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Should retailers harmonize marketing variables across their distribution channels? An investigation of cross-channel effects in multi-channel retailing

Sebastian van Baal*

Cologne Institute for Economic Research, Konrad-Adenauer-Ufer 21, 50668 Cologne, Germany

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ABSTRACT

Retailers with more than one channel of distribution have to decide whether marketing variables such as conveyed image, price, and assortment should be harmonized across channels. This article presents an integrative model and survey results that shed light on this question; its focus is on stores, online shops, and catalogs. The results show that harmonization of marketing variables has advantages and disadvantages: on the one hand, it correlates positively with overall customer loyalty and cross-channel customer retention, i.e., one channel causes more sales in other channels. On the other hand, it also correlates positively with cannibalization within the distribution system. This suggests that general recommendations strictly favoring or disfavoring harmonization do not account sufficiently for the complexity of the problem and retailer heterogeneity.

1. Research question and literature overview

It seems likely that retailers with more than one channel of distribution forgo profit-maximizing opportunities if they do not account for channel interdependencies when making strategic and tactical decisions. Thus, multi-channel retailers have specific information needs on such interdependencies (see Berger et al., 2006; Gensler et al., 2007; Neslin et al., 2006; Van Baal and Dach, 2005). A basic question concerns the harmonization of channels: should multi-channel retailers harmonize marketing variables as much as possible and therefore convey the same image, post the same prices, offer the same assortments, etc., in all their channels? Or should multi-channel retailers cater to channel-specific environments by not harmonizing marketing variables? While many authors point out the importance of managing channel conflicts (e.g., Coughlan et al., 2006), the ramifications of channel harmonization have received rather scant and scattered attention. The extant literature points to both sides, suggesting that harmonization has advantages and disadvantages (Kwon and Lennon, 2009; Müller-Lankenau et al., 2005; Neslin et al., 2006; Neslin and Shankar, 2009; Tang and Xing, 2001; Wolk and Skiera, 2009; Wolk and Ebling, 2010; Yan, 2010; Zettelmeyer, 2000). However, there is no integrative study which simultaneously considers positive and negative effects of harmonization. This article attempts to fill this gap by providing an integrative model and empirical results. The focus is on "traditional" retail stores, online shops, and printed catalogs, since these channels are most widely used by retailers.

In their survey article on multi-channel customer management, Neslin and Shankar (2009) provide several insights pertinent to the present research. Among other issues, they comment on organization structure and make a case for coordinating channels rather than running them independently. Berger et al. (2006), Yan (2008, 2010), and Yan et al. (2010) make similar arguments with respect to advertising, pricing, and branding. In line with this research, I assume in this article that there is an authority within the organization (i.e., headquarters) which makes marketing decisions for all channels. The existence of such an authority does not imply harmonization of marketing variables, as the authority may come to the conclusion that it is optimal to maintain differences between channels. Hence, (organizational) channel coordination and harmonization of marketing variables (from the customers' point of view) do not pertain to the same matter. The former is a necessary but not sufficient prerequisite to the latter.

Another question is whether channels should be operationally integrated in the sense of being linked to each other from the customers' perspective (Berger et al., 2006; Chiu et al., 2011;

* Tel.: +49 221 4981 691; fax: +49 221 4981 99691.
E-mail address: baal@iwkoeln.de

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King et al., 2004; Neslin et al., 2006; Noble et al., 2005; Pentina and Hasty, 2009; Schramm-Klein, 2010; Schramm-Klein et al., 2011; Wallace et al., 2004; Zhang et al., 2010). This question concerns customer-related functions and processes. For instance, should retailers allow customers to return products bought online in stores? Operational channel integration and harmonization of marketing variables also do not pertain to the same matter. While both are interrelated, one does not necessarily imply the other.

In summary, this article contributes to the literature on multi-channel retailing by (1) focusing on the harmonization of marketing variables from the customers' point of view, (2) highlighting and connecting potential advantages and disadvantages of harmonization by providing an integrative model, and (3) testing the model with empirical data. More specifically, I operationalize harmonization – the independent construct – as the customers' evaluation of (1) overall channel alignment, (2) the identity of prices across channels, and (3) the identity of product assortments across channels. As dependent constructs, I derive three potential advantages and disadvantages of harmonization from the literature: (1) cross-channel customer retention, (2) channel cannibalization, and (3) customer loyalty. The purpose of this article is to examine the relationships between harmonization and these three constructs. To this end, I use data from a survey on consumers' information and shopping behavior to estimate a structural equation model.

The article proceeds as follows: in Section 2, hypotheses about the effects of harmonization in multi-channel retailing are developed. In Section 3, the empirical study is described, and results are presented in Section 4. A discussion follows in Section 5, and Section 6 concludes.

2. Conceptual model and hypotheses

The minimal requirements for any decision are objectives, alternatives, and information on the relationships between objectives and alternatives. Accordingly, the conceptual model used here is presented in three steps: in Section 2.1, I discuss generic objectives that are specific to multi-channel retailing. These objectives serve as dependent variables for the model and the empirical study. In Section 2.2, alternatives are discussed in the form of the degree of channel harmonization. This degree is the independent variable for the model and the empirical study. Finally, in Section 2.3, I develop hypotheses on the relationships between objectives and alternatives by linking the dependent and independent variables. While the empirical study serves to test these hypotheses, embedding them in a conceptual model is conducive to addressing the topic from different angles, structuring the problem, and providing a basis for future work.

2.1. Dependent variables: objectives in multi-channel retailing

As a theoretical starting point for the development of the model, I assume that a retailer's fundamental goal is profit maximization. Although retailers differ in their goals, this relatively general assumption applies to a wide range of situations. Subsequently, several simplifications are made to the profit function in order to keep the model tractable. In effect, the simplifications turn the fundamental goal into sales quantity maximization. However, starting with the broader setting of profit maximization allows pinpointing of assumptions and eases the discussion in Section 5, particularly in regard to further research opportunities.

Thus, assume that the fundamental goal of a multi-channel retailer is to maximize long-term profits. The decision as to which distribution channels the retailer operates is exogenous, and may be a reaction to competitive pressure (King et al., 2004; Neslin et al., 2006; Neslin and Shankar, 2009; Wolk and Skiera, 2009). Consider for simplicity, without loss of generality, a company that sells a single product and operates two channels over two time periods. The company attracts customers in the first period. In the second period, a proportion of first-period customers return. Prices and costs are assumed to remain stable over time. Total two-period profit is given by the following equation:

$$\pi = (p_1 - c_1)x_1 - C_1 + \frac{(p_1 - c_1)\lambda_1 x_1 - C_1}{1+r} + (p_2 - c_2)x_2 - C_2 + \frac{(p_2 - c_2)\lambda_2 x_2 - C_2}{1+r} \quad (1)$$

In Eq. (1), π is profit; p_i is price in channel i ($i=1, 2$); c_i is variable cost; x_i is sales quantity; C_i is fixed cost; λ_i is the proportion of returning customers in the second time period and will be referred to as customer loyalty in the following discussion; r is the discount rate.

Eq. (1) provides a simple but relatively complete characterization of profit. It is, however, more complete than necessary for the approach taken in this article, where the focus is on x_i and λ_i. The remaining variables are relevant to the discussion in Section 5. For now, assume $p_i=1$ and $c_i = C_i = r = 0$. These simplifications lead to Eq. (2). The subscript x highlights that this equation – while derived from Eq. (1) – does not represent profit, but sales quantity (in both channels and time periods):

$$\pi_x = (1+\lambda_1)x_1 + (1+\lambda_2)x_2 \quad (2)$$

As a basis for structuring problems in multi-channel retailing, it is helpful to apply marginal thinking. What would happen if the company decided not to operate channel 2? In other words, what is the marginal value of channel 2 in terms of long-term sales quantity to the company? On first thought, the only difference in Eq. (2) is a sales quantity reduction of $(1+\lambda_2)x_2$. However, this would mean treating channels as silos with no interdependencies. The extant literature suggests that such interdependencies can take three forms, at least on a relatively high level of abstraction.

First, a proportion of sales in channel 1 may be realized only because channel 2 exists, as consumers may use both channels during a purchase process (Chiu et al., 2011; Coughlan et al., 2006; Kollmann et al., 2012; Neslin et al., 2006; Neslin and Shankar, 2009; Pauwels et al., 2011; Van Baal and Dach, 2005; Verhoef et al., 2007). For example, consumers may gather information in a retailer's store (channel 2) and order the product from the retailer's online shop (channel 1). If the visit to the store causes the online order, the store contributes to online sales. Therefore, there may be a proportion α of $(1+\lambda_1)x_1$ that will not be realized if the company does not operate channel 2. This proportion reflects a complementarity (see Gentzkow, 2007) in the form of "cross-channel customer retention" (Chiu et al., 2011; Van Baal and Dach, 2005). In microeconomic terms, cross-channel customer retention is similar to a positive externality (within the distribution system), as it represents a benefit that is provided without direct compensation (Coase, 1960; Pigou, 1932). Not incorporating this externality in strategic and tactical decisions can result in suboptimal allocations. For instance, if a company pays no attention to cross-channel customer retention, it might decide not to operate channel 2 if that channel does not break even on its own. This decision, although it would increase profit on first sight, may actually lead to loss of profit as cross-channel customer retention would be lost and sales quantity in channel 1 can thus decline.

Second, channel 2 may be crowding out demand in channel 1. In other words, a proportion of sales in channel 2 can be a substitution or "cannibalization" of sales in channel 1 (Berger et al., 2006; Biyalogorsky and Naik, 2003; Coughlan et al., 2006; Deleersnyder et al., 2002; Gentzkow, 2007; Kollmann et al., 2012; Neslin et al., 2006; Neslin and Shankar, 2009; Wolk and Skiera,