

The Pharmaceutical Sector In Pakistan

Pakistan has a very vibrant and forward-looking Pharma Industry. At the time of independence in 1947, there was hardly any pharma industry in the country. Today Pakistan has about 400 pharmaceutical manufacturing units including those operated by 25 multinationals present in the country. The Pakistan Pharmaceutical Industry meets around 70% of the country's demand of Finished Medicine. The domestic pharma market, in term of share market is almost evenly divided between the Nationals and the Multinationals (Ahmed & Saeed, 2012).The National pharma industry has shown a progressive growth over the years, particularly over the last one decade. The industry has invested substantially to upgrade itself in the last few years and today the majority industry is following Good Manufacturing Practices (GMP), in accordance with the domestic as well as international Guidance. Currently the industry has the capacity to manufacture a variety of product ranging from simple pills to sophisticated Biotech, Oncology and Value Added Generic compounds (Aamir & Zaman, 2011).Although Pakistan 's pharmaceutical and healthcare sectors are expanding and evolving rapidly, about half the population has no access to modern medicines. Clearly this presents an opportunity, but much more work needs to be done by the government and industry's stakeholders. The value of pharmaceuticals sold in 2007 exceeded US\$1.4bn, which equates to per capita consumption of less than US\$10 per year and value of medicines sold is expected to exceed US\$2.3 B by 2012 (Ahmed et al., 2011).

This book is concerned with social change in Pakistan, particularly the relationship between indigenous sociocultural orientations, the development process, and the rise of a new middle-level entrepreneurial class in the Punjab.

Social Aspects of Drug Discovery, Development and Commercialization provides an insightful analysis of the drug discovery and development landscape as it relates to society. This book examines the scientific, legal, philosophical, economic, political, ethical and cultural factors that contribute to drug development. The pharmaceutical industry is under scrutiny to develop safer and more effective drugs in a quicker and more affordable manner. Recent criticism and debates have emphasized varying opinions on the issues concerning the drug discovery and development process. This book provides thoughtful and valuable discussions and analysis of the social challenges and potential opportunities through all stages of the pharmaceutical process, from inception through marketing. With a unique focus on the social factors that increasingly play a role in how drug development is planned, structured, and executed throughout the drug product

lifecycle, this is an essential resource for students, professors, and researchers who seek a better understanding of the interface between the pharmaceutical industry, health care systems, and society. Organized in a sequence of interrelated theories and principles that provide the foundation for increased understanding of the relevant social aspects Includes analysis of important new advances, key scientific and strategic issues, and overviews of recent progress in drug development Provides a global perspective with examples from developed areas, such as the US, Japan, Canada and Europe, as well as faster-growing and emerging economies including Brazil, Russia, India, and China Serves as an essential resource for students, professors, and researchers who seek a better understanding of the interface between the pharmaceutical industry, health care systems, and society

The causal relationship between stock prices and the real sector of the economy

Unethical Pharmaceutical Marketing Practices in Pakistan

Opportunities in the Development of Pakistan's Private Sector

Syrian Arab Republic

A Case Study of the Pharmaceutical Sector

Multivariate Analysis in the Pharmaceutical Industry

This paper attempts to evaluate the possible gains and losses arising from the gradual opening up of pharmaceutical trade between India and Pakistan. We explain the comparative advantages of both countries at a disaggregated level, followed by a qualitative analysis of various perceptions and experiences of Pakistan's pharmaceutical manufacturers with respect to trade with India. We find that a gradual opening up of pharmaceutical trade with India may allow Pakistan to enhance the quality of locally produced medicines through raw material, intermediate inputs, knowledge, and skills transfer from India. Pakistan, in the medium to long run, may also be able to diversify its pharmaceutical export base, reduce cost of production and achieve higher competitiveness through the development of value chain linkages with India. Such linkages are important to cater to the projected rise in demand for pharmaceuticals in Pakistan, Afghanistan and abroad.

The adulteration and fraudulent manufacture of medicines is an old problem, vastly aggravated by modern manufacturing and trade. In the last decade, impotent antimicrobial drugs have compromised the treatment of many deadly diseases in poor countries. More recently, negligent production at a Massachusetts compounding pharmacy sickened hundreds of Americans. While the national drugs regulatory authority (hereafter, the regulatory authority) is responsible for the safety of a country's drug supply, no single country can entirely guarantee this today. The once common use of the term counterfeit to describe any drug that is not what it claims to be is at the heart of the argument. In a narrow, legal sense a counterfeit drug is one that infringes on a registered trademark. The lay meaning is much broader, including any drug made with intentional deceit. Some generic drug companies and civil society groups object to calling bad medicines counterfeit, seeing it as the deliberate conflation of public health and intellectual property concerns. Countering the Problem of Falsified and

Substandard Drugs accepts the narrow meaning of counterfeit, and, because the nuances of trademark infringement must be dealt with by courts, case by case, the report does not discuss the problem of counterfeit medicines.

As one of the most massive and successful business sectors, the pharmaceutical industry is a potent force for good in the community, yet its behaviour is frequently questioned: could it serve society at large better than it has done in the recent past? Its own internal ethics, both in business and science, may need a careful reappraisal, as may the extent to which the law - administrative, civil and criminal - succeeds in guiding (and where necessary constraining) it. The rules of behavior that may be considered to apply to today's pharmaceutical industry have emerged over a very long period and the process goes on. Even the immensely detailed standards for quality, safety and efficacy laid down in drug law and regulation during the second half of the twentieth century have their limitations as tools for ensuring that the public interest is well served. In particular, national and regional regulatory agencies are heavily dependent on industrial data for their decision-making, their standards and competence vary, and even the existing network of agencies does not cover the entire world. What is more there are many areas of law and regulation affecting the industry, concerning for example the pricing of medicines, the conduct of clinical studies, the health protection of workers and concern for the environment. In some fields it is indeed hardly possible to maintain standards through regulation. Professor N.M. Graham Dukes, a physician and lawyer with long term experience in industrial research management, academic study and international drug policy, provides here a powerfully documented analysis into the way this industry thinks, acts, and is viewed, and examines the current trends pointing to change. *Provides a balanced picture of the current role of the pharmaceutical industry in society *Includes indices of conventions, laws, and regulations; as well as judicial and disciplinary cases *This is the only book addressing the legal implications of big pharma activities and ethical standards

An Industrial IoT Approach for Pharmaceutical Industry Growth

The Pharmaceutical Industry in Pakistan

Lebanon

Survey of medicinal and pharmaceutical industry in Pakistan (1960-1962).

The New Political Economy of Pharmaceuticals

The Emergence of an Industrial Bourgeoisie in Punjab, Pakistan

Doctoral Thesis / Dissertation from the year 2012 in the subject Pharmicology, grade: , course: Pharmaceutical Marketing, language: English, abstract: Common People and government authorities are usually concerned about the unethical pharmaceutical marketing practices in Pakistan, therefore; the researcher examines the unethical pharmaceutical marketing practices in Pakistan, and selected Karachi City as Case study for this purpose and analyze the impact of unethical marketing practices in pharmaceutical industry. This study not only evaluates the responsible variables for the unethical pharmaceutical marketing practices but also compare who is more responsible for these unethical pharmaceutical marketing practices in Pakistan. This study also examines, who has initiated these unethical pharmaceutical marketing practices in Pakistan and who is responsible for the continuation of these practices in Pakistan. In study researcher focuses six variables that can be a major cause of unethical pharmaceutical marketing practices in Pakistan i.e. Pharmaceutical marketing and Sales

personnel, doctors' community, retail and whole sales pharmacies, government and private hospitals personnel, government officials and patients or their attendants'. All these six variables have been taken and gathered the data through survey questionnaire compile and analyze through Statistical tools like descriptive and inferential Statistics and conclude the main cause of unethical pharmaceutical marketing practices in Pakistan. In the under taken study four different hypotheses were developed and tested through t and F test and also analyze the data through descriptive Statistics, for the descriptive Statistics four different parameters were developed and presented in the form of graphs and tables. The conclusion of the study was that initially pharmaceutical industry was responsible to introduce the unethical marketing practices to their customers i.e. doctor community, and hospitals and later on unethical pharmaceutical marketing practices became the norm of the pharmaceutical industry. Now the doctors are the main cause reason for the continuation of these unethical pharmaceutical marketing practices in Pakistan. It is further concluded in the study that foreign visits are more common too order to get maximum output from the doctor community and now doctors have become more demanding and they ask themselves regarding the foreign and local tours and conferences. Cash incentive and home appliances are another form of unethical practice in the pharmaceutical industry. [...]

Regulatory Affairs in the Pharmaceutical Industry is a comprehensive reference that compiles all the information available pertaining to regulatory procedures currently followed by the pharmaceutical industry. Designed to impart advanced knowledge and skills required to learn the various concepts of regulatory affairs, the content covers new drugs, generic drugs and their development, regulatory filings in different countries, different phases of clinical trials, and the submission of regulatory documents like IND (Investigational New Drug), NDA (New Drug Application) and ANDA (Abbreviated New Drug Application). Chapters cover documentation in the pharmaceutical industry, generic drug development, code of Federal Regulation (CFR), the ANDA regulatory approval process, the process and documentation for US registration of foreign drugs, the regulation of combination products and medical devices, the CTD and ECTD formats, and much more. Updated reference on drug approval processes in key global markets Provides comprehensive coverage of concepts and regulatory affairs Presents a concise compilation of the regulatory requirements of different countries Introduces the fundamentals of manufacturing controls and their regulatory importance

Emergence of Pharmaceutical Industry Growth with Industrial IoT Approach uses an innovative approach to explore how the Internet of Things (IoT) and big data can improve approaches, create efficiencies and make discoveries. Rapid growth of the IoT has encouraged many companies in the manufacturing sector to make use of this technology to unlock its potential. Pharmaceutical manufacturing companies are no exception to this. IoT has the potential to revolutionize aspects of the pharmaceutical manufacturing process, from drug discovery to manufacturing. Using clear, concise language and real world case studies, this book discusses systems level from both a human-factors point of view and the perspective of networking, databases, privacy and anti-spoofing. The wide variety of topics presented offers readers multiple perspectives on a how to integrate Internet of Things into pharmaceutical manufacturing. Covers efficiency improvements pharmaceutical manufacturing through IoT/Big Data approaches Explores cutting-edge technologies through sensor enabled environment in the pharmaceutical industry

Discusses the systems level from both a human-factors point-of-view and the perspective of networking, databases, privacy and anti-spoofing

The Law and Ethics of the Pharmaceutical Industry

India-Pakistan Trade Normalisation

Countering the Problem of Falsified and Substandard Drugs

Pakistan Medical and Pharmaceutical Industry Handbook

Flagrant Practices in the Pharmaceutical Industry - A Consultancy Project

World Pharmacy and India

The book studies the pharmaceutical industry of India. It is one of the most successful stories of economic expansion and improvements in public health. Indian firms have made access to quality medicines possible and affordable in many developing countries. Indian pharmaceuticals are also exported on a large scale to the United States and other highly regulated markets. A wave of mergers, acquisitions and tie-ups point to growing integration between Indian firms and global pharma multinationals.

One of the barriers to investing in Pakistan's private sector has been the perceptions of risk due to insecurity and corruption. This report suggests that opportunities for economic cooperation are hidden among those real risks.

Does marketing practices of pharmaceutical companies in developed and third world countries are same? This book gives a perspective of Unethical Marketing and Promotional activities done by Pharmaceutical Companies. Pharmaceuticals internationally are under scrutiny, for conducting their business on high ethical grounds but this would seem to be a wild goose chased, when we actually evaluate the business conduct of those organizations in developing countries. There is a substantial difference of ethical conduct in doing business in third world countries like Pakistan. In this book the author tries to elaborate these differences for understanding the Unethical Marketing and Promotion of Pharmaceutical Industry in Pakistan.

The Impact of Legislation on the Pharmaceutical Industry in Pakistan

Regulatory Affairs in the Pharmaceutical Industry

Industrial Pakistan

Production, Innovation and TRIPS in the Global South

Key Issues in Growth in Pakistan & International Market

Survey of Medicinal & Pharmaceutical Industry in Pakistan (1960-1962)

A comprehensive and granular insight into the challenges of promoting rational medicine, this book serves as an essential resource for health policy makers and researchers interested in national medicines policies. Country-specific chapters have a common format, beginning with an overview of the health system and regulatory and policy environments, before discussing the difficulties in maintaining a medicines supply system, challenges in ensuring access to affordable medicines and issues impacting on rational medicine use. Numerous case studies are also used to highlight key issues and each chapter concludes with country-specific solutions to the issues raised. Written by highly regarded academics, the book includes countries in Africa, Asia, Europe, the Middle East and South America.

In recent years, countries of the WHO Eastern Mediterranean Region have made significant achievements in the provision of health services. In the pharmaceutical field, countries have been striving to improve the

structures and regulations pertaining to medicines and have progressed in many ways. However, there are still important challenges. The goal of the WHO Good Governance for Medicines program is to improve the situation of medicine regulation and supply. National transparency assessment is the beginning of a process aimed at bringing about desirable and sustainable changes in the governance of the pharmaceutical sector. These reports present the findings of the first phase of the national Good Governance for Medicines program in Jordan, Lebanon, Morocco, Pakistan and Syrian Arab Republic.

Multivariate Analysis in the Pharmaceutical Industry provides industry practitioners with guidance on multivariate data methods and their applications over the lifecycle of a pharmaceutical product, from process development, to routine manufacturing, focusing on the challenges specific to each step. It includes an overview of regulatory guidance specific to the use of these methods, along with perspectives on the applications of these methods that allow for testing, monitoring and controlling products and processes. The book seeks to put multivariate analysis into a pharmaceutical context for the benefit of pharmaceutical practitioners, potential practitioners, managers and regulators. Users will find a resources that addresses an unmet need on how pharmaceutical industry professionals can extract value from data that is routinely collected on products and processes, especially as these techniques become more widely used, and ultimately, expected by regulators. Targets pharmaceutical industry practitioners and regulatory staff by addressing industry specific challenges Includes case studies from different pharmaceutical companies and across product lifecycle of to introduce readers to the breadth of applications Contains information on the current regulatory framework which will shape how multivariate analysis (MVA) is used in years to come

**Barriers to Green Supply Chain in Pharma Companies in Pakistan
The Unfinished Economic Agenda**

**Study of economic development of Pakistan through stock market
Pakistan**

An Analysis of the Pharmaceutical Sector

Implications for Self-reliant Development and Global Interdependence

Pharmaceutical companies around the world have been found involved in quite a wide range of unethical and harmful activities that are not only causing frauds in finances and weighing on the pockets of the end consumer, but also endangering and claiming human lives. Healthcare officials and pharmaceutical firms are found involved in unscrupulous activities such as unregulated receipt of drug samples which are later sold to patients rather than giving it to them free of cost; information alteration by medical representatives for sales of their brands as well as brand reminders for prescriptions; lobbying against natural products to promote their own drugs; exasperatingly unjustified prices; less focus on development; non-verified new drug approvals by the FDA; non-tested prescribing of multiple drugs; unethical marketing practices giving leverage for corruption to semi-regulated drug distributor, steep standards of healthcare industry professionals and lack of knowledge of the drug representatives and sellers. The case revolves around highlighting the major flagrant practices around the world and gives references to corruption cases from

around the world, involving large multinational pharmaceutical firms, and providing recommendations to prevent corrupt and often non-highlighted problems of the pharmaceutical sector in Pakistan with reference to practices around the globe. The goal of the WHO Good Governance for Medicines program is to improve the situation of medicine regulation and supply. National transparency assessment is the beginning of a process aimed at bringing about desirable and sustainable changes in the governance of the pharmaceutical sector.

In Pakistan corporate sector is adversely facing competition due to economic downturn in the world and making efforts to survive in a competitive and uncertain economic environment. This study will help to improve dividend decisions of corporate sector through proper implementation of their dividend policies. This paper is an attempt to explain the effect of dividend announcements on stock prices of chemical and pharmaceutical industry of Pakistan. A sample of twenty five companies listed at KSE-100 Index is taken from the period of 2001-2010. Results of this study are based on Fixed and Random Effect Model which is applied on Panel data to explain the relationship between dividends and stock prices after controlling the variables like Earnings per Share, Retention Ratio and Return on Equity. Results indicate that Cash Dividend, Retention Ratio and Return on Equity has significant positive relation with stock market prices and significantly explains the variations in the stock prices of chemical and pharmaceutical sector of Pakistan while Earnings per Share and Stock Dividends have negative insignificant relation with stock prices. This paper further shows that Dividend Irrelevance Theory is not applicable in case chemical and pharmaceutical industry of Pakistan.

*Social Aspects of Drug Discovery, Development and Commercialization
India-Pakistan Trade*

Pharmaceutical Policy in Countries with Developing Healthcare Systems

Marketing Ethics and Pharmaceutical Industry

The Emergence Of An Industrial Bourgeoisie In Punjab

Proceedings of MIE 2009, the XXII International Congress of the European Federation for Medical Informatics

This volume contains the proceedings of the 22nd International Conference on Medical Informatics Europe 2009 (MIE) in Sarajevo, Bosnia and Herzegovina, September 2009. The scientific topics presented in these proceedings range from national and transnational ehealth roadmaps, health information and electronic health record systems, systems interoperability and communication standards, medical terminology and ontology approaches, and social networks to web, web 2.0, and semantic web solutions for patients, health personnel and researchers.

Master's Thesis from the year 2007 in the subject Economics - Finance, , course: Masters of Philosophy (M.Phil.), language: English, abstract: The purpose of the research is to examine the causal relationship between stock prices and the variables representing the real sector of the economy like read GDP, and real investment spending, in Pakistan. Researcher has used annual data from December 1980 to June 2007, to examine the stochastic properties of the variables, and has taken care of the expected shift in the series due

to the start of the liberalization program in the early 1990s. State Bank General Price Index (SBGPI) with base 1980-81 is used for stock prices whereas for real variables GDP, and investment, at constant prices of 1980-81 were used. The descriptive statistics indicate a much higher expansion in stock prices relative to real variables. However, the stock prices also experienced much higher volatility during the sample period whereas the real variables seem to be stable. The correlation analysis shows low correlations between stock prices and real variables. However, there is evidence of significant increase in these correlations in the post reform period suggesting that these reforms resulted in significant improvement in the behavior of stock market and its linkages to the economy. In the formal investigation, the co-integration regressions indicate the presence of a long run relationship between stock prices and real variables. Regarding the cause and effect relationship the error correction model suggest a unidirectional causality from the real variables to stock prices implying that in Pakistan fluctuations in real sector cause changes in stock prices. The analysis does not verify the evidence of improvement in the linkages of stock market to the economy, which is indicated by the correlation analysis. These results have not changed by the incorporation of the expected shift in the variables resulting from the liberalization measures. The findings suggest that the stock market in Pakistan is still not that developed to play its due role in influencing the real sector of the economy. It can be implied, however, that the government can use the real sector to influence the stock market. An important implication of the findings is that the stock market in Pakistan cannot be characterized as the leading indicator of the economic activity. The study clearly indicates that it lags economic activity. It seems that the phenomenal growth in stock market variables like market capitalization, trading volume, the market index, etc. do not seem to influence the economy of Pakistan. Some two decades will shortly have passed since the WTO's Trade Related Aspects of Intellectual Property Rights agreement came into force in 1995. This volume is the first cross-country analysis of how TRIPS has affected the capacity of 11 major low or medium income countries to produce generic drugs.

Culture, Class, And Development In Pakistan

A Study of the Drugs (Generic Names) Act, 1972

Emergence of Pharmaceutical Industry Growth with Industrial IoT Approach

A Select Bibliography, 1948-1966

Medical Informatics in a United and Healthy Europe

OECD Health Policy Studies Pharmaceutical Pricing Policies in a Global Market

This book explores the unfinished India–Pakistan Trade normalisation agenda (building upon the themes covered in the book “India-Pakistan Trade: Strengthening Economic Relations” published by Springer in 2014) and discusses the steps that must be undertaken in order to move the bilateral engagement forward. Given the commencement of bilateral state-level talks and the Indian government’s emphasis on South Asian integration, it adds impetus to the trade liberalisation process, while also

providing essential recommendations for policymakers in both countries. The unfinished agenda faces obstacles such as the list of items for which export from India to Pakistan continues to be restricted; lack of land borders and seamless cross-border transport services, which hampers the realisation of trade potential; negative reporting in the media, which influences traders' perceptions; and the continued occurrence of informal trade resulting from inadequacies of formal trade relations. The book examines various sectors, including the agricultural, textiles, automotive and pharmaceutical industries, given their predominance on the list of restricted items for bilateral trade. It also covers studies on unconventional and under-researched themes concerning informal trade, informational barriers to India-Pakistan trade, and opening new land borders for trade – all of which can play a facilitating role in realizing the untapped trade potential between India and Pakistan. The book also includes the second round of the India-Pakistan trade perception survey, which identifies impediments to India-Pakistan bilateral trade and assesses the change in traders' perceptions since the first round of the survey, which was published in 2014.

The Era of Artificial Intelligence, Machine Learning and Data Science in the Pharmaceutical Industry examines the drug discovery process, assessing how new technologies have improved effectiveness. Artificial intelligence and machine learning are considered the future for a wide range of disciplines and industries, including the pharmaceutical industry. In an environment where producing a single approved drug costs millions and takes many years of rigorous testing prior to its approval, reducing costs and time is of high interest. This book follows the journey that a drug company takes when producing a therapeutic, from the very beginning to ultimately benefitting a patient's life. This comprehensive resource will be useful to those working in the pharmaceutical industry, but will also be of interest to anyone doing research in chemical biology, computational chemistry, medicinal chemistry and bioinformatics. Demonstrates how the prediction of toxic effects is performed, how to reduce costs in testing compounds, and its use in animal research Written by the industrial teams who are conducting the work, showcasing how the technology has improved and where it should be further improved Targets materials for a better understanding of techniques from different disciplines, thus creating a complete guide

This report assesses how pharmaceutical pricing and reimbursement policies have contributed to the achievement of certain health policy objectives, and it examines the national and transnational effects of these policies.

Pharmaceutical Industries in West Pakistan

Case Studies of Three Industries

Pharmaceutical Drug Promotion in Pakistan

Issues in Ethical and Non-Ethical Practices

Pharmaceutical Industry

Impact of Dividend Announcement on Stock Market

An Industrial IoT Approach for Pharmaceutical Industry

Growth, Volume Two uses an innovative approach to explore how the Internet of Things (IoT) and big data can improve approaches and make discoveries. Rapid growth of the IoT has encouraged many companies in the manufacturing sector to make use of this technology to unlock its potential. Using clear language and real-world case studies, this book discusses systems level from both a human-factors point-of-

view and the perspective of networking, databases, privacy and anti-spoofing. The wide variety in topics presented offers multiple perspectives on how to integrate the Internet of Things into pharmaceutical manufacturing. This book represents a useful resource for researchers in pharmaceutical sciences, information and communication technologies, and those who specialize in healthcare and pharmacovigilance. Emphasizes efficiency in pharmaceutical manufacturing through an IoT/Big Data approach Explores cutting-edge technologies through sensor enabled environments in the pharmaceutical industry Discusses system levels from both a human-factors point-of-view and the perspective of networking, databases, privacy and anti-spoofing

This book is a research project project helpful for research scholar s in order to to maintain a healthy environment in a pharmaceutical industry because in this present era I have noticed that pollution is increasing so this is done for the benefit of mankind in order to help them to reduce harmful effects of environment. Thanks to my friends, colleagues and other for this support for making this project successful

Pakistan Medical & Pharmaceutical Industry Handbook

The Politics of the Pharmaceutical Industry and Access to Medicines

Pharmaceutical Policies in South Asia

Volume 2

The Era of Artificial Intelligence, Machine Learning, and Data Science in the Pharmaceutical Industry

Measuring Transparency to Improve Good Governance in the Public Pharmaceutical Sector

An Overview

In recent years, countries of the WHO Eastern Mediterranean Region have made significant achievements in the provision of health services. In the pharmaceutical field, countries have been striving to improve the structures and regulations pertaining to medicines and have progressed in many ways. However, there are still important challenges. The goal of the WHO Good Governance for Medicines programme is to improve the situation of medicines regulation and supply. National transparency assessment is the beginning of a process aimed at bringing about desirable and sustainable changes in the governance of the pharmaceutical sector. These reports present the findings of the first phase of the national Good Governance for Medicines programme in Jordan, Lebanon, Morocco, Pakistan and Syrian Arab Republic.