

# **Review Paper on ICT as a Tool for Innovation in Formulating Marketing Strategies**

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**Abstract:** *This study aims to investigate the part information and communication technologies (ICT) play in the processes of product innovation and marketing. ICT is seen as a tool that improves agent cooperation and communication, lowers barriers to innovation, and promotes the creation of differentiated products. The study demonstrates the connection between the usage of ICT, teamwork, and the creativity process. This study makes significant contributions and offers recommendations for product development directors. In order to clarify the part that intense ICT use in marketing plays as a factor that increases the links between cooperation and communication in new product development processes, a new framework is provided. On the other side, the CHAID analysis's application enables us to pinpoint the key characteristics that characterise an innovation company.*

**Keywords:** Product innovation, marketing strategy, and communication technology

## **I. INTRODUCTION**

We have seen a substantial trend of entrepreneurial development since the mid-1990s. Organisational and business models, as well as how businesses originate and grow their strategic and productive operations, are changing (Achrol and Kotler, 1999; Prasad et al., 2001; Trim, 2002). The consumer is thus seen as the key component of the corporate strategy in a market-oriented business culture (Schulze et al., 2001). Additionally, ICT, relationships, and knowledge are acknowledged as internal strategic elements of organisations (Vorhies et al., 1999; Gronroos, 2000; Ravald and Gronroos, 1996).

The pertinent literature has examined the sources of success for the companies, identifying marketing and innovation activities—as well as their effective management—as the primary success factors. This is because, according to Achrol and Kotler (1999), Badaracco (1991), and Webster (1992), among others, these activities serve as the main axis of the process by which consumers create value, and their integration allows for an increase in the competitiveness and productivity of businesses.

Marketing serves two purposes since it is a worldwide, dynamic process that includes all departments and functions created both inside and outside the firm. First, it can ensure the development and maintenance of ties of communication and cooperation between various agents, both inside and outside the organisation. The marketing function also ensures the existence of market intelligence that can be utilised in the decision-making process by prioritising the acquisition, storage, and dissemination of market data throughout the organisation (Jaworski and Kohli, 1993; Vorhies et al., 1999). On the other hand, innovation, particularly in the area of products, is acknowledged as a crucial component of the value creation process (Han et al., 1998; Weerawardena, 2003). In order to improve their competitive position, businesses frequently choose to innovate or renovate their product portfolios (Fröhle et al. 2000; Schilling and Hill 1998); this strategy ensures an increase in customer satisfaction and loyalty (Atuahene-Gima, 1996a, b; Vorhies et al. 1999).

Product innovation is acknowledged as a difficult, dangerous process requiring significant financial and human resource inputs. If the organisation wishes to stay competitive in today's dynamic, market-driven conditions, this procedure needs to be developed right away (Rangaswamy and Lilien, 1997). When discussing the process of product innovation, it is also necessary to take into consideration factors related to the timing of the product's debut or market demands. The corporation must therefore focus all of its efforts and resources on developing a sophisticated technological process that results in the development of either radical or gradual product advances during this period. It

must also take into account how crucial marketing is to innovation and understand how fully integrated it is into the process (Leenders and Wierenga, 2002; Li and Calantone, 1998).

Few studies, however, have looked at how ICT use in marketing contributes to the success of new product development (NPD) procedures. This shouldn't come as a surprise given that the economy in the new competitive environment is largely focused on intense ICT use and knowledge as essential components of corporate strategy. Therefore, the purpose of our work is to analyse the part that ICT use in marketing plays in the innovation processes as a factor that heightens the level of integration of agents within the relationship, favouring the development of relationships aimed at cooperation and the gathering of useful market intelligence during the process of product innovation.

In order to improve their innovation processes nowadays, organisations rely on the cooperation of other agents within their environment (Hillebrand and Biemans, 2004). Therefore, companies include certain agents in the NPD processes in order to improve management (Deeds and Rothaermel, 2003), increase the efficiency and efficacy of the processes, and decrease costs and risks (Ahuja, 2000a; Dyer, 1997; Hagedoorn, 1993; 2002). Distributors, consumers, competitors, universities and research institutions, consumers (Appleyard, 2003; Kelly, 2001; Norman, 2004; Schulze et al., 2001; Shaw, 1994), consumers (Santoro, 2000), and consumers (Ahuja, 2000a, b; Dogson, 1993) are a few examples of these agents.

### **Using ICT in marketing to lower obstacles to collaboration**

The marketing function has benefited greatly from the fundamental transformation that ICT use has brought about at all levels of the company. Most authors (Bond and Houston, 2003; Prasad et al., 2001; Roberts, 2000; Tatikonda and Stock, 2003; Tzokas and Saren, 1997) concur that ICT use in the development of marketing activities can be a true source of competitive advantage for any company improving innovation processes and their outcomes.

As demonstrated by Argyres (1999) and Tzokas and Saren (1997), a major portion of the advantages result from the use of ICT as a source of market information generation and acquisition. ICT are one of the best media for interacting with the environment and learning about the various agents that make up that environment. As a result, the business has rapid, simple, and affordable access to a huge amount of pertinent and current information.

Information accessibility does not, however, ensure knowledge generation. According to Li and Calantone (1998), knowledge is the outcome of a difficult process that involves gathering information, interpreting it (by performing analyses and evaluations), and integrating it. According to Nonaka (1991), an organisation must go through a difficult learning process in order to convert information into knowledge before it can be said to have acquired it. ICT are a crucial component of the NPD process because they promote the creation of market knowledge by giving the company the instruments needed for the treatment, management, analysis, and archiving of information (Swan et al., 1999). As a result, knowledge is developed through the learning process and is stored and processed as a result of the examination of data from primary and secondary sources (Argyres, 1999; Nonaka, 1991).

ICT also facilitates and encourages the process of knowledge transmission and diffusion throughout the entire organisation, as suggested by Sorensen and Lundh-Snis (2001), and its subsequent usage in the decision-making process. The decisions that need to be made have a significant impact on the marketing function because they influence the design and development of activities that are directly carried out in the markets. Others, however, are more strategic in nature and have an impact on the way the business is organised as well as how partnerships are developed, in which case finding a strategic partner is crucial.

ICT streamlines the decision-making process in marketing decisions by facilitating easy access to a wide range of global information resources as well as the gathering of useful competitive and consumer-related knowledge. Additionally, as Pine et al. (1995) and Prasad et al. (2001) suggest, ICT give marketing a remarkable ability to precisely target particular groups of people and enable mass customization and one-to-one strategies by adapting communications and other marketing mix components to consumer segments.

According to earlier studies, ICT act as knowledge and information producers and transmitters when decisions are made about the formation of cooperative partnerships. They also serve as a socialising aspect (Chua, 2001; Sorensen and Lundh-Snis, 2001). The organisation can identify and gauge the level of attraction of potential romantic partners thanks to the information provided by the environment and its agents (Gronroos, 2000; Porter and Millar, 1985; Rangaswamy and Lilien, 1997). Additionally, as a channel of communication, ICT offer the means by which the

business can develop fluid, quick, and bidirectional synchronous and asynchronous communication with other agents (Daneshgar and Van der Kwast, 2005; Magretta, 1998). Prasad and coworkers, 2001). As a result, barriers related to time, place, and money can be removed (Leenders and Wierenga, 2002; Porter and Millar, 1985; Rothwell, 1994; Sammut-Bonnici and McGee, 2002), which enables the effective and efficient transmission of tacit and explicit information (Argyres, 1999; Gronroos, 2000). Additionally, authors like Leenders and Wierenga (2002) contend that ICT can help the generation of new knowledge in several fields in addition to facilitating the transfer of knowledge among team members.

According to Leenders and Wierenga (2002), the degree of cooperation is directly impacted by the usage of ICT in the establishment of communications. Members of close-knit groups frequently have similar beliefs, cultures, and values and are eager to put in significant time, energy, and money to accomplish their shared strategic objective. And Argyres (1999), Heide and John (1992), and Wilson (1995) come to the same conclusion: communication with ICT support can be crucial for the clear and agreed-upon establishment of: governmental norms, each party's rights and obligations, working procedures, the resources each is to contribute, and the goals that the relationship was designed to achieve.

## II. CONCLUSION

In conclusion, we may say that the company's product is more innovative because of the extensive ICT use in marketing. By using market data and fostering cooperative connections, businesses can lower the technological, strategic, and marketing risks associated with process innovation and new products that are well tailored to market demands.

We must highlight a few potential influences that may have had an impact on the investigation's findings before we can conclude. Specifically, limiting the study sample to any type of new product regardless of its level of novelty or intangibility in terms of the firm and market, or using dichotomic scales to quantify variables.

Finally, these findings are the outcome of a preliminary assessment of ICT's impact on the process of product invention. The phases that come after should create new avenues for investigation into how ICT use and the innovation process are related, whether they complement or diverge from current work. Consider the interest that the industry or size of the organisation has in the use of ICT in marketing as a crucial component in the creation of new products. In order to create a profile for the innovative company, it may also be interesting to analyse the effects of ICT in marketing and the cooperation involved in various types of new products, according to their level of novelty and intangibility.

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