Chapter 15
Retailing 4.0 and Technology-Driven Innovation:
A Literature Review

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ABSTRACT

The chapter analyzes the contribution of technology for boosting innovation within the retail industry. The study focuses on the main areas of innovation for retailers, both in the relationships with suppliers and the final demand. With reference to vertical relationships (for supplying activities), the key innovation areas are those of technology-based interaction tools, joint management of supplying activities, and E-sourcing. In the relations with consumers, technology is stimulating innovation on checkout technologies, dynamic in-store pricing, electronic and mobile payments, augmented reality, artificial intelligence-supported devices, and self-service technologies.

INTRODUCTION

After the web revolution, a process of reviewing the traditional models of organizing distribution systems and retailing has begun, with new emerging issues, in addition to those of disintermediation / reintermediation in the relationships between manufacturers, retailers and consumers. Also marketing channels have changed dramatically in the last two decades, due to the advent of the ongoing digitalization, affecting many manufacturers and retailers' business models (Sorescu, Frambach, Singh, Rangaswamy, & Bridges, 2011). Actually, the picture is complex, with blurred boundaries between different channel roles. After the diffusion of mobile devices, social media, and the integration of new channels in online

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and offline environments, the retailing landscape continues to change, moving from a multichannel to an omnichannel retailing distribution (Rigby, 2011).

Channels are interchangeably and seamlessly used during the search and purchase process and it is difficult or virtually impossible for companies to control this usage. Whereas in the multichannel phase research shopping gained some attention, in the omnichannel phase showrooming is becoming an important issue. Shoppers now frequently search for information in the store and simultaneously search on their mobile device to get more information about offers and may find more attractive prices. The opposite of showrooming also occurs, which is now referred to as webrooming, where shoppers seek information online and buy offline (Verhoef et al., 2015). Thus, consumer switching across channels and devices such as desktops, tablets and smartphones are all part of the shoppers' omni-channel experience and companies need to consider this to provide a seamless interaction.

This development is affecting competitive strategies of both retailers and manufacturers and is breaking down old barriers such as geography and consumer ignorance. In addition, logistics started to change dramatically, breaking the classic patterns where logistic actors played a functional role in bringing efficiency to a process where a large number of producers offered goods to a myriad of consumers. Nowadays, logistics solutions adopted by larger e-commerce marketplaces are making possible a return to a direct producer-consumer relationship developed at the global level.

Implications are relevant, including the way in which consumers buying behavior is changing, and the different role that retailers are intended to assume. In the next years, most of the theories on distribution systems and the role of business actors at the production, distribution and service levels will have to be rewritten. In such a change, innovation seems to be the key perspective in the light of which trying to interpret the future of retailing.

TECHNOLOGICAL INNOVATION IN RETAILING

Innovation in retailing has been divided into technology-based innovation and market-based innovation (Castaldo, 2001; Cardinali, 2005; Musso, 2010; 2012a), with the latter linked to demand-driven factors, which are related to variations in the characteristics and behaviors of customers that companies seek to comply with (Kaufman-Scarborough & Forsythe, 2009), and competitive factors, as a result of differentiation strategies of retailers for responding to changes in the final demand.

Within retailing companies, innovation has been classified into four fundamental categories (Dupuis, 2000; Whysall, 2000):

1. Innovation in the store concept, mainly referred to front office structures, organization and activities;
2. Innovation in channel relationships (back office), which mainly concern logistics and information flows;
3. Organizational innovation, aiming at improving the management of the corporate network and the overall supply chain;
4. Structural innovations, which concern the way in which the previous categories can be recombined according to an innovative trading concept.

Horizontal to the above-mentioned areas of innovation is technology, which favored the emergence of new forms of distribution, offering new and additional services to customers (Musso, 1997; 2012b).

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