

**Comparative Analysis and Benchmarking:
Corporate Strategy Analysis
of Four International Pharmaceutical Companies**

by
Hung-hsin Chen

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**Comparative Analysis and Benchmarking:
Corporate Strategy Analysis of
Four International Pharmaceutical
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by

Hung-hsin Chen, BSc

**Dissertation submitted in partial fulfilment for
the Degree of Master of Science in
Engineering Business Management**

Department of Engineering

University of Warwick

September 1998

Abstract

This research of corporate strategy analysis implements comparative analysis and benchmarking to analyse and examine the corporate strategy of the pharmaceutical sectors of 4 international pharmaceutical companies.

Most existing studies of pharmaceutical industry have been limited to some specific fields such as the R&D ability, new products launch time, acquisitions, and alliances. Little has been known about the analysis of corporate strategy and comparison of pharmaceutical industry by both internal and external factors. On the other hand, the comparative strategy and benchmarking have been frequently applied in analysing the corporate strategy mostly in public service industries, in financial and accounting industry, and in insurance industry. Little has been applied to examine and analyse the corporate strategy of research-based industries such as pharmaceutical industry. This research aims to fill the gap by implementing these two techniques to analyse and examine the corporate strategies of 4 research based pharmaceutical companies.

This research adopts the hybrid approach of combining qualitative and quantitative methods in a two stages research design. Quantitative method is applied first to deal with the comparative figures, and then qualitative method is used to find out the problem. The design of this multiple research includes three phases: data collection, analysis, and reporting.

The findings of this research can be divided into 4 parts: R&D/marketing, technology alliances, strategic acquisitions and merger, and manufacturing. The drug innovative projects are recommended being developed within the company's familiar therapeutic areas in order to take its marketing advantage. Through this comparative analysis, some of this type of problems of these international pharmaceutical companies is identified. A big pharmaceutical company forming alliances with some small biotechnology companies has become a trend within pharmaceutical industry since 1980s. For pharmaceutical companies, to take advantage of R&D through biotechnology is the main purpose of alliances with small biotechnology companies. It is important to note that most pharmaceutical acquisitions belong to the type of absorption with high resource transferring and low autonomy. Due to the high profit margin and the essential importance of R&D and marketing, the operation management of manufacturing of pharmaceutical industry is relatively poor. The low asset utilisation rate pointed out this problem. Academic researches have revealed that existing theories of operation management of manufacturing, such as action research, set-up reduction, teamwork, continuous improvement, collaboration, and involvement, are applicable and beneficial to pharmaceutical industry rather than waiting for the technology breakthroughs.

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While studying the corporate strategy analysis, I have gained fruitful knowledge to analyse the corporate strategy of research based companies. In addition, I have also encountered some difficulties in my life in this country that is completely new to me. Therefore, apart from people who have offered their great help in the academic work, this acknowledgement is also addressed to those who have motivated and encouraged me during this year.

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Declaration

I, Hung-hsin Chen, declare that all information presented in this project has been compiled by me. Any quoting is stated as so, and when references are made to previous work, they appear as references at the end of the report.

No part of this dissertation has been submitted in support of an application for another degree or qualification from this university or any other institute of learning.

Hung-hsin Chen
1st September 1998

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1. Introduction

Research Background

Organisation of the Dissertation

1.1 Research Background

British pharmaceutical industry is very successful and is only second to the US. In 1996, British pharmaceutical industry showed a trade surplus of £2,250 million for Britain, second only to North Sea Oil (ABPI, 1997).

Most existing studies of pharmaceutical industry have been limited to some specific fields such as the R&D ability, new products launch time, acquisitions, and alliances. Little has been known about the analysis of corporate strategy and comparison of pharmaceutical industry by both internal and external factors.

The comparative analysis and benchmarking are techniques in the area of strategy analysis. They are useful to help analyse the strategy of company from the aspects both of relative position and of absolute position. Numerous studies have identified the comparative analysis and benchmarking are essential tools for strategy analysis. In addition, previous research has successfully implemented comparative analysis and benchmarking to examine the strategy of different industries.

Three British pharmaceutical companies and one Swiss pharmaceutical company are selected. All of them are top 20 companies in the pharmaceutical industry worldwide. These 3 British pharmaceutical companies, Glaxo Wellcome, SmithKline Beecham, and Zeneca, own 61% of the sales amount of British pharmaceutical industry, which consists of 80 pharmaceutical companies. Novartis, the Swiss pharmaceutical company, is the largest global life science company. In

global pharmaceutical industry, these 4 companies are in similar situation and operate in the same field.

Academic researches have defined the marketing and R&D as main activities within a research based industry such as the pharmaceutical industry. Therefore, in this research, figures related to marketing and R&D collected from these 4 pharmaceutical companies are mainly selected to be compared. It is important to note that due to the significantly different characteristics between pharmaceuticals and other products, data is only selected and collected from the pharmaceutical sector of these companies in this research.

As a result of this population selection, it is not appropriate to apply findings from this research to other industry. Nevertheless, the design of the research theoretical framework is not constraint to a particular industry. With certain adjustment on the measurements of some constructs, the research framework should be applicable to other industries.

In the current research, special effort has been made to ensure the reliability of the data. Multiple data collection methods including statistic data from industry reports, operational reviews of companies, journals, news released by companies, related associations, government departments, official organisations, and empirical research findings from academic journals, dissertations, books and doctoral thesis were all applied. Every comparative figure was carefully prepared by reading in advance associated empirical theories and studying the background information relating to the company and industry. In addition, all comparative figures, analysis, and findings were sent to supervisors for comments and error correction.

1.2 Organisation of the Dissertation

The dissertation is organised into 9 chapters.

In chapter 1, a completed introduction of this dissertation is placed to clearly outline the main body of this dissertation. There are two parts in this chapter: research background and structure of this dissertation. Research background explains the reason why this research being done, mentions how this being carried out, and shows the potentially academic contributions. The second part, organisation of this dissertation, expresses a clear structure of the main body of this dissertation.

In chapter 2, an overview of previous studies in the pharmaceutical industry is provided. Empirical researches related to the activities of pharmaceutical industry are also discussed, in which some existing theories will be applied to examine the results found by comparative analysis and benchmarking. There are 6 sections in this chapter: R&D/marketing, competition from generics, impact from governmental regulation, alliances, acquisitions, and marketing strategy.

The implementation of comparative analysis and benchmarking to international pharmaceutical companies is an application of analysis issue in which the comparative analysis and benchmarking are implemented to analyse the corporate strategy of these four international pharmaceutical companies. Therefore, in chapter 3, the existing theories within this chapter are described by two main subtopics, comparative analysis and benchmarking. In the part of comparative analysis,

theories of historical analysis, inter-company comparison, and comparison with industrial norms are introduced. In the second part, benchmarking are discussed in details. These theories will be use as frameworks to analyse the corporate strategies of the 4 international pharmaceutical companies which we chose.

In chapter 4, the research methodology is provided. This research implements a multiple approach. Both quantitative and qualitative approaches are applied in this research. This research adopts the hybrid approach of combining qualitative and quantitative methods in a two stages research design. Quantitative method is applied first to deal with the comparative figures, and then qualitative method is used to try to find out the key matters. The design of this multiple research includes three phases: data collection, analysis, and reporting.

In chapter 5, the industry background is provided to help understanding the specified issues we discussed in this research. The pharmaceutical business environment is dominated by regulation and legislation designed to benefit most of society, which leads to more generics products, increasing substitution, more strict price control, and escalated R&D cost. The most distinct feature of pharmaceutical industry is its two-layers of customers: general practitioners (GPs) and patients. The GPs who are purchasing decision-makers don't consume the products themselves. The bill of medicines is directly paid by the healthcare systems of governments, neither by GPs nor by patients. Government regulations strongly enforce on the companies, concerning every aspect including marketing, pricing, advertising, distribution, and innovation. Innovation plays a major role in the success of global pharmaceutical industry. Pharmaceutical companies continue to increase their

investment on R&D. R&D become the major principle of all activities in the pharmaceutical companies such as the marketing and the manufacturing.

In chapter 6, figures of pharmaceutical markets in terms of geographic and therapeutic areas are compared. Turnover is a major indicator of how strong a company is in its field. Similar to consumer products, the success of pharmaceuticals can be shown by their sales amount, both relatively and independently. Pharmaceutical markets can be shown by different bases of comparative figures such as geographic markets, therapeutic markets, and markets of major products; segmented markets contribute to the precision of analysis. In this chapter, each market will be compared and analysed by historical analysis, inter-company comparisons, and benchmarking.

In chapter 7, figures of pharmaceutical R&D in terms of R&D investment, new products, and product development pipeline are compared. Empirical research shows that the pharmaceutical industry's success is associated directly with its substantial and sustained commitment to research and development. By comparing these figures, it is helpful for us to investigate the development of these pharmaceutical companies (Gilmartin, 1997)

In chapter 8, through the comparative figures, some meaningful and interesting points are signified. In addition to applying the existing theories of corporate strategy of pharmaceutical industry, some special characteristics and problems within these four pharmaceutical companies can be clearly identified. Further more, some existing theories of pharmaceutical corporate strategy can be further proved and developed.

In chapter 9, a short summary of important research findings is provided to clearly present the important points developed through the whole research.

2. Literature Review

Introduction

Marketing Strategy

R&D/Marketing

Generics

Government Regulation

Alliances

Acquisitions

2.1 Introduction

Pharmaceutical industry is a research-based industry. The existing theories of pharmaceutical corporate strategy have been extensively developed. In this chapter, an overview of previous studies in the pharmaceutical industry is provided. Empirical researches of related activities of pharmaceutical industry are also discussed, in which some existing theories will be applied to examine the results developed by comparative analysis and benchmarking.

2.2 Marketing Strategy

Due to the decreasing profit margin, more and more marketing strategies are implemented by pharmaceutical companies to sustain and to neutralise the impact of pharmaceutical price regulation such as gaining better control of distribution, getting closer to customers, moving to disease management, and exploring markets in the developing countries (Smith, 1998).

Figure 2.2-1: The Ansoff Matrix

		Product	
		Present	New
Market	Present	Market penetration	Product development
	New	Market development	Diversification

Source: Ansoff (1987)

The portfolio strategy is frequently used to contribute both to innovation management and to marketing strategies in the pharmaceutical industry. According to Ansoff (1987), the portfolio strategy specifies the position of a company which can be conceived as an assembly of strategic business areas; each of these areas offers different competitive approaches (Figure 2.2-1).

The 4 strategic business areas are:

- **Market penetration** denotes a growth direction of the increasing market share for the present product-market.
- In **market development**, new markets are sought for the company's products.
- **Product development** creates new products to replace current ones.
- In **Diversification**, both products and markets are new to the company.

2.3 R&D/Marketing

The R&D and marketing are two major activities within the pharmaceutical industry. Therefore, it is important to find out the relationship between R&D and marketing, which contributes both to innovation management and to marketing strategy of pharmaceutical industry. Important theories of the interface of R&D and marketing have been developed; the role of the R&D/marketing interface in pharmaceutical innovation covers the five dimensions (Figure 2.3-1):

Figure 2.3-1: The 5 dimensions of R&D/marketing interface in drug innovation

	Strategic	Technical
Corporate	1. Corporate strategic dimension	2. Corporate technical dimension
Product	3. Product strategic dimension	4. Product technical dimension
5. Operational dimension		

Data source: Wang (1993)

According to Wang (1993), the effectiveness of the 5 dimensions is influenced both by the market and by the technology environment. Six classifications of innovation projects are defined as below (Figure 2.3-2). Wang (1993) concludes that the R&D/marketing interface tends to be most effective in a "related technology and