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Market Engineering Research for the Total Asian Generic Pharmaceutical Market, 1997-2007

Forecast of the Total Asian Generic Pharmaceutical Market

Market Overview and Definitions

Overview

The generic pharmaceutical market contributes to approximately 9.9 percent of the total pharmaceutical market in Asia. This figure excludes the market values in Japan and China. In 2001, the generic pharmaceutical market was estimated at $3.4 billion in 2001 and is forecast to grow at the CAGR of 11.1 percent from 2001 to 2007.

Overall, generic pharmaceutical markets in this region are all in the growth stage, except in Taiwan where the market is saturated. Prospects are bright for generic manufacturers as governments across the region are looking to find alternatives to reduce healthcare spending, including reducing drug reimbursement rates. In addition, patent expiration within the next five years for 47 blockbuster drugs are also expected to provide opportunities for generic manufacturers to capture some markets.

High growth markets, especially the emerging Indo-China markets also present opportunities for generic companies with a strong manufacturing base to penetrate these markets. These markets include Cambodia, Myanmar, and Vietnam. Despite the still shaky government regulations in these markets regarding the pharmaceutical industry, many companies (especially multinational companies) have established representative offices to be ready when the time is right to enter aggressively.

Definition

Generic drugs have the same dosage form, administration routine, strength, quality, performance, and intended use as its branded counterpart. As companies that manufacture generic drugs do not incur research and development costs, their products are priced lower than branded ones.

The base year for this report is 2001, unless otherwise stated. This report covers the market from 1997 to 2007. All revenues in this study are presented in U.S. dollars.

Figure 3-1 presents the currency conversion rates for the various local currencies to $1 for the total generic pharmaceutical markets in the countries covered by this study from 1997-2007.

Figure 3-1

Total Generic Pharmaceutical Market: Currency Conversion Rates to $1 (Asia), 1997-2007

Year	Malaysia (RM)	Philippines (Pesos)	Singapore (S$)	Taiwan (NT$)
1997	3.2	29.6	1.64	27.9
1998	3.8	39.0	1.66	34.4
1999	3.8	38.5	1.67	32.1
2000	3.8	44.8	1.64	30.9
2001	3.8	53.6	1.84	34.9
2002-2007	3.8	50.1	1.79	34.0

Note: All figures are rounded; the base year is 2001. Source: Frost & Sullivan

Scope and Segmentation

The term "total Asian market" refers to the generic pharmaceutical markets in all countries in Asia, except China and Japan. The following countries have been covered in this report:

- Malaysia
- Philippines
- Singapore
- Taiwan

The report is segmented as follows:

- Chapter 1: Executive Summary
- Chapter 2: Scope and Methodology
- Chapter 3: Market Engineering Research for the Total Asian Generic Pharmaceutical Market
- Chapter 4: Market Engineering Research for the Malaysian Generic Pharmaceutical Market
- Chapter 5: Market Engineering Research for the Philippines Generic Pharmaceutical Market
- Chapter 6: Market Engineering Research for the Singapore Generic Pharmaceutical Market
- Chapter 7: Market Engineering Research for the Taiwan Generic Pharmaceutical Market
- Chapter 8: Brief Overview of the Pharmaceutical Markets in Cambodia, Myanmar, and Vietnam

Market Engineering Research Measurement System

Chart 3.1 shows the Market Engineering research measurements for the Asian generic pharmaceutical markets in 2001.

Chart 3.1

Generic Pharmaceutical Market: Market Engineering Measurements (Asia), 2001

Measurement Name	Measurement	Trend
Market age	All countries: growth Taiwan: mature	N/a
Revenues (2001)	$3.4 billion	Up
Potential revenues (2007)	$6.5 billion	---
Current market growth rate (2001)	7.9%	Up
Forecast period market growth rate (2001–2007)	11.1%	---
Price sensitivity	High	---
Competitors (active market competitors in 2002)	Approx. 60	Stable
Companies entering the market	---	---
Companies exiting the market	None	---

Source: Frost & Sullivan

Market Drivers

Market drivers for the generic pharmaceutical markets in Asia generally differ in each country; they depend on the local market environment. However, some of the similarities in trends between the countries are described below.

Figure 3-2 lists the major drivers and impact time frame for the total generic pharmaceutical market in the Asian region during the period 2002 to 2007.

Figure 3-2

Total Generic Pharmaceutical Market: Market Drivers Ranked in Order of Impact (Asia), 2002-2007

Rank	Driver	1-2 Years	3-4 Years	5-6 Years
1	Asia's aging population spurs demand for pharmaceutical products	High	High	High
2	Government policies to reduce spending on pharmaceutical products provide opportunities for generic manufacturers	High	High	High
3	Limited purchasing power drives demand for generic products	High	High	High
4	Upcoming patent expirations provide opportunities for manufacturers to develop new generic products	Medium	High	High

Source: Frost & Sullivan

Asia's Aging Population Spurs Demand for Pharmaceutical Products

In the year 2000, approximately 17 percent of Asia's population were aged above 55 years. By 2005, it is projected to increase to 25 percent. This demographic trend will also lead to increased demand for pharmaceutical products, as elderly people are more prone to ailments. Secondly, the cheaper pricing would also help them to favor generic versions of drugs. Therefore, increase in the aging population is likely to continue to boost the market for the generic drugs throughout the forecast period.

Government Policies to Reduce Spending on Pharmaceutical Products Provide Opportunities for Generic Products

While the governments in the region are attempting to provide adequate healthcare services to their population, they are also looking for alternatives to control healthcare spending. Especially in countries where the coverage of healthcare insurance is generous such as Taiwan, the system is almost bankrupt due to the lack of monitoring of prescriptions made by healthcare professionals. Now the governments are taking action by providing fixed budgets for hospital reimbursements. This move is likely to spur demand for generic drugs so that hospitals do not exceed budgets.

Limited Purchasing Power Drives Demand for Less Expensive Generic Drugs

In countries where the government does not provide thorough coverage for health insurance, most of the population has to self-finance their medical expenses. As majority of people in developing countries such as Indonesia, Thailand, Philippines, Vietnam, Myanmar, and Cambodia have limited purchasing power, they opt for the less expensive drugs whenever possible. Therefore, demand for generic drugs is likely to grow due to the limited purchasing power of people.

Upcoming Patent Expirations Provide Opportunities for Manufacturers to Develop New Generic Products

Patent expirations for approximately 47 popular products are coming up within the next five years. These patent expirations will give generic manufacturers a chance to replenish product pipelines with new drugs to expand markets.

Market Restraints

Market restraints for the generic pharmaceutical markets in Asia differ in each country. However, some of the similarities in trends between the countries are described below.

Figure 3-3 illustrates major restraints and impact time frame for the total generic pharmaceutical market in the Asian region during the period 2002 to 2007.

Figure 3-3

Generic Pharmaceutical Market: Market Restraints Ranked in Order of Impact (Asia), 2002-2007

Rank	Restraints	1-2 Years	3-4 Years	5-6 Years
1	Tight competition forces manufacturers to compete on prices	High	High	High
2	Perception of generic products as low in quality deters market growth	High	High	High

Source: Frost & Sullivan

Tight Competition Forces Manufacturers to Compete on Prices

There is tight competition in the generic pharmaceutical market in the region. As brand distinction is scarce among generic products; most manufacturers try to gain market share by attempting to commoditize products. Hence, the most practical means of competing is through price competition. The subsequent price wars result in the decline of potential margins, making the market less attractive.

Perception of Generic Products as Low in Quality Deters Market Growth

The general end-user perception is that generic drugs are of low quality. This perception in addition to brand loyalties towards certain products influences purchasing decisions for drugs. Hence, generic manufacturers need to change this perception of users to stop the market from deteriorating.

Revenue Forecasts (1997-2007)

Total Revenues

The total Asian generic pharmaceutical market excluding Japan and China was valued at $3.4 billion in 2001. The market experienced a growth rate of 7.9 percent from revenues in 2000. The CAGR for the forecast period is estimated at 11.1 percent. By 2007, the market is projected to reach nearly $6.5 billion.

Figure 3-4 and Chart 3.2 show the historical and forecast of revenues for the total generic pharmaceutical market in Asia during the period 1997 to 2007, excluding Japan and China.

Figure 3-4

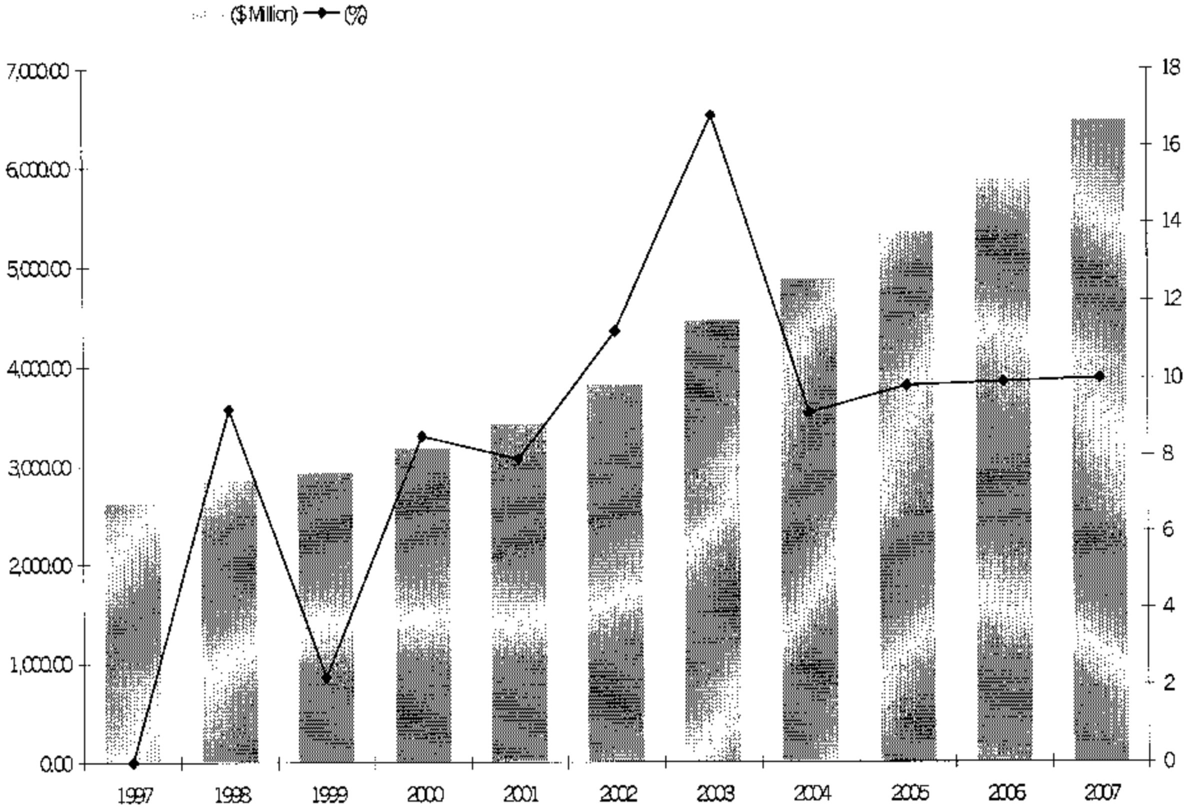
Generic Pharmaceutical Market: Historical and Projected Revenues (Asia), 1997-2007

Year	Revenues ($ Billion)	Revenue Growth Rate (%)
1997	2.6	---
1998	2.8	9.2
1999	2.9	2.2
2000	3.2	8.5
2001	3.4	7.9
2002	3.8	11.2
2003	4.5	16.8
2004	4.9	9.1
2005	5.4	9.8
2006	5.9	9.9
2007	6.5	10.0
Compound Annual Growth Rate (2001-2007): 11.1%		

Note: All figures are rounded; the base year is 2001. Source: Frost & Sullivan

Chart 3.2

Generic Pharmaceutical Market: Historical and Projected Revenue (Asia), 1997-2007



Source: Frost & Sullivan

The combined market size for the four countries (Malaysia, Philippines, Singapore, and Taiwan) covered by this study was about $506.9 million in 2001. The markets in these countries are still in the growth stage, except in Taiwan. The market prospects in these countries are considered good as the CAGR from 2001 to 2007 is projected to record double-digit growth rates at 12.3 percent. By 2007, the generic pharmaceutical market in the four countries is expected to reach over $1 billion.

Figure 3-5 and Chart 3.3 show historical and revenue forecasts for the four Asian generic markets covered by this study during the period 1997 to 2007.

Figure 3-5

Generic Pharmaceutical Market: Historical and Revenue Forecasts for Countries Covered by this Study (Asia), 1997-2007

Year	Revenues ($ Million)	Revenue Growth Rate (%)
1997	487.2	—
1998	457.8	(6.0)
1999	513.8	12.2
2000	509.2	(0.9)
2001	506.9	(0.4)
2002	614.1	21.1
2003	667.8	8.8
2004	729.0	9.2
2005	811.5	11.3
2006	907.1	11.8
2007	1,017.4	12.2

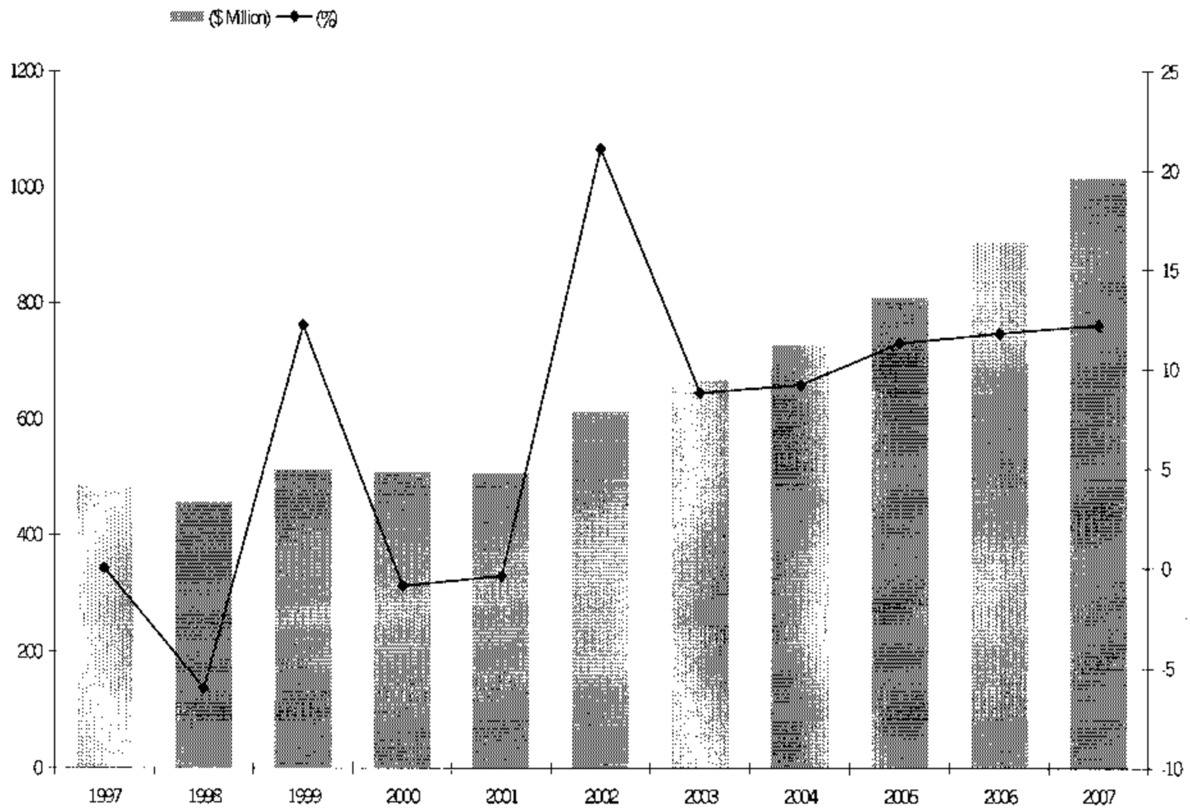
Compound Annual Growth Rate (2001-2007): 12.3%

Note: countries include Malaysia, Philippines, Singapore and Taiwan

Note: All figures are rounded; the base year is 2001. Source: Frost & Sullivan

Chart 3.3

Generic Pharmaceutical Market: Historical and Revenue Forecasts for Countries Covered in this Study (Asia), 1997-2007



Source: Frost & Sullivan

Demand Analysis

Demand for generic drugs is expected to increase during the forecast period. In Malaysia, Philippines, Singapore, and Taiwan, the combined revenue growth in 2001 slowed down due to economic recession. However, it is projected that the market will experience a revival due to improved economic conditions in 2002. The demand projection also looks bright for rest of the forecast period. Attempts by governments to control healthcare spending are driving demand. In addition, patent expiration of some drugs is likely to provide new products in the pipeline for generic manufacturers.

Trends by Geographic Region

Among the four countries covered, Taiwan had the largest revenue share of 40.1 percent in 2001, followed by Philippines with 34.2 percent revenue share.

Figure 3-6 and Chart 3.4 present percent of revenues by country for the total Asian generic pharmaceutical market during the period 1997 to 2007.

Figure 3-6

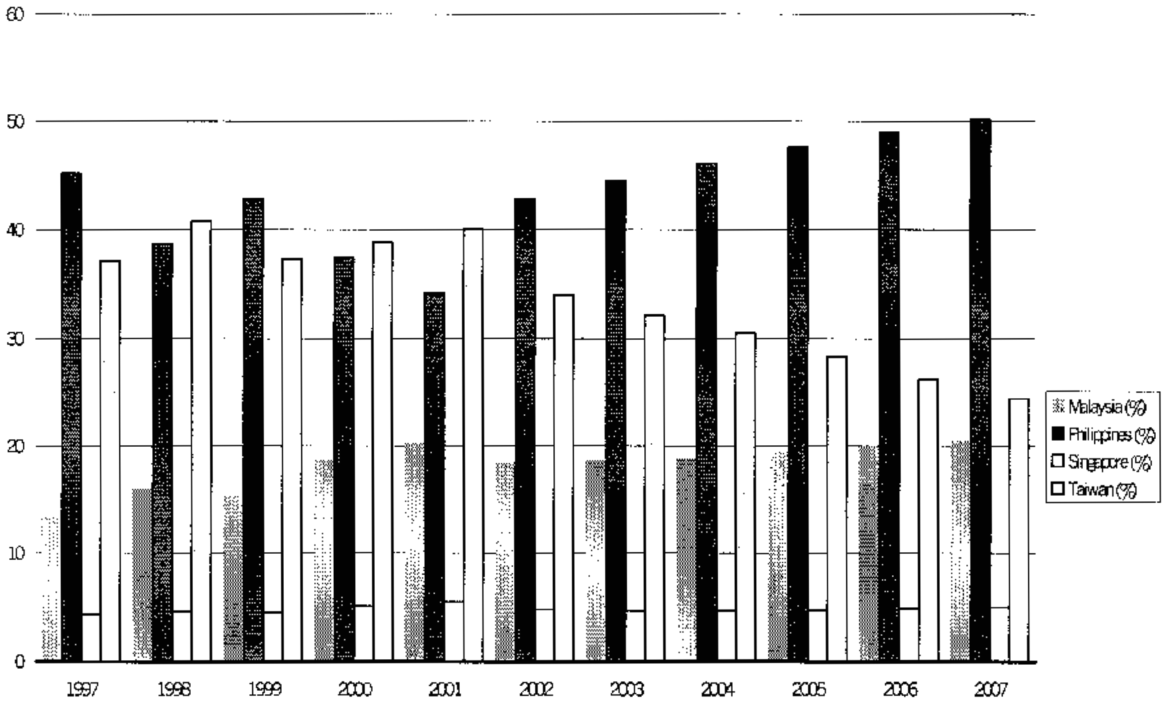
Generic Pharmaceutical Market: Percent of Revenue Breakdown by Country (Asia), 1997-2007

Year	Malaysia (%)	Philippines (%)	Singapore (%)	Taiwan (%)
1997	13.4	45.2	4.3	37.1
1998	15.9	38.7	4.6	40.8
1999	15.4	42.8	4.5	37.3
2000	18.6	37.5	5.1	38.9
2001	20.2	34.2	5.5	40.1
2002	18.4	42.8	4.8	34.0
2003	18.6	44.5	4.7	32.2
2004	18.7	46.1	4.7	30.5
2005	19.4	47.6	4.7	28.3
2006	19.9	49.0	4.9	26.2
2007	20.4	50.2	5.0	24.4

Note: All figures are rounded; the base year is 2001. Source: Frost & Sullivan

Chart 3.4

Generic Pharmaceutical Market: Percent of Revenue Breakdown by Country (Asia), 1997-2007



Source: Frost & Sullivan

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Market Engineering Research for the Generic Pharmaceutical Market in Malaysia, 1997-2007

Market Overview and Definition

Overview

The generic pharmaceutical market in Malaysia is at a growth stage; in 2001, the market grew at a considerably good rate of 8.0 percent. This growth has been supported by the population's increasing awareness regarding choices in medications. Further, awareness about the importance of healthcare leads to regular check-ups and preventive measures, which ensures growing demand for drugs.

However, a country with approximately 23 million people does not show much promise in terms of future growth. In order to overcome this problem, local manufacturers are also looking beyond the borders of Malaysia into high potential countries such as those in Indochina. Malaysia's membership of the Pharmaceutical Inspection Co-operation Scheme (PICS) is also an indication that the Government is serious about upgrading the pharmaceutical industry; thus, providing high quality yet affordable drugs to Malaysians. Thus, the generic pharmaceutical industry is likely to grow substantially in the coming years.

Definition

This chapter provides an analysis of the generic pharmaceutical market in Malaysia from 1997 to 2007. The base year of this study is 2001, unless otherwise stated. All revenues in this study are presented in U.S. dollars.

Figure 4-1 shows the currency conversion rates of RM to US$ from 1997 to 2007.

Figure 4-1

Generic Pharmaceutical Market: Conversion Rate of RM to $1 (Malaysia), 1997-2007

Year	Conversion Rate (RM to $1.00)
1997	3.2
1998	3.8
1999	3.8
2000	3.8
2001	3.8
2002–2007	3.8

Source: Frost & Sullivan

Demography

Population

In 2001, Malaysia's Statistics Department estimated the population to be approximately 23.8 million. The racial classification within the country is as follows:

- Bumiputera Malays (65.1 percent)
- Chinese (26.0 percent)
- Ethnic Indians (7.7 percent)

The population from 2001 to 2007 is estimated to grow at the CAGR of 2.3 percent.

The following trends are predicted to occur during this period:

- According to the 2000 census, the aging population in Malaysia (aged 65 years and above) accounted for 3.9 percent of the total population. This is slightly higher than the composition in 1991 of about 3.7 percent. The growing number of elderly people requiring medical care facilities provides opportunities for the healthcare industry in the near future.
- The Malaysian Government is trying to increase the market potential of the country and strengthen its economy by boosting its population base. The government aims to increase the population to 70 million by 2020. To achieve this goal, it has provided incentives in terms of tax breaks for families with five or more children. However, the government's goal may be difficult to attain as most women and the younger generation within the country are educated and have affluent lifestyles; they are not likely to have many children.

Figure 4-2 shows the historical and projected population of Malaysia from 1997 to 2007.

Figure 4-2

Generic Pharmaceutical Market: Population (Malaysia), 1997-2007

Year	Population (Million)	Growth Rate (%)
1997	21.7	-
1998	22.2	2.3
1999	22.7	2.2
2000	23.3	2.6
2001	23.8	2.1
2002	24.4	2.4
2003	24.9	2.3
2004	25.5	2.3
2005	26.1	2.2
2006	26.7	2.2
2007	27.3	2.2
Compound Annual Growth Rate (2001– 007): 2.3%		

Note: All figures are rounded; the base year is 2001. Source: Frost & Sullivan

Major Demographic Indicators

According to the U.S. Bureau of Census International Database, birth rates in Malaysia declined from 26.3 per 1,000 population in 1997 to 24.8 per 1,000 population in 2001. The decline in birth rates is mainly due to:

- Better education and more affluent lifestyle of the people, especially the younger generation that desires less children
- Current trend of couples delaying marriages
- Increasing cost of living
- Increasing migration of people from rural to urban areas, embracing higher costs of living and modern lifestyles

Mortality rate also declined from 5.4 per 1,000 population in 1997 to 5.2 per 1,000 population in 2001. Infant mortality rate went down from 23.3 per 1,000 population in 1997 to 20.3 per 1,000 population in 2001. Life expectancy has improved slightly from 67.4 years in 1997 to 68.5 years in 2001 for males and 72.6 years in 1997 to 73.9 years for females in 2001. These demographic indicators show that the quality of life in Malaysia is improving. People are more educated, resulting in more controlled population growth. Birth and mortality rates have declined and life expectancy is better. Figure 4-3 shows major demographic indicators in Malaysia from 1997 to 2002.

Figure 4-3

Generic Pharmaceutical Market: Major Demographic Indicators (Malaysia), 1997-2002

Year	Birth Rate (per 1000)	Mortality Rate (per 1000)	IMR (per 1000)	Life Expectancy (%) (Male)	Life Expectancy (%) (Female)
1997	26.3	5.4	23.3	67.4	72.6
1998	26.6	5.4	22.5	67.6	72.9
1999	25.9	5.3	21.7	67.9	73.3
2000	25.3	5.2	21.0	68.2	73.6
2001	24.8	5.2	20.3	68.5	73.9
2002	24.2	5.2	19.7	68.8	74.2

Note: IMR = Infant Mortality Rate

Note: The base year is 2001. Source: Frost & Sullivan, U.S. Bureau of the Census, International Database

Leading Causes of Death

Although infectious diseases such as malaria and dengue fever have high incidence in Malaysia, they do not have a high death toll. The Malaysian government has made significant efforts at educating the people on preventive and curative measures against such infectious diseases.

The increasingly affluent lifestyles of Malaysians have triggered biologically produced ailments like cancer and cardiovascular diseases, which are the two leading causes of disease-related death. It must be noted that this trend presents an emerging market opportunity for pharmaceutical companies to cater to this segment of the patient population.

Figure 4-4a and Figure 4-4b list the top five diseases in Malaysia from 1997 to 2002 and give the historical and projected number of lives they claimed/or are likely to claim.

Figure 4-4a

Generic Pharmaceutical Market: Top Fatal Diseases and Incidence (Malaysia), 1997-2002

Year	Cancer	Growth (%)	AMI	Growth (%)	CD	Growth (%)
1997	4,045	(3.9)	3,420	3.2	3,335	1.7
1998	3,964	(2.0)	3,530	3.2	3,385	1.5
1999	3,883	(2.1)	3,641	3.2	3,435	1.5
2000	3,800	(2.1)	3,752	3.1	3,486	1.5
2001	3,716	(2.2)	3,860	2.9	3,538	1.5
2002 (estimated)	3,632	(2.3)	3,968	2.8	3,591	1.5

Key:

AMI = Acute Myocardial Infraction (heart attack–chest pains)

CD = Cerebrovascular Disease (stroke–blood clot to the brains)

Source: Malaysia Ministry of Health, Frost & Sullivan

Figure 4-4b

Generic Pharmaceutical Market: Top Fatal Diseases and Incidence (Malaysia), 1997-2002

Year	Septicemia	Growth (%)	Pneumonia	Growth (%)
1997	2,733	3.2	1,669	16.38
1998	2,842	4.0	1,752	5.0
1999	2,969	4.5	1,822	4.0
2000	3,117	5.0	1,894	4.0
2001	3,272	5.0	1,950	3.0
2002	3,435	5.0	2,008	3.0

Source: Malaysia Ministry of Health, Frost & Sullivan

The Healthcare System in Malaysia

Malaysia has one of the most heavily funded government healthcare systems in Asia. The whole system is similar to that of a big health maintenance organization. The government allocated approximately $1.2 billion (RM4.5 billion) for this industry in 1999, subsidizing 97 percent of **drug purchase** in government hospitals, which totaled between $52.6 million (RM200.0 million) and $79.0 million (RM300.0 million). Consultation fees in a government hospital vary from about $0.3 (RM1.0) to $1.3 (RM5.0). The government's commitment toward providing adequate healthcare for its people allows each of the 13 states in Malaysia to have its own government hospitals. In addition, government-funded medical facilities are present in every town or village.

Financing of the Healthcare System

The Malaysian Government realized that it could not afford to be the main source of funding for healthcare schemes. Since 1983, discussions have been under way to help ease the government's burden of financing healthcare. No decision has been reached yet, although a public insurance health system may be the answer.

Hospitals

Despite the lower consultation fees in government hospitals and the fact that most of the leading doctors work in government hospitals, people favor private hospitals for better quality of service. Currently there are 111 government hospitals and healthcare centers in the country.

Figure 4-5 shows the number of public and private hospitals and the number of beds from 1997 to 2002.

Figure 4-5

Generic Pharmaceutical Market: Historical and Forecast Projection of Public and Private Hospitals (Malaysia), 1997-2002

Year	Public Hospitals	Growth (%)	No of Beds	Private Hospitals	Growth (%)	No of Beds
1997	111	0.0	27,166	219	7.9	8,963
1998	111	0.0	27,046	216	(1.4)	9,060
1999	111	0.0	28,046	214	(0.9)	8,000
2000	111	0.0	30,000	221	3.3	8,550
2001	111	0.0	33,000	229	3.6	9,350
2002 (estimated)	111	0.0	40,000	240	4.8	10,800

Note: Private hospitals include nursing and maternity homes

Source: Malaysia Statistics Department, Frost & Sullivan

Although government hospitals are the major buyers of pharmaceutical products, manufacturers tend to prefer targeting private hospitals for the following reasons:

- The complicated tender system that manufacturers have to go through in order to supply to government hospitals
- The tight competition to win government tenders that induces price-cutting efforts, decreasing profits of manufacturers
- The long processing period of bidding for tenders
- The short-term relationship with government hospitals, which conduct new tenders for every new purchase

Healthcare Personnel

In 1998, there were 15,016 doctors, 2,058 dentists, 18,134 nurses, and 8,058 assistant nurses in Malaysia. The ratio of population per doctor is 1,477.

The trends in producing more healthcare personnel in Malaysia are as follows:

- More placements in university medical programs, despite tough competition for admission. More universities such as the International Medical College are offering medical programs. The "merit based" admission criteria replaced the old admission allocation system, allowing universities to select the best talents in the country.
- Joint programs with foreign universities for overseas internships. To make the local program attractive, many universities have established partnership with foreign universities, usually from the Commonwealth countries. Under the scheme, students can attend the first 3 years of medical school locally and complete remaining internship period overseas.

Figure 4-6 shows the number of medical personnel in Malaysia from 1997 to 2002.

Figure 4-6

Generic Pharmaceutical Market: Historical and Forecast Projection of Public and Private Hospitals (Malaysia), 1997-2002

Year	Doctors	Growth (%)	Dentists	Growth (%)	Nurses	Growth (%)
1997	14,248	--	1,865	--	16,068	--
1998	15,016	5.4	2,058	10.3	18,134	12.9
1999	15,503	5.8	2,125	3.2	19,941	10.0
2000	16,139	4.1	N/A	N/A	N/A	N/A
2001	16,929	4.9	N/A	N/A	N/A	N/A
2002	17,877	5.6	N/A	N/A	N/A	N/A

Key: N/A = Not Available

Source: Malaysia Statistics Department; Decision Support Database-Frost & Sullivan

Role of the Government

Malaysian Healthcare Vision

In Malaysia's vision for the future, Vision 2020, one of the government's goals for the country is "to be a nation of healthy individuals, families, and communities through a health system that is equitable, affordable, technologically appropriate, environmentally adaptable, and consumer-friendly with emphasis on quality, innovation, health promotion, and respect for human dignity and which promotes individual responsibility and community participation toward an enhanced quality for life." The quote has been taken from the Malaysian Healthcare Briefing.

Eighth Malaysia Plan

Malaysia's plans for national development are outlined in 5-year phases. All current healthcare investments are guided by the Eight Malaysia Plan (2001–2005). This plan focuses on the improvement of health services to ensure that Malaysians enjoy a higher quality of life. A budget of $1.4 billion (RM5.5 billion) is allocated for continued expansion of the healthcare sector, including healthcare services, medical equipment, and pharmaceuticals from 2001 to 2005.

The Eight Malaysia Plan emphasizes on:

- Improving accessibility to affordable and quality healthcare
- Expanding the wellness program (that is, disease awareness programs, etc.)
- Promoting coordination and collaboration between private and public health provision
- Increasing the supply of trained healthcare professionals
- Enhancing the research capability of the health sector

In 1999, the ratio of government to private spending in healthcare was 1:3. The projected ratio for 2002 is 1:4.

Figure 4-7 shows the ratio of government to private sector healthcare spending from 1997 to 2002.

Figure 4-7

Generic Pharmaceutical Market: Historical and Projected Forecasts of Percentage Distribution between Government and Private Healthcare Spending (Malaysia), 1997-2002

Year	Government Spending (%)	Private Spending (%)
1997	25.0	75.0
1998	25.0	75.0
1999	25.0	75.0
2000	25.0	75.0
2001	20.0	80.0
2002 (estimated)	20.0	80.0

Note: All figures are rounded; the base year is 2001. Source: Frost & Sullivan

Challenges Facing the Market

Figure 4-8 shows the challenges facing the Malaysian generic pharmaceutical market from 2002 to 2007.

Figure 4-8

Generic Pharmaceutical Market: Impact of Industry Challenges (Malaysia), 2002-2007

Challenge	1-2 Years	3-4 Years	5-6 Years
Tight competitive environment forces manufacturers to resort to pricing competition	High	High	High
Distribution of products can be a challenge as distributors are generally pressured not to handle generics	High	High	High
Malaysia's relatively small population size creates challenges to achieve high sales volume	High	High	High
Implementation of the Pharmaceutical Inspection Co-operation Scheme (PICS) compelled manufacturers to invest more in manufacturing facilities	High	High	Medium
Common perception of generic drugs as low quality products hinders purchases by patients	Medium	Medium	Low

Source: Frost & Sullivan

Tight Competitive Environment Forces Manufacturers to Resort to Pricing Competition

One of the main competitive factors in the generic pharmaceutical market is price, as product differentiation is hardly evident. The market is generally flooded with generic versions of off-patent drugs. As end-users such as hospitals and doctors focus on their bottom line as well, the manufacturer with the most competitive price appears to be the most attractive. Often, a price difference of a few cents is enough to make a market participant lose a customer. Consequently, manufacturers would resort to offering lower prices and/or discounts to keep their customers or attain new ones. Thus, manufacturers are finding it a challenge to maintain good price levels as the competition is very tight.

Distribution of Products Can Be a Challenge as Distributors are Generally Pressured Not to Handle Generic Products

Large distributors such as Diethelm and Zuellig generally distribute drugs of MNCs. However, having MNCs as customers can prove to be challenging as well. As these customers command a large proportion of the distributors' revenues, they have bargaining power. For instance, large MNCs pressure their distributors not to deal with generic products. These distributors are not left with many options as they cannot risk losing major customers. Thus, generic manufacturers have to find their own network of distributors, which in turn have to compete with dominant distributors. The impact of this challenge is expected to remain high throughout the forecast period as MNCs remain dominant in the pharmaceutical market.

Malaysia's Relatively Small Population Creates Challenges to Achieve High Sales Volume

Malaysia's main disadvantage over other ASEAN countries such as Thailand or Indonesia is its small population size. With a total population of about 23 million people, growth in demand for drugs is limited. Coupled with the high level of competition in the industry, market participants are finding it difficult to achieve satisfactory sales volume levels. This makes it necessary for market participants to look beyond the borders of Malaysia in order to increase sales. Countries with relatively undeveloped pharmaceutical industries, such as those in Indochina, present better prospects in terms of penetration and population size. The impact of this challenge is expected to remain high throughout the forecast period as the population in Malaysia is expected to remain small.

Implementation of the Pharmaceutical Inspection Co-operation Scheme (PICS) Compelled Manufacturers to Invest More in Manufacturing Facilities

Malaysia's implementation of the PICS is aimed at raising standards of the Malaysian pharmaceutical industry. However, under this scheme manufacturers are required to upgrade their facilities such as water systems, which call for additional investments. The initial stages would also see manufacturers having to stall production while upgrades are being implemented. For new entrants, a higher cost may be a barrier to entry as minimum standards in equipment and facilities are imposed. Increased investments means that the sales level would have to be increased before a manufacturer breaks even. The impact of this challenge is expected to be high at the beginning of the forecast period and lower slightly towards the end of the forecast period, as more manufacturers have better systems installed at their plants.

Common Perception of Generic Drugs as Low Quality Products Hinders Purchases by Patients

Familiarity with established brand names of drugs makes some people reluctant to try a brand other than the ones they are used to. Further, the tendency to look to MNCs leads to the perception that locally manufactured drugs do not match the quality of branded drugs. Due to this perception and the high influence of MNCs, physicians, hospitals and clinics have to cater to demand by continuing to purchase branded drugs. The impact of this challenge is expected to be moderate towards the beginning and reduce at the end of the forecast period as patients become more educated and discrimination toward generic products ceases. Awareness campaigns by manufacturers are also expected to increase trust in generics.

Market Engineering Measurement Analysis

Chart 4.1 shows the Market Engineering measurements for the Malaysian generic pharmaceutical market.

Chart 4.1

Generic Pharmaceutical Market: Market Engineering Measurements (Malaysia), 2001

Measurement Name	Measurement	Trend
Market age	Growth stage	N/a
Revenues (2001)	$102.6 million	Up
Potential revenues (2007)	$207.7 million	--
Current market growth rate (2001)	8.0%	Up
Forecast period market growth rate (2001–2007)	12.5%	--
Price sensitivity	High	--
Competitors (active market competitors in 2001)	10	Stable
Companies entering the market	--	--
Companies exiting the market	None	--
Market concentration (percent of 2001 market controlled by top three competitors)	60.0%	Up

Source: Frost & Sullivan

The generic pharmaceutical market in Malaysia is currently in a growth stage. Generic manufacturers are expected to invest more in R&D and other marketing activities in order to capture the market from MNCs that have established a strong base in the country. Improving quality levels, especially with the admission of Malaysia into PICS and more aggressive awareness campaigns are expected to dispel the notion that local generic manufacturers are not able to meet quality expectations. The generic pharmaceutical market in Malaysia recorded revenues of $102.6 million in 2001 with a growth rate of 8 percent. The CAGR is estimated at 12.5 percent throughout the forecast period, increasing potential revenues to $207.7 million in 2007.

Price sensitivity in the market is high, although other factors such as quality, distribution, and relationship play important roles in an end-user's decision-making process. On the competitive aspect, there are 10 active competitors in the market with none exiting the market. Market concentration is also high at 60 percent, controlled by the top three competitors--UPHA, Raza, and Xepa Soul.

Market Drivers

Figure 4-9 shows the market drivers of the Malaysian generic pharmaceutical market.

Figure 4-9

Generic Pharmaceutical Market: Market Drivers Ranked in Order of Impact (Malaysia), 2002-2007

Rank	Driver	1-2 Years	3-4 Years	5-6 Years
1	Rising healthcare costs spur purchase of generic drugs to decrease healthcare spending	High	High	High
2	Aging population increases demand for pharmaceutical products, especially off-the-counter products	Medium	Medium	Medium
3	Demand from neighboring countries drives revenue growth	Medium	Medium	Medium
4	Government support for local pharmaceutical manufacturers boost generic market growth	Medium	Low	Low

Source: Frost & Sullivan

Rising Healthcare Costs Spur Purchase of Generic Drugs to Decrease Healthcare Spending

Improved education levels have led to an increasing awareness of healthcare. Consequently, demand for drugs and medical services has increased, which led to a rise in healthcare costs. As this awareness brings about preventive measures, patients are finding it expensive to maintain or improve personal health. Consequently, measures are taken to reduce costs and one of the ways is to choose generic drugs over patented ones. The impact of this driver is expected to remain high throughout the forecast period as cost remains an important factor in households and doctors' financial statements.

Aging Population Increases Demand for Pharmaceutical Products, Especially Over-the-Counter Products

Aging is often accompanied by ailments and pains that require special treatment. While younger people can ignore a minor problem, older people are not so fortunate. Thus, drugs for hypertension and cardiovascular ailments are popular among the Malaysian community. While doctors are sought for medical advice, most purchase over-the-counter (OTC) products to tackle a particular problem, especially when they experience minor illnesses that can be easily cured. The impact of this driver is expected to remain moderate throughout the forecast period as the population continues to age.

Demand from Neighbouring Countries Drives Revenue Growth

Due to Malaysia's small population, pharmaceutical companies have to search for other venues outside Malaysia to boost revenues. Some of these include ASEAN neighbors such as Thailand and Indonesia. The large population in these countries means that there is still room for market penetration. Further to that, other countries such as Vietnam and Myanmar also provide opportunities due to their largely undeveloped pharmaceutical industries, in addition to their relatively large population size. The impact of this driver is expected to remain moderate throughout the forecast period as prospects grow with the opening of these economies.

Government Support for Local Manufacturers Boosts Market Growth

The Malaysian government can be commended for showing support to local manufacturers. One of its efforts is to provide local manufacturers with a 20 percent price advantage. Thus, the government will still commit to purchase from local manufacturers despite their higher prices, up to a maximum of 20 percent price difference. The government sector is also committed to purchase generic drugs, except in instances where patented drugs have proven to be more effective in life-saving cases. The impact of this driver is expected to be moderate at the beginning of the forecast period and reduce after that. This is a result of the opening up of the market through the AFTA, which provides a level playing field to allow potential overseas manufacturers to offer more competitive pricing.

Market Restraints

Figure 4-10 shows the market restraints of the Malaysian generic pharmaceutical market and its impact in the next six years.

Figure 4-10

Generic Pharmaceutical Market: Market Restraints Ranked in Order of Impact (Malaysia), 2002-2007

Rank	Restraint	1-2 Years	3-4 Years	5-6 Years
1	Price competition reduces potential profit margins	High	High	High
2	Economic downturn decreases bulk purchases by general practitioners and clinics	High	Medium	Medium
3	Allocation of government contracts to government-owned pharmaceutical manufacturing company restrains access to the public hospitals market	Medium	Medium	Medium

Source: Frost & Sullivan

Price Competition Reduces Potential Profit Margins

Generic drugs are copies of branded drugs that have gone off patent; there is hardly any difference between the products. In order to gain market share, market participants have to compete on price. As the price war rages, profit margins suffer in a bid to maintain market share. The impact of this restraint is expected to remain high throughout the forecast period as price continues to be the main weapon in this industry.

Economic Downturn Decreases Bulk Purchases by General Practitioners and Clinics

The negative economic situation has caused end-users like general practitioners (GPs) and clinics to be more cautious in their expenditure. As drugs make up a large chunk of their expenses, they have been the first to suffer due to the economic crisis. Where drug purchases were previously made for a stock-up of six months, market participants are finding that end-users are buying only two months worth of drugs currently. This has slowed down demand considerably and adversely affected unit shipment sales. The impact of this restraint is expected to be high at the beginning of the forecast period and moderate in subsequent periods as the economic situation improves.

Allocation of Hospital Contracts to Government-Owned Manufacturing Company Restrains Access to Public Hospitals Market

As the government owns Raza Manufacturing, public hospital contracts are generally allocated to this company. Other generic pharmaceutical companies can only obtain access to the market if the government-owned company does not have the capacity or capability to fulfill the contract. Hence, this practice restrains market growth for generic pharmaceutical companies. This challenge is viewed as having medium impact as alternative end-user markets such as the GP/clinics, retail pharmacies, and private hospitals can be penetrated by generic pharmaceutical manufacturers.

Government Regulations

There are two main regulations governing the pharmaceutical industry in Malaysia---the registration process and implementation of PICS. Under the product registration process, market participants have to undergo on-line registration where the company is required to prepare and submit the necessary dossier to the DCA via the necessary official website. A drug sample will only be submitted to the DCA for further testing upon request. This registration process takes between 6 and 12 months. The rules are transparent and the process not complicated.

By becoming a member of the PICS, Malaysia has agreed to support the scheme as well. This includes improving the standards of public health through plant inspections, development of Good Manufacturing Practices (GMP), and coordinating training for market participants. This has resulted in more stringent checks done on manufacturing plants and ensuring that facilities meet the minimum standard of hygiene and safety among others. Manufacturers have had to increase their investment in order to upgrade facilities.

Revenue Forecasts (1997-2007)

Figure 4-11 and Chart 4.2 shows revenue forecasts of the Malaysian generic pharmaceutical market from 1997 to 2007.

Figure 4-11

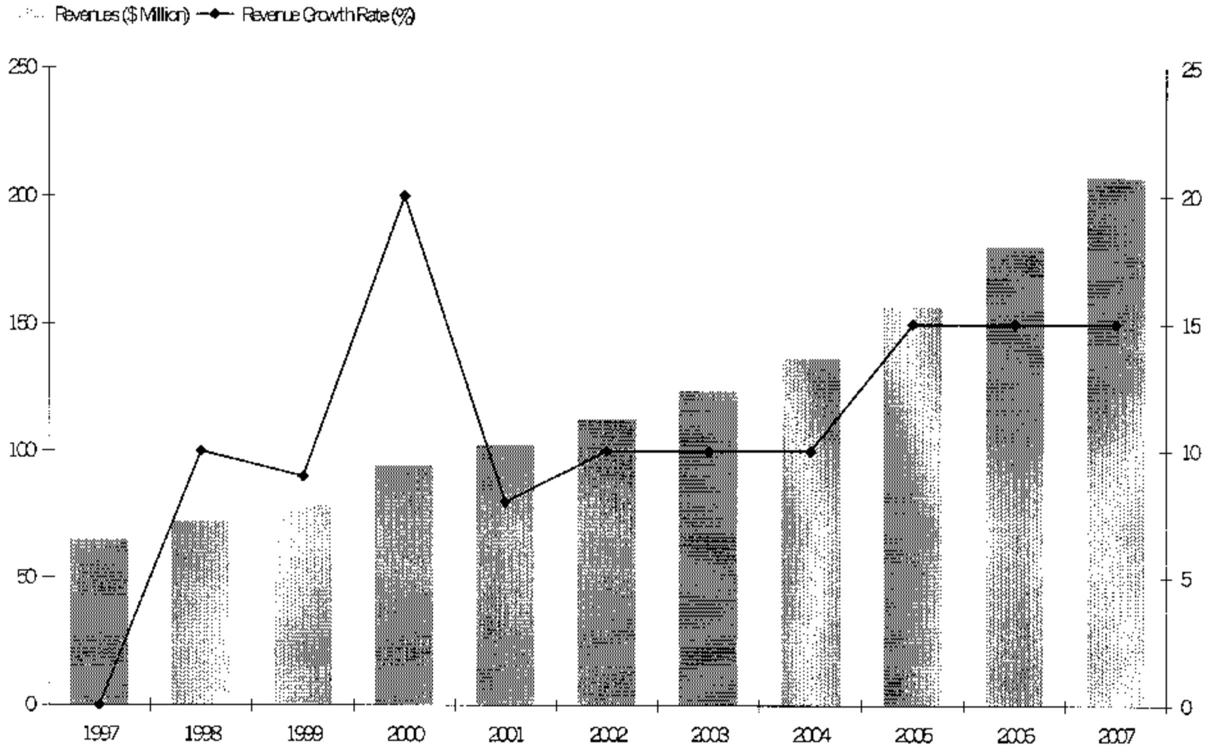
Generic Pharmaceutical Market: Historical and Projected Revenues (Malaysia), 1997-2007

Year	Revenues ($ Million)	Revenue Growth Rate (%)
1997	65.4	---
1998	72.6	10.0
1999	78.9	9.0
2000	94.7	20.0
2001	102.6	8.0
2002	112.9	10.0
2003	124.2	10.0
2004	136.6	10.0
2005	157.1	15.0
2006	180.6	15.0
2007	207.7	15.0
Compound Annual Growth Rate (2001-2007): 12.5%		

Note: All figures are rounded; the base year is 2001. Source: Frost & Sullivan

Chart 4.2

Generic Pharmaceutical Market: Historical and Projected Revenues (Malaysia), 1997-2007



Source: Frost & Sullivan

The generic pharmaceutical market stood at $102.6 million in 2001, which reflected an 8.0 percent growth from the previous year. The one digit growth rate is mainly attributed to the economic downturn, which made GPs and hospitals cautious in terms of spending. However, with the economy showing signs of recovery, revenue growth is expected to jump to 10.0 percent, bringing revenues to $112.9 million in 2002. Growth in subsequent years is expected to be flat at around 10 percent, with a slight increase from 2005 to 15 percent per annum. The rather stable growth reflects the condition of the pharmaceutical market. While there may be cuts in spending, people still need to consume drugs to treat illnesses. The only difference during an economic downturn is that people might wait longer before they treat their illnesses.

The higher forecast growth in later years is a reflection of increasing awareness about healthcare and most importantly, on the advantages of generic drugs. The CAGR during the forecast period is estimated at 12.5 percent and revenues are likely to reach $207.7 million by 2007.

Distribution Trends

Figure 4-12 shows the distribution trends of the Malaysian generic pharmaceutical market in 2001.

Figure 4-12

Generic Pharmaceutical Market: Distribution Channel Trends of Market Participants (Malaysia), 2001

Distribution Channel	Percent of Revenues	01/00 Trend
Government Hospitals	40.0	Up
Clinics/GPs	25.0	Stable
Private Hospitals	20.0	Stable
Retail Pharmacies	15.0	Down
TOTAL	100.0	

Note: All figures are rounded; the base year is 2001. Source: Frost & Sullivan

Government hospitals account for the largest share of generic drugs at 40 percent. The main reason for this is the fact that government hospitals have the largest patient base. Secondly, patients that cannot afford the services of private hospitals and clinics visit government hospitals due to lower consultation and medication fees. Consequently, government hospitals have to keep their costs down; one way of doing this is to purchase generic drugs. This is a rising trend due to the increasing level of support from the government.

Clinics/GPs are the next largest distribution channel with 25 percent worth of generic drug revenues being generated by them. This is not surprising considering that there are approximately 8,000 clinics in Malaysia as against 1,100 pharmacies. The remaining generic drugs are distributed between private hospitals and retail pharmacies at 20 percent and 15 percent, respectively. Clinics/GPs and private hospitals see a stable trend while pharmacies have shown a percentage drop in distribution. This is because pharmacies mainly prefer to stock branded products.

Pricing Trends

Prices have been experiencing a downward trend as more companies enter the market. Increasing competition has forced market participants to slash prices in order to win new customers and retain existing customers. As differentiation is generally difficult in the generic pharmaceutical market, price has become one of the key important factors for customers.

Competitive Structure

Figure 4-13 shows the competitive structure of the Malaysian generic pharmaceutical market in 2001.

Figure 4-13

Generic Pharmaceutical Market: Competitive Structure (Malaysia), 2001

Number of Companies in the Market	Approximately 40
	10 active manufacturers
Types of Competitors	Asian multinational manufacturers (Asian incorporated MNCs)
	Local manufacturers
Distribution Structure	In-house distribution (self-distribution)
Tiers of Competition	3 Tiers
	Tier 1: UPHA-30.0%
	Tier 2: Raza, Xepa Soul, YSP Industries – 40.5%
	Tier 3: Duo Pharma, Hovid, Ranbaxy, Kotra, , etc.– 29.5%
Notable Acquisitions, Mergers	-
Key End-User Groups	General Practitioners
	Public Hospitals
Competitive Factors	Quality
	Distribution network
	Good relationship with physicians
	Price
	Bioequivalence of generic drugs

Source: Frost & Sullivan

Approximately 40 companies exist in the generic pharmaceutical market in Malaysia, out of which 10 are actively competing. Manufacturers in Malaysia are either Asian MNCs or local manufacturers. These manufacturers have their own distribution channel as it is difficult to go through well-established distributors such as Zuellig and Diethelm that focus only on patented drugs. The competitive structure is divided into three tiers, depending on market share. The top 30 percent is controlled by UPHA while another 40.5 percent is shared by Raza, Xepa Soul Pattinson, and YSP Industries. Market participants belonging to the third tier include Duo Pharma, Hovid, Ranbaxy, Kotra, etc. The main end-users of generic drugs are GPs/clinics and public hospitals.

Quality is an important factor that differentiates one market participant from another. The quality factor is preferable over price, as it is undesirable to purchase drugs that are ineffective or cause adverse effects on a patient. Other important success factors include good distribution network and rapport with physicians. A good relationship could translate into anything from efficient delivery to sponsoring training for physicians. Lastly, bioequivalence of generic drugs can also boost favorability to choose a product. Although currently this is not a deciding factor, it is fast becoming an important consideration in making purchasing decisions.

Market Share Analysis

Figure 4-14 and Chart 4.3 show the market share analysis and trends of the Malaysian generic pharmaceutical market in 2001.

Figure 4-14

Generic Pharmaceutical Market: Market Share Trends of Major Market Participants (Malaysia), 2001

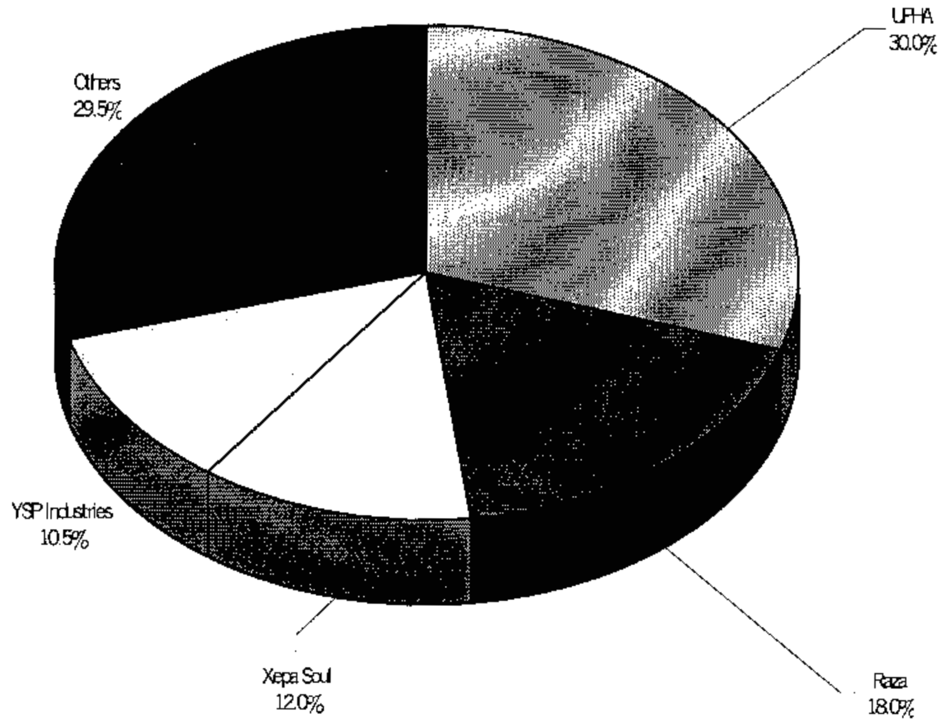
Company	**2001 (%)**	**01/00 Trend**
UPHA	30.0	Up
Raza	18.0	Stable
Xepa Soul	12.0	Stable
YSP Industries	10.5	Up
Others	29.5	Down
TOTAL	100.0	

Others include Duo Pharma, Hovid, Kotra, Medpharm, Malaysian Pharmaceutical Industry, Medispec, Ranbaxy, etc.

Note: All figures are rounded; the base year is 2001. Source: Frost & Sullivan

Chart 4.3

Generic Pharmaceutical Market: Market Shares of Market Participants (Malaysia), 2001



Source: Frost & Sullivan

UPHA is the market leader with 30 percent share in the generic pharmaceutical market in Malaysia. It is the largest manufacturer in the country with a wide range of products. Further, its investments in R&D and initiative in transferring technology from countries with more developed pharmaceutical industries and scientific research have also helped maintain UPHA's position ahead of the other market participants as can be seen by the upward trend of its market share.

Raza holds the next largest market share at 18 percent. Raza's advantage lies in it being the main supplier to the government, which makes up a sizable demand. Xepa Soul and YSP Industries command 12 percent and 10.5 percent of the market, respectively. YSP's market share is expected to increase as the company is broadening its product range by expanding the production facility to include manufacture of drugs in eye-drop and injection forms. The remaining 29.5 percent of the market is shared by rest of the participants like Hovid, Kotra, Medpharm, Malaysian Pharmaceutical Industry, Medispec, and Ranbaxy to name a few.

Product Analysis

Figure 4-15 shows the top 5 classes in the Malaysian generic pharmaceutical market.

Figure 4-15

Generic Pharmaceutical Market: Top 5 Classes (Malaysia), 2001

Therapeutic Class
Cough & cold preparation
Analgesic & anti-inflammatory
Beta-blockers
Anti-obesity
Antibiotics

Source: Frost & Sullivan

Strategic Recommendations

Add New Products to the Pipeline, Taking Advantage of Patent Expirations of Blockbuster Drugs

By 2005, many drug patents are scheduled to expire. This includes the expiration of 47 top drugs, whose combined worldwide sales amount to $31.0 billion. Some of the drug patents that will expire soon include products in therapeutic areas like allergy, infection, cancer, and anti-depression. Generic manufacturers should start research to select drugs to manufacture in order for the generic versions to be ready when patents expire.

Enter Niche Market in Sectors with Low Competition

Although competition is tough and there is barely enough room to grow for products like antibiotics and painkillers, there is some opportunity in specific markets such as:

- Diabetes products
- Infectious disease products and vaccines

Therefore, manufacturers should take advantage and focus on these areas.

Focus on the Less Explored Hospitals Market

As outlined in the Eighth Malaysia Plan, the Government is committed to providing its people with affordable, quality medical care. To accomplish this objective, hospitals and other medical facilities must be able to offer good products at reasonable prices. Hence, opportunities are present for manufacturers that can offer bioequivalent products at a lower price to hospitals and medical facilities.

Conduct Bioequivalent Tests for High Revenue Potential Products to Establish Quality Acknowledgement

Bioequivalent status for a generic product entails clinical trials to prove that the product has the same effect on the human body as the branded counterpart. Despite the additional investment required for generic companies to establish bioequivalent status for their products, it is an important step in creating brand awareness and loyalty. Generic manufacturers would gain leverage by equating quality and effect of generic drugs with that of branded versions. Hence, it would omit the need for very aggressive price competition.