

Design thinking as a powerful tool in healthcare industry

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Abstract

This paper discusses how design thinking is applied in addressing healthcare challenges, as well as a systematically problem-solving approach. It is also introduced that how design thinking can supplement current healthcare management, innovation and practices. A case study about Walgreen pilot store is presented to analyze the design thinking approach and describe an innovation project conducted within the healthcare industry. Three specific methodologies of design thinking are listed to enlist novel methods to resolve complicated and time-consuming healthcare problems through design thinking, ranging among human-centered research, collective and diverse team collaboration, and rapid prototyping.

Keywords

Design thinking, healthcare, human-centric, teamwork, prototyping.

1. Introduction

According to the statistic, Physicians stand out in the United States to be one of the professions with the highest burnout rates [1]. And due to a recent survey from Commonwealth Found [2], “more than seven out of 10 adults believe the U.S. health system needs fundamental change or complete rebuilding.” To develop comprehensive competence to deal with the innovation of the complex system, on-going attempts are currently insufficient. And so many complicated challenges occur, including raising rates of obesity and diabetes, health and economic disparities and so on. The Commonwealth Fund reported that the United States fared especially badly on measurements of affordability, approaches, equality between the rich and poor.

Regardless of the inner systematical pressure, the unprecedented competition on finance, society, politic, there exists growing requirements in healthcare industry to develop more robust innovations for better catering to the user experience. Therefore, the necessity of changes should be carried out, with access from not only political administrators, but also healthcare receivers inside the system.

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As we've all known, in terms of healthcare field, in other words, public health field, the integration of high-tech components, such as smartphone, online platform, big data, etc. becomes increasingly important for the big companies, to offer better user experience in feasible ways. Thus, it is well known for the companies that integrated innovations on more applicable products and services has been spurred rapidly, in way of improvements on training their employees and engaging with their customers. Specially, one of the most common trends of developing innovations is design thinking [3].

With the introduction from design consultancy IDEO, the integration of design thinking is developing rapidly and becomes one of the most popular assets in business schools. Besides, fostering innovations in R&D departments of large companies becomes widely applied. Nowadays, it has emerged as a management concept, which promises innovation and inspiration. Nevertheless, it is

worth noting that this concept is rarely conceptualized, especially in terms of potentially taking the role of innovation accelerator. Building on empirical studies of using design thinking offers a better solution on elevating the understanding of the concept, like how it is utilized in innovation work and what the role of design thinking is when building innovation capabilities in large firms [4].

In this essay, three aspects by the case study of Walgreens will be explored, to illustrate how design thinking influences health care management: strategy as tools for framework organization, development in imperative marketplace, and design thinking as an access for practical problems resolutions.

2. Background

The concept of design thinking always swings between the fields of innovation and design. On the one hand, the concept of design thinking is similar to the innovation of meaning applications. On the other hand, the aim of design thinks is to reduce the complexity in design practice [4]. With regarded as a specific resolution for complication, design thinking also enables the generation of innovative solution with user-centric approaches.

Taken as an essential competency of healthcare administration, design thinking offers a resourceful complement to lay solid foundation for disciplinary skill development, such as strategically scheduling plans, improving operations process and management, and favoring navigation and innovation to healthcare's 'wicked problems'. Rather than a checklist of protocols, design thinking is more about a systematically elevated framework that can be adapted and embedded deeply in an organization [5].

Main methods applied in design thinking varies a lot. Nevertheless, in the healthcare administration, the empathy development and rapid prototyping could be the significant principles to be adopted.

Prioritizing user-centered experience in a service or product, design thinking contains varied collaborations, as well as becoming an encouragement for prototyping the user-derived insights, instead of the traditional top-down hypotheses. It is highly valued that design thinking may provide novel resolutions in terms of healthcare management and unique practice in forms of policymaking.

In the retail pharmacy industry with high growing speed in e-commerce, customers could purchase their items though the internet, which is radically deviated from existing methodologies, e.g. buying with entering stores. Apart from the fact that retailers worried about the reduction of margins interfering relationship among pharmacists and customers, retailers providing mail.

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Service were also confronting threatens due to the urgency towards transforming scheduled monthly refill into user-centered system with high efficiency.

The current offline resources, useful in e-commerce, includes a large variation in multiple industries, such as brand capital, insurance, mail-service pharmacies, and so on. Initially, the two biggest pharmacies with online business, CVS and Walgreens have made greater or less use of these resources [6].

3. Case study & successes in the Walgreen pilot stores

It is worthwhile to note that case studies about successes in the Walgreen pilot stores will be persuasive on how design thinking proceeds healthcare product development and innovation, from the following perspectives.

3.1 Discovering an opportunity

It is observed that health products are experiencing rapid transformation, with improvements about being designed into the concept of home medicine cabinet. This phenomenon pushes the fact that consumers have to use various stopgap solutions so as to carry out health care products. The insight argues that improved approaches for people to be able to take care of themselves are in urgent need of development, which means that portable healthcare is in urgent need to be provided. Then, a goal of

the portable healthcare is to let consumers get access to the same healthcare products no matter where they are [5].

3.2 Conducting initial experiments

Conducting a few small experiments before concept development also helps to explore further opportunities. For example, a few researchers confirmed that their small initial experiments didn't conclude great results until succeeded developing first "Listerine PocketPaks" product. As reports showed that, this improvement was actually built based on redesigning one of Pfizer's strongest brands of mouthwash. Experimentally, researchers made it to convert Listerine into a package of thin strips, stored in their pockets. While the potential impacts are still unsure, it seemed an affordable and promising resolution to make a bet on.

3.3 Expanding the concept

By expanding the concept, researchers developed "In Your Pocket" into various formats to suit existing brands better. They confirmed the over-the-counter remedies and looked into how to put these existing Pfizer altogether. Thus, they would be more convenient for consumers' utilization. In final, in belief of one significant opportunity lying with this special kind of packaging way, they also found that it would be promising to integrate several offerings together into a set, which means it can be grouped together in a form much like a cosmetics kit.

3.4 Locating allies

The broad involvement of retail administrators in early stage has been proved to be the essence for the new and successful initiative. While realizing the shared interest across Pfizer products through advancement seemed to be not easy. Furthermore, it might also cause unfavorable long term debates. All in all, attempts to create a large roll-out are more likely to be processed in a less efficient way.

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3.5 Accelerating learning

With regarded as one of the largest difficulties throughout innovation progress, the notion of speed stimulates the fact that entrepreneurs are less equipped with sufficient time or lots of resources. Therefore, it is without doubt that countless entrepreneurs are actually better at innovation rather than corporate executives.

To conclude, it is never too late to elect to partner quickly, such as selecting a group of retailers to do small-scale attempts and field tests. Walgreen's started its "experiments" by offering Pfizer limited shelf space in 7 stores, to consolidate the new concept of business. With observations and interviews conducted, consumers were enabled to learn from these insights. Specifically, with the interest related with testing assumptions, new smaller product sizes were more emphasized and put into more focus so as to stimulate as well as maintain the current sales of larger-sized products.

3.6 Capitalizing

The drug chain industry efficiently learned from the success of Walgreen pilot store. They started to initiate series of products named around "In Your Pocket", throughout all their stores. With such intensive market needs and demands, the research team finally made a step to challenges at Pfizer. And to their amazement, there existed the emergent of a brand new, multi-product line with new offerings. Aside from the process of product development, they focused on both R&D and retailers' passion, which obviously stimulates increasing support for the new initiatives as well as customer needs in a broader aspect. It was imperative to note that there existed a new category with \$500 million net worth, regarded as the one of the highly ranked consumer goods in history.

4. Discussions

Not only is the concept of design thinking closely related to innovation, but also the definition of design thinking has recently become widespread, which includes in art, design as well as

management circles. Thus, apart from being the merger of business and design, it is widely observed that design thinking has become somewhat of a fad in the executive and management realm.

Thus, as a novel way to offer navigation tackling healthcare's 'weak points, design thinking has been regarded as an imperative strategy applicable for healthcare administrators, with the offering of precious complement to integrate multiple cross-disciplinary skillset

With variations existing a lot among practitioners, it is never too late to note that those methods most widely accepted and applicable to healthcare administration, are experiencing rapid development throughout user empathy based research, radical collaboration and rapid prototyping.

4.1 Empathy

With deeper interest in customers as people, empathy which usually introduced together with broad repertoire of experiences, paves the way for perceiving greater opportunities which are usually missed by healthcare industry administrators.

It is essential to notice that empathy, widely taken as the frontier of critical design thinking methodology, concentrating on the development of a deeper user needs and values, especially for a specific group of users. Tim Brown, the well-known expert of design thinking, pointed out that "people often cannot tell us what their needs are, and their actual behaviors can provide us with invaluable clues about their range of unmet needs" [7].

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Besides, collaborative creation, has been recognized as a crucial factor triggering potential customer, especially in the development of healthcare business. Thus, throughout giving specific prototypes in front of the target users, observations were made on their reactions, thus resulting into the iterations and. There will be at least three rounds in a classical co-creation phase, providing and embodying the changes and improvements accordingly [8].

4.2 Testing and prototyping

Effective ways are made to learn from an individual or community, in ways of making tangible and practical ideas. There will be great benefit when the groups or the companies start changing their philosophy from "think-to-do" to "doing-to-think". Indeed, they will be robust to upcoming challenges or unknowing consequences [3].

4.2.1 Assumption testing

It is acknowledged that most novel business concept is actually evolved as a form of hypothetical argument, which contains content about customer's desire and value. The same as any other less realistic argument. It is all known that a new business concept is usually built on some assumptions that would make it doable and attractive. Thus, the key point is to have the assumptions tested effectively and efficiently. Besides, the value of the tested hypotheses always stand for the matters that customers really care.

4.2.2 Rapid prototyping

As a novel concept, prototyping refers to a set of activities for better improving products, including designing, testing and iterating. The main advantage of prototyping is feasible and controllable. When the assumptions are tested firstly, the next step will move to this link. The rapid prototyping requires the timeliness of the integrations of the products. Always, a good rapid prototyping consists of daily meetings, co-working panels, detailed plans, etc. Larry Keeley of Doblin calls prototyping "faking a new business fast" [3].

4.3 Radical team collaboration

Even though cooperation has been imperative to healthcare administration, due to the perceived need to differ right or wrong between every single arguments and concepts, teams can still find it hard to follow ordinary routines as well as seeking breakthrough. One successful method is to divide a large project into several small sections. Each part of the group responds for one section. Then, by the team collaboration, each part of the group could exert their strengths, and each assumption could be tested

and iterated in smaller scales, which means less time and better efficiency [3]. For example, it is applicable to invite someone whose professions are related with retail, hospitality or banking, which means there might be possible opportunities to enlarge the amount of team members. Besides, taking a field trip will also be beneficial to observations in comprehensive context.

Besides, to my interest, research shows that traditional brainstorming can actually restrict creativity [3]. Instead, we can try more disruptive forms of brainstorming, such as brainstorming which allows for input from a more diverse set of participants and thinking styles [3].

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5. Conclusion

Design thinking is no long a methodology in the art and engineering disciplines and its scope has expanded. For now, design think plays more and more important role in different circumstances around the industries. Also, there is the faith that design thinking would be the core in advancing the innovation pedagogy, which could enhance and boost the creative confidence and competence in the business management and other cross-disciplinary innovations.

However, by rethinking how design thinking framework has been constructed, there calls for more effective approaches to respond to certain change, which means more than simply offering health systems should be playing the leading role. For the future study, research focus of design thinking could lay on the implementations when we are facing rapidly changing cultural, institutional, and technological contexts [9]. Especially, the building of stronger creativity in product as well as business management in the healthcare industry should be more noticed.

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