

Case 4-3 Lundbeck Korea: Managing an International Growth Engine

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Early in 2005, Michael Andersen, vice president of Lundbeck—a leading central nervous system (CNS) pharmaceutical company in Denmark, questioned whether he should rethink Lundbeck's reporting structure in Asia. In particular, the Korean subsidiary was experiencing very strong growth and Andersen wondered whether Lundbeck Korea would achieve its full potential if it remained part of Lundbeck Asia, the regional group, or whether it would be better to have the managers at Lundbeck Korea report directly to him in Copenhagen.

Korea had proven itself to be a rising star among Lundbeck's overseas subsidiaries, and the staff in Korea, led by country manager Jin-Ho Jun (Jun), wanted more independence to chart their own path. The Korean subsidiary's performance had far exceeded what was projected in the original business plan. It had grown from one employee in 2002 to over 50 employees in 2005, and had sales of KRW25 billion (approximately US\$22 million). Given the current success, Andersen wondered whether the current reporting structure was still appropriate.

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Michael Roberts wrote this case under the supervision of Professor Paul Beamish solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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The decision was not to be taken lightly: while the Korean division, under the leadership of Jun, was experiencing enormous growth, it was only barely three years in the making. In addition, while normal and expected in a recently established subsidiary, Lundbeck Korea was still not a profitable business unit. Since most of the other Asian countries were part of the Asia division, Andersen also had to think about how this would affect Lundbeck's regional and worldwide organizational reporting norms; in particular, he was concerned about the Chinese subsidiary. While making adjustments to reporting structures was a normal part of doing business for Lundbeck, Andersen had not anticipated that he would be considering this decision so soon for Korea.

The CNS Landscape

However, these markets were fairly stable and generally experienced low single-digit growth. Exhibit 1 is a list of the top pharmaceutical markets. The major CNS pharmaceutical markets by country were: United States, 59%; Germany, 5%; Japan, 4%; France, 4%; United Kingdom, 4%; Spain, 3%; Italy, 2%; South Korea, 1.5%. The bulk of the remaining 19 per cent of the CNS market came from emerging economies such as Brazil, China, India, and South Korea. While the market for CNS drugs in these emerging economies was much smaller, the rate of growth in many of these countries was in excess of 15 per cent per year.¹

The global industry for CNS pharmaceuticals was about \$93 billion in 2005. CNS diseases are serious and life-threatening and affect the quality of life of patients as well as of their relatives. Over the

¹ B. Nehru, *The CNS Market Outlook to 2012*, Business Insights Ltd, London, United Kingdom, 2007, p. 59.

Exhibit 1 Top

Country

United States
Japan
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Source: Business Ma

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Exhibit 1 Top Pharmaceutical Markets, 2005

Country	Pharmaceutical Market Size (billions USD)	Population (millions USD)	Lundbeck Functions
United States	270.2	307.2	Sales/Research
Japan	76.2	127.1	—
Germany	43.9	82.3	Sales
France	39.1	64.1	Sales
United Kingdom	31.3	61.1	Sales
Italy	24.3	58.1	Sales/Research
China	20.4	1,338.6	Sales
Canada	16.3	33.5	Sales
India	9.3	1,166.1	Sales
South Korea	7.9	48.5	Sales
Russia	7.9	140.0	Sales
Turkey	7.5	76.8	Sales
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Denmark	2.6	5.5	Sales/Research/Production

Source: Business Monitor International, "Pharmaceutical Market Statistics: Statistics for 2005," London, United Kingdom, 2009.

past 50 years, new pharmaceuticals had revolutionized treatment options, but there remained a large unmet need for new and innovative therapeutics.

Overall, the industry was marked by intense competition from both rival branded pharmaceutical firms and generic competitors. In most markets, branded pharmaceuticals were given a number of years of exclusivity—a period in which no generic version of the drug can be sold. However, these periods of exclusivity varied greatly by country. Patent protection could range from no protection to 20 years of exclusivity. In most developed markets, for example the United States, exclusivity began at the time the drug was patented; in other markets, for instance South Korea, it began when the drug was launched. The laws and regulations around granting exclusivity also varied by country, and were often heavily influenced by political concerns. Regardless of the region, when the exclusivity periods run out, the price of a drug drops dramatically. The revenues from Eli Lilly's anti-depressant drug Prozac, for example, fell by over 80 per cent following the

loss of its patent protection at the end of the 1990s.² While the decrease in revenues from this drug could also be attributed to new branded pharmaceuticals entering the anti-depressant market, the significance of loss of patent protection cannot be overstated.

Almost 60 per cent of the total market sales in the CNS industry came from the nine largest firms (Johnson & Johnson, 11%; Glaxo Smith Kline, or GSK, 9%; Pfizer, 8%; Lilly, 7%; Sanofi-Aventis, 5%; Novartis, 5%; Astra Zeneca, 5%; Wyeth, 5%; Forest Labs, 3%). Lundbeck held 2%. In this industry, sales growth was highly dependent on the successful introduction of a new patented drug, and sales declines were most often a result of a patent expiration. A firm's revenue was often disproportionately dominated by one blockbuster drug—a drug that dominates a class of drugs. For example, Johnson & Johnson generated 41 per cent of its revenue from the blockbuster schizophrenia drug Risperdal.³

Depending on the country, buyers of pharmaceuticals could be national health services, private

² B. Maboinglam, *CNS Market Outlook to 2000*, Business Insights Ltd, London, United Kingdom, 2000.

³ B. Nehru, *op cit*, p. 15.

Exhibit 2 Leading Anti-Depressants and Alzheimers Disease Medications in the Global CNS Market, 2005

Brand	Company	Generic	Class	Sales (millions USD)	Share (%)	Expected Growth (%)		Patent Expiry
						2006	2012 (per/y)	
Anti-Depressants								
Effexor	Wyeth	venlafaxine	SNRI	3,830	20.1	3.0	-20.4	2007
Lexapro	Lundbeck/ Forest	escitalopram	SSRI	2,455**	12.9	19.0	8.4	2011
Zoloft	Pfizer	sertraline	SSRI	3,641	19.2	-34.0	-32.6	expired
Wellbutrin	GSK	bupropion	Other	1,605	8.4	22.0	—*	—
Yentreve	Lilly	duloxetine	SNRI	684	3.6	95.0	23.9	2013
Seroxat	GSK	paroxetine	SSRI	819	4.3	-13.0	-28.3	expired
Prozac	Lilly	fluoxetine	SSRI	408	2.1	-21.0	-34.7	expired
Remeron	Organon	mirtazapine	Other	351	1.8	-15.0	—	—
Others				5,220	27.5	-3.0	-2.7	
Total				19,013	100.0	3.5	1.5	
Alzheimers Medications								
Aricept	Pfizer	donepezil	CI	2,215	54.9	13.5	-5.5	2010
Namenda	Forest	memantine	NMDAA	482	11.9	35.7	24.6	2014
Exelon	Novartis	rivastigmine	CI	496	12.3	5.6	-0.9	2012
Reminyl	J&J	galantamine	CI	490	12.1	6.7	-16.7	2008
Ebixa	Lundbeck	memantine	NMDAA	189	4.7	29.7	.6	2010
Akatinol	Lundbeck	memantine	NMDAA	60	1.5	13.2	-11.5	2008
Axura	Merz	memantine	NMDAA	22	0.5	35.6	7.2	2008
Prometax	Novartis	rivastigmine	CI	25	0.6	5.3	4.0	2012
Other				57	1.4	29.1	98	
Total				4,036	100	15.4	13.1	

* — is used to indicate that no information is available

** of which Lundbeck is 863

Source: Modified from B. Nehru, *The CNS Market Outlook to 2012*, Business Insights Ltd, London, United Kingdom, 2007.

insurance companies, or individuals. However, in general, decisions about prescribing drugs were made by practitioners (i.e. doctors, etc.).⁴ Psychiatrists represented the largest group of practitioners in the CNS industry. Since doctors were the ultimate decision makers, the buyer had little direct product choice. However, the type of buyer system greatly affected the potential market size and price

that could be charged for the product. The presence of a national health service that covered prescription drugs, for example, could greatly expand the market, but government pressure could potentially lower prices per unit.

Key Products

The largest class of drugs in the CNS market was comprised of anti-depressants, which represented almost 20 per cent of the total market. Depression is a genuine physical condition and affects

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⁴ *Datamonitor*, "Global Pharmaceuticals, Biotechnology & Life Sciences: Industry Profile," New York, New York, 2009.

⁵ B. Nehru, *op cit*.

⁶ *Ibid.*, p. 53.

⁷ *Ibid.*, pp. 58–60.

approximately 10 per cent of the global population.⁵ "Bad" mood, loss of energy, feelings of worthlessness, difficulty concentrating, and even thoughts of suicide are just some of the many symptoms.

The market for anti-depressants was \$19 billion in 2005 (see Exhibit 2). However, the market segment was due to have very poor growth rates over the next several years because of the large influx of generic drugs in selective serotonin reuptake inhibitors (SSRIs), the largest class of anti-depressant drugs. SSRIs, which made up more than 50 per cent of the anti-depressant market segment, were a class of compounds typically used in the treatment of depression, anxiety disorders, personality disorders, and some cases of insomnia. In particular, sales of Zoloft by Pfizer were expected to decrease by one third in 2006 due to the expiration of its patent in the U.S. market. This left only three products with patent protection: Effexor by Wyeth, Lexapro by Lundbeck, and Yentreve by Lilly.⁶ Overall, this class of drugs was only forecasted to grow by 1.5 per cent a year until 2012.

New growth in the CNS market was driven by drugs for Alzheimer's disease (AD). Over the last few years, this class of drugs experienced growth rates upwards of 15 per cent per year.⁷ The market for AD medications was \$4 billion in 2005, and was expected to see growth of more than 15 per cent in 2006. Exhibit 2 gives an overview of the AD medication market. The future of AD medication was in the NMDA receptor antagonist class of drugs, which was expected to grow by over 30 per cent in 2006. The drugs in this class were all derivatives of memantine. There were three memantine-based drugs on the market; however, they were not in direct competition with each other as they were a result of shared development and licensing. Forest Labs marketed Namenda in the United States; Merz sold Axura in Germany; and Lundbeck marketed Ebixa in the rest of Europe. Memantine was an

important medication because it was the only pharmaceutical available for moderate and severe forms of AD. Since most AD patients lived long enough to experience all stages of the disease, memantine filled a crucial role in AD therapy. There were no threats of generics to memantine until after 2008. Overall, this class of drugs was forecasted to grow by 13.1 per cent a year until 2012.⁸

The Asian Market

At \$97.4 billion in 2005, the pharmaceutical market in Asia represented approximately 20 per cent of the global pharmaceutical industry. The Asia pharmaceutical market had a growth rate of about 6.4 per cent a year which was forecasted to remain steady for the next several years. However, some markets throughout Asia were vastly different from others. For example, the largest market in Asia was Japan, which accounted for 55 per cent of the entire market but only had a growth rate of 2.4 per cent a year. China, on the other hand, accounted for 17.5 per cent of the pharmaceutical market, with a growth rate in excess of 20 per cent per year. The other major markets in Asia were South Korea and India, representing 8.3 per cent and 8.1 per cent of the market, respectively. Excluding Japan, the other Asian markets grew at an average rate of 11.3 per cent per year. The CNS market represented nine per cent of the total pharmaceutical market in Asia for a total of \$8.7 billion.⁹

The payer systems also varied greatly throughout Asia. Japan had a combination of government insurance and private employer-based insurance. Hong Kong and Singapore had a combination of private pay and private insurance programs. South Korea had a fully government-funded national insurance for pharmaceutical prescriptions. China, Thailand, and Malaysia had virtually no group or collective programs and most costs for pharmaceuticals were paid by individuals.

⁵ B. Nohm, *op.cit.*, p. 33.

⁶ *Ibid.*, p. 53.

⁷ *Ibid.*, pp. 58-60.

⁸ *Ibid.*, pp. 94-98.

⁹ *Datamonitor*, "Pharmaceuticals in Asia-Pacific," New York, New York, 2008, p. 9.