

Marketing Technology Products and Services Using Key Concepts and Current Trends

Eric Viardot

EADA Business School, Spain

INTRODUCTION

Marketing has always been associated with the success of technology based company as ultimately a technology wins only when it has been largely adopted by the markets. After all, Marconi invented the technology for wireless communication at the end of the 19th century but it became very popular only in the 1920s when David Sarnoff, the president of RCA, imagined how the new technology could be applied to transmit music, news, and other kinds of entertainment. Marketers are facing the same challenges today when they have to put in the market a new information technology (IT) solutions. The first challenge is to find the category of customers who are ready to test and to adopt an innovative technology. Then another challenge is to accelerate the diffusion of the new technology in the market with the use of the various elements of the marketing mix.

This article will first examine the key concepts which are shaping the marketing of technology based products and services. Then it will analyze the present status of marketing strategy employed for IT solutions by showing how customers segmentation and the marketing-mix has also to be adjusted to the peculiarities of technology based products and services. Finally, the article will discuss the emerging trends in marketing strategies.

All along the article we will illustrate the article with the cases of two leading IT companies Apple and SAP. In consumer goods, Apple has revolutionized the mobile phone industry with the successful launching of a new category, the smart phone, while in business-to-business SAP has managed to become the world's largest business software company with its integrated enterprise software and software related services.

BACKGROUND

Marketing managers of successful technology-based companies stress that there is not a large difference between marketing traditional products and high-technology products. They contend that the customer philosophy remains the same and that only the specific features of a technology product shape its marketing and give it a distinctive twist (Viardot, 2004). However, as the marketing of technology products is contingent on the technological context, it has adapted its own set of theoretical concepts, especially regarding the adoption of the technology by the markets because the main function of Marketing is to contribute to the adoption of a new technology by potential customers, which can be consumers or organizations.

Historically, the technology adoption process has been conceptualized following a behavioral perspective, which has been enriched with the concepts of attitude and emotion, and then completed with a cognitive perspective.

The first theory to explain how a person adopts a technology was the stages model of adoption with the different phases a person goes through before adopting a new technology, later completed by the theory of reasoned action (TRA) which includes five variables which influence a person's behavior: beliefs and evaluations, attitude toward the behavior, subjective norm, normative beliefs and motivation to comply (Fishbein & Ajzen, 1975). From the Theory of Reasoned Action originated the Technology Acceptance Model (TAM). It was developed specifically for the information technology to model how users come to accept and use a technology (Davis et al., 1989). Today, the TAM Model is widely accepted as one of the dominant theories to explain the process of user acceptance of technology products.

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The TAM model suggests that when users are presented with a new technology, such as a software package, a number of factors influence their willingness to use it. The main idea of the model is to describe the external factors affecting the internal attitudes and use intentions of the users and, through these, to predict the acceptance and use of the system.

The first version of the TAM considers that a very important driver of the behavior to adopt a new technology is its perceived usefulness (PU), i.e. “the degree to which a person believes that using a particular system would enhance his or her performance.” Equally important is a second driver for the adoption of a technology is its perceived ease-of-use (PEOU) defined as “the degree to which a person believes that using a particular system would be free from effort.”

The TAM has been continually developed with the introduction of other adoption driver such as the social image and the social influence. The most recent version of TAM includes the customer’s experience and some emotional factors, such as technology playfulness and technology anxiety, as being significant motives for the adoption of a new technology (Venkatesh & Bala, 2008). This illustrates the growing importance of attitudes and emotions in the conceptualization of the technology adoption process.

Various studies show that perceived risk is a significant barrier to the adoption of new technology products (Sarin et al., 2003). First, risk may fuel consumer anxiety which leads the consumer to delay or cancel the product purchase (Mohr, 2001). Perceived risks about potential problems may also have an effect on product evaluation (Featherman & Pavlou, 2003) as potential customers may discount the product’s overall usefulness. For instance, various research on e-commerce has shown perceived risk as a major determinant of adoption prediction (Giovanis, 2011). Similarly, perceived risk has been identified as one of the main reasons the slow adoption of RFID by consumers (Zhu et al., 2014). Conversely, trust has been shown to lower perceptions of risks in technology adoption (Lui & Jamieson, 2003) while consumer innovativeness directly leads to lower levels of perceived risk (Aldas-Manzano, et al., 2009).

The concept of attitude incorporates emotional feelings, and some research have identified that emotional connections are common with new technologies and have an impact on technology adoption and satisfaction with new products (Ha et al., 2007). On the contrary,

people who have more emotional connections to older technologies or products are likely to take longer to use a new IT product (Ratten, 2011). Additionally, a person’s emotion can act as a barrier to the adoption of new technologies particularly if they have had a bad experience.

In complement of the TAM aspects (Bagozzi, 2007), social cognitive theory is also used to explain technology adoption. Social cognitive theory is a learning theory based on the ideas that people learn by observing others and that the social environment can influence the behavior of a person to change. For instance, Compeau et al., 1999 have studied how the social environment may interfere with a person’s skills, confidence and ability to adopt a technology. Similarly, Karahama et alii (1999) have found that the pre-adoption attitude towards the technology is based on perceptions of usefulness, ease of use, but also on cognitive determinants such as result demonstrability, visibility and trialability.

The TAM theory has been applied to different technologies, such as word processors, e-mail, the World Wide Web, mobile services and internet banking under different situations, with different control factors, and different subjects. This variety of applications of the theory has led its proponents to believe in its robustness as the model has been constantly improved in order to correct some limitations and to incorporate new findings (Zhou et al., 2007).

THE CURRENT TRENDS IN MARKETING TECHNOLOGY PRODUCTS AND SERVICES

Finding the Right Customers

Finding the relevant target for a new technology offer is probably the most important challenge in the marketing of an IT solution in order to ease its penetration and then accelerate its diffusion in the market.

A specific category of customers defined as lead users has been identified as key influencers of the diffusion of a product or a technology (Salah, 2010). Lead users offer some very unique characteristics that helps to diffuse a new technology in a market. First, they are ahead of the majority of the market in terms of needs, motivations and qualifications to develop

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