

Disruptive Innovations and the Greying Market

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Abstract - The current shift in demographics – aging and shrinking populations – in many countries around the world presents a major challenge to companies and societies alike. One particularly essential implication is the emergence and continuing growth of the so-called “greying market” or “silver market”. Building on Christensen’s disruptive innovation framework, this paper discusses how these innovations could be leveraged to benefit both businesses and customers in the greying market. It offers four important propositions in this context as well as essential issues for future research.

Keywords – Aging, disruptive innovation, gerontechnology, greying market, transgenerational design

I. INTRODUCTION

The current shift in demographics – aging and shrinking populations – in many countries around the world presents a major challenge to companies and societies alike [1-5]. As a matter of fact, this is true for both a number of industrialized nations as well as certain emerging economies. However, even though this crucial issue has recently started to raise the attention of scholars, business leaders and politicians, research on the implications of the demographic change on businesses is still in its infancy.

One particularly essential implication is the emergence and continuing growth of the so-called “greying market” or “silver market”, the market segment more or less broadly defined as those people aged 55 and older. Increasing in number and share of the total population, while at the same time being relatively well-off, this market segment can be seen as very attractive and promising [6]. Note that this is both true for the B2C as well as the B2B sectors as the workforce of organizations is also aging.

One specifically important feature of the greying market is the need for simple and easy-to-use products as an increasing age frequently means certain constraints in terms of health and physical and sometimes even mental abilities. At the same time, sophisticated technologies and smart new solutions will also be needed urgently; even if their performance is still relatively low in the beginning. Given this background, we expect the greying market to bear an especially high potential for disruptive technologies and innovations.

This paper therefore intends to analyze the disruptive innovation framework in the context of the greying market phenomenon and discuss how these innovations could be leveraged to benefit both businesses and customers alike.

II. DISRUPTIVE INNOVATION

The theoretical framework of this paper is based on Harvard Business School Professor Clayton Christensen’s concept of disruptive technologies and disruptive innovation [7-10]. In this section, we will briefly present the essence of these concepts.

Under the disruptive innovation framework, Christensen differentiates sustaining innovation and disruptive innovation based on technological performance and market segmentation [7, 9]. In sustaining innovation, technologies are developed to help companies sustain their growth in the existing or established market place to ensure market growth and domination. The focus is on improving the performance of current products or services. Disruptive innovations occur once in a while when new technologies are available which have lower performance initially but may be attractive to certain markets owing to some features which are not valued by the established marketplace. As they typically underperform the established products in the mainstream market when introduced, they are largely ignored by the incumbents. The technologies are typically cheaper, simpler and frequently more convenient to use; and are applied by entrepreneurial firms to create products at the low-end or new products in a new market. Once they establish a foothold in the low-end or new market, their performance could continue to improve over time toward meeting the performance requirement of mainstream customers. When the mainstream customers switch from the existing products, such technologies/innovation would disrupt the established players and create a new dominant design [11].

In short, the disruptive innovation theory points to situations in which organizations can use relatively simple, convenient, low-cost innovations to create growth and triumph over powerful incumbents [7, 9, 10]. The theory holds that existing companies have a high probability of beating entrant attackers when the contest is about sustaining innovations. But established companies almost always lose to attackers armed with disruptive

innovations. Fig. 1 illustrates the disruptive innovation theory.

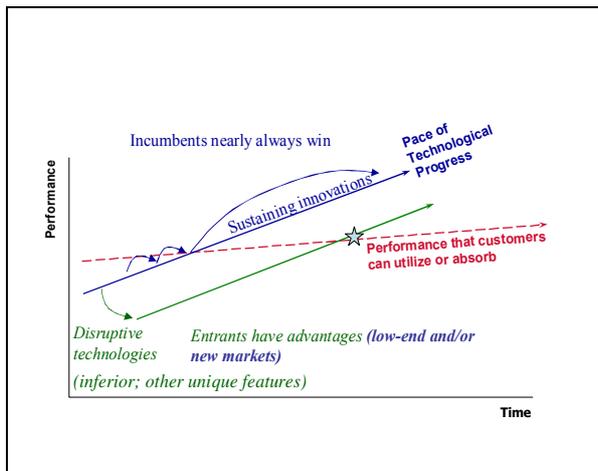


Fig. 1. The Disruptive Innovation Theory

Note that disruptive innovations introduce a new value proposition as they either create new markets or reshape existing markets [10]. This is why we can distinguish two types of disruptive innovations: low-end and new-market. The first type is low but adequate performance and low-price innovation serving in existing, low-end markets [11]. These low-end disruptive innovations can occur when existing products or services are “too good” and hence overpriced relative to the value existing customers can use [10]. The second type is low but adequate performance and low-price innovation serving in new markets [11]. These new-market disruptive innovations can occur when characteristics of existing products limit the number of potential consumers or force consumption to take place in inconvenient, centralized settings; in short, they bring consumption to “nonconsumers” or “nonconsuming contexts” [10]. Successful new-market disruptive innovations follow two patterns: 1) They introduce a relatively simple, affordable product or service that increases access and ability by making it easier for customers who historically lack the money or skills to “get important jobs done”. 2) They help customers do more easily and effectively what they were already trying to get done instead of forcing them to change behavior or adopt new priorities [10].

With the attractiveness of disruptive innovations and the maturing of research on the theory, some attention has recently been paid to the front-end question of technology creation [12, 13]. Indeed, Christensen’s framework focuses on the role of business models, leadership, marketing and the commercialization process of new products from disruptive technologies, without further deliberating on the technological aspect of disruptive innovation. One new research track [12] has therefore been proposed in the area of purposeful R&D to create disruptive technologies and then consciously match them with potential markets in order to accelerate the pace of business growth through disruptive innovations. We propose here that the greying market might be an ideal

field of application for such an approach. Before moving on to the detailed discussion of disruptive innovation and the greying market, we shall define the term disruptive technology. Following [13], we have: “disruptive technologies are technologies which enable a product to have features suitable for it to be used in conjunction with the new business model that altogether leads to disruptive innovation”.

III. DISRUPTIVE INNOVATION AND THE GREYING MARKET

Building on Christensen’s framework described above, we propose the following two potential applications of disruption in the context of the greying market:

1) *Low-end disruption*: there are customers at the low end of the market who would be happy to purchase a product with less (but good enough) performance if they could get it at a lower price. Indeed, older consumers and workers are often overburdened by complex products and too difficult to use technology.

2) *New-market disruption*: there are customers who had not had the money, time etc. to use/ consume certain products and services. Besides, changing conditions in people’s life and health give birth to new, unprecedented needs and wants. Products and services for the greying market have to help potential customers get a job done that they have always been trying to get done – but have not yet been able to do so in a simple, convenient and/or affordable way.

It is noted that these two types of disruption are not mutually exclusive, and hence they may be special cases where the same innovation could create both markets simultaneously.

In summary, disruptive innovations for the greying market are expected to mainly target non-consumption and help to support and enrich elder people’s life and work. We will now discuss each of these disruptions in turn.

A. Low-end disruption

With scientific progress advancing at an unprecedented pace, the second half of the 20th century and the beginning of the 21st century have experienced enormous advances in all kinds of technological fields. This has opened possibilities for ever sophisticated products and functions, high speed and performance. Whereas innovators, adopters and lead users were usually quite swift in adopting new technologies and innovations [14-16], experience tells us that elderly people often tend to be extreme laggards or even absolute nonconsumers, as they reject new technologies and innovations as too difficult and complicated to understand and use (note that Rogers [14] however, in his theory of the diffusion of

innovations, had assumed that age would not affect the adoption of innovations). A case in point is mobile phones for example. Most mobile phones nowadays have a wide range of functions – camera, games, internet connection etc. – that go far beyond the functionality of simply making phone calls. Besides, the size of keys and characters on screens gets smaller and smaller, making it difficult to use for elderly people with impaired vision [17]. Low-end disruptive innovations – which by definition are low-performance and low-price innovations serving in existing, low-end markets – would offer two major benefits here. First of all, the low performance aspect would help to solve the problem of overly high complexity and unnecessarily elevated performance, but instead focus on the core value proposition of the product or service. This supposedly would make the new technology/ innovation for the first time available for consumption to elderly people. The second benefit comes from the low-price aspect which supposedly further lowers the financial burden to purchase/ consume, especially in the case of often risk-averse elder consumers. Note that this low but adequate performance – easy-and-safe-to-use – and low-cost advantage also becomes increasingly important for the B2B sector as the workforce of organizations is also aging. Older workers and employees progressively will need appropriately designed and easy-and-safe-to-use machinery and equipment.

Proposition 1: The greying market is an excellent field of application for low-end disruptions as elderly customers will increasingly demand low but adequate performance – easy-and-safe-to-use – and low-price products and services.

B. New-market disruption

The current shift in demographics – aging and shrinking populations – in many countries around the world presents a major challenge to individuals, organizations and societies alike. People enjoy ever longer life expectancies and fair health and physical conditions up to an ever higher age. This has at least two implications. First of all, given that in many countries people tend to retire around the age of 60, this gives way to an ever longer “third life” period, during which products and services can be and actually are consumed. Second, despite fair overall health conditions, physical and mental ability tend to decrease over time. The first implication means that there is an increased life-span during which products and services are demanded and consumed. However, these products may be generic/ universal in a sense that they are demanded and consumed – more or less – independent of age. It might just be the case that there is a higher demand, because elderly people – like retired baby boomers for example – may have sufficient time and affluence to consume. Indeed, there are customers who had not had the money, time etc. to

use/ consume certain products and services. In this case, the disruption usually does not come from completely new products but from adapted existing products with new benefits such as convenience, customization, or lower prices. Here, it is important to compete against nonconsumption rather than to compete against consumption [10]. A good example here is Nintendo’s new game console Wii [12]. The disruptive innovation is the new controller which can detect and transmit the movements of the players directly into virtual reality and thus leads to an absolutely new experience of video game playing. As is typical for disruptive innovations, the new technology still underperforms the high-end competitors’ products in terms of speed and screen resolution. Nevertheless, it has successfully disrupted the market by offering new game experience and a product which is easy to use and affordable, and given Nintendo a great market lead over Sony and Microsoft. Besides, Wii has helped Nintendo to tap into new customer segments and compete against nonconsumption especially as far as women and elderly people are concerned. Wii is really transgenerational and enables a whole family or people of all ages to enjoy the game together and jointly. It is a success story of transgenerational design [18], ageless marketing [19] and disruptive innovation at the same time

The second implication means that changing conditions in people’s life and health give birth to new, unprecedented needs and wants. This is especially obvious in the areas of supportive and medical devices and other so-called “gerontechnologies” (technologies to support geriatrics), products with universal design, and services – e.g. financial services, insurance etc. – especially adapted to the needs of the elderly. These products and services need to be designed especially for the particular needs and wants of elderly people [18, 20].

Obviously, many of the existing products and services do not attend to the specific needs and wants of the elderly. Here again, new-market disruptive innovations could be leveraged to bring consumption to “nonconsumers” or “nonconsuming contexts”. Before, there was no market and consequently no consumption because of two reasons. First, people lacked the time and money to consume certain products and services they wanted. When they were still working, they were too busy, were trying to accumulate wealth, support their children, build a house etc. All of these have restricted their temporal and financial resources. The life-span after retirement used to be rather short and accumulated wealth scarce and thus there was not much leeway for consumption. Now, with high life-expectancy and good financial conditions, unprecedented needs and wants emerge and can be satisfied for the first time. Second, also because the life-span after retirement used to be rather short and because elderly people were usually supported by their children and/ or other relatives, the need for supportive devices, universal design products, “gerontechnologies” and the like was not that urgent. With elderly people living longer and longer, and

becoming ever more dependent on themselves, a new market for these kind of supportive devices and services emerges. In this case, there was actually consumption; however a non-market one, as people consumed the “services” through their relatives and friends. New products and services from the market now (partly) compete against this consumption.

Proposition II: The greying market is an excellent field of application for new-market disruptions as elderly customers will increasingly demand new products and services they had not demanded or had not been able to demand before.

Proposition III: The greying market is an excellent field of application for combinations of new-market disruptions as elderly customers will increasingly demand new products and services to get jobs done that they have always been trying to get done – but have not yet been able to do so in a simple, convenient and/or affordable way.

Proposition IV: Transgenerational and ageless products and services (solutions) will become an excellent field of application for disruptive innovations as elderly customers will increasingly be interested in consuming the same products and services as other age groups and will increasingly demand to consume them jointly with other age groups.

IV. FUTURE RESEARCH

The above propositions indicate strong needs for further research. The goal of such research should be to look at and analyze major stages in the development process of disruptive innovations for the greying market including the purposeful creation of suitable disruptive technologies. These stages are reiterative and can be overlapping and basically consist of:

1) Market research/ investigations: how can the – often latent or not yet existing – needs and wants of elderly people be identified?

2) Product development: how does the product development process for disruptive innovations work? How can the needs of (potential) customers be integrated into the development process? How should R&D be planned to accelerate the development of suitable disruptive technologies for this market?

3) Business model creation/ marketing: how can profitable business models be developed for disruptive innovations? How can the greying market effectively be targeted? How does “silver” marketing work?

4) Transgenerational design and ageless market: how can transgenerational design and ageless market be effectively developed and leveraged for disruptive innovations? How do they differ from age-related solutions?

As pointed out above, Christensen’s research has so far focused mainly on the business model of disruptive innovations and taken the technology/ product as given. Future research needs to crack open the black box of the disruptive innovation process and shed some light on how disruptive innovations for the greying market evolve and can deliberately and actively be developed and managed.

V. CONCLUSION

Christensen’s theory of disruptive innovation is a powerful framework to analyze innovation and industry change. In this paper, we have applied the theory to the emerging greying market phenomenon as an implication of the shift in demographics around the world. As we have shown, there are important business opportunities in this market segment that could be leveraged through disruptive technologies and innovation. We argue that this would actually benefit companies and customers alike. Firms should be careful not to exclude those customers at the bottom of the innovation pyramid, not only because – as is the case with many baby boomers – the fortune at the bottom of this pyramid is enormous, but also because of corporate social responsibility, as they can benefit both individuals and societies with “gerontechnologies” and related products and services.

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