



Differences between early adopters of disruptive and sustaining innovations[☆]



Ronny Reinhardt^{*}, Sebastian Gurtner¹

Technische Universität Dresden, Department of Business and Economics, Chair for Entrepreneurship and Innovation, 01062 Dresden, Germany

ARTICLE INFO

Article history:

Received 25 April 2013

Received in revised form 14 April 2014

Accepted 17 April 2014

Available online 10 May 2014

Keywords:

New product adoption

Consumer innovativeness

Disruptive innovation

Sustaining innovation

Structural equation modeling

ABSTRACT

The success of innovations strongly depends on knowledge about early adopters. Prior research helps to describe the characteristics of this important customer type. However, not distinguishing between different types of innovation and different types of early adopters bears substantial risk. This study investigates systematic differences and similarities between early adopters of disruptive innovations and early adopters of sustaining innovations. The results from a heterogeneous sample of consumers ($n = 849$) suggest that significant differences between these groups exist. Early adopters of disruptive innovations are more knowledgeable of the product domain. In contrast, consumers who purchase sustaining innovations relatively early are more involved in the product domain. Therefore, managers must address early adopters differently and differentiate their product development and marketing strategy in accordance with the type of innovation.

© 2014 Elsevier Inc. All rights reserved.

1. Introduction

Customer value, customer satisfaction, customization and many other central management concepts have one joint premise – acquiring knowledge about customers. The process of understanding why consumers become customers of a firm becomes particularly important when firms develop new products and services. Adoption and diffusion theory as well as research on consumer innovativeness has aided managers in identifying and addressing an important group of customers, early adopters of new products (Bartels & Reinders, 2011; Goldsmith & Hofacker, 1991; Rogers, 2003). However, previous research assumes that the characteristics of early adopters are identical regardless of the specific types of innovation (Arts, Frambach, & Bijmolt, 2011). This study challenges the assumption that adopter psychographics are the same for different types of new products.

The theory of disruptive innovation addresses the relevance of differences among innovative customers (Christensen, 1997). This theory posits that when established firms listen to the opinions of their current customers regarding new products, managers allocate resources to insufficient or unsuitable technologies. Technologies that current customers of such firms reject will later displace these technologies. Research indicates that incumbent firms that view current customers

the same as potential customers face an increasing risk of failure (Christensen & Bower, 1996). For example, BlackBerry customers were satisfied with an integrated keyboard and initially rejected the idea of touchscreens, because they were heavy users writing many emails per day. Consequently, BlackBerry did not invest in touchscreens and smartphones. However, a majority of consumers later switched to this new technology and Apple and other competitors displaced BlackBerry.

The starting point to address this problem is the assumption that early adopters of disruptive innovations and those of sustaining innovations have different needs and characteristics. For example, in the case of disk drives, the former early adopters of 8-inch disk drives (i.e., main-frame users) were laggards regarding the purchase of 5.25-inch disk drives compared with the initial buyers (Schmidt & Druehl, 2008). Therefore, this study aims to analyze the extent to which early adopter characteristics are different or similar in whether they adopt disruptive or sustaining innovations. A deeper understanding of early adopters could assist managers in developing new products that meet the needs of customers who are the initial buyers of their products.

The article has the following structure. The next section examines disruptive innovation theory and clarifies relevant terms. The article then analyzes the second stream of research – consumer innovativeness – and develops hypotheses by integrating both theories of disruptive innovation and consumer innovativeness. Sections three and four report the research method and the results. Subsequently, the paper discusses the results and derives implications from the investigation of links among innovation types, time of adoption and the psychological characteristics of consumers. Finally, the last section presents the limitations of this study and highlights further research opportunities.

[☆] The authors thank Katja Soyez and Arvin Sahaym for insightful comments on this research paper.

^{*} Corresponding author. Tel.: +49 351 463 39276.

E-mail addresses: ronny.reinhardt@tu-dresden.de (R. Reinhardt), sebastian.gurtner@tu-dresden.de (S. Gurtner).

¹ Tel.: +49 351 463 36873.

2. Disruptive innovation theory

The theory of disruptive innovation (Christensen, 1997; Christensen & Bower, 1996; Christensen & Raynor, 2003) has become an influential theory in both academia and practice. This theory challenges the assumption that established firms fail when they encounter competence-destroying technological change (Christensen & Bower, 1996). A disruption is more likely when mainstream customers in an established market reject innovations that initially underperform in the most important performance dimension.

Researchers understand disruptive innovation as a process and describe this process as follows. A new and potentially disruptive product underperforms on the performance dimension that mainstream customers have historically valued. However, the product performs better on a secondary performance dimension or is less expensive than existing products. Incumbents initially dismiss these disruptive innovations because their current customers demand improvements with regard to the primary performance dimension and do not value increased performance with regard to the secondary performance dimension or a lower price. Meanwhile, entrants develop potentially disruptive innovations and sell them in a niche or emerging market.

Over time, both the potentially disruptive innovation and existing products and technologies improve with regard to the primary performance dimension; however, the disruptive innovation continues to underperform compared with existing products. However, the level of performance has now become sufficient for mainstream customers to adopt the new product. At this point, customers begin to switch from the old to the new technology; meanwhile, the likelihood that entrants will displace incumbents increases sharply (Christensen & Bower, 1996). Incumbents reject future key technologies because they underestimate their potential value for new customers and new markets. Christensen (1997) derives his conclusion from numerous contexts, such as the disk-drive, steel and excavator industries.

Despite the considerable amount of research effort and publications devoted to disruptive innovations, a consensus on the definition of disruptive innovations has not been reached (Danneels, 2004; Markides, 2006). One issue connected to disruptive innovation is the term itself. “Disruptive” describes the potential outcome of a specific type of innovation rather than the actual outcome. Hence, disruptive innovations, as Christensen defines them, may not be disruptive, and innovations that do not meet the characteristics of a disruptive innovation could still disrupt businesses and markets (Danneels, 2004; Schmidt & Druehl, 2008; Sood & Tellis, 2011).

In accordance with previous research (Govindarajan & Kopalle, 2006; Tellis, 2006), this study defines potentially disruptive innovations as innovations that (1) initially underperform with regard to the dominant performance dimension that mainstream customers have historically valued, (2) add an additional performance dimension, which existing products do not possess, and (3) either address the low end of an established market or are commercialized in emerging or niche markets. The new and additional performance dimension is typically related to a product’s size, mobility, convenience, usability or price (Adner, 2002; Anthony, Johnson, Sinfield, & Altman, 2008; Christensen, 1997; Tellis, 2006). The additional performance dimension must fulfill one of these criteria but can violate other criteria. For example, a new product could be smaller and more mobile but more expensive.

In contrast with disruptive innovations, sustaining innovations improve performance along dimensions that mainstream customers have always valued (Christensen, 1997). The needs and preferences of current customers are the basis for these innovations. For example, improvements in television picture quality, from black and white to color, HD and 3D, are sustaining innovations.

The disruptive innovation theory makes no explicit indication whether early customers of disruptive innovations and early customers of sustaining innovations possess different psychological characteristics or whether both types of early customers are of similar nature.

3. Consumer innovativeness theory and hypotheses

Research demonstrates that innovation acceptance depends on both the innovation itself and on the individual who adopts or rejects such an innovation (Arts et al., 2011; Holak, 1988; Rogers, 2003). For instance, compatibility, relative advantage and complexity influence innovation adoption speed (Tornatzky & Klein, 1982). Likewise, innate innovativeness (Im, Bayus, & Mason, 2003), product class knowledge (Hirschman, 1980) and involvement (Foxall, 1995) determine which individuals will adopt innovations earlier than others. Whereas research on disruptive innovation does not explicitly indicate differences in characteristics of early adopters, research on innovative consumers and early adopters rarely makes distinctions between different types of innovations. Consumer innovativeness research assumes that innovative consumers are always both involved and knowledgeable in the product category (Arts et al., 2011; Goldsmith & Newell, 1997).

The foundation of this study’s model is the three-level consumer innovativeness theory (see Fig. 1) (Bartels & Reinders, 2011; Hirunyawipada & Paswan, 2006; Hoffmann & Soye, 2010). Innate innovativeness describes the highest level of abstraction in the three-level model and refers to a trait-like construct. Innate innovativeness influences the next level, domain-specific innovativeness (van Rijnsoever & Donders, 2009), which Goldsmith and Hofacker (1991, p. 211) define as the “tendency to learn about and adopt innovations (new products) within a specific domain of interest”. The reasoning behind this proposal is that individual innovativeness differs significantly with regard to product categories. Domain-specific innovativeness influences the least abstract level of innovativeness, the actual adoption of new products, which researchers have also termed actualized innovativeness (Citrin, Sprott, Silverman, & Stem, 2000; Hirunyawipada & Paswan, 2006). This study does not use traditional methods to measure domain-specific innovativeness but the constructs product class knowledge, product class involvement and intention to adopt. In the present context, these constructs together constitute domain-specific innovativeness. Moreover, the model includes behavioral control or facilitating conditions, such as product class knowledge and monetary resources, as the theory of planned behavior (Fishbein & Ajzen, 2010) or advancements of the technology acceptance model (Venkatesh, Morris, Davis, & Davis, 2003) propose.

3.1. Innate innovativeness

The innate innovativeness construct is essential for research on innovative behavior because research considers this type of innovativeness a trait, which remains relatively stable over time (van Rijnsoever & Donders, 2009). Vandecasteele and Geuens (2010) develop a scale for motivated consumer innovativeness (MCI) consisting of social, functional, hedonic and cognitive innovativeness. Vandecasteele and Geuens (2010, p. 311) define socially motivated consumer innovativeness as “consumer innovativeness motivated by the self-assertive social need for differentiation”. Hedonic innovativeness centers on positive feelings that accompany new product purchases. Cognitively motivated innovativeness describes consumers who experience satisfaction when they encounter new and complicated information or products. Functional innovativeness focuses on the usefulness of new products and centers on the question of whether new products accomplish tasks better than existing products (Vandecasteele & Geuens, 2010).

The present study uses this multi-dimensional concept at the most abstract level of innovativeness to measure different aspects of innate innovativeness. Studies in various contexts provide evidence of a significant relationship between innate innovativeness and new product adoption intention (Bartels & Reinders, 2011; Jin & Suh, 2005; Okazaki, 2007). Therefore, the study includes innate innovativeness to create a comprehensive model and to control for the influence of different dimensions of innate innovativeness.

Download English Version:

<https://daneshyari.com/en/article/1017319>

Download Persian Version:

<https://daneshyari.com/article/1017319>

[Daneshyari.com](https://daneshyari.com)