

The Impact of Proximity Marketing on Consumer Reaction and Firm Performance: A Conceptual and Integrative Model

Full paper

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Abstract

Firms are increasingly using “Proximity Marketing”, an emerging form of marketing built upon advances in wireless and social technology. This paper draws upon the literature in technology innovation, marketing and psychology to propose an integrative research model that combines technological and consumer characteristics in an adoption model that draws heavily on consumer values as an important antecedent of Proximity Marketing adoption. Few studies have focused on the impact of Proximity Marketing from a marketing perspective and none by combining the inherent technological characteristics of automatic identification technology with individual consumer traits such as their values. The model also contributes by simultaneously proposing adoption consequences both for the consumer and the firm.

Keywords

Proximity marketing, Brand image, Perceived benefits, Technology characteristics, Consumer characteristics, Anxiety, Values, Consumer reaction, Adoption, Reluctance, Resistance.

Introduction

A new form of marketing called Proximity Marketing has recently emerged. Based on wireless geolocation technology such as RFID (Radio Frequency Identification) and Bluetooth, it is pervading people’s daily lives. Proximity Marketing leverages real-time interactions and social activities for marketing purposes. For example, in 2004, the Baja Beach Club in Barcelona asked customers to carry RFID chips so they could access VIP lounges and pay for their purchases (Michael and Michael 2010).

Similarly, at the 2012 edition of the Bonaroo music festival in Manchester, Tennessee, 74,000 participants wore RFID bracelets. They could personalize their bracelets by connecting them with their Facebook accounts allowing them to interact in real time with hotspot stations on the festival site. As result, 250,000 *Live Clicks*, 20,000 pictures, 1.9 million Facebook Likes, 1.4 million comments, and an online audience of 200 million people were generated during the festival (ID&C 2012).

The Baja Beach Club and Bonnaroo cases are instances of Proximity Marketing since they use a combination of real-time geolocation technologies, social media or augmented reality and data analytical tools for marketing purposes, such as better understanding customers’ consumption behavior, advertising products, enhancing product branding and consumer loyalty, and ultimately increasing the firms’

revenues. This type of marketing builds upon wireless technologies and devices, consumer mobility, and real-time information capture and processing (Marketing-Schools.org 2006).

Little is known about the impact of Proximity Marketing although the literature has provided a few insights so far. Proximity Marketing has already been used to generate visibility and enhance consumer loyalty by firms (Boeck et al. 2011). For customers, it allows access to information about favorite products and to special offers and discount vouchers (T-Cuento 2012). It could also enhance a product's brand into a digital realm as RFID "establishes the connection between the physical and the virtual artefact" (Mairinger 2007, p. 3). For firms, it facilitates product and service customization based on information automatically collected from individuals and that is then linked to a Customer Relationship Management (CRM) system.

Proximity Marketing is increasingly coming into contact with consumers in their daily life. Consumers who enjoy using it are not preoccupied that its underlying technology transmits marketing cues to the firm. This is the case at Osheaga Music and Arts Festival (Montreal) (Swedberg 2014) and at Bonnaroo (ID&C 2012). Meanwhile, because of perceived management risks, firms do not necessarily know how to maximize their Proximity Marketing. They need to respond appropriately to consumers' reactions by providing adapted commercial offers and consolidating brand image to ensure better overall performance (Lim and Koh 2009).

Research Gap

When trying to evaluate the impact of Proximity Marketing, we were not capable of identifying a conceptual model that took incorporated all the necessary variables that should be considered.

The paper serves as the basis for future research that will be done on the impact of Proximity Marketing.

Proximity Marketing is a new form of marketing that takes into account the mobility and real-time geolocation of consumers through wireless and interactive technologies. It is an interactive form of media that contrasts with more traditional forms of media and advertising such as television, radio and print media in the sense that consumers are called upon to actively interact with the message. Such new technologies can be perceived as intrusive (Curtin et al. 2007). Previous models based on sound theoretical basis such as those provided by works from Roger (1962), Fishbein and Ajzen (1975) and Davis (1989) do not consider the simultaneous impact on both consumers and the firm and mostly focus on antecedents of the adoption. As such, current models had to be adapted to Proximity Marketing. The proposed model needs to be inspired by studies that focused on the impact of new forms of technology-based marketing:

Radio Frequency Identification (RFID)

Studies performed by Curtin et al. (2007), Slettebakk (2009), Boeck et al. (2011) and Hwang et al. (2015) have all highlighted the importance of consumer "privacy" as an important component to be taken into account when consumers interact with RFID. However, none of these studies have considered as a core the profound values in which consumers believe. From a marketing perspective, values are essential and "play an important role in understanding behavior in the marketplace" (Gutman, 1982, p.60). Values as a variable should therefore be included in a model that aims at understanding how consumers will respond to a new form of marketing.

Near Field Communication (NFC)

Articles regarding NFC are mostly interested on the technology's impact from a business perspective (Tsui-Yii and Chia-Chang, 2010; Egger 2013). Although a few studies take into account its impact on consumers (NFC Forum 2015; Chang and Chang 2013; Dewan and Chen 2005) these are rare. Additionally, they tend to focus on adoption issues and do not take into account consumer values as a variable.

Bluetooth

In regards to Bluetooth wireless technology, another technological component that can be used in Proximity Marketing, research mostly focuses on how firms can benefit from the (Dursch, Yen and Shih, 2003; Keil, 2002)technology . Research on Bluetooth that incorporates consumer values remains mute.

Despite previous contributions, much remains to be learned about consumer reaction related to the adoption of Proximity Marketing and its inherent technologies as well as its impact on firm performance. Specifically, there is a knowledge gap related to the antecedents and outcomes of Proximity Marketing. Research on this topic is especially relevant in the context of a recent increased use of RFID and other associated technology in marketing activities. Furthermore, since Proximity Marketing is an emergent domain in which few theoretical and empirical studies have been conducted in the past (Volle 2002, p. 24) and still recently, studies about its antecedents and outcomes at the firm level are needed. We address these gaps by raising and answering the following research questions:

- (1) What technological and consumer characteristics should be considered as antecedents of Proximity Marketing?
- (2) How do these antecedents impact consumer reaction and firm performance?

These specific questions are addressed in this conceptual article. Based on the literature in marketing, diffusion of technology innovations, and psychology, we will first identify the technological and consumer characteristics that are relevant when consumers are targeted with Proximity Marketing. Then we will present the possible reactions exhibited by consumers when faced with Proximity Marketing. Finally, we will build an integrative theoretical model that bridges the Proximity Marketing's antecedents, consumer reaction and firm performance.

Theoretical background

Proximity Marketing: Definition and Development

We define Proximity Marketing as the wireless and localized distribution of advertising content related to a specific location. It involves geographic identification of consumers by means of technology such as wireless devices, GPS, radio frequencies, Wi-Fi, Bluetooth Low Energy, and Near Field Communication. Proximity Marketing implies that firms must dispatch their advertising contents to targeted geographic locations where potential customers have been identified.

The first studies on commercial activities positioned geography at the center of interest in marketing (Sheth et al. 1988). In the 1990s, marketing agencies started using systems based on geographic information. The combination of geographic, spatial, sociodemographic, and consumer behavioral information with sophisticated tools for data-pattern finding and market analysis drove Proximity Marketing.

Despite the transformation from mass media to media geolocation targeting (Gallopel and Cliquet 2002) and the leveraging of geographic visualization and analysis of marketing techniques and data, marketing activities are still designed to achieve financial objectives, increase market share, and enhance consumer loyalty (Freire and Santos 2009). Proximity Marketing takes the market's spatial reality into account (Calciu and Willart 2012); it involves direct interactions with customers, and leveraging their experience and knowledge for firms' business activities (Cova, Louyot and Louis-Louis, 2003). In other words, Proximity Marketing lets firms propose tailor-made offers for each individual consumer. Firms aim to develop loyalty to their products so they can ultimately benefit from rapid returns on investment (Goel 2007), increased sales, and a consolidated brand image (Bickers 2008).

The Technology-Based Antecedents of Proximity Marketing

The antecedents of consumer reactions to Proximity Marketing can be categorized into two groups: technological characteristics and consumer characteristics. The technology-based antecedents comprise the attributes that characterize the technology and the benefits it yields. Understanding the relationship between the technologies' attributes and their benefits is crucial in the context of Proximity Marketing, where the technological advances and short life cycle are critical. Depending on their nature,

technologies can yield diverse benefits. For example, Mimouni (2006) identified economic and commodity, hedonic, and symbolic benefits. Economic and commodity benefits are related to product quality and functionality. Hedonic benefits are related to the discovery, entertainment, sensory, and emotive satisfaction that can be derived from products (Hirshman and Holbrook 1982; Mathwick et al. 2001). Symbolic benefits relate to the membership and recognition that one may have in an organization in terms of special status (Pruden et al. 1972), respect and esteem (Hughes 2000), consideration and specificity (Surprenant and Solomon 1987; Volle and Mimouni 2006).

The Individual-Based Antecedents of Proximity Marketing

Proximity marketing may generate three main consumer reactions: privacy sensitivity (Angeles, 2007), lack of knowledge (Juban and Wyld, 2004), and technology-related anxiety (Pramatari and Theotokis 2009). Consumers may question the cost and benefit of adopting new technologies. For example, the “privacy trade-off” reflects consumers’ disclosure of some aspects of their private life in return for specific benefits from a retailer. When they accept this contractual arrangement, consumers assess the positive and negative effects of disclosing personal information disclosure (Milne and Gordon 1993; Sloan and Warner 2013) and may react in three ways: adoption, reluctance, or resistance to new technologies. The level of benefit in comparison to the cost of abandoning private life will determine whether they engage contractually with an organization (Culnan 1991, cited in Milne and Gordon 1993). We therefore argue that privacy sensitivity, lack of knowledge, and technology-related anxiety influence consumer reactions.

Consumer Reactions to New Technologies

According to Rogers (1962), new technology adoption generates diverse consumer expectations and attitudes. As mentioned above, three main reactions may occur when individuals face new technologies: adoption (Swedberg 2014), reluctance (Kanter 1983), and resistance (Albrecht 2002). Technology may be adopted, may generate frustration and resistance, and may be abandoned (Albrecht 2002).

However, technologies may be rejected by consumers who may continue to benefit from Proximity Marketing. The consumer reactions will then be neither adoption, nor resistance, but reluctance. According to Kanter (1983), reluctance is the most typical consumer reaction since it is caused by lack of control and uncertainty about the effects of new technologies.

The Research Model and Propositions

We developed a research model (Figure 1) by integrating the variables described in the theoretical background section and justifying the relations between them. Our research model is made up of seven empirically testable propositions that link antecedents, consumer reactions, and firm performance.

The Impact of Consumer Reactions on Firm Performance

The three highlighted reactions – adoption, reluctance and resistance – may have a positive, negative, or neutral influence on the performance of firms that use Proximity Marketing. We argue that adoption has a positive effect if consumers have a positive perception of firms that often use Proximity Marketing because of the reputation for innovativeness and solid brand image such firms can develop over time (Bertin, 2013). Moreover, innovative firms may increase their market share as cross-business units and complementary capabilities are built and improved along the business value chain (Rekik et al. 2006).

Reluctance and resistance, in such forms as boycotting new technologies, can cause lost marketing efficiency. For example, resistance to RFID technology can lead to loss of the investment and a short-term decrease in market share (Garrett 1986; Jackson and Schantz 1993; Zack 1991, cited in Cissé-Depardon and N’Goala 2009). This undermines the firm’s brand image and ultimately its long-term market value (Boeck et al. 2011). Thus, we predict:

Proposition 1a:

Adoption of new technologies is positively associated with brand image and sales revenue in the context of Proximity Marketing.

Proposition 1b:

Reluctance and resistance to new technologies are negatively associated with brand image and sales revenue in the context of Proximity Marketing.

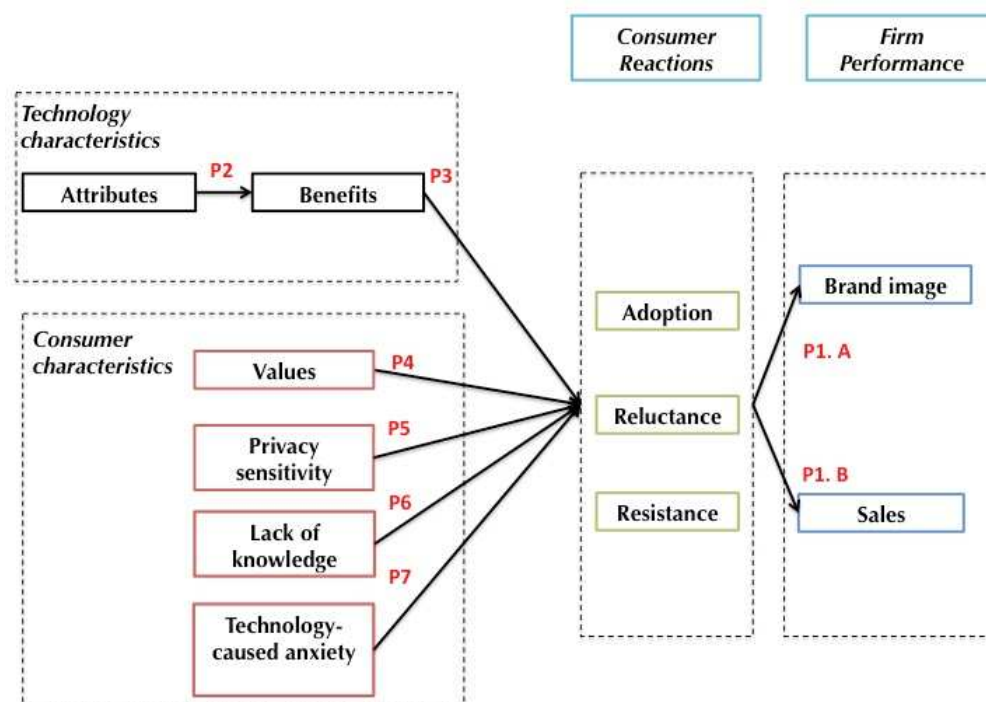


Figure 1. Effects of Reactions by Consumers Who Experience Proximity Marketing

The Impact of Technology Attributes on Benefits

The attributes of technology influence its perceived benefits. These attributes can be practical, hedonic, or symbolic (Volle and Mimouni 2006). Depending on consumer needs and expectations, positive attributes can lead to positive perceptions of the expected benefits. For example, privacy-enhancing technologies (PETs) such as “tag killers” or “tag blockers” have underlying attributes that can be capitalized on by Proximity Marketing although its additional added-value is not perceptible to consumers, who are unable to verify whether these technologies’ are reliable (De Jager 2005) and have limited “look and feel” experience with privacy protection (Juels 2006).

On the other hand, the product and service customization, ease of use, and personalization (Rothensee and Spiekermann 2008) enabled by new technologies may generate sensory attributes that have positive effects on consumers, who are then inclined to accept them. Similarly, as in the case of sensory attributes, Proximity Marketing might yield symbolic attributes by harnessing new technologies, because consumers are treated as specific individuals. We argue that the accumulation of positive attributes will influence consumers’ perception of Proximity Marketing. Thus, we predict:

Proposition 2:

Practical, hedonic, and symbolic attributes are positively associated with benefits perceived by consumers in the context of Proximity Marketing.

The Impact of Technology Benefits on Consumer Reactions

Benefit perception is crucial in determining how consumers will react and whether they will disclose private information in return for expected benefits. For instance, RFID technology may yield benefits

aligned with consumers' needs such as personalized service, near-real-time product delivery (Goel, 2007), a practical, user-friendly shopping experience, and rapid cash register service (Eckfeldt, 2005). Furthermore, Angeles (2007) showed that consumers are willing to buy more RFID-labeled products than non-labeled ones in order to gain the related benefits. This fits in with Rogers' (1962) theory of benefits and technology adoption. Thus, we predict:

Proposition 3:

Perceived benefits are positively associated with consumers' adoption reaction in the context of Proximity Marketing.

The Impact of Individual Values on Consumer Reactions

Individual values have been identified as predictors of consumer reactions in the case of new technology adoption. According to Gutman (1982), values determine consumption choices; thus, studying values is crucial for understanding consumer reactions. As Roux (2007, p. 66) put it, "human beings are the outcome of *habitus* structuring, of praxis and values largely influenced by culture – including consumption sub-culture – from which they cannot escape" (see also Bourdieu 1979; Thompson and Hirschman 1995). Rokeach (1968) developed a scale of values and identified two categories of values: terminal and instrumental. The former apply to individuals' long-term objectives whereas the latter are related to how they must conduct themselves over time to reach their long-term goals (Rokeach and Ball-Rokeach 1989). Thus, we predict:

Proposition 4:

Values influence consumer reactions – adoption, reluctance, and resistance – in the context of Proximity Marketing.

The Impact of Sensitivity to Privacy on Consumer Reaction

Sensitivity to privacy influences consumer reactions to new technology adoption. For example, according to Eckfeldt (2005), Günther and Spiekermann (2005), and Ohkubo et al. (2005), RFID may be associated to negative reactions because of the confidentiality and ethical issues arising out of its use. When Cap Gemini Ernest and Young (2004) surveyed consumers as to whether they would shop at a retailer that uses RFID technology, 55% of respondents said they would definitely buy RFID enabled products. However, these figures dropped to 29% when asked if they would buy from a retailer using RFID technology and who kept payment information on file. Since RFID allows for product identification and generates a huge amount of collected information that then belongs to firms (Thiesse, 2007), consumers may have different concerns regarding protection of their privacy. Concerns about confidentiality influence perceptions of situations where individuals have to share their personal information (Pramatari and Theotokis 2009). Thus, we predict:

Proposition 5:

Sensitivity to privacy influences consumers' adoption reaction in the context of Proximity Marketing.

The Impact of Lack of Knowledge on Consumer Reactions

Lack of specific knowledge has been found to be an antecedent of consumer reactions to new technology adoption. Consumers with limited RFID knowledge or less experience with this technology perceive RFID's attributes to be less relevant than people with a lot of experience and knowledge (Allied Business Intelligence 2003). Moreover, the lack of knowledge means that consumers are not aware of how their buying behavior and private information can be used by firms for commercial purposes (Cazier et al. 2008). Ignorance of technology's impacts is a predictor of reluctance and doubts about the privacy protection provided by a firm (Cap Gemini Ernst and Young 2004). We argue that lack of knowledge causes consumers to underestimate the technology's potential to drive new ways of marketing products and services. Thus, we predict:

Proposition 6:

Lack of knowledge is negatively associated with consumers' adoption reaction in the context of Proximity Marketing.

The Impact of Technology-Related Anxiety on Consumer Reactions

Anxiety caused by new technologies is a predictor of consumer reactions. According to IBM (2006), 18% of Americans are likely to stop ongoing transactions and tasks online (banking) because of their personal worries and anxiety. In fact, most Americans believe they are more likely to be a victim of a cyber attack than a physical crime (IBM 2006). Pramatarı and Theotokis (2009) explained this anxiety as due to excessive timidity with technology utilization, negative comments about specific technologies, and computer science. Indeed, some people consider themselves inferior to computers. Some people even avoid being in locations where computers are placed (Doronina 1995, cited in Chuo et al. 2011).

McVeigh et al. (2007) identified three sources of anxiety: being aware of the existence of electronic chips that cannot easily be removed or deactivated; providing information remotely without consumer consent; and losing anonymity after buying products using technology such as credit cards. While the linkage between products bought and consumer' profile can be beneficial for firms, which can then better customize their products and services, it can make consumers anxious if they are not open to advanced technology. Consumers may worry about the monitoring components of geolocation devices operated by firms and governments (McVeigh et al. 2007). Thus, we predict:

Proposition 7:

Technology-based anxiety is negatively associated with consumers' adoption reaction in the context of Proximity Marketing.

Conclusion

The goal of this research paper was to propose an integrative conceptual model of how the technological and consumer characteristics of Proximity Marketing influence consumer reaction and firm performance.

This paper makes two contributions to research. First, by focusing on the role of new technologies in supporting Proximity Marketing, it extends the prior literature on the effects of technologies on marketing activities. We dig deeper into the components of Proximity Marketing and show how they fit together to explain firm performance in terms of brand image and sales. In other words, this paper sheds light on different paths a firm can take to improve its performance. We identify variables that can have a mediating effect on firm performance. From a theoretical point of view, we show how fine-grained technological and consumer characteristics can have a positive or negative influence on consumer reaction and ultimately on firm performance.

This study also has implications for the adoption of new technologies – such as RFID – in organizational settings. Specifically, past research on RFID's value focused on its impact, but the role of individual psychological traits and consumer reaction and consumer values was rarely taken into account. By explaining the contextual alignment of consumer attitudes, the characteristics of new technologies, and the firm's ability to leverage these new technologies for marketing, we present a complementary view. Consumer reaction is conceptualized, on one hand, as the outcomes of those attitudes and characteristics, and on the other hand, as predictors of firm performance in terms of brand image and sales. As future research we propose that the proposed model be tested empirically.

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