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**CENTRE FOR  
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**THE IMPACT OF HIV/AIDS  
ON THE MACRO MARKET  
ENVIRONMENT**

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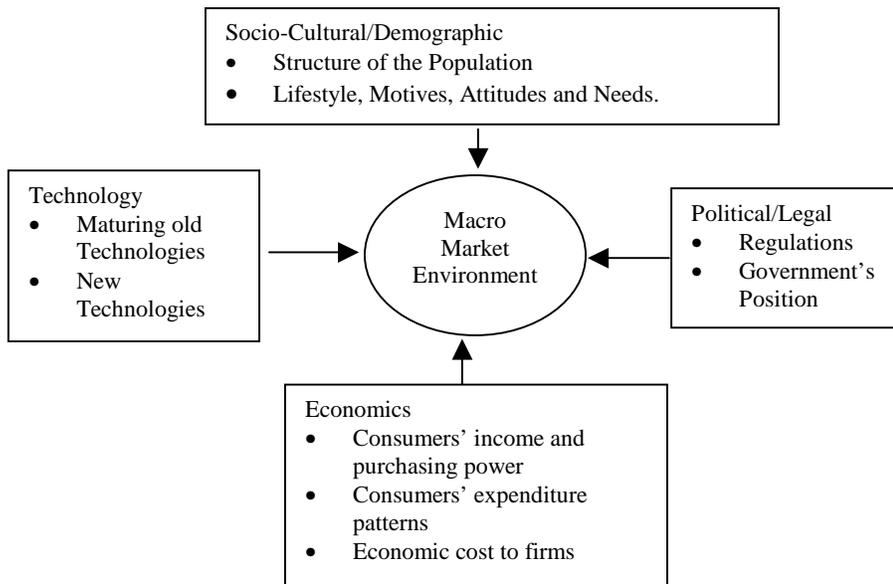
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## The Impact of HIV/AIDS on the Macro Market Environment

HIV/AIDS is the single biggest threat emanating from the macro environment facing firms today. It has been estimated that 22.6% of the total population in the 20 to 65 year old age group is currently infected, and that this will rise to 26% by the year 2005 (ASSA2000 Model, Change Scenario). Firms need to track what is occurring, anticipate what may occur in the environment and take appropriate measures. Such environmental scanning should be an ongoing process.

The purpose of this paper is to provide an overview of the impact of HIV/AIDS on the external market environment (uncontrollable factors). As indicated in Figure 1, the macro market environment can be divided into four components: Political/Legal, Economic, Socio-Cultural/Demographic and Technology (PEST); adapted from Phillip Kotler (2000: 8).

Figure 1: Key Components of the Macro Environment



## Political/Legal Environment

This environment is characterised by the laws that govern a country. It is possible to distinguish between those factors that influence a firm's strategic position, and those that force firms to produce formal plans and programmes to deal with social and political change. Table 1 shows the list of factors that will be discussed in this environment and its application in strategic market planning.

**Table 1: Relevant Political/Legal Information for Strategic Market Planning**

<i>What do we Need to Know?</i>	<i>Application in Strategic Market Planning (for the Planning Period).</i>
Government's Strategic Plan.	Integrate HIV/AIDS into the organisation's strategic plan.
Employment and Labour Policies.	Develop a workplace policy on HIV/AIDS.

## Government's Strategic Plan

In June 2000, the Minister of Health launched the HIV/AIDS/STD strategic plan for South Africa 2000-2005 (DoH, 2000:13-22). The main purpose of the plan is to guide all stakeholders, government departments and organisations in developing their own initiatives, which will be harmonised to maximise efficiency and effectiveness. It focuses on four priority areas:

Priority number 1, *prevention*: Promote safe and healthy sexual behaviour; improve the management and control of STDs; reduce mother-to-child-transmission; address issues relating to blood transfusion and HIV; provide appropriate post-exposure services; improve access to Voluntary Counselling and Testing (VCT).

Priority number 2, *treatment, care and support*: Provide services in health facilities and in communities; develop and expand the provision of care to children and orphans.

Priority number 3, *research, monitoring and evaluation*: Support AIDS vaccine development; investigate treatment and care options; conduct policy research; conduct regular surveillance.

Priority number 4, *human and legal rights*: Create an appropriate social, legal and policy environment. The strategy is to finalise the code of

good practice regarding HIV/AIDS in the workplace with accompanying regulations to enforce workplace policies.

Most government spending has been allocated to preventative programmes so far. However, from the 2003/4 tax year, spending on home and community based care and support programmes will be greater as more people will be needing care and support (Hickey, October 2001:3).

Firms have to weigh up for themselves their degree of vulnerability. One way of doing this is to establish HIV prevalence amongst its workers. To do this, either a sero-prevalence survey can be undertaken or data from existing models can be used to calculate own estimates.

## Employment and Labour Policies

In terms of the Employment Equity Act No. 55 of 1998 and the Labour Relations Act No. 66 of 1955, the government has issued the 'Code of Good Practice: Key Aspects of HIV/AIDS and Employment' (Government Gazette, 1December, 2000). According to this code, organisations may not discriminate unfairly against an employee or prospective employee on the basis of their HIV/AIDS status. This applies to employment, employee benefits and dismissal. In addition, no employer may request an employee or prospective employee to undertake an HIV test to ascertain that employee's HIV status. If the employer wishes to do so, they must apply to the Labour Court for authorisation.

Employers can use the following acts in developing their own workplace policy:

- Constitution of the Republic of South Africa Act No. 108 of 1996
- Employment Equity Act, No. 55 of 1998
- Occupational Health and Safety Act, No. 85 of 1993
- Mine and Health Safety Act, No. 29 of 1996
- Compensation for Occupational Injuries and Disease Act, No. 130 of 1993
- Basic Conditions of Employment Act, No. 75 of 1997
- Labour Relation Act, No. 66 of 1995 (arbitrary dismissal, ability to work of HIV+ staff)
- The Medical Scheme Act, No. 131 of 1998
- The Commission for Employment Equity Code of Good Practice on key aspects of HIV/AIDS and Employment, 2000

## Economic Environment

The economic environment includes HIV/AIDS prevalence for the economically active population and the impact of morbidity and mortality on firms and on households. Table 2 describes the key information of relevance to strategic market planning.

**Table 2: Relevant Economic Information for Strategic Market Planning**

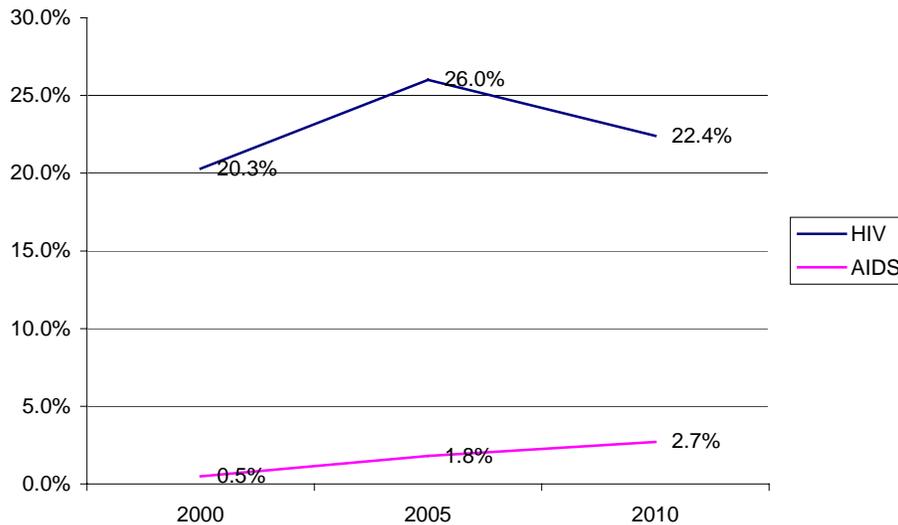
<i>What do we Need to Know?</i>	<i>Application in Strategic Market Planning (for the Planning Period).</i>
HIV/AIDS Prevalence for the Economically Active Population.	Recruitment plans including succession planning. Identify which skills are crucial to the firm. Identify which skills can be taught internally versus externally. Plan for multi-skilling. Plan for a source of supply of relevant skills. Identification of “key personnel” that should be protected. Budget for HIV/AIDS programmes. Monitor employee cost versus benefit.
Direct and Indirect Costs of Morbidity and Mortality to Firms.	Plan future costs and employee benefits the firm can afford to offer. Absenteeism plan. Plan to maintain productivity. Cost-benefit analysis (prevention versus consequential costs). Plan for early retirement or early boarding. The impact of unpaid company loans. Plan for additional cost of customer acquisition. The impact of unpaid customer credit.
Direct and Indirect Costs of Morbidity and Mortality to Households and Potential Impact on Markets.	Understand the impact of cost shifting, purchasing dynamics of infected customers and household coping mechanisms in order to: Review current product offering. Seek new product development opportunities. Quantify the impact of product substitution. Calculate the percentage of disposable income the customer will spend on the organisation’s product. Revisit market entry and exit strategies.

## HIV Prevalence in the Economically Active Population

Figure 2 shows the HIV prevalence in the economically active population (20 to 65 year olds) as calculated by the ASSA 2000 Model in the change scenario (which takes into account the current level of intervention). With large-scale intervention, HIV prevalence could be reduced further in the long term.

Figure 2 shows a lag in the prevalence of AIDS versus HIV. This is because the onset of AIDS can take many years to develop. From date of infection, it can take anytime from eight to ten years, in the absence of treatment, to develop full-blown AIDS (Whiteside and Sunter, 2000:3). AIDS deaths will continue to rise long after HIV has been curbed. Prior to developing AIDS, those infected can lead productive lives. With appropriate care, support and treatment, those living with HIV can be productive for many years. The number of years is case-specific.

Figure 2: Prevalence of HIV/AIDS Amongst the Economically Active Population



Much can be done in the workplace to curb the rate of infection, since approximately 90% of all new infections occur between the ages of 15 and

49 (Love Life, 2000:15), Abt Associates, 2000:21). This represents the most productive labour force.

### Prevalence by Skill Level

The INGBARINGS report (2000) illustrates that while the prevalence rate is lower in the highly skilled category, it is significant in terms of impacting on the organisation's productivity and profitability. As can be seen in Tables 3 and 4, the risk of infection tends to be greatest amongst employees who are skilled (clerks, craft workers) or semi- and unskilled. Those at particular risk are migrants, hostel dwellers, drivers or those who spend considerable time away from home, and those with other sexually-transmitted diseases (Williams, et al, 1999:39-41). The complacency in the other risk profiles might contribute to an increase in their infection rates.

**Table 3: HIV-Positive Individuals per 100 Workers by Skill Level**

<i>Year</i>	<i>Highly Skilled</i>	<i>Skilled</i>	<i>Semi-and Unskilled</i>
2000	11.2	17.5	22.7
2005	13.0	22.6	31.6
2010	11.2	21.7	32.7
2015	9.3	20.2	32.6

(Source: INGBARINGS, April, 2000:8)

**Table 4: AIDS Deaths per 100 Workers by Skill Level**

<i>Year</i>	<i>Highly Skilled</i>	<i>Skilled</i>	<i>Semi-and Unskilled</i>
2000	0.4	0.5	0.8
2005	1.0	1.6	2.4
2010	1.2	2.1	3.4
2015	1.0	1.9	3.3

(Source: INGBARINGS, April, 2000:8)

### The Quality of the South African Labour Force

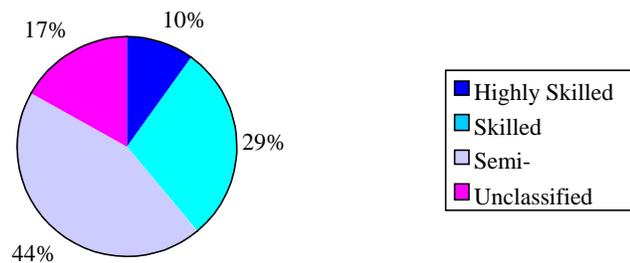
Only 8% of all African adults in the 25 to 64 age group have passed matric, while the corresponding figures for whites are 61%, coloureds 10% and Asians 27% (DoW, April, 1998:16). According to the Development Bank of Southern Africa (DBSA), 96% of the unemployed have a below matric qualification (Meintjies, 2000:25). They would fall mainly in the semi- and

unskilled category. The above statistics represent only formal education; the bulk of the labour force has probably had some on-the-job-training.

There is an additional complication in terms of the availability of future educated labour. A recent survey at the University of Durban-Westville (Abt Associates, 2000:7) showed that about 26% of women and 12% of men aged 20 to 24 were HIV-positive. In students between the ages of 25 and 29 (mostly post-graduates), the figure was 36% for women and 23% for men. This has implications for organisations that draw labour from new graduates and for those who sponsor students.

There is a surplus of labour in South Africa. The economy provides 9.6 million jobs annually for an adult population (15+) of 25.6 million. This translates into a job holding rate of 37.5%. With a labour force participation rate of 56%, and an unemployment rate of 34%, to attain full employment, South Africa requires at least 50% more jobs than it currently has (DoW, 1998:17). However, the labour reserves in the highly-skilled and skilled categories are scarce, as illustrated in Figure 3.

Figure 3: South Africa's Labour Supply by Skill Level



(Source: Erasmus, 1995:111)

### Impact of Morbidity and Mortality on Firms

Morbidity and mortality impacts on the economic environment of firms on both the demand and supply sides. Supply side costs include the direct, indirect and systemic cost to the firm. Firms can calculate direct costs in consultation with their suppliers of group life and medical aid schemes. Indirect costs can also be calculated and these include absenteeism, lowered productivity, replacement costs (including recruitment and training costs) as well as litigation costs.

There is a third type of cost that is unmeasurable but important. Examples include the morale of the work force, motivation and other unmeasurable factors that impact on work performance.

The extent to which a firm is affected on the supply side will be determined by: the number of employees who fall ill and die; their role in the company; the impact on productivity; and the nature of employee benefits provided by the company.

In order for firms to conduct economic impact studies on the supply side, it is necessary to conduct a thorough analysis of employees. According to Thea et al (2000:72-77), three pieces of human resource and financial data are critical for such an analysis to take place: HIV/AIDS prevalence, morbidity and mortality; demographic projection of the workforce; and identification of those positions and skills which will impact significantly on production if they are not available.

A demographic projection of the workforce is necessary because prevalence varies according to factors such as age, race, gender, occupation, job level, education level, type of work (amount of travelling required), place of residence (migrant, hostel dweller, live with family), as well as geographical location. This makes certain sectors more vulnerable than others such as construction, agriculture, manufacturing, mining, transport, wholesale and retail sectors. These sectors depend largely on semi- and unskilled labour as well as migrant workers. However, the prevalence of white-collar workers who travel on business should not be overlooked.

According to the study done at a sugar mill in South Africa (Morris, et al, 2000:7), costs are generally incurred in the last two years of the employee's service. It is difficult for organisations to estimate when the last two years of the employee's service will be. There are many people living with the virus that are totally ignorant of their sero-status.

The sugar mill study was conducted over a seven-year period (1991 to 1998). The prevalence rate for this company was 26%. Of those infected as at 31 December 1998, 53% remained in employment still being productive, 24% took ill-health retirement and 23% died during this period. The costs per infected employee per year for the last two years of the employee's service was R9623. Cost will depend on the type of company, the skill levels, replacement capability, the sector it operates in and the benefits it provides. Because of the lack of access to drugs, those who have developed full-blown AIDS are likely to die within two years (Moore, 1999:1).

These impacts have enormous implications for retirement, life insurance and group insurance funds. Metropolitan's Deane Moore and Stephen Kramer have projected that an average set of employee benefits will double by 2005 and triple by 2010. This could add around 15% to the remuneration budget of a typical manufacturing company (blue-collar staff of 80%) by 2005 and 30% by 2010. In addition, they estimate that indirect

costs could add a further 10% to the remuneration budget of a typical manufacturing company by 2005 and 15% by 2010.

A study conducted by Eskom indicated that direct costs of AIDS to Eskom would reach 15% of the payroll from 2005. By 2005, the cost of ill-health retirements would reach 10% of the salary bill. These estimates were based on the national prevalence extrapolated into an Eskom scenario (The Global Business Council on HIV/AIDS, 1999/2000:7). Another Eskom study, presented at the World AIDS Congress in Durban, (Thebe, July 13, 2000) showed that the longer life expectancy of an employee results in greater savings (in terms of pension and medical aid payouts) than premature death.

According to the World Economic Forum (WEF) competitiveness report, 41% of South African firms rank AIDS as having a major or moderate impact on their health care costs and time loss. The study revealed that 31% claimed that costs have been affected by time lost to attend funerals, 28% experienced costs due to reduction in skill levels and 34% state they have higher training costs. WEF estimate that 5% of managers in South Africa are HIV-positive (Business Reporter, June 22, 2000).

Since the early 1990s, the mining industry has introduced AIDS prevention programmes for miners. In 1996, in the mining town of Virginia, one company assisted by various AIDS organisations and National Union of Mineworkers (NUM), initiated a more ambitious and holistic programme. According to Jacky Delorme, a Brussels-based journalist, the HIV infection rate has been halved and the firm has saved \$2 million dollars in expenditure on medical costs as well as production losses (International Labour Organisation, December 1999:11): "If it were not for these savings coupled with the gold price, the lower-producing mines might have closed" (loc. cit). This illustrates the long-term savings firms can expect from implementing workable, HIV/AIDS programmes.

In another study (Volkswagen in Brazil), where 30 000 people are employed, the workplace policy was immediately adopted. By 1996, the firm considered that HIV/AIDS was accounting for escalated costs, absenteeism and deaths. Three years later, hospitalisations were down by 99% and HIV/AIDS costs by 40% (UNAIDS Global Report, June 2000:34). Eskom plans to spend R5 million per year for the next decade on HIV/AIDS programmes; if it did not, the epidemic would cost around R500 million (Benette, May 23, 1999).

According to a South African health services company, Lifeworks (a South African firm with a payroll of R40 million a year) absenteeism and worker disability as a result of HIV/AIDS could cost them between R4,2 million and R7,6 million over the next seven years if no appropriate intervention methods are taken (South African Press Association, August 17,

2000). With intervention, this could be reduced to between R2,3 million and R4,1 million. This results in a return on investment of around 50%.

These studies illustrate that prevention and care can be more cost-effective than the consequential costs. Proper treatment and care can prevent the onset of AIDS and extend the productive life of an individual. Firms can benefit by not having to replace employees sooner than they have to. These estimates are based on the assumption that the majority of those infected will develop AIDS. Survival once AIDS is diagnosed depends on the availability of health care. According to Anderson (1991:13), in adults the survival period following diagnosis of AIDS is one to two years and lengthened if opportunistic infections are managed with appropriate drug treatment.

The extent to which a firm is affected from a demand perspective will be determined by: the number of customers who fall ill and their ability to purchase the firm's products; the number of customers who die because the firm will need to spend money to acquire new customers; the loyalty level of customers to the firm's brand; the price elasticity of demand for the firm's product; and the income elasticity of demand.

Market and financial data that are critical for an analysis of the demand impacts are: HIV/AIDS prevalence, morbidity, and mortality; demographic projection of the customer base (including age, gender, race, geographical location, education level, lifestyle, occupation, place of residence, type of work etc); the net value of one customer (profitability); and customer's propensity to purchase the organisation's product.

The nature of goods and services and the demographic profile of customers will influence the growth or decline of markets. Certain markets will expand as the demand for certain HIV/AIDS-related goods and services increase while markets for non-essential goods and services might decline.

An organisation which has conducted a projection on the impact of HIV/AIDS on its client base is the JD Group. The study (Whiteside and Sunter, 2000:106) was conducted in 1998 and looked at issues such as product development, marketing strategies, new store openings, relocation of stores, lease negotiations, employee profiles and benefits. This study was conducted so that the JD Group could incorporate HIV/AIDS into its strategic market planning. HIV projections were completed by customer segment and store group. It has projected the overall HIV prevalence among its customers to increase to 26% by 2010 from the current 15%. Its client base will decline by 18% in eight of the nine provinces by 2015.

The JP Morgan report (2001) expects that food expenditure will be less affected than other consumer goods categories. However, it expects a trading down from luxury food to staple foods. The report emphasises that retailers targeting the lower income group will be the most at risk. Changes in demand are expected from the reduction in population size, change in

demographic structure of the population as well as changes in distribution of income. According to the report, ABI (Amalgamated Beverages Industry) projects a volume decline of 12.5% to 14.5% in the next decade as a result of the factors mentioned above.

## Impact of Morbidity and Mortality on Household Spending

The loss of productive members in the household, increasing dependency ratios, orphans, child and women-headed households incur financial strain on households, which impact on markets. Households that are afflicted with HIV/AIDS will probably divert expenditure to HIV/AIDS-related needs such as health care and funeral expenses. Products that are non-essential will be more affected than staple foods. Poor households will probably be pushed into poverty and middle-income households may be pushed into the poor category. The risk of default on credit payments will also increase. Households adopt a wide variety of strategies to mitigate the effects of HIV/AIDS. These are yet to be fully understood.

The 1995 Income and Expenditure Survey conducted by Statistics South Africa shows that the lowest income and expenditure group (Quintile 5) spends two-thirds of income on food and shelter (Orkin, 1997). Any increase in expenditure, such as health care costs, would mean a decrease in expenditure of some essential items.

Despite all the publicity surrounding the impact of HIV/AIDS on a firm's profitability and the cost benefits of early intervention, there have been few attempts to quantify its impact. (The majority of respondents in the survey recommended calculating the direct and indirect cost of HIV/AIDS).

Most survey respondents stated that absenteeism was expected to rise above the accepted norm; however, plans would be in place to address the issues of absenteeism and productivity. The majority of respondents recommended multi-skilling, training and the transfer of knowledge to appropriate staff.

Whilst unemployment is high, it is important to note that those unemployed are mainly unskilled and therefore organisations can expect high retraining costs in the future.

By analysing the size and composition of its customer base, a firm can project the number of customers with HIV and AIDS it has now and will have in the future as well as the number of AIDS deaths per year. In this way, a firm can calculate the loss of customers per year due to AIDS and therefore loss of income.

It is not sufficient to conduct internal analysis to project future market demand in the HIV/AIDS scenario. More research is required at

household level to understand expenditure shifts of essential and non-essential items. As households afflicted with HIV/AIDS will have less disposable income, firms need to understand the impact of price elasticity and product substitution on their products and services.

## The Socio-Cultural/Demographic Environment

Table 5: Relevant Socio-Cultural/Demographic Information for Strategic Market Planning

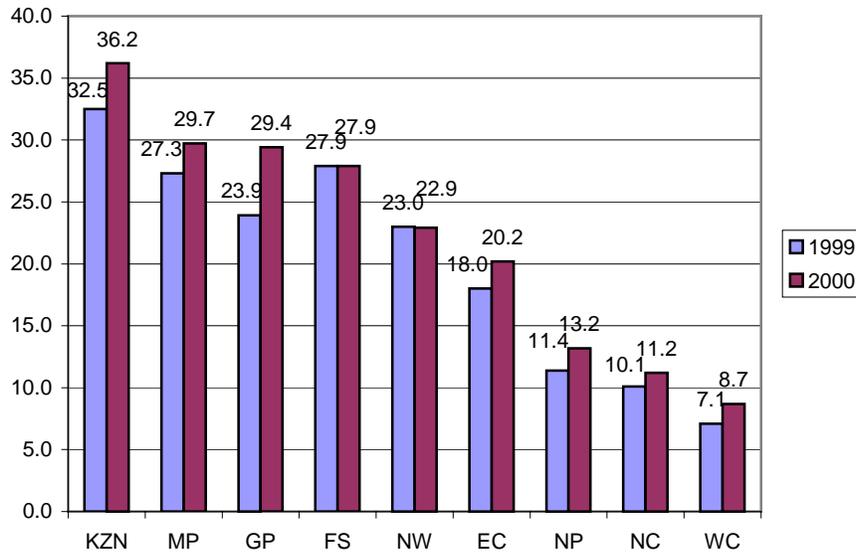
<i>What do we Need to Know?</i>	<i>Application in Strategic Market Planning.</i>
The Number of adults (consumers and employees) infected with HIV – and their position in the income distribution (as proxied by the Living Standards Measure).	Calculation of market segments, market size, market potential. Identification of new market opportunities. Identification of new product opportunities. Revisit current product offering. Risk analysis – customer debt. Customer base analysis, calculation of number of customers (current and potential) infected in each segment and profitability of each customer segment. Calculate market size and market potential.
The number of people infected with AIDS.	Re-calculate market size. Purchasing power.
Number of AIDS deaths.	New market opportunities. Re-calculation of customer base.
Number of orphans.	Emergence of new market segment.
Number of HIV+ children.	Emergence of new market segment with specific needs.
Number of child-headed households.	Emergence of new market segment with specific needs.
Needs, motivations and lifestyles of those living with HIV/AIDS .	Understanding of these needs are crucial to re-visit product portfolio, creation of new product and market opportunities.

A detailed understanding of size, structure, composition and trends of the population is of fundamental importance to the strategic manager. In addition, the social and cultural habits of society as well as household priorities in the face of HIV/AIDS should be clearly understood before any

strategic response can take place. Table 5 lists the key factors in the socio-cultural/demographic environment of relevance for strategic market planning.

For the past ten years the government has undertaken the national HIV sero-prevalence survey of women attending public antenatal clinics in South Africa. Two models have been used to build onto the antenatal surveillance data: the ASSA model and the Doyle model. This study will use projections from the Doyle model. Since its publication in 1990 it has become one of the most prominent models of the HIV/AIDS epidemic. The Doyle model is used internally by Metropolitan Life for long-term planning. It thus places great emphasis on such actuarial requirements as will enable life-assurers to gauge the financial risk of life insurance of the population as a whole. The Actuarial Society of South Africa (ASSA) has adopted the model as a guideline for the insurance industry.

Figure 4: HIV Prevalence by Province in South Africa of Women Attending Antenatal Clinics

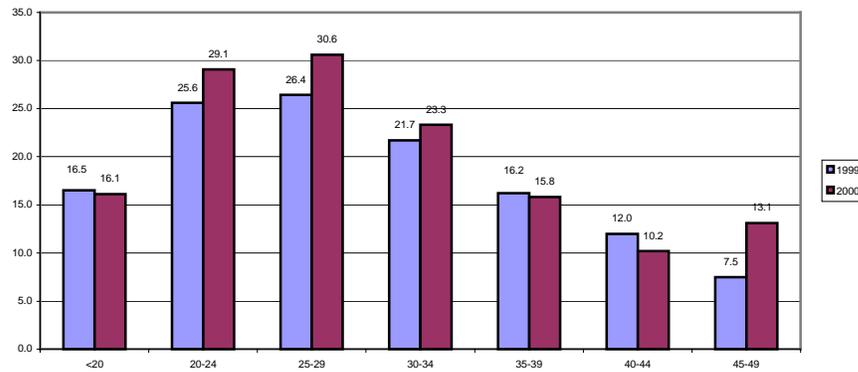


(Source: Department of Health, 2000, 2001:9)

KwaZulu-Natal remains the province with the highest prevalence rate. There are some provinces with low prevalence rates. The Western Cape, whilst

remaining the province with the lowest level of infection, shows a 22,5% increase from 7.1 % in 1999 to 8.7% in 2000 (DoH, Surveillance Report, 2001:9). The prevalence rate should be considered in conjunction with the rate of increase by provinces. No reasons have been documented for the increase by province. The prevalence rate by province has relevance for market planning. It may also have relevance for companies seconding staff to work in these areas. Staff may not readily want to relocate to high-risk areas or they may request special compensation if forced to. In high-risk areas the cost of labour might increase as a result of decreased labour supply.

Figure 5: HIV Prevalence by Age Category of Women Attending Antenatal Clinics



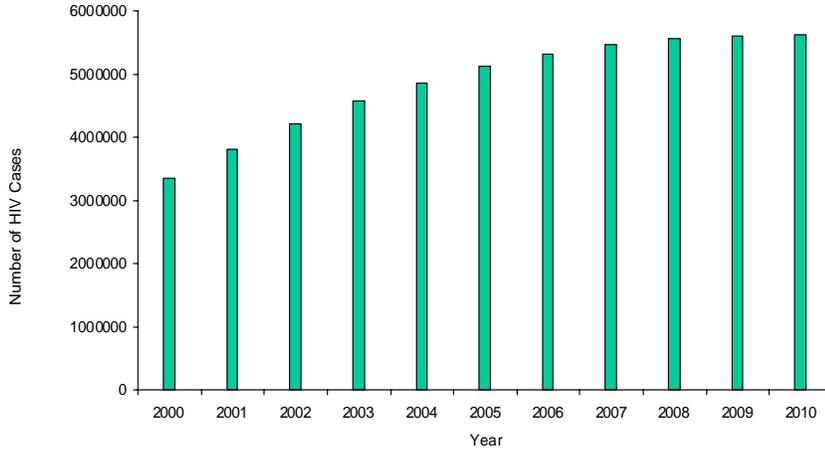
(Source: Department of Health, 2000, 2001:11)

Figure 5 shows that women in their twenties continue to have the highest prevalence rate and constitute more than half of the infected population. As this represents current and future customers, this will have an impact on future customer base.

The antenatal surveillance study does not have sufficient reliable data to draw conclusions on the various race groups because women attending public health clinics are predominantly African. Projections for the total population from the Doyle model are shown in Figure 6. The graph shows the continuous rise to over 5 million in 2005 and to under 6 million by 2010. The numbers are significant when one considers the implication of HIV/AIDS. Figure 6 shows the stabilising of the infected population from 2006. This makes it even more critical for firms to upscale prevention efforts as soon as possible. The projected number of AIDS cases for South Africa can be seen in Figure 7. The highest prevalence is among black males

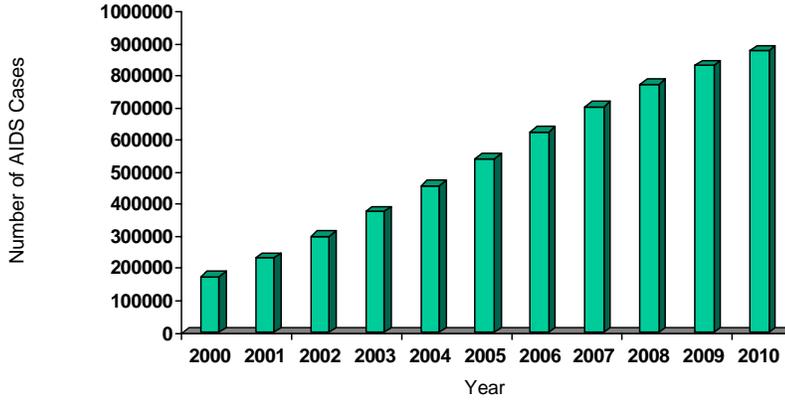
and females. Whilst this is currently the case, one must not ignore the potential for rising prevalence rates amongst the other population groups.

Figure 6: HIV Projections for Total Population



(Source: Metropolitan, 225 Doyle Model, 1999)

Figure 7: AIDS Projections for Total Population



(Source: Metropolitan, 225 Doyle Model, 1999)

## How Does HIV/AIDS Change the Size, Structure and Composition of the South African Population?

Significant demographic changes are taking place, which need to be reflected in the planning process. There is a growing ageing population and a decline in the number of children. This will have longer-term repercussions. Although there is a growing youth population, they have the highest HIV/AIDS prevalence and therefore there will be more AIDS deaths in this category in the long-term. Fewer 30 to 44 year olds mean less access to knowledge and experience.

### New Target Market Segments

HIV/AIDS brings about new market segments. Every month, approximately 5000 babies are born HIV positive. Almost 1 million children in 2005 and 2 million in 2010 will have lost their mothers to AIDS (Whiteside and Sunter, 2000:68). Children born with HIV/AIDS (although short-lived), orphans, child-headed households, single-parent households and grandparent-headed households create new target market segments. All these segments have specific needs. At present, due to the secrecy and confidentiality of the disease, no records are available of the size of these segments nor would the target audience claim ownership to these segments.

To calculate market impact studies, it is imperative for firms to have knowledge of changing consumer-spending patterns. This can be achieved through research and by understanding the social impact of HIV/AIDS on individuals and families. Little is known about People living with AIDS (PWAs) because of stigmatisation and the fact that very few people are speaking out, for fear of losing their jobs and being ostracised by their family and communities. There are two organisations, GIPA (Greater Involvement of People Living with HIV/AIDS) and NAPWA (National Association of People with HIV/AIDS) who create a safe environment for people living openly with the virus. By partnering with these organisations, firms can gain insight into the lifestyles, and buying behaviour of PWAs. In addition, firms can use PWA's for peer education.

### Living Standard Measures (LSM) Profiles

The Living Standard Measure (LSM) is often used in business circles to segment the population into different bands of affluence. LSM 1 is the least affluent whilst LSM 8 is the most affluent. Tables 6 and 7 can be used as a guide to calculate the number of customers and potential customers that are HIV-negative, HIV-positive as well as the number of customers with AIDS. The HIV prevalence rate by LSM group has been calculated (Table 9) using the race profile by LSM (Table 7) and the HIV prevalence by race (Table 8). Although this is a crude calculation, it will provide some guidance in

calculating market segmentation and profitability. The limitation of this calculation is that it does not take into account other risk factors such as mobility, skill or education level.

**Table 6: LSM by Total Population**

	<i>LSM1</i>	<i>LSM2</i>	<i>LSM3</i>	<i>LSM4</i>	<i>LSM5</i>	<i>LSM6</i>	<i>LSM7</i>	<i>LSM8</i>
Adult Population (000s)	2093	2541	2999	3597	3800	3712	3589	3391
% of Adult population	8%	10%	12%	14%	15%	14%	14%	13%
Number of Households	1183	1188	1484	1158	707	597	943	1380
% of Total Households	14%	14%	17%	13%	8%	7%	11%	16%

(Source: Liebenberg, 1999, INGBARINGS, 2000, Consumer Scope, 1999)

**Table 7: LSM by Race**

	<i>LSM1</i>	<i>LSM2</i>	<i>LSM3</i>	<i>LSM4</i>	<i>LSM5</i>	<i>LSM6</i>	<i>LSM7</i>	<i>LSM8</i>
Black	99.7%	97%	96%	93%	88%	77%	35%	7%
Coloured	0.3%	3%	4%	6%	9%	15%	20%	8%
Indian	Nil	Nil	Nil	1%	2%	4%	8%	5%
White	Nil	Nil	Nil	Nil	1%	4%	37%	80%

(Source: Liebenberg 1999, INGBARINGS, 2000, Consumer Scope, 1999)

The majority of unskilled labour (69%) belongs to LSM 1 to 6. This is where the highest incidence of HIV/AIDS occurs. Industries and channels targeting these customer groups are most vulnerable.

**Table 8: Projected HIV Prevalence by Race for 2000**

Black	95.55%
Coloured	3.46%
Indian	0.22%
White	0.77%

Source: Metropolitan, 225 Doyle Model, 1999)

HIV/AIDS will alter the structure of the population and firms will lose customers. Respondents suggested that they prefer to build their own demographic model from existing data. Drastic demographic changes will mean that market segments need to be reassessed and profitability recalculated. Some markets may shrink while others may boom. Market entry and exit strategies may need to be revisited.

**Table 9: HIV Prevalence by LSM**

	LSM1	LSM2	LSM3	LSM4	LSM5	LSM6	LSM7	LSM8
Estimated HIV Prevalence Rate	19.35	19.00	18.86	18.42	17.66	15.97	8.58	2.87

## Technological Environment

Most technological changes that affect an industry originate outside it – such as HIV/AIDS. Technological changes lead not only to new products but also to new technological processes that are designed to meet customer needs. It often leads to the identification and exploitation of unfilled needs. The safety of products to persons living with HIV/AIDS requires assessment. In addition, attention should be given to the safety of technology in the plant that might affect employees who are HIV positive. Sensitivity to these environmental influences is essential to strategic market planning.

Firms that are labour-intensive and depend on semi- and unskilled labour may be more vulnerable to higher levels of absenteeism. However, getting into capital-intensive operations too soon may result in costs that makes exiting a market even more difficult.

## Implications for Business

As the bulk of government spending will be allocated for care and support, the pressure is on business to invest in preventative programmes at the workplace. Firms need to be aware of the various guidelines available to develop an HIV/AIDS workplace policy.

An analysis of the cost implications needs to be conducted to help firms plan appropriate responses. Rising absenteeism and early deaths amongst the younger workforce are visible signs of a potential problem. The skill pool is limited and the importation of skills costly. There are existing structures in place to assist with training and development via the SETA structures.

Firms that serve high-risk customers are particularly vulnerable. Firms would need to be replacing customers on an ongoing basis and appropriate spending should be allocated to customer acquisition.

The costs of HIV/AIDS not borne by employers or the government is pushed onto households. As a higher proportion of income gets spent on health and funeral expenditure, less will be available for other goods and services. There is little available information on which goods and services are likely to be particularly hard hit.

The fact that the demographic structure of the population will change will lead to certain markets remaining stagnant, some rising and some declining.

## **Conclusion and Recommendations**

There are three broad factors that influence the actions that can and will be taken by firms. These include:

- Profitability: this is the ultimate goal of firms. Firms have to make a profit otherwise they cease to exist.
- Legality: firms operate within the legal framework of the country, as well as any agreements negotiated between management, workers and other stakeholders.
- Responsibility: this covers morality, ethics and corporate governance. Most firms accept that they have a societal responsibility that goes beyond simply making a profit or obeying the laws of the country (adapted from Whiteside, 2000:6).

Early investment by firms on HIV/AIDS programmes and provision of health care, although initially costly, can have long-term benefits. Studies have also shown that returns in terms of cost savings through preventing HIV/AIDS are as high as 3.5 to 7.5 times the cost of intervention (The Global Business Council, The Business Response to HIV/AIDS: Impact and Lessons Learnt, 2000:18).

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