



MIDDLE EAST TECHNICAL UNIVERSITY

DEPARTMENT OF BUSINESS ADMINISTRATION

BA 4111 MANAGING TECHNOLOGY AND INNOVATION

SPRING 2013 TERM PROJECT

Deniz MORALI

1724426

INDEX

Executive Summary	2
The Innovator's Prescription	3
<i>Overview</i>	3
<i>Issues Covered</i>	3
<i>How It Relates to the Class</i>	6
Innovation in Action: A Practical Guide for Healthcare Teams	7
<i>Overview</i>	7
<i>Issues Covered</i>	7
<i>How It Relates to the Class</i>	8
Compare and Contrast	9
Things I Have Learned	10

EXECUTIVE SUMMARY

To support and contribute to my overall knowledge gained through the class and to go into further detail about the topic that I am interested in, I read two books related to Healthcare Innovation. This report provides an analysis of these two books.

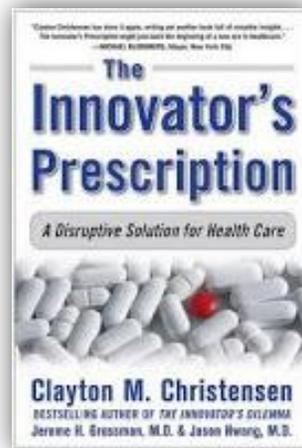
The first book; “The Innovator’s Prescription” addresses the need for healthcare innovation and strategies to make it more affordable and accessible. He applies his concept of disruptive innovation to guide as a roadmap to solve the problem of rising costs of healthcare in United States. Below you can find information about the book.

- Title: The Innovator’s Prescription
- Authors: Clayton M. Christensen, Jerome H. Grossman, M.D., Jason Hwang, M.D.
- ISBN Number: 9780071592086
- Publisher Name: McGraw-Hill
- Number of Pages: 441 Pages
- Year of Publication: 2009

The second book; “Innovation in Action: A Practical Guide for Healthcare Teams” is a guide to how to make a successful innovation in the healthcare industry. The objective of the author is to describe key issues about innovation and guide through the creation and testing of new ideas for the healthcare industry. This book complements the first book, The Innovator’s Prescription by guiding through how to make an effective innovation. Below you can find information about the book.

- Title: Innovation in Action: A Practical Guide For Healthcare Teams
- Authors: Scott D. Endsley, M.D.
- ISBN Number: 9781444330571
- Publisher: Wiley-Blackwell
- Number of Pages: 138 Pages
- Year of Publication: 2010

THE INNOVATOR'S PRESCRIPTION



Overview

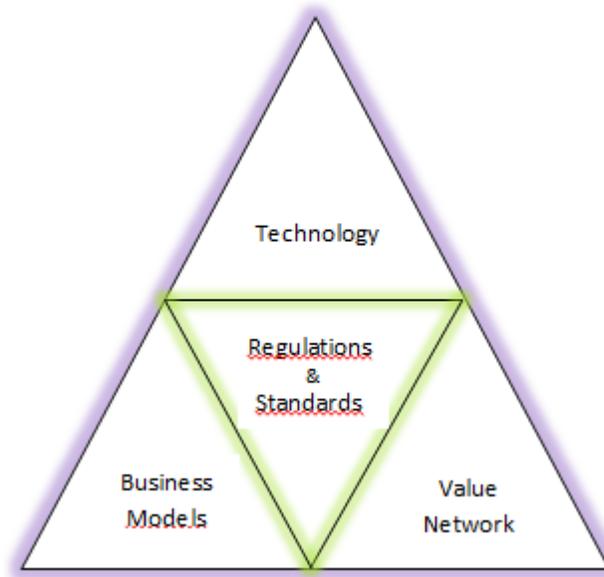
Current trends of the system are that there are now fewer people to afford, fewer businesses to provide and fewer government programs to promise it for the future, compared to the past. By separating the book into nine different chapters, the author presents various factors which have the capability to disrupt the system and achieve to decrease costs. Christensen approaches to this problem and provides it solutions based on United States. However, I think that most of the factors explained in this book (except the regulatory and the reimbursement systems) are universal and thus can be implied in other countries, as well.

Issues Covered

The chapters covered in the book are respectively: “The Role of Disruptive Technology and Business Model Innovation in Making Products and Services Affordable and Accessible”, “The Technological Enablers of Disruption”, “Disrupting the Hospital Business Model”, “Disrupting the Business Model of the Physician’s Practice”, “Disruptive Solutions for the Care of Chronic Disease”, “Integrating to Make it Happen”, “Disrupting the Reimbursement System”, “The Future of Pharmaceutical Industry”, “Future Directions for Medical Devices and Diagnostic

Equipment”, “The Future of Medical Innovation, Regulatory Reform and the Disruption of Health Care.”

According to Christensen, the initiator of the concept of “disruptive innovation”, disruptive innovation consists of three elements. He shows these elements in the figure below:



To begin with, technological enablers play one of the most important roles in transforming the system. Technologic advances –mainly technologies that enable precise diagnosis and effective therapy- has enabled and has been increasing and improving the usage of precise and personalized medicine.

The book then discusses the disruptive power of value networks and new business models by emphasizing the importance of government regulations and standards.

Value Adding Processes and Solution Shops are two main emerging business models presented in the book. Value Adding Processes such as hip and knee replacement surgeries and repairs of cataracts guide through the creation of a new business model by changing the traditional way hospitals to their business. Moreover, Solution Shops are the second way of disrupting the hospital business model by taking potential customers from general hospitals to specialized clinics and offering them better, more detailed diagnosis and treatment. At this point, taking the solution to the patients rather than taking patients to the solution has been emerging as a new

trend that has disruptive power in the healthcare system. By increasing the usage of ways of communicating instead of increasing hospital visits, this process moves the customer base from the hospital business model to telemedicine business model. In addition, medical tourism is moving the economy towards developing countries by the globalization of the health industry. Thanks to increased technologies of communication and transport, it is now easier and thus more feasible to have diagnosis and find the treatment outside of the home country. Prices are also lower in those countries, which all together disrupts the traditional hospital business model.

Moreover, enhancement of the capabilities of primary physicians has been a disruptive factor. As a result of improving technologies that enable economical on-site testing and imaging brings more diagnostic capabilities to primary physicians who have been dealing with simpler – everyday- issues. Emergence of retail clinics are also a disruptive factor which changes the business model of physicians by enabling diagnosis outside of traditional physician's clinic.

The care of chronic diseases poses disruptive issues as well. Behavior dependent chronic diseases have been treated with untraditional ways such as the usage of patient networks (online forums for overcoming alcoholism, for example). On the other hand, emergence of coherent or multidisciplinary solution shops is suggested by the author as a way to overcome intuitive dependent chronic diseases. These systems all have disruptive power to the system.

Fostering low-cost business models such as retail clinics and patient networks and supporting Health Savings Accounts are suggested as possible ways to make healthcare more affordable and accessible in United States.

According to Christensen, the future of the healthcare system is such: Competition in the health industry is increasing and there is a trend towards fragmentation in pharmaceuticals and in direct marketing to patients. Furthermore, defining the problem (diagnostics) is gaining importance. Companies are also getting separated from each other to save their images and not to be dependent on each other in this competitive system. And eventually, generic producers are steadily disrupting the business.

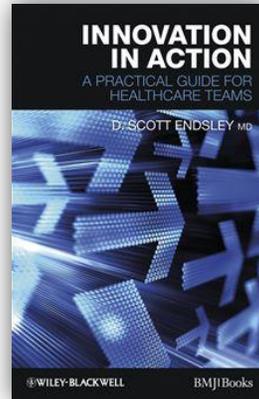
How It Relates to the Class

I think that this book is a very good and explanatory example to enhance knowledge on disruptive innovation from the perspective of healthcare system. Moreover, technology S-Curves are to provide examples for the reimbursement system and the firm-level activities.

Government supporting Health Savings Accounts and High-Deductible Health Insurance is not powerful enough to make health care more affordable in United States. This is caused by the S-Curve pattern. Since most of the Technologies disrupt the prior ones, such a solutions remains powerless after a point, because when incumbents are at the flat part of the S-Curve, they can not foresee the potential of new entrants at the beginning of the S-Curve.

Furthermore, the book explains in detail the power of government regulations which were seen in class as a very essential factor affecting the rise of innovations. Christensen believes that healthcare-related government regulations in United States need to be changed to achieve disruptive innovations, enable cost decreases and affordability.

INNOVATION IN ACTION: A PRACTICAL GUIDE FOR HEALTHCARE TEAMS



Overview

According to the author, the main challenge that the healthcare system is facing currently is the effort to control costs. At this point, innovation is seen as a primary strategy for dealing with this issue. However, most innovations trying to achieve this strategy seem to be failing. In order to achieve a remarkable solution and make a successful innovation, a five-stage process is suggested for companies: Defining the innovation challenge, exploring the potential users, finding new ideas, testing the ideas and preparing the diffusion plan. Each step is a chapter covered in the book.

Issues Covered

As mentioned in the section above, chapters covered in the book are respectively: “Introduction to Innovation”, “Defining the Innovation Challenge”, “The Deep Dive”, “Generating Innovative Ideas and Creating Your Diffusion Plan”.

Defining the innovation challenge is the core step which mainly determines the final outcome. This step consists of information gathering, prioritization, writing the innovation statement and mapping the strategy. After defining the challenge, the company should then focus on its target

customers. Four steps are suggested to explore the potential users: learning, looking, asking and trying (IDEO four strategies). Upon completion of exploration of potential users, new ideas should be found. They can be found by the means of other people but also of brainstorming, as well. Afterwards, the ideas should be tested. They can be tested using physical models, Computer Aided Design, paper prototyping, mathematical models, rapid-cycle tests. The final step is diffusing the technology/product. To better predict and plan diffusion, Roger's and Greenhalgh's models of diffusion are suggested and exemplified. The diffusion can be made using storyboards, videography and viral marketing.

How It Relates to the Class

As discussed in the first book, Technology S-Curves serve to exemplify the steps explained in the book. Roger's diffusion of model is demonstrated using a Diffusion S-Curve. As we saw in the class, users are categorized into five sections. These are innovators, early adopters, early majority, late majority and laggards. According to Roger's diffusion model, the number of users starts to increase after the adoption phase of innovators and early adopters. The diffusion curve starts to go downwards after the adoption of late majority. It follows a decreasing trend when laggards are using the new technology.

Moreover, according to Endsley, innovations come from unexpected successes or failures, process need (demand pull), change of industry structure, change in demographics, change in perceptions (paradigm shift) and from new knowledge. While reading the book, I related these innovation sources to the ones that I learned in class.

COMPARE AND CONTRAST

While the first book covers the issues related to the government system, this second book provides steps for company-level innovations to meet the industry challenges. To improve the health system in United States, there is stated a need for a disruptive innovation. Christensen explains the dynamics of the healthcare system and of disruptive factors. As stated by Christensen, «Some companies should step forward». I think that one effective way of realizing a reform in the healthcare system is through companies. At this point, Endsley's five stages can be helpful while going through an innovation process in a company, after understanding the dynamics of disruptive innovation and how it can be achieved.

While explaining how an effective innovation takes place in the healthcare industry, both of the books focus on the importance of business models and the role of technology.

THINGS I HAVE LEARNED

Since healthcare management is my interest area and a potential area to improve my knowledge and to work in, I especially focused on the industry-related factors and drivers while reading the books.

I learned that:

- Competition is very high and has an increasing trend in this industry.
- Defining the problem (diagnostics) is gaining importance.
- Affordability and accessibility is the primary concern.
- Companies are getting separated to save their images and not to be dependent on each other in this competitive system.
- Generic producers are steadily disrupting the business.
- Retail clinics are gaining importance and have disruptive power
- Successful innovations might initiate at the company-level