

Disruptive Innovation: a Therapy for the Healthcare Market?



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The theory of disruptive innovation, introduced in 1995, was demonstrated to be applicable and beneficial in a wide range of sectors. Over the last few years, opinions were voiced about its potential to “cure” healthcare from its current crisis. In this article, there is an introduction of the concept of disruptive innovation, as well as a discussion of its relevance and potential benefits in Healthcare.

In the Merriam Webster dictionary, the verb disrupt is defined as break apart, throw into disorder, interrupt the normal course or unity. Coupled with innovation, market disruption does not carry the same destructive connotation; in fact, it may lead to a positive outcome in the end. Clayton Christensen from Harvard Business School describes “Disruption” as a process whereby a smaller entity with fewer resources is able to successfully challenge established incumbent businesses. Specifically, as incumbents focus on improving their products and services for the most demanding - and usually the most profitable - customers, they exceed the needs of some segments and ignore the needs of others. Entrants that prove disruptive, begin by successfully targeting those overlooked segments, gaining a foothold by delivering more suitable products - often at a lower price. Incumbents tend not to respond vigorously as they are after more demanding segments. Entrants then move up market delivering the performance that incumbent’s mainstream customers require. When the latter start adopting the entrants offerings in volume, disruption

has occurred. The first minicomputers were disruptive to the mainframe market: they were low-end upstarts that later became superior to mainframes in many instances. Subsequently, personal computers disrupted minicomputers. Disruptive innovation has been very popular among tech startups. Apple iPhone’s disruption of the laptop markets is notorious as the primary access point to internet, since it was developed to make it like a personal computer.

Disruptive innovations originate not only in low-end segments but in new-market footholds as well. In the new market footholds, disrupters create a market where none existed: They turn non-consumers into consumers, a model also described by Chan Kim and Rene Mauborgne from INSEAD Business School in the Blue Ocean Strategy. Personal copiers turned non consumers in the early days of photocopying technology into consumers. School librarians or others used carbon paper or mimeograph machines while Xerox targeted large corporations charging high prices for the required performance. In the late 70’s, personal copiers offered individuals and small organizations an affordable solution and a new market was created. From this modest start, personal photocopy makers gradually built a major position in the mainstream photocopier market. Similarly, a new market disruption or a Blue Ocean unfolded when the transistor pocket radio was ignored by manufacturers of tabletop radios because it was not aimed at their consumers.

Disruptive innovation was first described in 1995, well after Michael Porter described his famous five forces to explain the strategic framework in any market back in 1979. In Porter’s model, the firm’s environment is constituted of competitors, suppliers, customers, barriers to entry and barriers to exit. His five-forces-concept is still influencing strategic thinking to date. However, the Michael Porter concept was challenged by Chan Kim and Rene Mauborgne in 2005 when they published the “Blue Ocean Strategy” book. In the latter model, organizations

avoid competition, and rather make it irrelevant while searching untapped markets. In other words, businesses focus less on competitors and more on alternatives; they also focus less on customers, and more on non-customers, or potential new customers. In one way, disruptive innovation reconciles both theories -Porter and the Blue Ocean Strategy- by having innovation destabilize competitors and/or by creating new markets.

How is the concept of disruptive innovation applicable to Healthcare? More importantly can it improve the quality of our lives, similar to what disruptive technologies such as Bell’s telephone or Eastman’s camera achieved in their markets? Recent articles have mentioned disruptive innovation as a prescription for better health care stating “If we want a more affordable healthcare system, we should embrace disruptive innovation”. Indeed, healthcare is steadily improving worldwide, albeit with major regional disparities as a result of differences in affordability and accessibility. Since disruptive innovation has helped industries transform to provide increasingly affordable and accessible products or services to the customers, it seems pertinent to think about its applicability to Healthcare.

The Healthcare market is a peculiar one with a major element of regulation. Basic healthcare services are essential to people, and considered a right by many. Providers are often organized in associations or orders. Ministries and/or local authorities attempt at regulating the sector, while worldwide organizations play a major role in advancing and facilitating healthcare delivery where this is most needed. Upholding ethical standards impacts the healthcare service delivery. Contrary to the Christensen model discussed previously, an ideal healthcare market is not segmented among the most demanding or most profitable customers and the least demanding or least profitable ones. In a perfectly competitive healthcare market, the demand does not change much with the changing price, which is a textbook picture of the low price elasticity of demand. However, the reality is different as there is no such a thing as a perfectly competitive market. Actually, the provision of healthcare services varies markedly depending on price and affordability, which results in significant disparities around the globe. With players in today’s healthcare system heading towards the most scientifically demanding challenges, better therapies are raising the costs indefinitely; thus further widening the aforementioned gap. Accessibility and affordability are indeed major issues not only in less developed countries.

Nowadays, the monthly cost of novel oncology treatments may reach a six digit figure of US dollars in certain cases. Our ability to head towards a new system characterized by lower costs and higher quality seems compromised at times. However, it is important to remember that, although there exist many subspecialists with extraordinary capacities, most of our pathologies are relatively simpler disorders. It is true that lots of funds are spent on the higher end in research, but efforts are also deployed to handle our most frequent illnesses in a simpler, more convenient and less costly way. In fact, this has taken place quite often during the history of Medicine with a positive impact on the health outcome indicators. Aren’t vaccines a great such example and at the same time an illustration of disruptive innovation? They can be easily assimilated to Blue Oceans that have created markets turning non-consumers into consumers, while disrupting the treatment of diseases such as smallpox, diphtheria, tetanus, polio or measles. In every case, they have drastically reduced the financial costs and burden of disease, while improving the quality of life and well-being.

On another note, disruption started when most patients who occupied hospital beds many years ago were treated in more focused settings, outpatient clinics or even home. Even if it did not originate in lower footholds, this expanding phenomenon was disruptive to hospital beds. Nevertheless, hospitals embraced this change and adopted it willingly, smoothing the rough effects of disruption. There is a claim that, in order to reap its benefits, the disruptive innovation should be a full-fledged one. That may be the case, but even if we label this trend as a sustained innovation or “uberization” rather than a disruptive innovation, there is a beneficial outcome. Indeed, we observed a remarkable change and a great restructuring in the healthcare delivery as a result of these innovative initiatives, no matter how they are labeled.

In order to drive change, there must be incentives for the traditional delivery providers to share in the success of the new model. Otherwise, given their role and market power, there is a concern that they may block the process of change. Interrelated events cascade leading to failure: Hospitals with large investments join forces holding back change. Regulators, afraid of putting patients at risk, withhold approvals. Insurance companies approve only established licensed procedures, and as such, refuse to reimburse it. Specialist physicians are afraid of losing income, and it is obviously disastrous to force clinicians and patients to use less expensive technologies. The key

thing is to make stakeholders willingly move to where real value is. Miniature blood glucose testers is a simple example of beneficial disruptive innovation. Blood glucose testers are an alternative to laboratories, and patients can manage their sugar levels without frequent specialist physicians' consultations as before. However, this was no deterrent to adoption: Laboratories scaled up for more sophisticated tests and endocrinologists' time was freed to handle more complex presentations. Substitution took place at multiple levels leading to efficiency gains in the system. No doubt that patient education played a crucial role for such a disruption to succeed. Whether this example is labelled as sustained or disruptive innovation, it describes an efficient and effective restructuring, with gains in affordability and quality healthcare services. Coupled with innovations, such efficiency gains are most welcome in an industry where cost transformation programs and value creation are much needed. Digital disruption and transformation has invaded our lives with devices such as the smart watches, health-related apps and other patient-friendly technology that are enabling patients to take over part of their own healthcare.

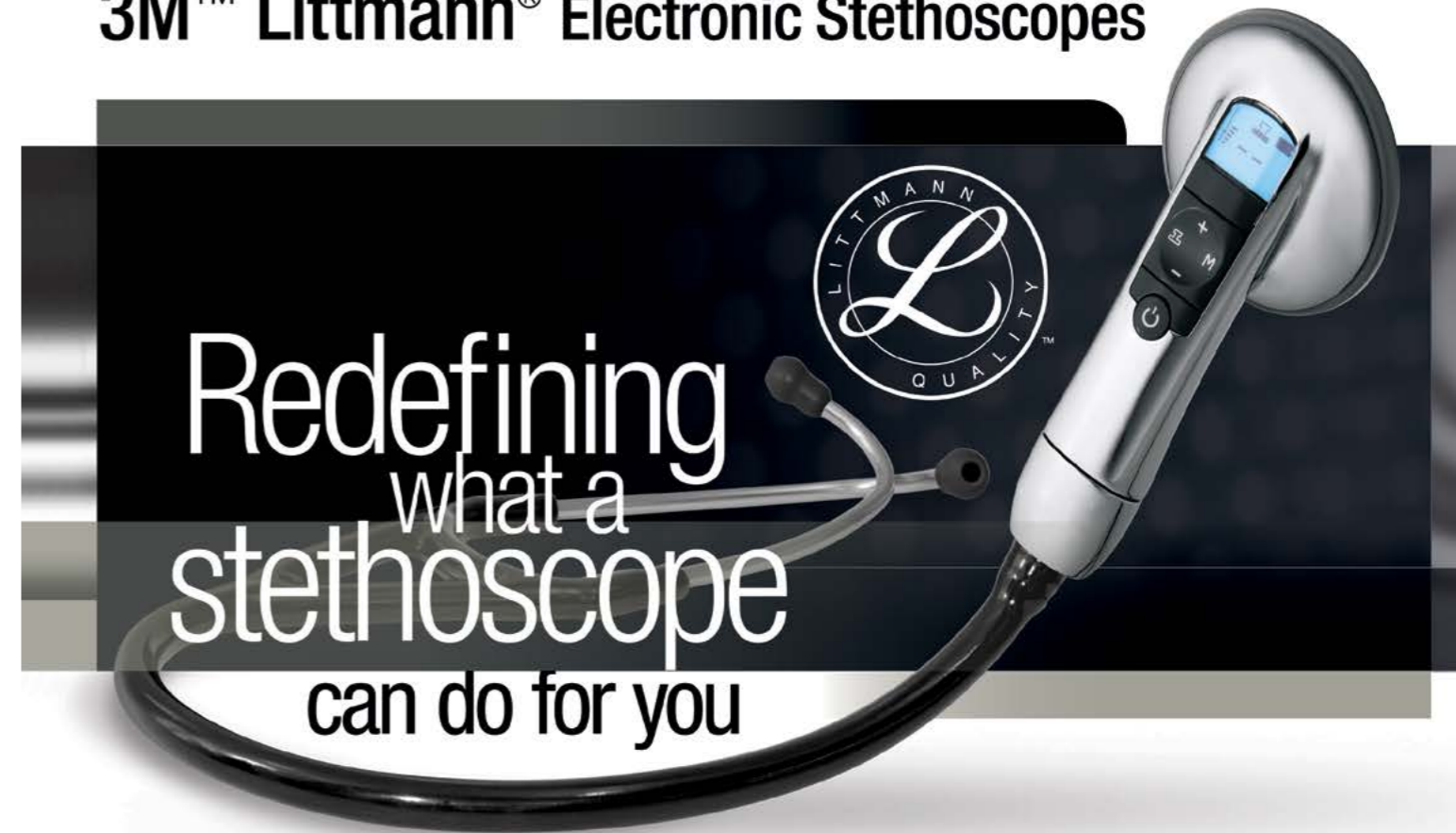
There is a trend advocating transference of skills and focused settings as partial solution disrupters. Managers and technologies need to focus on enabling less expensive, well-trained professionals to do more complex procedures in less expensive settings. Undoubtedly, there are synergies in this combination that lead to value creation. Furthermore, it is common knowledge that the higher the turnover of specific cases, the better the competencies developed to handle those cases. It also leads to additional value creation through risk minimization. Shouldice Hospital in Ontario, Canada, is a good example where less expensive professionals are trained to progressively do more sophisticated things in less expensive settings according to standardized protocols. This Hospital is specialized in hernia repairs and has an excellent success rate. However, expansion of this focused model to other treatment modalities is challenging, and the regulatory environment could become problematic.

The US has undergone a notorious disruption through transference of skills from highly trained, expensive personnel to more affordable providers. Nurse practitioners are educated and trained to perform certain medical acts previously limited to physicians, including diagnosis and treatment to patients of all ages. This model of care delivery turned out to be quite successful. Other innovations such as the system that matches the clinician skill level to the

difficulty of the medical condition or acuity have also injected value in the system. Globally, the differentiation of primary, secondary and tertiary care models is important. Providing diagnosis and treatment, where this can be done at the lowest cost with good quality standards, should be a restructuring target. When primary care facilities treat conditions previously treated in tertiary care centers, there is an achievement of greater convenience and lower cost associated with good quality care. If we want an affordable and accessible system globally, a reorganization of primary/secondary/tertiary and quaternary care should take place and this has started. The setting for the healthcare delivery services, as well as the providers' skills, should be matched to the acuity or complexity of the case. Academic centers and medical schools will adapt to this trend through alliances at all care levels. In this model, a redistribution of services takes place parallel to a shift in resources to where it is most needed. This could happen either through disruption or sustained innovation i-e progressive advances that bring improvements without shaking the market, getting to lower footholds or to non-consumers. This transformation impacts the cost structure of sophisticated tertiary or quaternary care centers. Since margins are often higher in lighter cases, it may adversely affect their profitability. However, in order to achieve engagement in this process and equity, this concern should be attended through reimbursement patterns that counterbalance the negative financial effects of the change.

Medicine will continue to advance through discoveries, technology and research and development. If we do not rationalize the healthcare services delivery, we are increasingly at risk of not benefiting from valuable medical advances. Teamwork by all players, perhaps under the guidance of regulators, is essential. Rather than preserving the present system, everyone should question how he/she can ease the emergence and realization of innovations – whether disruptive or not. Agility is crucial for institutional viability in this environment; however, large tertiary and quaternary medical centers are far from being agile. On the one hand, they should internalize the concept of agility in their plans, and on the other hand, all stakeholders should remember the common interest, which is to maintain and foster the delivery of high quality medical services. Ilian Mihov, Dean of INSEAD Business School said lately: "We don't just embrace change, we lead it. We don't shirk from disruption, we harness it. We don't just survive dislocation, we thrive amidst it"

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