**The Pharmaceutical Industry in East Africa**

Historically, the pharmaceutical industry has been a profitable one. Between 2002 and 2012 the average rate of return on invested capital (ROIC) for firms in the industry was 16.45%. Put differently, for every 100 shillings of capital invested in the industry, the average pharmaceutical firm generated 16.45 shillings of profit. This compares favorably with an average return on invested capital of 12.76% for firms in the computer hardware industry, 8.54% for grocers, and 3.88% for firms in the electronics industry. However, the average level of profitability in the pharmaceutical industry has been declining of late. In 2002, the average ROIC in the industry was 21.6%; by 2016, it had fallen to 14.5%.

The profitability of the pharmaceutical industry can be best understood by looking at several aspects of its underlying economic structure. First, demand for pharmaceuticals has been strong and has grown for decades. Between 2000 and 2010, there was a 12.5% annual increase in spending on prescription drugs in the Uganda. This growth was driven by favorable demographics. The fertility rate in Uganda stands at an average six children per woman and demand for children’s medication has been growing. Also, the life expectancy in the country has improved over the last 35 years. As people grow older, they tend to need and consume more prescription medicines, since populations life expectancy has improved. Looking forward, projections suggest that spending on prescription drugs will increase at between 10 and 11% annually through till 2030.

Second, successful new prescription drugs can be extraordinarily profitable. Karox, the cholesterol- lowering drug sold by Uganda Human Drugs Ltd (UHD), was introduced in 2007, and by 2016, this drug had generated a staggering UGX 12.5 billion in annual sales for UHD. The costs of manufacturing, packing, and distributing Karox amounted to only about 10% of revenues. UHD spent close to UGX 50 billion on promoting Karox and perhaps as much again on maintaining a sales force to sell the product. That still left UHD with a gross profit of perhaps $10 billion. Since the drug is protected from direct competition by a 20- year patent, UHD has a temporary monopoly and can charge a high price. Once the patent expires, which is scheduled to occur in 2025, other firms will be able to produce “generic” versions of Karox and the price will fall—typically by 80% within a year.

Competing firms can produce drugs that are similar (but not identical) to a patent- protected drug. Drug firms patent a specific molecule, and competing firms can patent similar, but not identical, molecules that have a similar pharmacological effect. Thus Karox does have competitors in the market for cholesterol lowering drugs, such as Zoco sold by Vine Pharmaceutics and Kebstrol by AstraZeneca. But these competing drugs are also patent protected. Moreover, the high costs and risks associated with developing a new drug and bringing it to market limit new competition. Out of every 5,000 compounds tested in the laboratory by a drug company, only five enter clinical trials, and only one of these will ultimately make it to the market.

On average, estimates suggest that it costs some UGX 30 billion and takes anywhere from 10 to 15 years to bring a new drug to market. Once on the market, only three out of 10 drugs ever recoup their R&D and marketing costs and turn a profit. Thus the high profitability of the pharmaceutical industry rests on a handful of blockbuster drugs. At UHD, the east Africa’s largest pharmaceutical company, 55% of revenues were generated from just five drugs.

To produce a blockbuster, a drug company must spend large amounts of money on research, most of which fails to produce a product. Only very large companies can shoulder the costs and risks of doing this, making it difficult for new companies to enter the industry. UHD, for example, spent some UGX 14 billion on R&D in 2015 alone, equivalent to 14.5% of its total revenues. In a testament to just how difficult it is to get into the industry, although a large number of companies have been started in the last 20 years in the hope that they might develop new pharmaceuticals, only two of these companies, Amena Pharmaceuticals and Geneta Curatics, were ranked among the top 20 in the industry in terms of sales in 2015. Most have failed to bring a product to market. In addition to R&D spending, the incumbent firms in the pharmaceutical industry spend large amounts of money on advertising and sales promotion.

While the UGX500 million a year that UHD spends promoting Karox is small relative to the drug’s revenues, it is a large amount for a new competitor to match, making market entry difficult unless the competitor has a significantly better product.

There are also some big opportunities on the horizon for firms in the industry. New scientific breakthroughs in genomics are holding out the promise that within the next decade pharmaceutical firms might be able to bring new drugs to market that treat some of the most intractable medical conditions, including Alzheimer’s, Parkinson’s disease, cancer, heart disease, stroke, and AIDS.

However, there are some threats to the long- term dominance and profitability of industry giants like UHD. First, as spending on health care rises, politicians are looking for ways to limit health care costs, and one possibility is some form of price control on prescription drugs. Price controls are coming into effect in most African nations, and although they have not yet been introduced in the Eastern Africa, they could be.

Second, between 2016 and 2019, 12 of the top 35 selling drugs in the industry will lose their patent protection. By one estimate some 28% of the global drug industry’s sales will be exposed to generic challenge in Eastern Africa alone, due to drugs going off patent between 2016 and 2025.

It is not clear to many industry observers whether UHD’s new drug prospects in pipeline will be enough to replace revenues from its drugs that are going off patent in the next few years. Moreover, generic drug companies have been aggressive in challenging the patents of proprietary drug companies, and in pricing their generic offerings. As a result, their share of industry sales has been growing. In 2019, they accounted for more than half of all drugs prescribed by volume in the East Africa, up from one third in 2010.

Third, the industry has come under renewed scrutiny following studies which showed that some prescription drugs approved National Drug Authority (NDA), were associated with a greater risk of heart attacks. Two of these drugs were banned from the market in 2014.

**Required:**

1. Drawing on the five forces model, explain why the pharmaceutical industry has historically been a very profitable industry. **(10 marks)**
2. After 2012, the profitability of the industry, measured by ROIC, started to decline. Why do you think this occurred? **(10 marks)**
3. Given the information in the above case, conduct A SWOT analysis for Uganda Human Drugs Ltd (UHD)? **(10 marks)**
4. What must Uganda Human Drugs Ltd (UHD) do to exploit the opportunities and counter the threats? **(10 marks)**