothesis of independence cannot be rejected and therefore H2b must be rejected.

H2c Export firms operating in an environment characterised by a high level of environmental turbulence, have a lower cost of entering new export markets, than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

<u>Chi-square (x<sup>2</sup>)</u>	<u>p-value</u>
10.479	.3995

The null hypothesis of independence cannot be rejected because the statistical relationship is not significant. Hence no relationship exists between this component of strategic flexibility and the perceived degree of environmental turbulence and therefore H2c must be rejected.

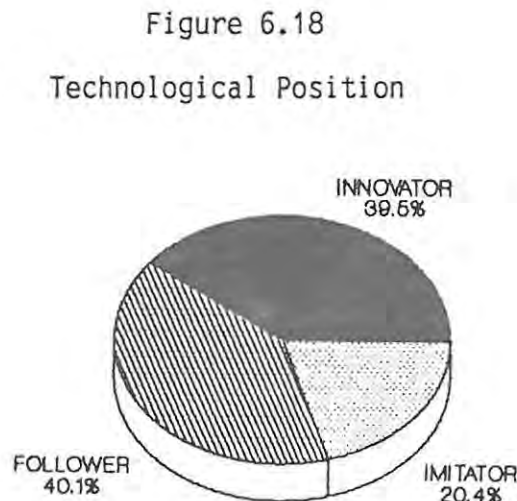
H2d Export firms operating in an environment characterised by a high level of environmental turbulence, have a lower cost of exiting existing export markets, than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
10.068	.4346

As with the cost of entering new export markets, this result also shows there to be no significant statistical relationship between this component of strategic flexibility and the perceived degree of environmental turbulence. H2d must therefore be rejected.

## (2) Technological Position

Figure 6.18 shows the extent to which the firms surveyed were innovators, followers or imitators.



The respondents were fairly evenly divided on the extent to which they were followers (40.1%) or innovators (39.5%), with imitators (20.4%) comprising the least number. On balance then, the majority of respondents surveyed tend to be flexible in their technological position as they described themselves as being technological followers.

### Hypothesis

H2e Firms operating in an environment characterised by a high level of environmental turbulence, will focus on technological following rather than innovating or imitating, which will be adopted by those firms operating in an environment characterised by a medium or low level of environmental turbulence.

<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
2.853	.5828

The null hypothesis independence cannot be rejected because there is no significant statistical relationship. Hence no relationship exists between this component of strategic flexibility and the perceived degree of environmental turbulence and therefore H2e must be rejected.

### (3) Extent to which the Firm's Production Facilities can Undertake New Activities without Undue Costs

This was concerned with the logistic flexibility of the firm. The

result is depicted graphically in Figure 6.19.

Figure 6.19.

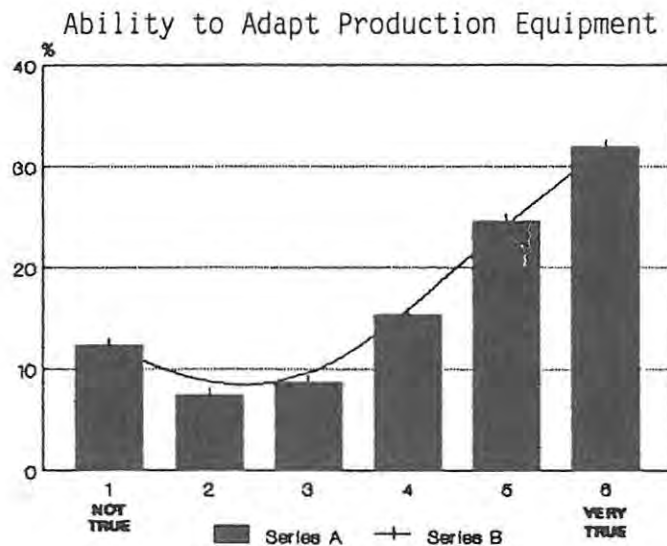


Figure 6.19 shows the curve to be skewed to the right and with a mean score of 4.282, the frequencies results show that generally the firms surveyed were quite high in their logistic flexibility. Hence they have the ability to adapt their production equipment to make related products without undue costs.

### Hypothesis

**H2f** Firms operating in an environment characterised by a high level of environmental turbulence, will use multi-purpose equipment to a greater extent than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
11.059	.3530

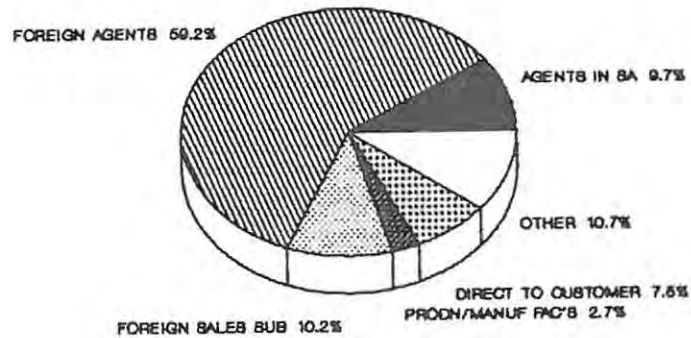
The null hypothesis of independence cannot be rejected because there is no significant statistical relationship. Hence no relationship exists between this component of strategic flexibility and the perceived degree of environmental turbulence and therefore H2f must be rejected.

(4) Extent to which Firms can Switch Channels of Distribution

Figure 6.20 shows the methods of exports used in the single most important export market.

Figure 6.20.

Method Export

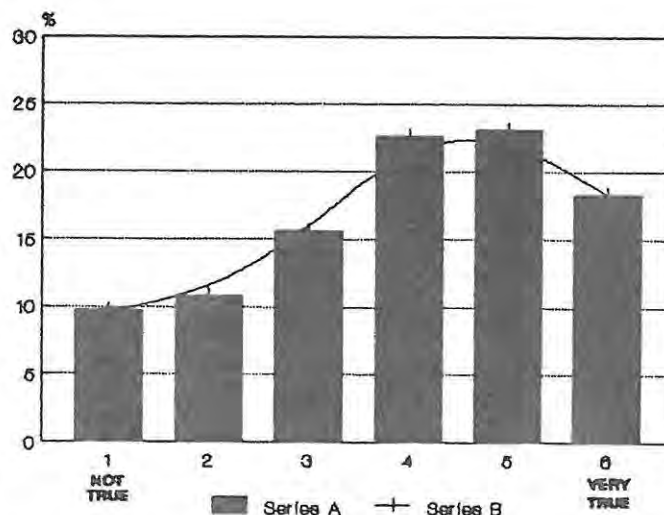


With the majority of firms surveyed exporting through foreign agents (36.6% through one agent and 22.6% through two or more, therefore 59.2% in total) the respondent companies must be viewed as being flexible in their methods of export. Using agents imply no direct capital investment on the part of the supplier and therefore agents

can be changed quite easily. But here again lies an unfortunate paradox within the South African context, as the results indicate that very few of the firms surveyed actually do have direct investment in foreign countries. Only 10.2% have a sales subsidiary and worse, only 2.7% have production or manufacturing facilities in their single most important export market. Exporting through agents does increase flexibility, but it does not engender a substantial commitment to export, in contrast to directly investing in foreign countries. This result subsequently highlights again the poor commitment to export on the part of the companies surveyed.

Figure 6.21 depicts graphically the ability of the firms surveyed to re-route their exports in order to avoid identification with their South African Source.

Figure 6.21.  
Ability to Re-Route



The curve is slightly skewed to the right and with a mean result of

3.935, firms generally have the ability to re-route their exports and in this regard must also be regarded as tending towards flexibility.

### Hypothesis

**H2g** Firms operating in an environment characterised by a high level of environmental turbulence, will have a higher number of multi-channels of export than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

	<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
Methods of Export	15.146	.5140
Re-Route	10.641	.3862

Both results show there to be no significant statistical relationships and therefore the null hypothesis of independence cannot be rejected. Hence no relationship exists between these components of strategic flexibility and the perceived degree of environmental turbulence and therefore H2g must be rejected.

### (5) Reduce Commitment of Resources to a Specialised Use - Conclusion

The frequencies results show that in relation to exit and entry barriers, the firms surveyed must be regarded as tending towards inflexibility. Although firms tended to have the capacity to add products or product lines to their current line of business and exit from present export markets at little cost, they generally lack the

capacity to add divisions, or divest products, product lines or divisions from themselves. Finally and perhaps most importantly, they cannot enter new export markets without incurring fairly high costs.

However, in relation to specific aspects of the firms operations which may increase or decrease specialised commitment of resources, the majority of firms surveyed tended towards flexibility. It would appear for example that they do have the ability to re-route their exports, but it will incur a substantial cost.

In terms of the relationship between these components of strategic flexibility and the degree of turbulence in the environment, the results show there to be nothing significant except in one instance where H2a was accepted. Hence overall, the conclusion must be that the relationship between reducing commitment of resources to a specialised use and the perceived degree of turbulence in the environment is inconclusive.

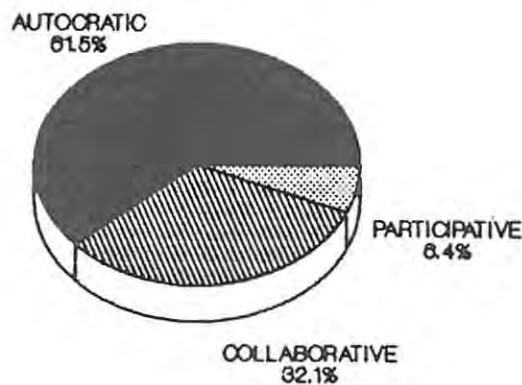
#### 6.4.3.3. Managerial and Structural Flexibility

These components of strategic flexibility are concerned with increasing the decisiveness of the firm. In measuring this, the researcher was concerned with the processes of the firm, the management technology, the structure, the values and people.

(1) Processes(1)a. Decision-Making Process

Figure 6.22 shows the extent to which the firms surveyed were autocratic, collaborative or participative.

Figure 6.22.  
Management Style



The research findings show a very clear preference for autocratic management styles within the respondent companies (61.5%) and with such a small percentage being classified as participative (6.4%), the majority of firms surveyed must be regarded as being very inflexible in their decision-making processes.

Major Hypothesis

H3a Firms operating in an environment characterised by a high level of environmental turbulence, will use participative management

processes to a greater extent than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
3.241	.5184

As the result is not statistically significant, the null hypothesis independence cannot be rejected. Therefore no relationship exists between the management processes and the perceived degree of turbulence in the environment and H3a must consequently be rejected.

#### Secondary Hypothesis

**H5a** Large firms will use participative management processes to a greater extent than small firms.

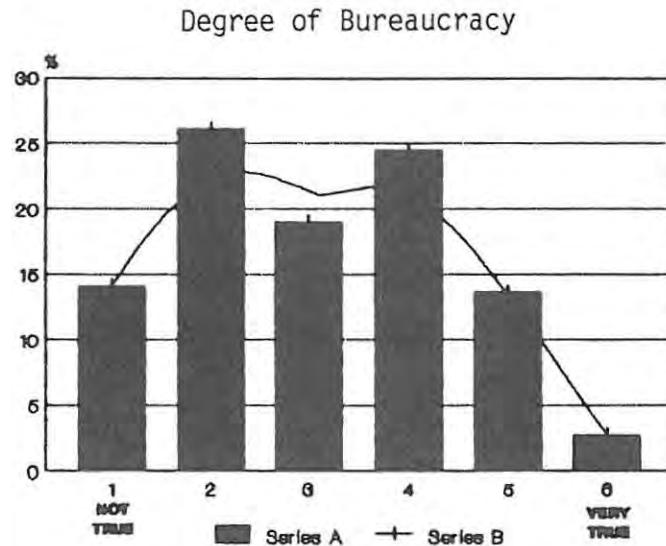
<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
10.602	.3893

This result also shows there to be no statistically significant relationship. Consequently size is no determining factor in the management style used by the firm and H5a must therefore be rejected.

#### (1)b. Degree of Formalization

Figure 6.23 depicts graphically the extent to which the firm's surveyed were bureaucratic.

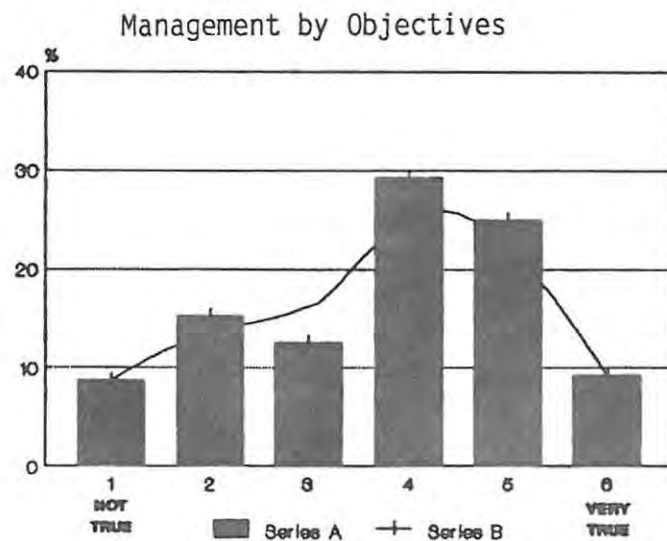
Figure 6.23.



With a mean score of 3.054, the firms surveyed are tending very slightly towards unbureaucratic processes and therefore must be regarded as tending marginally towards flexibility.

Figure 6.24 depicts graphically the extent to which the firms surveyed used Management by Objective programmes.

Figure 6.24



With a mean score of 3.745, the firms surveyed tended to use Management by Objective programmes and therefore must be regarded as tending towards flexibility.

Major Hypothesis

**H3b** Firms operating in an environment characterised by a high level of environmental turbulence, will have a lesser degree of formalization than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

	<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
Bureaucracy	6.123	.8048
Management by Objectives	15.108	.1282

The results show there to be no significant statistical relationships between the degree of formalization and the degree of perceived environmental turbulence. H3b must therefore be rejected.

Secondary Hypothesis

**H5b** Large firms will have a lesser degree of formalization than small firms.

	<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
Bureaucracy	31.241	.1812
Management by Objectives	25.884	.4138

These results also show there to be no significant statistical

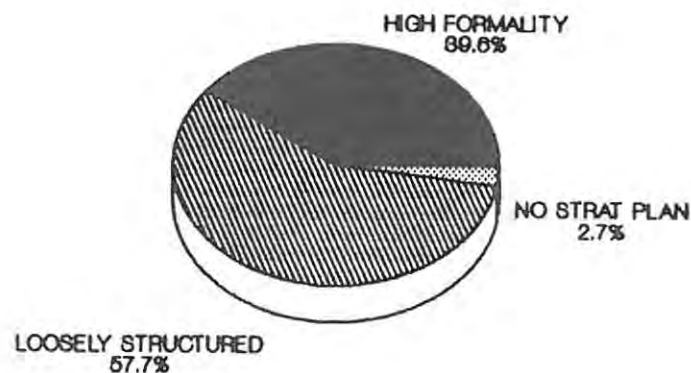
relationships. Consequently size is not a determining factor in the degree of formalization present in the firm and H5b must therefore be rejected.

(1)c. Planning Process

(1)c.i. Formality or Informality

Figure 6.25 shows the type of planning conducted by the respondent companies.

Figure 6.25.  
Planning Process



The research findings show a clear preference for loosely structured or informal planning (57.7%). The majority of firms surveyed must therefore be regarded as being flexible in their planning processes.

Major Hypothesis

H3c Firms operating in an environment characterised by a high level

of environmental turbulence, will use 'loosely structured' planning to a greater extent, than 'high formality' or 'no planning', which will be adopted by those firms operating in an environment characterised by a medium or low level of environmental turbulence.

<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
1.272	.8660

As the result is not statistically significant, the null hypothesis of independence cannot be rejected. Therefore no relationship exists between the planning processes of the firms surveyed and the degree of environmental turbulence. Consequently, H3c must be rejected.

#### Secondary Hypothesis

**H5c** Large firms will use 'high formality' of planning to a greater extent than 'loosely structured' planning, or 'no planning', which will tend to be adopted by small firms.

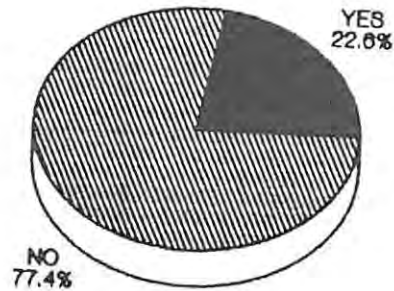
<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
25.648	.0042

The result shows there to be a highly significant statistical relationship between the size of the firm and the type of planning utilised. The larger the firm, the more formal the planning process becomes. H5c is therefore accepted.

(1)c.ii. Specialized Planning Staff

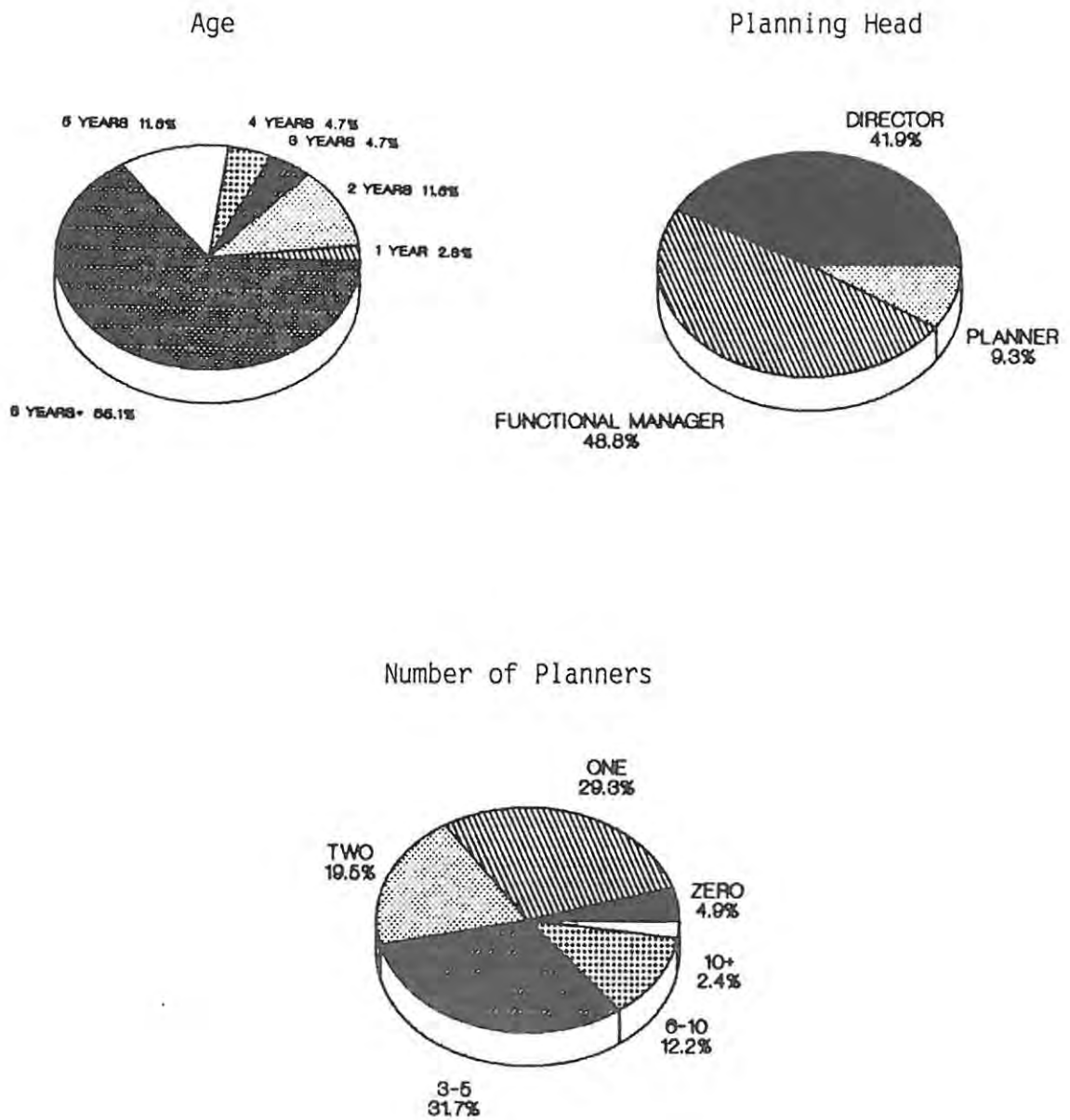
Figure 6.26 shows the extent to which the respondent companies had a separate planning department.

Figure 6.26.  
Separate Planning Department



As the majority of firms surveyed do not possess a separate planning department (77.4%) they must be regarded as inflexible as they do not enjoy the advantages specialized planners bring, to enhancing the flexibility of the firm. Figure 6.27 shows the details of the planning departments for those firms that do possess them.

Figure 6.27.  
Details of Planners



Clearly the majority of firms have been using planning departments for longer than six years (65.1%). The lack of newcomers must be regarded as a distressing situation as it would appear that latterly, firms do

not perceive much of a need for them. The results also suggest that these planning departments are afforded relatively low status in the organization, with 48.8% of them having a functional manager in charge. As a result of this low hierarchical status, the majority of firms with planning departments must be regarded as being inflexible as they lack direct access to top management. In terms of size, the planning departments are fairly well split with 31.7% having 3 - 5 planners and 29.3% having one planner.

### Major Hypotheses

**H3d** Firms operating in an environment characterised by a high level of environmental turbulence, will use specialist planners to a greater extent than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

<u>Chi-square (<math>X^2</math>)</u>	<u>p-value</u>
.663	.7178

As a result of the statistical relationship not being significant, the null hypothesis of independence cannot be rejected. Therefore no relationship exists between the extent to which specialist planners are used by an organization and the perceived degree of turbulence in the environment. H3d must consequently be rejected.

**H3d1** Firms operating in an environment characterised by a high level

of environmental turbulence, will have had a separate planning department for a greater number of years than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
16.939	.0757

Although the result is tending towards significance, it is still insufficient to justify a strong statistical relationship and therefore the null hypothesis of independence cannot be rejected. Consequently, no relationship exists between the age of the planning department and the perceived degree of turbulence in the environment and therefore H3d1 must be rejected.

**H3d2** Firms operating in an environment characterised by a high level of environmental turbulence, will place the planning department higher up the organizational hierarchy in terms of importance, than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
5.706	.2222

As a result of the statistical relationship not being significant, the null hypothesis of independence cannot be rejected. Therefore no relationship exists between the position of the planning department in

the organizational hierarchy and the perceived degree of turbulence in the environment. Consequently H3d2 must be rejected.

**H3d3** Firms operating in an environment characterised by a high level of environmental turbulence, will use more qualified planners than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
13.533	.0948

Although the relationship is tending towards significance, it is still insufficient to justify a strong statistical relationship and therefore the null hypothesis of independence cannot be rejected. Consequently no relationship exists between the number of qualified planners and the perceived degree of turbulence in the environment and therefore H3d3 must be rejected.

#### Secondary Hypotheses

**H5d** Large firms will use specialist planners to a greater extent than small firms.

<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
15.483	.0085

The result shows there to be a highly significant statistical relationship between the size of the firm and the extent to which

specialist planners are used. The larger the firm, the greater the extent to which specialist planners are used. H5d is therefore accepted.

**H5d1** Large firms will have had a separate planning department for a greater number of years than small firms.

<u>Chi-square</u> ( $\chi^2$ )	<u>p-value</u>
27.424	.6009

**H5d2** Large firms will place the planning department higher up the organizational hierarchy in terms of importance than small firms.

<u>Chi-square</u> ( $\chi^2$ )	<u>p-value</u>
14.414	.1549

**H5d3** Large firms will use more qualified planners than small firms.

<u>Chi-square</u> ( $\chi^2$ )	<u>p-value</u>
14.870	.7838

The chi-square results for the size of the firm determining the age of the planning department, its hierarchical importance and the number of qualified planners show there to be no significant statistical relationships and therefore H5d1, H5d2 and H5d3 must all be rejected.

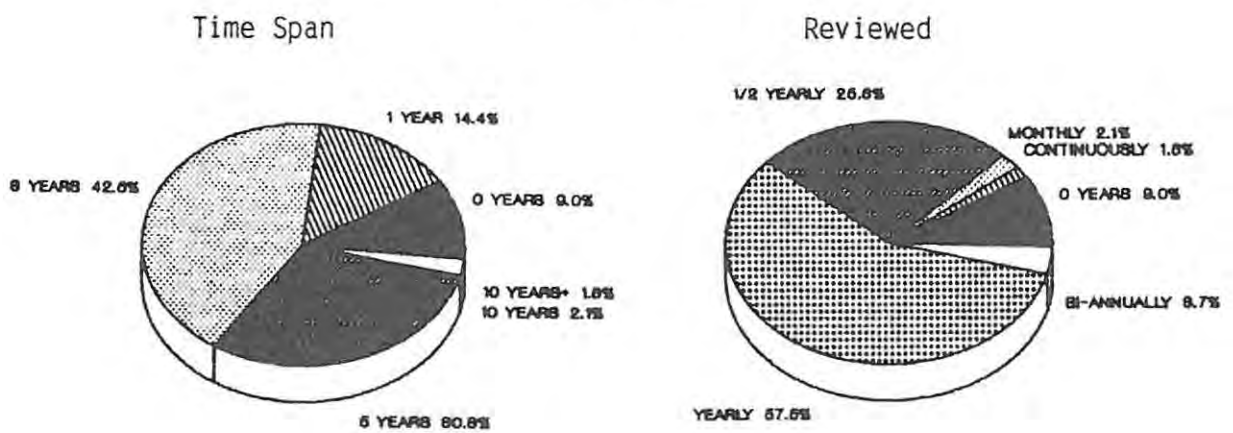
However these non significant results, are due to the fact that large

firms predominated in the testing of H5d1, H5d2 and H5d3. Consequently, there was an insufficient variance in the independent variable to obtain significant results.

(1)c.iii. Planning Horizons

Figure 6.28 shows the time span of the strategic plan and the frequency of review.

Figure 6.28.



In relation to the time span of the plan, there was a clear preference for three year time spans (42.6%) with the five year time span the second most popular (30.3%). With the majority of respondent firms having relatively long planning horizons, they must be regarded as tending towards flexibility in this respect.

In terms of frequency of review, a yearly update is clearly in the majority (57.5%). Given the fact that a number of firms had continuous, monthly and half-yearly reviews, a yearly revision must be

regarded as tending towards inflexibility.

### Hypotheses

**H3e** Firms operating in an environment characterised by a high level of environmental turbulence, will have longer planning horizons than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

<u>Chi-square (<math>X^2</math>)</u>	<u>p-value</u>
5.973	.8175

With the result not being statistically significant, the null hypothesis of independence cannot be rejected. Therefore no relationship exists between the time span of the strategic plan and the perceived degree of turbulence in the environment. H3e must consequently be rejected.

**H3f** Firms operating in an environment characterised by a high level of environmental turbulence, will review their strategic plans more frequently than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

<u>Chi-square (<math>X^2</math>)</u>	<u>p-value</u>
11.254	.3381

With the result again not being significant, no statistical relationship exists between the frequency of review and the perceived degree of turbulence in the environment. H3f must consequently also be rejected.

(1)d. Processes - Conclusion

Some interesting findings emerged from the analysis of the data.

The major finding, is that there was not a statistically significant relationship between the processes of the respondent firms and the degree of perceived environmental turbulence. Therefore it can be concluded that no relationship exists between the processes component of strategic flexibility and the state of environmental turbulence.

More specifically, the lack of influence of the environment on the decision making processes of the firm is probably more as a result of South African management's excessive predisposition towards autocratic management, which other empirical studies have shown not to be an unusual phenomenon in this country (Viljoen, 1987 :239). As Viljoen notes, the high incidence of autocratic management,

"is possibly a reflection of lack of faith in the abilities of lower level workers as a result of the generally low education and skill characteristics of these employees. Clearly, the desire to centralize control at the top of the organization has led to a strong preference for autocratic management styles." (Viljoen, 1987 :240).

As these problems of low education and skill characteristics do not appear as if they will be resolved in the immediate future, the present researcher submits that this situation of having a high degree

of autocratic management processes will continue, irrespective of the state of the environment or the size of the firm. Consequently both the government and business must give a much higher priority to increasing the level of education and skills in this country. This will facilitate easier implementation of participative management processes which are the most flexible (and therefore appropriate) for firms operating in a turbulent environment.

It is perhaps surprising that respondent companies tended slightly towards flexibility in the degree of formalization present in the firms, given the high preference for autocratic management expressed by these companies. However, the chi-square results showed the degree of environmental turbulence and the size of the firm as having no effect whatsoever on the degree of formalization present in the firm and hence nothing conclusive can be stated about the degree of formalization.

The results for the planning process component of strategic flexibility were something of an anomaly. Although the majority of firms surveyed expressed a preference for 'loosely structured' planning processes and were therefore denoted as being flexible, the degree of environmental turbulence was seen as having no effect at all on the type of planning processes used by the firm. This is consistent with the findings of Grinyer, Al-Bazzaz and Yasai-Ardekani (1986 :13) and Javidan (1984 :389). Rather, a significant relationship was noted between the size the firm and the type of planning processes. It was found that as the size of the firm increases, the more formal they become in their planning processes.

This is consistent with the findings of Woodburn (1983 :151) who notes that, "as organizations increase in size and complexity they tend to increase their use of corporate planning as an integrative device."

With respect to specialized planning staff, the majority of firms surveyed, did not possess any and therefore were considered to be inflexible. However, no significant relationship was found between the degree of perceived turbulence in the environment and the extent to which specialized planners were utilised. This finding is also consistent with that of Grinyer, Al-Bazzaz and Yasai-Ardekani (1986 :13). Once again however, the size of the firm was seen as the determining factor.

Finally, the degree of perceived environmental turbulence was found to have no significant effect on planning horizon or the frequency of review of strategic plans. The preference for three and five year plans has been noted in a number of other studies (Caeldries and van Dierdonck, 1988 :43; Bhatti, 1981 :65; Boulton, Franklin, Lindsay and Rue, 1982 :83; Fulmer and Rue, 1974 :3) and hence the firms surveyed show no difference in this regard. In addition, the lack of effect of environmental turbulence on planning horizons and frequency of review has been noted in studies by Lindsay and Rue (1978 :119), Javidan (1984 :389) and Caeldries and van Dierdonck (1988 :43).

## (2) Management Technology

### (2)a. Environment Monitoring and Sources of Information

Table 6.6. shows the extent to which the respondent firms monitored the different sectors of the remote environment both at home and abroad.

Table 6.6.  
Monitoring of Sectors of Remote Environment  
(At Home and Abroad)

Sector of the Remote Environment		Mean (Scale 1-6)	Position	Average (Scale 1-6)	Position
Political	Home	4.311	4	4.166	3
	Abroad	4.021	7		
Social	Home	4.163	6	3.682	4
	Abroad	3.201	8		
Economic	Home	5.032	1	4.640	2
	Abroad	4.247	5		
Technological	Home	4.853	2	4.689	1
	Abroad	4.524	3		
Overall Mean		4.294		4.294	

As the overall mean is quite high at 4.294, the respondent firms must be regarded as being flexible with respect to their monitoring of the external environment.

What is clear from Table 6.6, is that all sectors of the domestic environment are monitored more extensively than their commensurate foreign sectors. This perhaps further highlights the lack of commitment given by the companies surveyed to developing exports, as it must be assumed that they only monitor those sectors (in this case domestic) they consider to be most important. The only overseas sector which in fact enjoyed a high positioning was the technological

sector. This is pleasing to note as it suggests that companies are placing importance on keeping themselves abreast on technological innovations and breakthroughs, overseas and domestically. This has manifested itself in the fact that overall, the technological sector had the highest positioning.

The highest mean score recorded, related to the economic sector at home (5.032) and overall it was ranked second. This is not unusual considering the high position economic elements enjoyed in the ranking of the environmental elements (see Section 6.4.2.3.).

What is very surprising however, is the low position of the political sector abroad (7th) given the fact that the political elements of the external environment were seen as being most turbulent (see Section 6.4.2.2.). This is perhaps attributable to the minimal effect sanctions will have on the respondent companies, nevertheless the researcher still expected it to be higher than was the case.

Finally, the social sector was in the lowest position which was not unexpected given the low positioning it enjoyed in the ranking of the environmental elements (see section 6.4.2.3.).

Table 6.7. shows the modes of the various sources of information on the importing country utilised by the respondent companies.

Table 6.7.  
Sources of Information

	Yes %	Position	No %	Total
Visits to foreign markets	93.1	1	6.9	100
Magazines, Journals and Periodicals	73.7	2	26.3	100
SAFTO	72.1	3	27.9	100
Market Research by own company	62.6	4	37.4	100
Export Agents	62.1	5	37.9	100
Department of Trade and Industry	52.1	6	47.9	100
International Trade Fairs and Exhibits	45.3	7	54.7	100
Banks	32.6	8	67.4	100
Foreign Chambers of Comm and Industry	31.2	9	68.8	100
Market Research by independent company	25.8	10	74.2	100

A few of the respondents listed other sources which were not specified by the researcher in the questionnaire. These were listed as being import agents, joint venture or parent company, customers or clients, South African Embassy and a loose term denoting 'contacts' (something which was not explicitly described or elaborated upon).

From Table 6.7, it can be clearly seen that the most popular source of information entails visiting foreign markets by company personnel. It would appear that SAFTO is well utilised by its members although there is a substantial portion (27.9%) who do not consider it to be a source of information. The government's Department of Trade and Industry had a substantial portion of non-users (47.9%) perhaps suggesting that it lacks some credibility amongst the private sector. Two disappointing results, are the lack of utilisation of international trade fairs and exhibits, and Chambers of Commerce and Industry in the importing countries. International trade fairs and exhibits provide an excellent opportunity to display one's products, obtain almost

instantaneous feedback from prospective buyers and in addition enable firms to see how their products stand in relation to international competitors.

Being a member of a Chamber of Commerce or Industry allows for interaction with other firms in similar industries, access to information supplied to member firms as a whole and implies to some extent, a measure of the firm's credibility and acceptance by a representative body of commerce or industry.

In addition, this lack of utilisation of Chambers of Commerce and Industry in the importing country by the respondent companies might suggest their lack of permanence or direct investment in the countries to which they export.

The cross-tabulation result run between the extent to which firms monitored the environment and the sources of information utilised by the company provides an interesting result however.

An overall mean score for all sectors of the environment and the sources of information (where Yes =1 and 2 = No) were used, and the following classifications utilised:-

<u>Overall Mean Score</u>	<u>Environment Monitored</u>
1.00 - 2.67	Hardly Ever
2.67 - 4.33	Sometimes
4.33 - 6	All the Time

Overall Mean Score	Sources of Information
Less than 1.50	Yes
More than 1.50	No

The cross-tabulated results are shown in Table 6.8.

Table 6.8.  
Sources of Information by Environment Monitored  
Cross-tabulated Frequencies

	Hardly Ever	Sometimes	All the Time	Total
Yes	6.5%	41.1%	52.4%	100.0%
No	9.1%	43.9%	47.0%	100.0%
Total	7.4%	42.1%	2.66%	100.0%

What is interesting to note about this cross-tabulation is the high proportion of respondents classified as being 'No', considered themselves as monitoring the environment 'all the time' (47.0%). This suggests two things :-

- (a) a substantial proportion of companies overstated the extent to which they actually monitor the environment.
- (b) a substantial proportion of companies did not give all of their sources of information.

It is difficult to ascertain exactly which situation prevails. Other sources of information may not have been given due to a

confidentiality factor which respondent companies did not wish to jeopardise. On the other hand, the overstating of the extent to which the environment was monitored may quite simply have been as a result of excessive respondent bias, as it is unlikely that such a high proportion of companies (50.5%) would monitor the environment so extensively. Notwithstanding which situation prevails however, the cross-tabulated frequencies shown in Table 6.8 suggests that results involving the monitoring of the environment and sources of information should be interpreted with caution. The same classification used in Table 6.8 for sources of information and monitoring of the environment were used to test the relevant major and secondary hypotheses.

### Major Hypotheses

**H3g** Firms operating in an environment characterised by a high level of environmental turbulence, will monitor all sectors of the external environment more frequently than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
9.805	.0438

The chi-square result shows a significant statistical relationship between the extent to which the external environment is monitored and the perceived degree of turbulence in the environment. As the perceived degree of turbulence in the environment increases, firms

monitor the environment more extensively. H3g is therefore accepted. However, it must be borne in mind that this result may be distorted due to respondents overstating the extent to which they monitored the environment.

**H3h** Firms operating in an environment characterised by a high level of environmental turbulence, will have more sources of information on the external environment than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

<u>Chi-square (<math>X^2</math>)</u>	<u>p-value</u>
8.168	.0168

This result also shows a significant statistical relationship between the number of sources on the external environment and the perceived degree of turbulence in the environment. As the perceived degree of turbulence in the environment increases, firms use more sources of information on the external environment. H3h is therefore accepted. However it must also be borne in mind that this result may also be distorted as a result of respondents not listing all their relevant sources of information.

#### Secondary Hypotheses

**H5e** Large firms will monitor all sectors of the external environment more frequently than small firms.

<u>Chi-square (<math>X^2</math>)</u>	<u>p-value</u>
11.298	.3347

The null hypothesis of independence cannot be rejected because the statistical relationship is not significant. Consequently size has no influence on the extent to which the external environment is monitored and therefore H5e must be rejected

**H5f** Large firms will have more sources of information on the external environment than small firms.

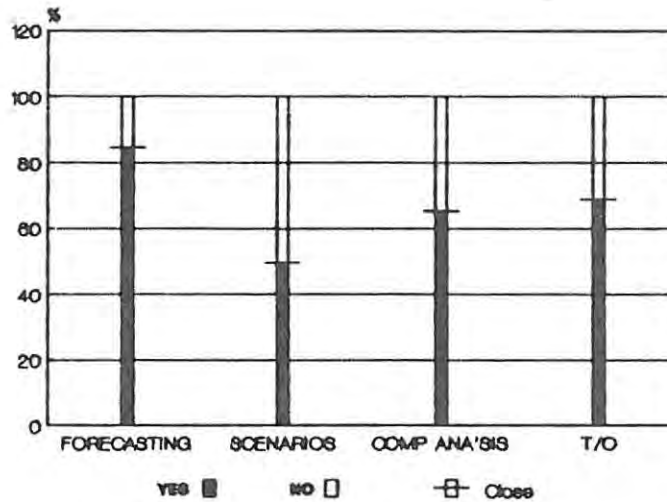
<u>Chi-square (<math>X^2</math>)</u>	<u>p-value</u>
15.340	.0090

The result shows a significant statistical relationship between the size of the company and the number of sources of information on the external environment. As the size of the firm increases, the number of sources also increases. H5f is therefore accepted.

## (2)b. Techniques Used

Figure 6.29 shows the modes of the various techniques used by the firm to identify future trends in the environments of the importing countries.

Figure 6.29.  
Techniques Used to Identify Trends



The results show a clear preference for forecasting on the basis of previous trends (84.5%). Threats/opportunities analysis (69%) and competitor analysis (65.2%) had a fairly high proportion of users with scenarios being the least popular technique (49.7%).

Table 6.9 shows the mean scores of the values placed on these techniques by respondent companies.

Table 6.9.  
Value placed on Technique

Technique	Mean (Scale 1-6)	Position
Forecasting	3.661	1
Threats/Opportunities Analysis	3.457	2
Competitor Analysis	3.283	3
Scenarios	2.459	4

The positioning of the mean scores for the value placed on techniques correlate exactly with the positioning of the modes of the various techniques used. Forecasting had the greatest value attached to it, with scenarios having the least value.

According to Ansoff,

"the complexity and speed of the firm's response must match the complexity and the speed of the environmental challenges. The firm will not succeed either through simplistic or overelaborate responses. Thus, it is necessary that management build progressively complex systems in order to deal with progressively more complex environments." (Ansoff, 1984 :27).

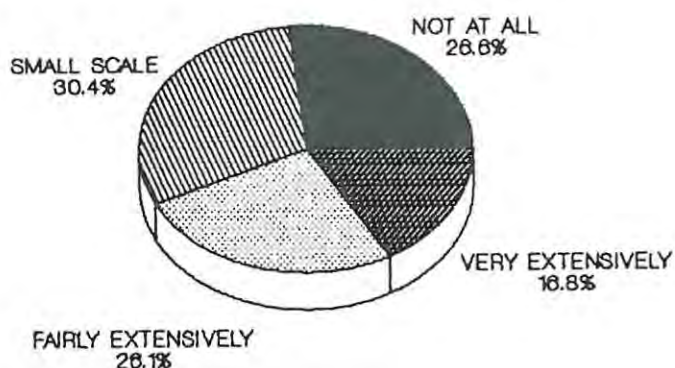
On the basis of the above, it must be concluded that the respondent companies are inflexible with respect to the techniques used to identify trends, and therefore ill-equipped to deal with turbulent environments, for the following reasons:-

- (i) The least complex technique (forecasting) has the highest use and the highest value.
- (ii) The values (mean scores) placed on the relatively complex techniques (threats/opportunities analysis and competitor analysis) are closer to one than they are to six.
- (iii) The most complex technique (scenarios) has the least use and the least value.

Figure 6.30 shows the extent to which computer technology is used by the firm to simulate, aggregate, manipulate and collect data on

environmental elements.

Figure 6.30.  
Computer Technology Used



As computers have the capability to interpret enormous amounts of information very quickly, they can facilitate usage of the more complex techniques necessary for identifying future trends in a turbulent environment. The frequencies results however show a poor usage of computers by the respondent companies therefore contributing to inflexibility. The majority (30.4%) only use computers on a small scale, with 26.6% not using them at all. The number of respondents that use them very extensively comprise the least amount (16.8%).

### Major Hypothesis

**H3i** Firms operating in an environment characterised by a high level of environmental turbulence, will use more sophisticated and complex environmental evaluative techniques than those firms operating in an environment characterised by a medium or low

level of environmental turbulence.

	<u>Chi-square (X<sup>2</sup>)</u>	<u>p-value</u>
Forecasting	3.192	.2027
Threats/Opportunities Analysis	.668	.7159
Competitor Analysis	1.797	.4073
Scenarios	.095	.9537
Forecasting value	5.268	.8726
Threats/Opportunities Analysis Value	7.190	.7074
Competitor Analysis Value	10.852	.3692
Scenarios Value	7.190	.7074

The chi-square results show there to be no significant statistical relationships whatsoever, between the degree of perceived turbulence in the environment and the relevant technique used (or their value) to identify future trends. For H3i to have been accepted, significant results should have existed for the complex techniques (threats/opportunities, computer and especially scenarios) but as this is clearly not the case, H3i must be rejected.

**H3j** Firms operating in an environment characterised by a high level of environmental turbulence, will use computer technology to a greater extent in environmental analysis than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

<u>Chi-square (X<sup>2</sup>)</u>	<u>p-value</u>
10.223	.1156

The null hypothesis of independence cannot be rejected because no significant statistical relationship exists. Hence no relationship exists between the extent to which computer technology is utilised and the perceived degree of environmental turbulence, and therefore H3j must be rejected.

### Secondary Hypotheses

**H5g** Large firms will use more sophisticated and complex environmental evaluative techniques than small firms.

	<u>Chi-square (<math>X^2</math>)</u>	<u>p-value</u>
Forecasting	11.386	.0442
Threats/Opportunities Analysis	10.184	.0702
Competitor Analysis	10.341	.0661
Scenarios	13.582	.0185
Forecasting value	22.968	.5794
Threats/Opportunities Analysis Value	29.426	.2465
Competitor Analysis Value	34.819	.0915
Scenarios Value	37.953	.0468

A number of significant and near significant results were recorded. Significant results were found to exist for forecasting, scenarios and the value attached to scenarios. Near significant results were found to exist for competitor analysis, threats/opportunities analysis and

the value attached to competitor analysis. Although forecasting shows a significant relationship, this was due to the fact that as the size of the firm increased, forecasting was used to a lesser extent. This was as expected in H5g.

On balance however, H5g must be rejected as the significant results for the complex techniques are in the minority. Nevertheless the results do show a promising trend in that less emphasis is being placed on forecasting and more on the complex techniques. In addition, it must be noted that size appears to play far more of a determining factor on the type of techniques used, than the perceived degree of turbulence in the environment.

**H5h** Large firms will use computer technology to a greater extent in environmental analysis than small firms.

<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
21.243	.1292

The null hypothesis of independence cannot be rejected because no significant statistical relationship exists. Hence no relationship exists between the extent to which computer technology is used by a firm and its size. H5i must therefore be rejected.

(2)c. Management Technology - Conclusion

Some significant results were noted between the extent to which firms monitored the environment, the number of sources used (the dependent

variables) and the perceived degree of environmental turbulence, with firms increasing their monitoring and their number of sources as the turbulence increased. However, these results perhaps need to be moderated due to the fact that:-

(i) The results may be distorted due to companies overstating the extent to which they monitor the environment or the understating of the sources used.

(ii) The frequencies results for techniques used to identify trends in the environment and the value attached to these techniques showed the respondent companies as tending towards inflexibility in their use. The simplest technique was most commonly used. This perhaps further serves to corroborate the fact that respondents overstated the extent to which they monitored the environment.

(iii) No significant statistical relationships were found to exist between either the techniques used to identify trends in the environment or their values, and the perceived degree of turbulence in the environment. Rather, size was seen as being more of a determining factor. This would suggest, that firms are simply using these techniques irrespective of the state of the environment and without any knowledge then, of their merits or demerits as tools for identifying trends in an external environment characterised by turbulence.

Given the three caveats, the researcher submits then that nothing conclusive can be stated about the relationship between management technology and the degree of perceived turbulence in the environment.

In addition, it is submitted that even though they considered themselves as monitoring their environment very extensively, the firms surveyed were in fact inflexible in the management technology component of strategic flexibility for the following reasons:-

(i) The most popular technique used to identify trends is the most ill-equipped to deal with uncertainties and turbulence in the external environment.

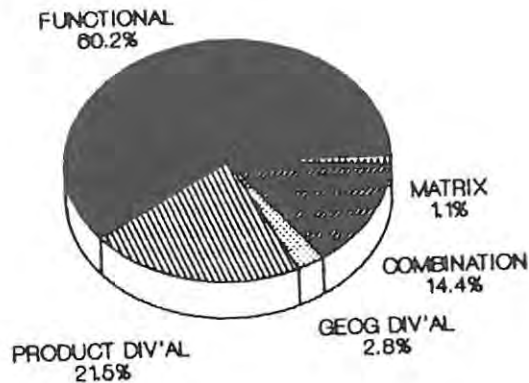
(ii) Computer technology is not used extensively enough to justify a continual monitoring of the environment.

(iii) The majority of firms surveyed do not have specialist planners who would be in the best position to monitor all sectors of the environment continuously.

### (3) Structure

Figure 6.31 shows how the respondent companies were structured.

Figure 6.31.  
Organizational Structure



The frequencies show a clear preference for the functional structure (60.2%) with a matrix structure being the least utilised (1.1%). As the functional structure is the most mechanistic of structures and the matrix the most organic, the majority of firms surveyed must be regarded as being inflexible, with respect to the structural component of strategic flexibility.

### Major Hypothesis

**H3k** Firms operating in an environment characterised by a high level of environmental turbulence, will have organic structural characteristics rather than mechanistic structural characteristics, which shall predominate in those firms operating in an environment characterised by a medium or low level of environmental turbulence.

<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
7.885	.4448

The null hypothesis of independence cannot be rejected because no significant statistical relationship exists. Hence no relationship exists between the structure of the firm and the perceived degree of turbulence in the environment. H3k is therefore rejected.

#### Secondary Hypothesis

**H5i** Large firms will have organic structural characteristics rather than mechanistic structural characteristics which will predominate in small firms.

<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
22.146	.3327

The null hypothesis of independence cannot be rejected because no significant statistical relationship exists. Hence no relationship exists between the structure of the firm and its size. H5i is therefore rejected.

#### Structure-Conclusion

The frequencies results show the majority of firms surveyed to be structurally ill-equipped to deal with a turbulent environment. This is probably again as a result of South African management's excessive

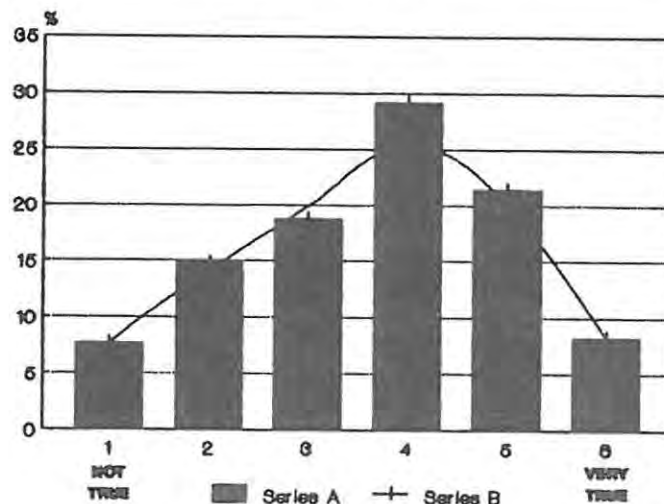
predisposition for autocratic management styles and a desire to centralize authority; which in this instance has manifested itself in the highly mechanistic, functional structure. It is recommended that this situation be rectified and there be a movement toward organic structures, which are more applicable for firms operating in a turbulent environment.

#### (4) Values

Figure 6.32 shows the extent to which the respondent companies rewarded innovation.

Figure 6.32.

Reward Innovation



With a mean score of 3.665, the firms surveyed tend to reward innovation and therefore must be regarded as tending towards flexibility in this regard.

**H31** Firms operating in an environment characterised by a high level

of environmental turbulence, reward and encourage innovation from employees to a greater extent than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
10.406	.4056

The null hypothesis of independence cannot be rejected because no statistically significant relationship exists. Hence no relationship exists between the extent to which innovation is rewarded and encouraged and the perceived degree of turbulence in the environment. H31 must therefore be rejected.

#### Values - Conclusion

It is perhaps a little surprising that there was a tendency to reward innovation amongst the respondent companies given the preference for autocratic management styles. Once again this may have been as a result of respondent bias, however the perceived degree of turbulence in the environment was seen as having no effect on the values component of strategic flexibility, anyway.

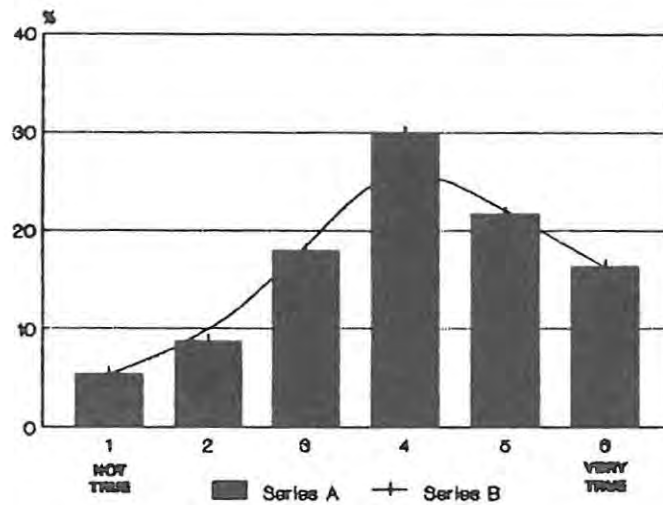
#### (5) People

##### (5)a. Management Development and Training

Figure 6.33 shows the extent to which the respondent companies had management development and training programs.

Figure 6.33.

## Management Development and Training



With a mean score of 4.027, the firms surveyed place a relatively high emphasis on management development and training and must be regarded as tending towards flexibility in this regard.

Table 6.10 shows the modes of the particular programs used by the respondent companies.

Table 6.10.

## Management Development/Training Achieved By

	Yes %	Position	No %	Total
Enrolling at Business Schools etc	79.2	1	20.8	100
In - House Training	72.1	2	27.9	100
Attending Public Addresses	68.3	3	31.7	100
Management Consultants	26.8	4	73.2	100
Inviting Outsiders to Speak	25.1	5	74.9	100

From Table 6.10, it can be clearly seen that respondent companies have a clear preference for their managers enrolling at business school seminars, management diploma courses and external training courses (79.2%) and In-House Training (72.1%), with management consultants (26.8%) and inviting outsiders (25.1%) not being extensively utilised.

### Major Hypothesis

**H3m** Firms operating in an environment characterised by a high level of environmental turbulence, will undertake management development and training to a greater extent than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

	<u>Chi-square (x<sup>2</sup>)</u>	<u>p-value</u>
Management Development & Training	8.098	.6193
Achieved by :-		
Business Schools etc	1.922	.3825
In-House Training	.676	.7132
Attending Public Addresses	1.003	.6055
Management Consultants	.345	.8417
Inviting Outsiders to Speak	2.621	.2697

No statistically significant results were found and therefore the null hypothesis of independence cannot be rejected. Consequently no

relationship exists between the extent to which firms undertake management development and training and the perceived degree of turbulence in the environment. H3m must therefore be rejected.

### Secondary Hypothesis

**H5j** Large firms will undertake management development and training to a greater extent than small firms.

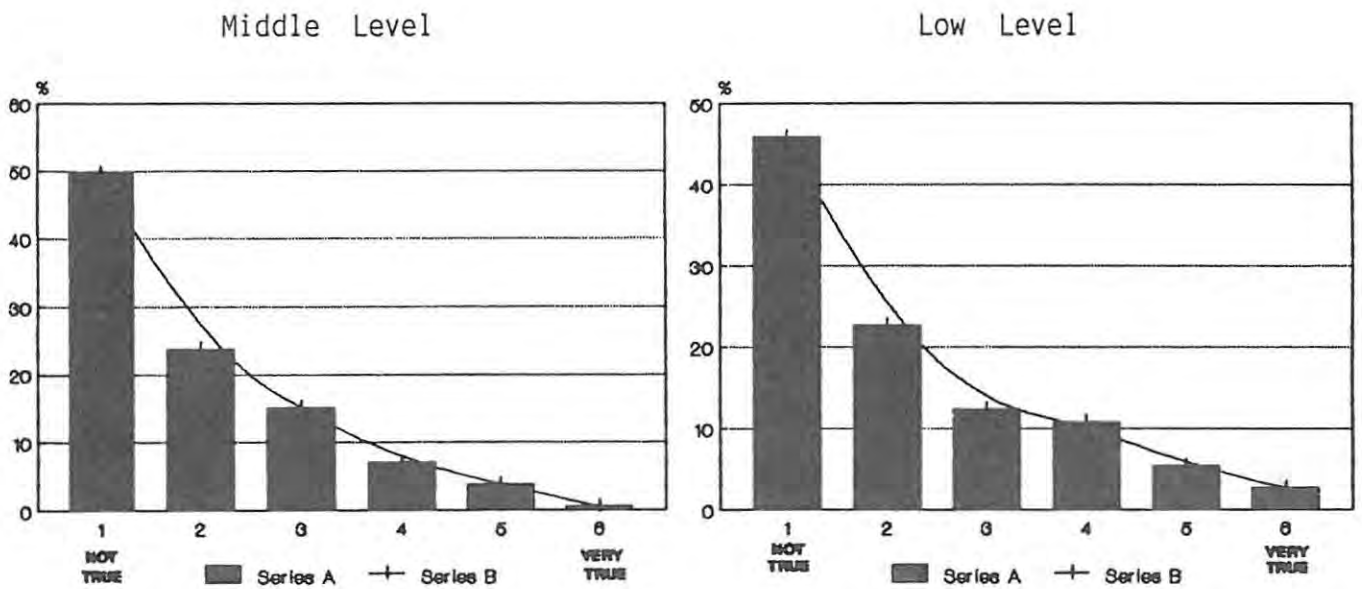
	<u>Chi-square (x<sup>2</sup>)</u>	<u>p-value</u>
Management Development & Training	55.382	.0004
Achieved by :-		
Business Schools etc	15.630	.0080
In-House Training	18.805	.0021
Attending Public Addresses	10.640	.0590
Management Consultants	16.479	.0056
Inviting Outsiders to Speak	21.816	.0006

Size is clearly a determining factor as to whether or not a firm has formal management development and training programs, as the result is highly significant. In addition, significant results were found for all methods used to achieve this development and training (except for 'attending public addresses'). In all instances an increase in the size of the company led to more extensive management development and training and greater usage of all the methods used to achieve this development and training. H5j is therefore accepted.

(5)b. Job Rotation

Figure 6.34 shows the extent to which the respondent firms had a formal system of job rotation for middle and low level employees.

Figure 6.34.  
Formal System of Job Rotation



With a mean score of 1.930 for middle level employees and 2.151 for low level employees, the respondent companies did not practice job rotation at all and therefore must be regarded as being inflexible in this regard.

Hypothesis

H3n Firms operating in an environment characterised by a high level

of environmental turbulence, will make greater use of job rotation than those firms operating in an environment characterised by a medium or low level of environmental turbulence.

	<u>Chi-square (<math>\chi^2</math>)</u>	<u>p-value</u>
Middle Level	14.710	.1430
Low Level	7.894	.6392

Both results show there to be no statistically significant relationships and therefore the null hypothesis of independence cannot be rejected. Hence no relationship exists between the extent to which firms use job rotation and the perceived degree of turbulence in the environment. H3n is consequently rejected.

#### (5)c. People - Conclusion

The frequencies results showed firms to place a relatively high emphasis on management development and training and a low emphasis on job rotation.

These results were not influenced at all by the perceived degree of turbulence in the environment. In fact, the extent to which firms had formal management development and training was dependent on the size of the firm.

Therefore, there is no relationship between the people component of strategic flexibility and the perceived degree of turbulence in the

external environment.

#### (6) Managerial and Structural Flexibility - Conclusion

Except for a very few instances, the effect of the perceived degree of turbulence in the environment was seen as having no effect on the processes, management technology, structural, values and people components of strategic flexibility. In addition it must be noted that respondent firms were inflexible in relation to their decision-making processes, the extent to which they had specialist planners, the techniques used to identify future trends in the environment, the extent to which computer technology was utilised in the firm and their structure. These factors must seriously compromise their ability to operate effectively in a turbulent environment and therefore it is suggested, that they be given urgent priority in an attempt to incorporate more flexibility into the firms.

#### 6.5. Overall Conclusion

The results do not generally support the view that a relationship exists between the perceived degree of turbulence in the environment and the extent to which strategic flexibility exists in a firm. In many instances, size was a determining factor rather than the perceived degree of turbulence in the environment. This might suggest that only large firms have the capacity to be strategically flexible. This is perhaps true to the extent that large firms have a large amount of resources and are therefore able to absorb more easily, turbulent changes in the environment. However, there is no reason why

small firms cannot incorporate internal factors that enhance strategic flexibility.

Often small firms are in more of a position to implement participative management processes and matrix structures because there is a higher degree of interaction between all employees than there would be in large firms.

Therefore the researcher is of the opinion that the results in this study should not be interpreted to mean that size is the major determining factor of strategic flexibility.

Discussion will now focus on the summary of the major findings of the study, the implications and limitations of the study and the suggestions for future research, in the concluding Chapter 7.

CHAPTER SIX  
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CHAPTER SEVENCONCLUSION7.1. Introduction

Chapter 6 presented and discussed the empirical results of the study. The objective of this concluding chapter, is to present a summary of the key findings, discuss the implications of these results for both theory and practice, discuss the limitations of the study and finally, present some suggestions for future research.

7.2. Summary of Key Findings7.2.1. Environmental Analyses

The major findings which resulted from the environmental analyses were:-

(a) The high incidence of political elements of the remote environment described as being turbulent. In this respect, political lobbies and the threat of sanctions were highly prevalent.

(b) In the ranking of the environmental elements, economic factors tended to predominate over political factors. The importance being placed on economic elements, is seen as a desire on the part of the respondents to control their environment to some extent. Of particular note is the high ranking of 'demand for product'. This can probably be attributed to the fact that there will always be a market for a product that is in high demand (notwithstanding whether there

are, for example, sanctions or not).

(c) In terms of the competitive element of the task environment, there was a clear distinction between the turbulence created by non-domestic competitors on the one hand, and domestic competitors on the other. The pressure from non-domestic competitors was also ranked highly in importance, suggesting that non-domestic competitors are trying to increase their stake in the country of concern, at South Africa's expense.

(d) Although the majority of companies were classified as operating in medium levels of perceived environmental turbulence, the majority of respondents perceived the future as becoming highly turbulent. This is an important result since if the majority of the respondents perceive the future as being turbulent, then the capability of South African export companies to operate in such an environment must be assessed.

### 7.2.2. Strategic Flexibility Analysis

#### (1) Diversification

The results for the major hypotheses showed that generally no statistically significant relationship existed between the diversification component of strategic flexibility and the perceived degree of turbulence in the environment. The frequencies results showed the majority of firms to be flexible both in relation to defensive external flexibility, and aggressive external flexibility. The defensive external flexibility, however, appeared to be more as a

result of export firms' lack of commitment to export than anything else. In addition, aggressive external flexibility was dependent on the size of the firm and not on the degree of perceived turbulence in the environment.

(2) Reduce Commitment of Resources to a Specialised Use

The results for the hypotheses showed that generally no statistically significant relationship existed between the reduction of commitment of resources component of strategic flexibility, and the perceived degree of turbulence in the environment. The frequencies results showed that in relation to exit and entry barriers, the firms surveyed must be regarded as tending towards inflexibility. However, with regard to specific aspects of the firm's operations which may increase or decrease specialised commitment of resources, the majority of firms tended towards flexibility. It would appear for example, that they do have the ability to re-route their exports but it will incur a substantial cost. In addition, there was a relatively high incidence of technological following, they were quite high in their logistic flexibility and they were able to switch channels of distribution fairly easily.

(3) Managerial and Structural Flexibility

(a) Processes

The results for the major hypotheses showed that no statistically significant relationships existed between the processes component of strategic flexibility, and the state of perceived environmental

turbulence whatsoever. Size was however seen as determining the formality of the planning process and the extent to which firms had specialist planners or not. In terms of the frequencies results, firms displayed characteristics of flexibility and inflexibility.

Of particular note, is the clear preference for autocratic management styles showing the respondent companies to be highly inflexible in their decision making processes. As the majority of firms did not use specialist planners, they were considered to be inflexible in this regard. Finally, the frequency with which their strategic plans were reviewed, was deemed to be insufficient to enhance the strategic flexibility of the firm.

Components which showed signs of flexibility, were in the relative lack of formalization present in the respondent companies, the fact that the majority had 'loosely structured' planning processes and their planning horizons tended to be relatively long term.

(b) Management Technology

Although some significant results were found between the extent to which firms monitored the environment, the number of sources used and the perceived degree of turbulence; the researcher felt that nothing conclusive could be stated about the relationship between the management technology component of strategic flexibility and the degree of perceived turbulence in the environment. This was so because:-

(i) Respondents were either overstating the extent to which they monitored the environment or were understating their sources of information;

(ii) The frequency results for techniques used to identify trends in the environment and the value attached to these techniques showed the respondent companies as tending towards inflexibility in their use;

(iii) No significant statistical relationships were found to exist between the technique used or their value and the perceived degree of turbulence in the environment. Rather, size was seen to be more of a determining factor. This suggested that firms were using these techniques irrespective of the state of the environment.

In terms of the frequencies results, the researcher considered the respondent firms to be inflexible in the management technology component of strategic flexibility for the following reasons:-

(i) The most popular technique used to identify trends in the environment, is the most ill-equipped to deal with a turbulent environment.

(ii) Computer technology is not used extensively enough.

(iii) The majority of firms surveyed do not use specialist planners who would be in the best position to continuously monitor all sectors of the environment.

(c) Structure

The perceived degree of turbulence in the environment and the size of the firm was seen to have no influence on the type of structure.

The frequency results showed the majority of respondent firms to be structurally ill-equipped to deal with a turbulent environment, with a clear preference for a mechanistic type of structure.

(d) Values

The perceived degree of turbulence in the environment was seen as having no effect on the extent to which firms rewarded and encouraged innovation. The frequencies results showed that there was a tendency amongst respondent firms to reward and encourage innovation which is a promising sign.

(e) People

The results for the major hypotheses showed that no statistically significant relationships existed between the perceived degree of turbulence in the environment, and the people component of strategic flexibility. Rather, the extent to which the firms had formal management development and training was found to depend on the size of the firm.

The frequency results showed the respondent firms as placing a relatively high emphasis on management development and training,

thereby enhancing strategic flexibility. However, this tends to be negated by the fact that little emphasis is placed on job rotation for middle and low level employees.

### 7.2.3. Overall Summary

The results do not generally support the view that a relationship exists between the perceived degree of turbulence in the environment and the extent to which strategic flexibility exists in a firm. Size was seen as a determining factor especially in relation to aggressive external flexibility, the planning processes of the firm and the extent to which specialist planners were used, and the emphasis placed on management development and training.

Generally, the researcher is of the opinion that the firms surveyed are ill-equipped to operate in a turbulent environment as they displayed signs of inflexibility in certain key aspects of their business. In this regard, particular mention must be made of their decision-making processes, the extent to which they had specialist planners, the techniques used to identify future trends in the environment, the extent to which computer technology was utilised in the firm and their structure. In addition, the respondent companies were seen as having relatively high exit and entry barriers. Finally, the fact that they were quite high in terms of defensive external flexibility is more as a result of a poor commitment to export than anything else.

### 7.3. Implications of the Results of the Study

There are a number of implications which emerged from the study. These are essentially the implications of the research for the South African government, the South African exporting community and the contribution to theory.

#### 7.3.1. Implications for the South African Government

These implications essentially stemmed from the environmental analysis section of the study. In this respect two factors are important; the issue of sanctions and creating a climate in South Africa which fosters the development of internationally competitive domestic industries.

##### (a) Sanctions

Although sanctions have had a negligible effect on the South African economy up until now, and they are not liable to have much of an effect on the firms surveyed in this study, the potential for them to cause damage in the future is still very prevalent.

As to the cause of sanctions, British Ambassador Robin Renwick has noted :-

"The argument for sanctions is not born of stupidity or malevolence, or simply a desire to do damage to South Africa, but of frustration." (Financial Mail, May, 13, 1988 :30).

This frustration has resulted from the world's perception of the

unwillingness, of the white population in South Africa to have meaningful political reform. Essentially therefore, sanctions are a manifestation of the world's displeasure at this country's apartheid policies.

"What is called for is an effective government strategy to counter sanctions and channel world opinion in more constructive directions." (Financial Mail, May 13, 1988 :30).

Hence, by giving the world clear signals of the South African's government's commitment to political reform (through a negotiated settlement with recognised leaders), the threat of sanctions may be alleviated and therefore ensure that this country continue to have access to the much needed international markets.

(b) Development of Internationally Competitive Industries in South Africa

The most important ranked element by the respondent companies was the 'demand for product' which implied that everything possible must be done in South Africa to foster development of internationally competitive industries. In this respect, the South African government is an important player.

Particular emphasis should be placed on:-

1. Reducing the inflation rate which is steadily making South African products uncompetitive in world markets;
2. Increasing the productivity of South African workers. This implies placing an incredibly high emphasis on education at primary,

secondary and tertiary levels, so that this country can develop the much needed semi-skilled and skilled labour it so desperately needs.

3. Reducing the social, political and economic imbalances inherent in our society. A number of studies have shown in particular, that social and political imbalances have resulted in tremendous problems in the workplace, thereby negatively affecting quality of work. (Beaty and Harari, 1987; Unisa, 1986)
4. Giving incentives to firms who are technology driven and who place high emphasis on value-added products.

It is recommended therefore, that the government place high priority on reducing the threat of sanctions and developing competitive industries, so that this country can embark on a substantial export drive necessary to facilitate economic growth in this country.

#### 7.3.2. Implications for the Exporting Community

The majority of the companies surveyed, perceived the future as becoming highly turbulent. The results showed, however, that the respondent companies as generally being ill-equipped to operate in such an environment. It is vitally important therefore that these companies develop the overall strategic flexibility necessary, to effectively survive in a turbulent environment. These implications essentially stemmed from the frequencies analysis of the various components of strategic flexibility.

(a) Diversification

The frequencies results showed the majority of firms to be flexible both in relation to defensive external flexibility and aggressive external flexibility.

The researcher is of the opinion, however, that with respect to defensive external flexibility, the firms surveyed were too flexible, possibly resulting in inefficiencies in their export operations. It is suggested that firms attempt to reduce this flexibility by allocating fixed proportions of their production capacity to demarcated countries (wherever possible) and strive to increase volumes in order to obtain the advantages of economies of scale.

The emphasis placed on research and development is a pleasing sign and it is hoped that this trend continues, thereby enhancing the firms' external aggressive flexibility.

(b) Reduce Commitment of Resources to a Specialised Use

The frequencies results showed firms to be tending towards inflexibility with respect to their exit or entry barriers in general. The most worrying factor is the fact that finding alternative and new export markets entail a relatively high cost, especially if sanctions become a distinct reality and South Africa is closed off from present export markets. Every effort should be made by South African companies to manufacture highly marketable and competitive products,

hence increasing the likelihood of easily finding alternative markets abroad.

Although the respondent companies were quite flexible in their distribution channels, it was seen as a negative factor as a result of the very small number of companies which actually had direct investment in foreign countries. Unfortunately, this does not engender any commitment to an outward orientation and it is recommended therefore, that South African companies look to foreign countries in which they can directly invest. In this regard, Africa is a prime candidate for which South Africa, is the ideal launching pad, and hopefully with the creation of a favourable political climate in South Africa, this may be a distinct possibility. The fact that firms were relatively high in logistic flexibility, were classified as technological followers and have the ability to re-route their exports are seen as positive factors.

(c) Managerial and Structural Flexibility

c.i. Decision Making Process

The most important recommendation which pertains to the decision making process, is that firms move away from their excessive preference for autocratic management styles to collaborative or at best, participative styles. This autocratic style is deemed to be totally inappropriate for firms operating in a turbulent environment. In addition, greater utilisation should be made of specialist planners whose task it is to continuously monitor the environment and make recommendations to top management concerning the strategic direction

of the firm. Finally, firms will have to review their strategic plans more frequently to ensure that they are in accordance with the changes occurring in the external environment.

The 'loosely structured' planning processes, the relatively long-term planning horizons and lack of bureaucracy were seen as positive factors.

c.ii. Management Technology

The most popular techniques used to monitor trends in the external environment were deemed to be inappropriate for firms operating in a turbulent environment. In this respect therefore, firms should use far more sophisticated techniques than were the case, in order to take account of the complexities in the environment. In addition, greater usage should be made of computer technology in order to interpret enormous amounts of information very quickly. This will also facilitate usage of the more complex techniques necessary for identifying future trends in a turbulent environment.

c.iii. Structure

The majority of firms surveyed had very mechanistic structures which are unsuitable for companies operating in a turbulent environment. The recommendation therefore, is that firms move towards more organic structures which are more applicable for firms operating in a turbulent environment. Greater usage should be made of divisional structures which allow for decentralization of authority. For firms

with small numbers of employees and who are relatively well skilled, a matrix structure may be most appropriate.

c.iv. Values

The tendency to reward and encourage innovation is a positive factor and hopefully this trend will continue.

c.v. People

The tendency to have management development and training programmes is also a positive factor which enhances strategic flexibility. However, more attention should be placed on job rotation for middle and low level employees and developing their skills.

7.3.3. Implications for the Contribution to Theory

The major finding which emerged from the study was the minimal relationship between the perceived degree of turbulence in the environment and the components of strategic flexibility. This finding is, however, consistent with the findings of Eppink (1978 :14) and Aaker and Mascarenhas (1984 :74-75). This may be as a result of the following :-

1. "Internal and external constraints on the style and experience of the executive and the company, tended to restrict the options considered." (Aaker and Mascarenhas, 1984:74-75). A case in point would be the high preference for autocratic management styles which is

probably as a result of the low education and skill characteristics of low level employees (Viljoen, 1987: 240). Hence unless this problem of poor education is resolved, the autocratic management style will continue irrespective of the state of the environment.

2. The literature "lacks a comprehensive structuring of the many approaches to flexibility." (Aaker and Mascarenhas, 1984 :74-75).

The researcher is of the opinion that the logic of strategic flexibility is sound and recognising that it is a relatively new phenomenon, South African companies may not be aware of its usefulness as a means for operating effectively in a turbulent environment. Although it was not the researcher's original intention that the study be of a normative nature, the results do suggest that companies are ill-equipped to operate in a turbulent environment. Hence, it is hoped that the study gives an insight into how companies should be operating in a turbulent environment.

3. The results may have been distorted as a result of the majority of companies being classified as operating in an environment characterised by a medium level of turbulence. However, as they comprised the majority of the respondent companies surveyed, they could not be excluded from the study. Conversely, it was not considered statistically feasible to use only those companies classified as 'low' or 'high' as they comprised too small a member from which to draw inferences.

Perhaps though, given the fact that the p-values of the chi-square

were often so high as to show the very high extent to which the variables were independent, may suggest that the results were not overly distorted by the high incidence of 'medium' classified companies.

4. In some instances, size was seen as a determining factor rather than the perceived degree of turbulence in the environment. Significant statistical relationships were found between the size of the firm and the extent to which respondent companies participated in research and development, the planning processes of the firm, the techniques used to monitor trends in the environment and the emphasis placed on management development and training. Particular mention must be made here of the influence of size on the planning processes. The results showed that as the size of the firm increased, companies became more formal in their planning approach. This suggests that the planning function was more of an integrative and control device for the increased complexity in the organization, rather than as a proactive device for establishing fit with the company's external environment. It is suggested that traditional theory with regard to the role of planning take account of this fact or, management theorists should pay attention to ascertaining the effectiveness or desirability of the planning function being utilised as an integrative or control device.

#### 7.4. Limitations of the Study

The researcher does consider there to have been a number of limitations in this study. These are as follows:-

a. Low Response Rate

This must unfortunately be a limiting factor as it means that the results of the study cannot really be seen as being representative of companies operating in a turbulent environment, or South African export companies.

b. Local Conditions Excluded

Although it was the stated intention of the researcher to exclude local environmental conditions from the study, the fact that some respondents placed emphasis on them, highlights their importance.

Had the researcher included some local environmental conditions and asked the respondents to assess their degree of turbulence, more companies may have been classified as operating in an environment characterised by a high degree of turbulence.

c. Not all Components of Strategic Flexibility Tested

As no financial data was gathered, the researcher was not able to test the relationship between the 'investment in under-used assets' component of strategic flexibility and the perceived degree of turbulence in the environment.

#### d. Performance Criteria

In addition, the lack of financial data and other measures of organizational performance (e.g. labour turnover) meant that the researcher was unable to evaluate the effectiveness of the respondent firms. Hence no relationship between strong performing firms and weak performing firms on the basis of the extent to which they were strategically flexible, could be assessed.

#### 7.5. Suggestions for Future Research

Undoubtedly one of the most valuable aspects of research is to present ideas for future research.

Firstly, the researcher is of the opinion that tremendous attention should be focused on the characteristics of a turbulent environment. In particular, research should be geared towards identifying causal relationships between the elements of the external environment and developing conceptual models that will assist management in objectively analyzing the state of the environment.

Secondly, research should be geared towards identifying the role of strategy as perceived by management practitioners. The theory stresses the link between the firm's external environment and its strategy, however, a number of studies have shown that often internal factors are more of a determining factor on the firm's strategic components. This implies a number of things:-

- a. The desirability of this should be assessed.
  
- b. The extent to which management practitioners are perceiving (or misperceiving) the role of strategy in the organizations. For instance, they may be of the opinion that the environment does determine the strategy but in reality, it is internal factors that prevail.
  
- c. If this is the case and it shows to have negative implications for the firm (i.e. it cannot adapt to changes in the environment because there is no link between the environment and strategy) then theorists should pay attention to giving recommendations to management on how they can continue, to ensure that the link between the environment and strategy exists.

Finally, some studies have tried to assess the link between strategy and performance of the firm on the one hand and the link between the state of the environment and strategy on the other. However very few (if any) empirical studies have comprehensively analysed the extent to which strategic components differ between strong performing firms and weak performing firms, operating in a turbulent environment. It is the opinion of the researcher that increasing attention be paid to this.

## 7.6. Conclusion

Although a number of writers have written conceptually about strategic

flexibility, very few studies have attempted to investigate the relationship between the components of strategic flexibility and the perceived degree of turbulence in the environment. As a result of this, a number of limitations may have occurred, hence reducing the conclusiveness of the findings of the study as the researcher had little guidance from previous studies. Notwithstanding this, the researcher believes the study to have provided some valuable insights into the topic, the major finding being that the state of perceived turbulence in the environment, had no effect on the strategic flexibility components of the firm.



APPENDIX 1  
THE QUESTIONNAIRE USED IN THE SURVEY

2

SECTION 1

## 1. CLASSIFICATION OF YOUR COMPANY.

Into which of the following standard industrial classification sectors does your organization fall?

Agriculture, Forestry Mining Manufacturer 

Other (please specify) \_\_\_\_\_

2. How many EMPLOYEES does your company have?  
(Please tick appropriate box).

<input type="checkbox"/> 1 - 49	<input type="checkbox"/> 50 - 99	<input type="checkbox"/> 100 - 250	<input type="checkbox"/> 251 - 500	<input type="checkbox"/> 501 - 1000	<input type="checkbox"/> 1000+
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## 3. Please indicate your company's EXPORT EXPERIENCE (For the purposes of this questionnaire, please regard all foreign dealings that contribute in any way to your firm's overall profitability as being relevant to any discussion relating to 'export' or 'export sales').

Less than 1 year  1 to 4 years 5 - 10 years  More than 10 years 

## 4. Please indicate your CONTINUITY IN EXPORTING.

Regular Exporter  Occasional Exporter 5. In 1986, what PERCENTAGE OF TOTAL SALES did EXPORTS represent?  
(Please tick appropriate box).

<input type="checkbox"/> 0% - 10%	<input type="checkbox"/> 11% - 25%	<input type="checkbox"/> 26% - 50%	<input type="checkbox"/> 51% - 75%	<input type="checkbox"/> 76% - 100%
-----------------------------------	------------------------------------	------------------------------------	------------------------------------	-------------------------------------

## 6. Please tick the RANGE OF INCREASE OR DECREASE IN YOUR 1986 EXPORT SALES OVER 1985.

Down more than 75%  Down between 50% and 75% Down between 25% and 49%  Down between 1% and 24% Remained Constant Up between 1% and 24%  Up between 25% and 49% Up between 50% and 75%  Up more than 75% : Office  
: use only: 1 : 2 : 3 : 4 : 5 : 6

3

7. Please indicate your (the Managing Director's) FUNCTIONAL BACKGROUND/S. Please tick more than one if necessary. : Office use only
- Engineering/Production :  : Personnel/IR :  :
- Sales/Marketing :  : Finance/ Accounting :  :
- Research and Development :  : Legal :  :
- Other (please specify) \_\_\_\_\_ : 7 :  :
8. Please tick your company's predominant EXPORT PRODUCT/S. :
- Minerals and Metals :  :
- Electronic items/components :  :
- Agricultural and Forestry-based products :  :
- Processed food products :  :
- Chemicals :  :
- Machinery and Transport Equipment :  :
- Other (please specify) \_\_\_\_\_ : 8 :  :

SECTION 2

This section of the questionnaire attempts to ascertain the key variables, as well as the degree of turbulence, in those environments in which your company operates. The environment can be said to be turbulent when the changes that occur are extremely rapid and/or when the future becomes highly unpredictable. Bearing this in mind, you are asked to circle the most appropriate response on the rating scale of 1 to 6 which is situated next to each question concerning a particular environmental variable. If you are unsure as to the extent of the environmental turbulence, then please indicate in the "do not know" box provided. Additional space is provided at the end for any variables which in your opinion may have been overlooked.

If you export to more than one country, base your response on that country (or group of countries) which is most important in terms of your export programme.

- | ENVIRONMENTAL VARIABLES  |        |          |        |   |                 |   | DO NOT KNOW                       |
|--|--------|----------|--------|---|-----------------|---|-----------------------------------|
| 9. Fluctuations of Gross National Product in the importing country/s are generally | LOW    |          | MEDIUM |   | HIGH            |   | : <input type="checkbox"/> :      |
|  | 1      | 2        | 3      | 4 | 5               | 6 | : 9 : <input type="checkbox"/> :  |
| 10. Demand for your products in the importing country has generally been           | STABLE | VARIABLE |        |   | HIGHLY VARIABLE |   | : <input type="checkbox"/> :      |
|  | 1      | 2        | 3      | 4 | 5               | 6 | : 10 : <input type="checkbox"/> : |

ENVIRONMENTAL VARIABLES								DO NOT KNOW	Office use only
11.	The aggressiveness of the leading domestic competitors in the importing country/s has generally been	HIGH		MEDIUM		LOW			
		1	2	3	4	5	6	: <input type="checkbox"/>	:11: <input type="checkbox"/>
12.	The pressure from the leading non-domestic competitors in the importing country/s has generally been	HIGH		MEDIUM		LOW			
		1	2	3	4	5	6	: <input type="checkbox"/>	:12: <input type="checkbox"/>
13.	Foreign government actions concerning import regulations on your product/s are generally	PREDICTABLE			VERY UNPREDICTABLE				
		1	2	3	4	5	6	: <input type="checkbox"/>	:13: <input type="checkbox"/>
14.	The inflation rate/s in the importing country/s are generally	RELATIVELY LOW			RELATIVELY HIGH				
		1	2	3	4	5	6	: <input type="checkbox"/>	:14: <input type="checkbox"/>
15.	The import tariff policies of the importing country/s are generally	PREDICTABLE			VERY UNPREDICTABLE				
		1	2	3	4	5	6	: <input type="checkbox"/>	:15: <input type="checkbox"/>
16.	The attitudes of the population in the importing country/s towards your products (i.e. being from South Africa) are generally	VERY FAVOURABLE			VERY UNFAVOURABLE				
		1	2	3	4	5	6	: <input type="checkbox"/>	:16: <input type="checkbox"/>
17.	The exchange rate policies of the importing country/s are generally	PREDICTABLE			VERY UNPREDICTABLE				
		1	2	3	4	5	6	: <input type="checkbox"/>	:17: <input type="checkbox"/>
18.	Foreign exchange in the importing country/s has generally been	UNAVAILABLE			ALWAYS AVAILABLE				
		1	2	3	4	5	6	: <input type="checkbox"/>	:18: <input type="checkbox"/>
19.	In the importing country/s, changes in social values and ethics which affect your product category/s have generally been	VERY MINOR			VERY RAPID				
		1	2	3	4	5	6	: <input type="checkbox"/>	:19: <input type="checkbox"/>
20.	Regarding your company's product category/s, changes in consumer attitudes and preferences in the importing country/s have generally been	VERY MINOR			VERY RAPID				
		1	2	3	4	5	6	: <input type="checkbox"/>	:20: <input type="checkbox"/>
21.	Political stability in the importing country/s has generally been	VERY LOW			VERY HIGH				
		1	2	3	4	5	6	: <input type="checkbox"/>	:21: <input type="checkbox"/>

5

22.	Threats of sanctions affecting your dealings in the importing country/s has generally been	NON EXISTENT					VERY REAL		: Office : use only
		1	2	3	4	5	6	: [ ] :	: 22: [ ] :
23.	Pressures from political lobbies in the importing country/s has generally been	NON EXISTENT					VERY REAL		:
		1	2	3	4	5	6	: [ ] :	: 23: [ ] :
24.	The frequency of new technologies being introduced in your industry is generally	VERY LOW					VERY HIGH		:
		1	2	3	4	5	6	: [ ] :	: 24: [ ] :
25.	If, in your opinion, any significant environmental variables have been overlooked which may affect your company, please add them and assess their intensity below:								
(i)	_____	1	2	3	4	5	6		: 25: [ ] :
	-----								:
	_____								:
(ii)	_____	1	2	3	4	5	6		: 25: [ ] :
	-----								:
	_____								:
(iii)	_____	1	2	3	4	5	6		: 25: [ ] :
	-----								:
	_____								:
(iv)	_____	1	2	3	4	5	6		: 25: [ ] :
	-----								:
	_____								:
(v)	_____	1	2	3	4	5	6		: 25: [ ] :
	-----								:
	_____								:
	-----								:

6

26. The table below contains a summary of question 10 - 25. Please identify only those five that you feel are most important in terms of their impact on long term profitability, and rank them in order of importance where, 1 = most important and, 5 = least important.

Office use only

ENVIRONMENTAL VARIABLES IN IMPORTING COUNTRY/S IMPORTANCE:

1. Fluctuations of GNP in importing country/s	
2. Demand for your products in importing country/s	
3. Aggressiveness of domestic competitors in importing country/s	
4. Pressure from non-domestic competitors in importing country/s	
5. Import regulations in importing country/s	
6. Import tariffs in importing country/s	
7. Inflation rates in importing country/s	
8. Attitudes of foreign population towards your product	
9. Exchange rate policies in importing country/s	
10. Foreign exchange availability in importing country/s	
11. Changes in social values and ethics in importing country/s	
12. Changes in consumer attitudes in importing country/s	
13. Political stability in importing country/s	
14. Threats of sanctions in importing country/s	
15. Pressures from political lobbies in importing country/s	
16. Frequency of new technology introduction	
17.	
18.	

27. With regard to the countries to which your company exports, which of the following statements, in your opinion, is most relevant. (Please tick appropriate box).

The next few years will be as stable as the past, requiring no change in present actions.

The next few years will be relatively similar to the past, consequently new trends will be easily catered for on the basis of previous experience.

7

The next few years will be characterised by discontinuities and turbulent changes consequently requiring novel approaches in planning

□□

: Office use only

:27:□□

SECTION 3

In this section there are no "right" or "wrong" answers. Please respond as objectively as possible.

28. Long term/strategic planning in your company is:

Performed predominantly by top management and communicated to the rest of the organization once the plan has been finalised.

□□

Performed by all levels of management as a working group and subsequently communicated to the rest of the organization.

□□

Performed by all levels of management together with substantial input from working groups of non-managerial employees.

□□

:28:□□

29. Does your company have a separate planning department? (Please tick appropriate box).

YES	NO
-----	----

If yes, please respond to questions 29a to 29c. If no, please omit these and continue with question 30.

(a) How many years since this planning department was introduced. (Please tick appropriate box).

less than 1 year	1	2	3	4	5	6 +
------------------	---	---	---	---	---	-----

:29 a:□□

(b) Please indicate the hierarchical position of the person who heads your planning department.

-----

: Director : :

-----

: Functional Manager : :

: reporting to a Director : :

-----

: Planner who reports to : :

: a Functional Manager : :

-----

Other (please specify) \_\_\_\_\_

: b:□□

8

(c) How many full-time specialist planners in the department? (Please tick appropriate box).

: Office use only

1	2	3 - 5	6 - 10	10+
---	---	-------	--------	-----

c: :

30. Is strategic planning in your organization:

Highly formalised i.e. meetings occur on a regular, systemised and predetermined basis?

:

Loosely structured i.e. done on a task-related, informal or ad-hoc basis when the need arises?

:

There is no strategic planning performed in this company

:

:30: :

Please circle the most appropriate response for each of the following questions. You may choose any point on the scale of 1 to 6, where 1 = hardly ever, and 6 = all the time.

31. Does your company attempt to monitor changes and trends in the political environments at:

HARDLY EVER      SOMETIMES      ALL THE TIME

(i) home

1   2   3   4   5   6

:31: i: :

(ii) abroad

1   2   3   4   5   6

:ii: :

32. Does your company attempt to monitor changes and trends in the social environments at:

(i) home

1   2   3   4   5   6

:32: i: :

(ii) abroad

1   2   3   4   5   6

:ii: :

33. Does your company attempt to monitor changes and trends in the economic environments at:

(i) home

1   2   3   4   5   6

:33: i: :

(ii) abroad

1   2   3   4   5   6

:ii: :

34. Does your company attempt to monitor changes and trends in the technological environment at:

(i) home

1   2   3   4   5   6

:34: i: :

(ii) abroad

1   2   3   4   5   6

:ii: :

35. Please indicate the relevant sources of information on the importing countries utilised by your company.

Office use only

	YES	NO
Visits to foreign markets by company personnel.		
Market Research conducted by own company.		
Market Research conducted by independent firm for your company.		
South African Foreign Trade Organisation.		
Department of Trade and Industry.		
Chambers of Commerce and Industry etc. in importing country.		
International trade fairs and exhibits.		
Export Agents.		
Banks.		
Magazines, Business Journals and Periodicals eg. Financial Mail, Fortune, Time etc.		
Other (specify) _____		

36. Please indicate the relevant technique/s whereby your company attempts to identify future trends in the environments of the importing country/s for the purposes of strategic planning. Please tick appropriate box and mark on the scale 1 to 6, the value which you place on the use of that technique where 1 = little value and 6 = great value.

Technique Utilised	Value					
	Little Value					Great Value
Yes : No	1	2	3	4	5	6
Forecasting on the basis of previous trends.						
Scenarios						
Competitor/s Analysis						
Threats/Opportunities Analysis						
Other (specify) _____						

37. If your company possesses a strategic plan, what time span does your strategic plan cover? (Please tick appropriate box). Office use only

1 year	3 years	5 years	7 years	10 years	10 years +
--------	---------	---------	---------	----------	------------

Other (please specify) \_\_\_\_\_

38. How frequently does your company review its strategic plan? (Please tick appropriate box).

Every 6 months	yearly	Every 2 years	Every 5 years	5 years +
----------------	--------	---------------	---------------	-----------

Other (please specify) \_\_\_\_\_

39. Which of the following most closely represents your business?

Single business (i.e. 95% or more of the firm's sales volume is accounted for by one product/product line). ☐

Dominant business (i.e. 70% - 95% of sales volume is accounted for by one product/product line). ☐

Related Products business (more than 30% of sales volume is earned from sales outside the main product/product line, however, these other products share some common characteristics eg customers). ☐

Unrelated Products business (more than 30% of sales volume is earned in products/product lines that do not share commonalities). ☐

40. Which of the following most closely resembles your company's organizational structure:

Functional i.e. shows a division of labour on the basis of specialized knowledge (marketing, production finance etc.) ☐

Product Divisional i.e. relatively autonomous and self-sufficient units are structured around products. ☐

Geographic Divisional i.e. the main activities of the business are grouped in terms of the geographic region, area or country to be served. ☐

Combination Structure i.e. the company is structured along both product and geographical lines. ☐

37: ☐

38: ☐

39: ☐

Matrix Structure i.e. temporary grouping of functions and skills is utilised for the purpose of undertaking projects.

□:

: Office use only  
: 40: □:

Please circle the most appropriate response for each of the following questions. You may choose any point on a scale of 1 to 6, where 1 = not true of this company and 6 = very true of this company.

- |   | NOT TRUE OF<br>THIS COMPANY |   |   |   | VERY TRUE OF<br>THIS COMPANY |   |        |
|---|-----------------------------|---|---|---|------------------------------|---|--------|
|   | 1                           | 2 | 3 | 4 | 5                            | 6 |        |
| 41. Employee goals and work methods are set by the individual together with his/her supervisor.   |                             |   |   |   |                              |   | 41: □: |
| 42. Through the company's rewards system, the official policy of this company is to actively encourage employees at all levels to innovate and produce new ideas.                         |                             |   |   |   |                              |   | 42: □: |
| 43. Generally, employee activities are routinized and employees have little discretion on whether such activities should be performed or in the manner in which they should be performed. |                             |   |   |   |                              |   | 43: □: |
| 44. It is the policy of the company to have their managers enter formal management development/training programs.   |                             |   |   |   |                              |   | 44: □: |
| 45. If managers do have management development/training programs, then it is achieved by:   |                             |   |   |   |                              |   |        |

	Yes	No
In-house training		
Attending public addresses/industry specific addresses		
Inviting outsiders to speak at company functions.		
Employing management consultants.		
Enrolling at business school seminars, management diploma courses, external management training courses etc.		

46. The company practices a formal system of job rotation for:	NOT TRUE OF THIS COMPANY			VERY TRUE OF THIS COMPANY			Office use only						
(i) middle level employees	1	2	3	4	5	6	:46 :i : <input type="checkbox"/>						
(ii) low level employees	1	2	3	4	5	6	:ii: <input type="checkbox"/>						
47(i) The company has the ability to easily add to its current line of business:-													
(a) Products	1	2	3	4	5	6	:47i :a : <input type="checkbox"/>						
(b) Product Lines (if applicable)	1	2	3	4	5	6	:b : <input type="checkbox"/>						
(c) Divisions (if applicable)	1	2	3	4	5	6	:c : <input type="checkbox"/>						
47(ii) The company has the ability to easily divest from its current line of business:-													
(a) Products	1	2	3	4	5	6	:47ii :a : <input type="checkbox"/>						
(b) Product Lines (if applicable)	1	2	3	4	5	6	:b : <input type="checkbox"/>						
(c) Divisions (if applicable)	1	2	3	4	5	6	:c : <input type="checkbox"/>						
48. How many countries does your company export to? (Please tick appropriate box).													
<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px 10px;">1</td> <td style="padding: 2px 10px;">2</td> <td style="padding: 2px 10px;">3 - 4</td> <td style="padding: 2px 10px;">5 - 6</td> <td style="padding: 2px 10px;">6 +</td> </tr> </table>							1	2	3 - 4	5 - 6	6 +	:48: <input type="checkbox"/>	
1	2	3 - 4	5 - 6	6 +									
49. Please indicate the contribution made to your total sales by your company's <u>three</u> largest customers (whether domestic or foreign).													
<table border="0"> <tr> <td style="padding: 0 10px;">80% - 100%</td> <td style="padding: 0 10px;">: <input type="checkbox"/></td> <td style="padding: 0 10px;">50% - 79%</td> <td style="padding: 0 10px;">: <input type="checkbox"/></td> <td style="padding: 0 10px;">Less than 50%</td> <td style="padding: 0 10px;">: <input type="checkbox"/></td> </tr> </table>							80% - 100%	: <input type="checkbox"/>	50% - 79%	: <input type="checkbox"/>	Less than 50%	: <input type="checkbox"/>	:49: <input type="checkbox"/>
80% - 100%	: <input type="checkbox"/>	50% - 79%	: <input type="checkbox"/>	Less than 50%	: <input type="checkbox"/>								
50. How many of these constitute foreign customers? (Please tick appropriate box.)													
<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px 10px;">0</td> <td style="padding: 2px 10px;">1</td> <td style="padding: 2px 10px;">2</td> <td style="padding: 2px 10px;">3</td> </tr> </table>							0	1	2	3	:50: <input type="checkbox"/>		
0	1	2	3										
51. For what proportion of total export sales does your single most important export market account? (Please tick appropriate box).													
<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px 10px;">0 - 19%</td> <td style="padding: 2px 10px;">20 - 39%</td> <td style="padding: 2px 10px;">40 - 59%</td> <td style="padding: 2px 10px;">60 - 79%</td> <td style="padding: 2px 10px;">80 - 100%</td> </tr> </table>							0 - 19%	20 - 39%	40 - 59%	60 - 79%	80 - 100%	:51: <input type="checkbox"/>	
0 - 19%	20 - 39%	40 - 59%	60 - 79%	80 - 100%									

52. In that single most important export market, which of the following methods of export are utilised? Office use only
- |   |  |  |
|---|--|--|
| Export via one independent agent or distributor in SA                                       |  |  |
| Export via two or more independent agents/distributors in South Africa                      |  |  |
| Export directly to one wholesaler/ retailer/ import agent in the foreign country            |  |  |
| Export directly to two or more wholesalers/ retailers/ import agents in the foreign country |  |  |
| Export via a partially or wholly owned sales subsidiary created in the foreign country      |  |  |
| Have production/manufacturing facilities in foreign country:                                |  |  |

Other (please specify) \_\_\_\_\_

- |  | VERY TRUE OF THIS COMPANY | NOT TRUE OF THIS COMPANY |                               |
|--|---------------------------|--------------------------|-------------------------------|
| 53. Should the need arise, this company has the ability to easily re-route its exports in order to avoid identification with its South African source. | 6                         | 5 4 3 2 1                | :53: <input type="checkbox"/> |

54. If your company is a manufacturing concern, then please answer questions 54a to 54f. If not, then please omit questions 54a to 54d and proceed to 54e.

- |  |   |           |                                 |
|--|---|-----------|---------------------------------|
| 54a. Your production equipment can be easily adapted to make related products i.e. changes in products specifications, features and customers needs etc. | 6 | 5 4 3 2 1 | :54 a: <input type="checkbox"/> |
|--|---|-----------|---------------------------------|

- 54b. This company follows a formal program of Research and Development on its products. (Please tick appropriate box).

Yes	No
-----	----

: b :

If yes, please respond to question 54c.  
If no, please omit and proceed to 54d.

- 54c. Your research and development is:

Conducted by a separate department :

Incorporated into other functional departments i.e. engineering/production. :

: c :

54d. How would you classify your company in terms of its technological position? (If you use more than one technology, choose the alternative below which is predominantly true for most of your technologies) : Office use only

Your company strives to be first in the development of new processes/technologies :

Your company is guided and influenced by the industry's processes/technologies before introducing its own adaptations :

Your company essentially uses the industry's established processes/technologies and accepts the industry standard as given. :  54d

54e. The cost to your company of: : 54e

	HIGH				LOW	
(i) entry into new export markets would be	1	2	3	4	5	6

: 

(ii) exit out of present export markets would be :

	1	2	3	4	5	6
--	---	---	---	---	---	---

54f. To what extent is computer technology used in your company in order to simulate, aggregate, manipulate or collate data on the environmental variables monitored by the Company. (Please tick appropriate box). : f

: Not at all	: <input type="checkbox"/>
: On a small scale	: <input type="checkbox"/>
: Fairly extensively	: <input type="checkbox"/>
: Very extensively	: <input type="checkbox"/>

55. Please use the space below for any general comments that you would like to make.

---



---

Should you desire a summary of the results of this study, please give your name and address below.

---



---

Thank you for your co-operation.

APPENDIX 2  
SUPPORTING DOCUMENTATION

## COVERING LETTER



## RHODES UNIVERSITY

P.O. Box 94, Grahamstown, 6140 South Africa  
Telegrams 'Rhodescol' Telex 24-4219 SA Telephone (0461) 2-2023

Dear Sir/ Madam

It has been reiterated on a number of occasions that in order for South Africa to grow in real terms, the country must have a strong export program. However from an international perspective, the current management and business environment of South African export companies presents a host of problems and challenges to the policy maker and manager. Economic, social, political and technological changes have all impacted upon these companies and created a uniquely turbulent environment in which they are forced to operate. This uniqueness consequently implies that South African export companies can borrow little or nothing from their overseas counterparts and hence approaches to operating in a turbulent environment must be developed in a domestic context. The purpose of this study then, is to attempt to identify those unique approaches relevant to South African export companies operating in an overseas environment characterised by a high degree of turbulence.

This questionnaire has been fully pre-tested, requires 30 minutes to complete and does not include any data or file searches. There are no particularly sensitive issues touched by the study, nevertheless all responses will be treated confidentially and results will be reported only on an aggregated basis.

In order to complete the questionnaire please take note of the following:-

1. This questionnaire should be completed by the Managing Director.
2. The questionnaire is divided into three highly structured sections. Please answer all questions asked after carefully reading the introductory remarks to each section.
3. On completion of the questionnaire, please return it to the Department of Business Administration, Rhodes University, Grahamstown. A pre-addressed envelope which requires no postage has been provided for this purpose.
4. Should you wish to contact me for clarification of any issues please do not hesitate to do so. The telephone number is 0461 - 22023 Ext 245.
5. Please return the questionnaire before 20 November 1987.

Your contribution to the success of this study will be greatly appreciated.

Yours truly

Owen Skae

OWEN SKAE

## LETTER FROM SAFTO

**SAFTO**17TH FLOOR LIBRIDGE 25 AMESHOFF STREET SHAMAMONTHEIN P.O. BOX 9030 JOHANNESBURG 2002  
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In reply please quote: 1090/AM/dmck

To selected SAFTO members

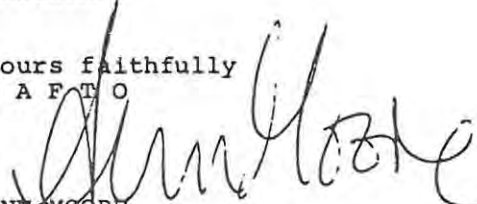
Dear SAFTO member

Rhodes University Research Project; "Operating in Turbulent Times".

We have been approached by a post graduate student at Rhodes University, Mr Owen Skae, to provide some assistance with his Masters thesis on the subject of "Operating in turbulent times: Strategic planning in South African companies with particular reference to export based organisations".

As SAFTO encourages research at university level into export orientated fields we have agreed to assist Mr Skae by selecting certain of our member companies for him to approach regarding a questionnaire relating to his thesis study.

We would be grateful if you would give Mr Skae a little of your time in completing the questionnaire. We have the assurance of Mr Skae backed up by that of Rhodes University that all information will be treated with the utmost confidentiality and individual questionnaires will for the purpose of his thesis be collated into a comprehensive non-sourced document.


Yours faithfully  
S A F T O


ANN MOORE  
General Manager  
Membership and Information

Directors: W.A.M. Clewlow (Chairman), P.G. Steyn (Vice-Chairman), J.J. Bouwer, D.C. Brink, H.K. Davies, W.M. Grindrod,  
Dr P.K. Hoogendyk, Dr J.P. Kearney, D.H. Lewis, R. Lubner, R.A. Norton, P.J. O'Sullivan, J.C. Robbertze, R.B. Savage  
Chief Executive: W.B. Holtes Secretary: G.J. Griffiths

## QUESTIONNAIRE REMINDER

Rhodes University



The Department of Business Administration  
Rhodes University  
Grahamstown 6140

TEL: 0461-22023 Ext 245

Dear Sir/ Madam


Approximately ten days ago, I invited you to participate in a country-wide survey which is attempting to identify those unique approaches relevant to South African export companies operating in an overseas environment characterised by a high degree of turbulence.

I would be most grateful if you would complete the questionnaire and return it to me at your earliest convenience, as it is vital to the success of this study that I receive your response.

Should you have misplaced the questionnaire, or not received one, please do not hesitate to contact me; I will immediately send you another one. If you have already completed and returned your questionnaire, please accept my sincere thanks.

Yours truly  
*Owee Skae*  
F.O. SKAE

**POST CARD**



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