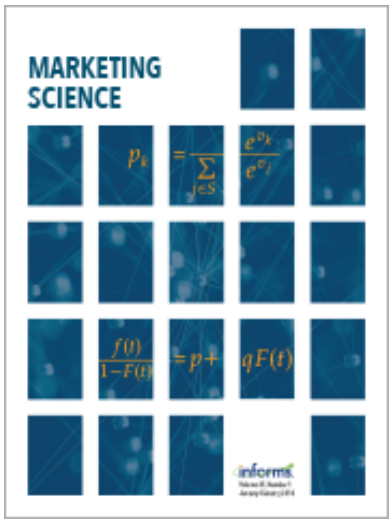

Marketing Science

Publication details, including instructions for authors and subscription information:
http://pubsonline.informs.org

Forms of Competition and Outcomes in Dual Distribution Channels: The Distributor's Perspective

Alberto Sa Vinhas, Jan B. Heide

To cite this article:
Alberto Sa Vinhas, Jan B. Heide (2015) Forms of Competition and Outcomes in Dual Distribution Channels: The Distributor's Perspective. Marketing Science 34(1):160-175. https://doi.org/10.1287/mksc.2014.0880

MARKETING SCIENCE
Vol. 34, No. 1, January–February 2015, pp. 160–175
ISSN 0732-2399 (print) | ISSN 1526-548X (online)

http://dx.doi.org/10.1287/mksc.2014.0880

Forms of Competition and Outcomes in Dual Distribution Channels: The Distributor's Perspective

Alberto Sa Vinhas
Carson College of Business, Washington State University, Vancouver, Washington 98686,
asavinhas@vancouver.wsu.edu

Jan B. Heide
Wisconsin School of Business, University of Wisconsin–Madison, Madison, Wisconsin 53706, jheide@bus.wisc.edu

The focus of this paper is dual distribution channels in business-to-business markets. We take the perspective of the distributor, and examine how different forms of competition with a manufacturer-owned channel impact distributor opportunism. Next, we consider how the same forms of competition impact the distributor's end customers. Based on a multi-industry field study of industrial distributors, we highlight the complex processes that characterize dual distribution systems. We show that while competition with a manufacturer-owned channel increases distributor opportunism, it also has the potential to benefit the distributor's end customers. In addition, although actions taken by a manufacturer to create vertical separation between channels limit competition, such actions also reduce end customer satisfaction.

Keywords: dual distribution; concurrent channels; forms of competition; distributors; channel outcomes; opportunism
History: Received: October 12, 2011; accepted: July 11, 2014; Preyas Desai served as the editor-in-chief and Anne Coughlan served as associate editor for this article. Published online in *Articles in Advance* November 6, 2014.

1. Introduction

Increasingly, firms rely on complex channel designs that combine direct (manufacturer-owned) and indirect (independent) routes to market. Both industry observers (e.g., Nunes and Cespedes 2003) and researchers (Arya et al. 2007, Rangan 2006) have argued that these dual or "concurrent" channels are rapidly becoming the rule rather than the exception in many industries.

Past research has generated important insights into dual channels. Implicitly or explicitly, however, this research has taken the *manufacturer's* perspective, and focused on a manufacturer's motivation to use multiple channels (e.g., Moriarty and Moran 1990, Sa Vinhas and Anderson 2005). A parallel literature has examined *customers'* decisions to rely on different channel types (e.g., Neslin and Shankar 2009, Venkatesan et al. 2007). With some exceptions (e.g., Heide and John 1988), little attention has been given to the *distributor's*[1] perspective on multichannel marketing (Neslin et al. 2007). Capturing the distributor's perspective is crucial. Dual channels may cause negative reactions from distributors that impact their support for a manufacturer's product and, ultimately, their customers. Consequently, it is important to understand the specific ways in which distributors experience dual systems.

Our specific focus is how competition from a manufacturer's direct channel in a business-to-business (B2B) setting manifests itself to a distributor, and the resulting distributor responses. Our starting point is the expectation that a dual distribution system creates intrabrand competition or competition for *customers* (Moriarty and Moran 1990, Purohit 1999). Next, we propose that distributor exposure to competition also involves access to manufacturer *resources.* Finally, we suggest that competition may arise from a given manufacturer's involvement in particular channel *functions*, which creates distributor concern about a loss of control.

We draw on transaction cost theory (Williamson 2010) to show that the three forms of competition independently give rise to tension, to the point of promoting distributor opportunism. This perspective is consistent with recent extensions of the transaction cost model (e.g., Malhotra and Gino 2011) and the argument that a firm's investment in an "outside option" in a relationship (e.g., a direct channel) may trigger partner opportunism. We also find that competition for customers and manufacturer involvement in certain distribution functions impacts the distributor's end customers and their level of satisfaction. Finally,

[1] For simplicity, we will refer to the manufacturer as *he* and the distributor as *she*.

we show that a manufacturer's channel management efforts, or attempts to create vertical separation between channels by clarifying the order ownership process, reduce competition. At the same time, vertical separation has a negative impact on end customer satisfaction. Our overall pattern of results points to the many different ways in which dual channel arrangements manifest themselves across channel levels.

As noted, our theoretical focus is the distributor and her perspective on the constructs and relationships in question. Empirically, this means that our population of interest consists of distributors who are involved in dual systems, and for whom the focal constructs (e.g., forms of competition with the direct channel) are meaningful. Given that the measures in question are not readily available from secondary or archival data sources, we rely on a field study and primary data. We recognize that such a design, despite our best efforts to safeguard against possible biases, has limitations. Therefore, we characterize our findings as descriptive, and suggest that our conclusions be interpreted in that spirit.

The remainder of this paper is organized as follows. In §2 we discuss existing conceptualizations of dual channels. Sections 3 and 4 present our conceptual framework. Section 5 describes our research method and the empirical test of the hypotheses. Sections 6 and 7 discuss the implications of the findings for theory and practice, and limitations and future research possibilities, respectively.

2. The Nature of Dual Channels in B2B Settings

Interestingly, to our knowledge, there is no single conceptualization of dual distribution in the literature. Dutta et al. (1995) define dual distribution as the simultaneous deployment of two channels (direct sales and manufacturers' reps) in a single geographical area, within which the manufacturer assigns customers a priori to different channels. Under this definition, the direct and indirect channels serve different market segments. Frazier (1999, p. 232) defines dual distribution somewhat differently, in terms of "when more than one primary channel is used to sell the same product line to the same target market." Here, there is no customer assignment taking place; both channels could in principle be selling to the same customers.

Given our research objective of examining a distributor's reaction to competition between channels, we adopt a broad definition of dual distribution which comprises both of the above scenarios. As previously argued (Frazier 1999, Neslin et al. 2007, Sa Vinhas and Anderson 2005), competition across channels will prevail despite formal efforts to create separation between them. For instance, customers do not always behave as expected, and frequently buy from the "wrong" channel, thereby creating competition. Furthermore, customer behavior changes over time; customers may gravitate across channels, thus creating new competition. The above discussion suggests that an analysis at the territory (rather than the segment) level is appropriate when examining competition between channels. Thus, we define dual distribution in a B2B context as the simultaneous use of direct and indirect channels to sell a particular product line to final business users in a given geographical territory.

3. Competition and Distributor Opportunism

Our core argument is that competition with a direct channel has the potential to impact distributor opportunism. Theoretically, the notion of opportunism, which is defined by Williamson (1975, p. 9) as "self-interest seeking with guile," is closely related to the concepts of cooperation and coordination that have been studied in the analytical marketing literature (e.g., Coughlan 1985, Ingene and Parry 1995). In particular, Jeuland and Shugan (1983) note how intrachannel coordination is not a naturally occurring phenomenon due to individual channel members' incentives to renege on voluntary agreements.

Interestingly, there are different theoretical perspectives on how competition impacts opportunism. First, research rooted in a conventional transaction cost tradition suggests that competition between channels is capable of *suppressing* distributor opportunism. In this view, competition between channels enables the manufacturer to replace the distributor; the underlying threat of relationship termination serves as a disciplinary device that discourages opportunism (Telser 1980, Dutta et al. 1995). This research, however, has predominantly taken the manufacturer's perspective, and has not considered the distributor's actual response. In addition, this research has tended to examine the presence of dual channels per se, without examining the specific ways in which they manifest themselves to a distributor.

Other lines of research suggest that competition between channels may actually *promote* distributor opportunism. For instance, emerging transaction cost research (e.g., Malhotra and Gino 2011) shows that a party's (in our context, a manufacturer's) decision to hold an "outside option" in a relationship (a direct channel) may actually fuel opportunistic actions. Specifically, outside options that involve sunk costs create a sense of entitlement on the investor's (manufacturer's) part; this prompts him to recoup the

costs by opportunistically seeking better outcomes in the current (distributor) relationship. This, in turn, creates vulnerability for the distributor, and triggers actions which can be "characteristically opportunistic in nature" (John 1984, p. 280).

Next, we identify three particular forms of competition that may impact the distributor. Theoretically, we draw on the idea that competition at its core arises from interdependence (Kreps 1990, Thibaut and Kelley 1959), in that a party's outcomes are, directly or indirectly, impacted by another's actions. From a distributor's perspective, competition with the manufacturer may involve *customers* and *resources*, and may also follow from manufacturer involvement in particular channel *functions*.

We start by considering competition for customers, which reflects the traditional notion of intrabrand competition (Desiraju 2004, Dutta et al. 1994). Our general argument is that exposure to competition for customers with the direct channel will influence a distributor's opportunism. Before discussing how opportunism emerges, however, we consider the possibility that such exposure is endogenous, in that it depends on a manufacturer's efforts to reduce intrabrand competition by vertically separating the two channels. In practice, vertical separation involves proactively "directing traffic" (Magrath and Hardy 1989) based on rules or demarcation schemes that define channels' respective domains ex ante. While a manufacturer cannot dictate to customers how to source, he can establish rules that clarify which channel is allowed to contact a customer for a given lead. In effect, such rules serve to reduce competition between the two channels for a given customer's business. In hypothesis form:

Hypothesis 1 (H1). *In a dual channel, the greater the degree of vertical separation between the direct and indirect channel, the lower the distributor's exposure to competition with the manufacturer channel for a given customer's business.*

While vertical arrangements may reduce competition, they are imperfectly enforceable (Dutta et al. 1994). For instance, customer behavior may not conform well to the rules that manufacturers impose on their channel members. Consequently, some degree of competition may be present in a dual channel.

To the extent that the distributor competes with the manufacturer channel for the same customer order, she may suspect a manufacturer of creating an uneven playing field in favor of his own employees (Fein and Anderson 1997, Sa Vinhas and Anderson 2005). After incurring the fixed costs of establishing a direct presence, a manufacturer has, ceteris paribus, an incentive to generate revenue and forego a margin payment to the distributor. This scenario is salient in a dual channel: When direct and indirect channels converge on the same customer, a major point of differentiation, namely the brand, is absent. In turn, this allows the direct channel to free-ride on the independent channel's presales services (Desiraju 2004, Dutta et al. 1999). Fears of such actions may cause retaliation from the distributor in the form of opportunistic behavior. In hypothesis form:

Hypothesis 2 (H2). *In a dual channel, the higher the distributor's exposure to competition with the manufacturer channel for a given customer's business, the higher the distributor's opportunism.*[2]

The above discussion focused on the conventional notion of intrabrand competition between individual channels. Next, we consider two additional ways in which a distributor experiences competition from a direct channel.

First, we build on recent research on interunit competition within a firm (e.g., Luo et al. 2006, Tsai 2002) and propose that individual channels face *upstream* competition with the manufacturer channel for the manufacturer's tangible and intangible *resources*. In a dual distribution system, the manufacturer makes resources such as marketing support, technical assistance, and product updates available to both channels. Given resource constraints, however, manufacturers must allocate a given resource pool among the individual channels (Tsai 2002). This creates competition for the resources in question.

For a distributor, the practical manifestation of such competition is restricted access to common resources, which affects her ability to generate customer value and compete in the downstream market. Such competition creates concern about preferential treatment for the manufacturer's own sales force, which in turn can cause distributor opportunism. We propose the following:

Hypothesis 3 (H3). *In a dual channel, the higher the distributor's exposure to upstream competition with the manufacturer channel for common resources, the higher the distributor's opportunism.*[3]

[2] The intrabrand competition in dual distribution systems is distinct from other scenarios that have been discussed in the literature. For instance, Fein and Anderson (1997), Frazier and Lassar (1996), and Ingene and Parry (1995) have examined the impact of intrabrand competition among different independent channels. Conceptually, this is a question of distribution intensity. While intensity creates intrabrand competition, the customer is left to make choices among channels, and the manufacturer can claim indifference among the available options. In contrast, in a dual distribution system the distributor may perceive the manufacturer to purposely influence the customer decision process in favor of his own channel. In turn, this may trigger distributor opportunism.

[3] The prediction that underlies H3 assumes a binding resource constraint at the manufacturer level. In most situations, this is a

Next, we consider how distributors may experience *downstream* competition due to a manufacturer's involvement in customer-centered distribution *functions*, or functions that involve close interaction with the distributor's customers (Coughlan et al. 2001). Examples of such functions are customer negotiations and sale closing. In a dual channel, such involvement creates an interesting dilemma: On one hand, it may create synergies that help expand the "size of the pie" (Jap 1999). Such a scenario, however, is not a given. Specifically, Helper and Levine (1992) show that while certain actions in value chain relationships may generate rents, the splitting of the resulting pie may be associated with transactional difficulties to the point that parties are discouraged from pursuing value-creating activities in the first place.

Manufacturer involvement in channel functions gives rise to an additional problem because of the customer access that is created. A distributor may perceive such manufacturer involvement as an attempt to control her operations, and, potentially, as a means of eventually replacing her. Given that the focal manufacturer is already selling directly, the performance of functions that involve customer access create a credible threat that can cause retaliatory behaviors in the form of opportunism (Heide et al. 2007).[4] In hypothesis form:

Hypothesis 4 (H4). *In a dual channel, the higher the level of manufacturer involvement in downstream customer-centered selling functions, the higher the distributor's opportunism.*

4. Competition and End-User Satisfaction

The second part of our conceptual framework considers how competition in a dual channel impacts a distributor's end customer. Our focus is customer satisfaction, or the extent to which final customers are happy with the way the independent distributor is serving them while representing the manufacturer. As before, we start by considering competition for customers.

First, we consider the possibility that competition may have positive effects on satisfaction. Conceivably, low levels of competition among channels may limit a brand's market exposure, decrease its availability to customers, and increase customer search costs (Frazier and Lassar 1996). Furthermore, competition may actually promote efficiency and innovation, which ultimately benefit the final customer (Beersma et al. 2003, Desiraju 2004).

At the same time, competition between channels may create customer confusion as a result of exposure to different channel offerings for the same brand (Frazier 1999). In addition, competition may reduce a distributor's willingness to provide customer service (Frazier and Shervani 1992). Research in organization theory (e.g., Beersma et al. 2003) shows that competition prompts parties to prioritize their individual goals over the goals of the larger system, for instance by withholding information. In the context of a dual channel, such competition undermines a distributor's willingness to collaborate with the manufacturer, and ultimately limits the channel system's ability to respond to customer needs.

The above discussion suggests an inverted-U (or concave) relationship between intrabrand competition and customer satisfaction. Essentially, there is an interior optimum value of intrabrand competition: Both low and high levels can adversely impact customer satisfaction. We propose the following prediction:

Hypothesis 5 (H5). *In a dual channel, we expect an inverted-U relationship between a distributor's exposure to competition with the manufacturer channel for a given customer's business and end customer satisfaction, namely*:

(a) *At low levels of competition, increases in the levels of competition will increase end customer satisfaction.*

(b) *At high levels of competition, increases in the levels of competition will decrease end customer satisfaction.*

The discussion above suggests that competition between channels for customers has the potential to benefit end customers. We do not, however, posit such an effect for upstream competition involving resources for two different reasons: First, resource constraints effectively limit the marketing tools that the distributor has at her disposal vis-à-vis the direct channel. This undermines the distributor's ability to serve the customer and discourages her from investing in the customer relationship, thus ultimately reducing customer satisfaction.

Second, a distributor's willingness to invest in the customer relationship may be negatively influenced by concerns about preferential treatment for

reasonable assumption. Nonetheless, it would have been desirable to explicitly incorporate it into our empirical test. Note, however, that there are significant practical obstacles to doing so. The primary obstacle is that distributors are often not in a position to observe the presence (or absence) of a manufacturer-level budget constraint. Rather, they only observe (and describe) the perceived difficulty involved in accessing common resources *per se*.

[4] Our above argument pertains to a *set* of functions that, collectively, may create distributor concern. This argument, however, obscures potential differences between individual functions. Later we will conduct an analysis at the individual function level to formally explore this possibility. We will also consider the possibility of nonlinear quadratic effects, to account for the two competing scenarios discussed above: Specifically, for low levels of involvement, the distributor may benefit from the manufacturer's expertise and cross-channel synergies (as per the pie-expansion argument). Still, beyond a certain level, the distributor's' concerns about control may give rise to opportunism.

a direct operation, and associated concerns about being replaced. At the margin, such concerns may prompt a distributor to undermine the manufacturer's efforts by encouraging brand switching. Such tension between channels may not be apparent to the customer, but it has visible manifestations in the form of a lack of distributor effort, limited coordination across channels, and constraints on customer value creation. Thus:

Hypothesis 6 (H6). *In a dual channel, the higher the distributor's exposure to upstream competition with the manufacturer channel for common resources, the lower the end customer's satisfaction.*

Consider next how manufacturer involvement in customer-centered distribution functions impacts customer satisfaction. In general, we expect extensive manufacturer involvement to adversely affect customer satisfaction. As noted earlier, such involvement creates distributor concerns about control of the customer relationships, and the ability to generate returns from investments in the manufacturer's product line. Ultimately, this reduces the distributor's incentives to: (1) invest in the customer relationship per se, and (2) coordinate her marketing activities with those of the manufacturer. Predictably, value creation and customer satisfaction will suffer.

We expect, however, a different effect for lower levels of manufacturer involvement. While manufacturer involvement in functions raises concerns about control in general, at lower levels such concerns may not be sufficiently severe to create tensions that impact the customer. In fact, the distributor may be in a position to: (1) capitalize on the manufacturer's expertise, and (2) pursue synergies that benefit the customer, as discussed previously (Jap 1999). Thus, for low levels of manufacturer involvement in functions, we expect a positive effect on customer satisfaction:

Hypothesis 7 (H7). *In a dual channel, we expect an inverted-U relationship between a manufacturer's involvement in the performance of downstream customer-centered functions and end customer satisfaction, namely*:

(a) *At low levels of manufacturer involvement, increases in the levels of competition will increase end customer satisfaction.*

(b) *At high levels of manufacturer involvement, increases in levels of competition will decrease end customer satisfaction.*

Our final hypotheses consider whether customer satisfaction is impacted by the manufacturer's efforts to vertically separate the direct and indirect channel. As discussed previously, vertical separation limits competition for customers (as per H1). We expect such practices to also impact the end customer. This impact, however, is likely to be complex. In fact, we identify two different theoretical arguments that translate into two competing predictions.

First, vertical separation can promote customer satisfaction for several different reasons. A vertical separation policy frees up the distributor to invest in the customer relationship without a fear of free-riding by the direct channel. Furthermore, formal efforts to limit competition mitigate distributor concerns about control losses and replaceability. All of these effects encourage distributor effort, which in turn increases customer satisfaction.

On the other hand, recent multichannel research suggests that vertical restrictions limit customer convenience and thus may have a negative impact on customer satisfaction. Imposing structural constraints on competition limits the sourcing options available to customers. To the extent that the available channel option does not represent a good match with the customer's buying situation, a vertical separation policy may negatively affect satisfaction. Indeed, past research has suggested that customer satisfaction is influenced by manufacturers' channel options (e.g., Venkatesan et al. 2007, Zhang 2009). In particular, customers are likely to react negatively when they feel the manufacturer is imposing constraints on their buying behavior.

The above discussion suggests the following two competing hypotheses:

Hypothesis 8A (H8A). *In a dual channel, the greater the degree of vertical separation between the direct and indirect channel, the higher the end customer's satisfaction.*

Hypothesis 8B (H8B). *In a dual distribution system, the greater the degree of vertical separation between the direct and indirect channel, the lower the end customer's satisfaction.*

5. Methodology

5.1. Unit of Analysis and Research Design

The study's unit of analysis is the relationship between a particular distributor and a manufacturer. The distributor in question sells a particular product line in a geographical area where the manufacturer simultaneously uses a direct channel. Given that data on our focal constructs (e.g., forms of competition, distributor opportunism) are not available from secondary data sources, we used a field study to test our hypotheses.

5.2. Research Context, Data Collection, and Questionnaire Design

First, we identified a set of industries that exhibited variation with respect to the phenomena of interest. Our focus is competition between channels, and thus our population of interest consists exclusively

of distributors who are involved in dual distribution arrangements. This population does not represent a random sample of the overall distributor population.

Next, we conducted a series of interviews with firms to: (1) enhance our understanding of dual channels, and (2) guide our research design choices. These interviews indicated a high level of interest in our research topic, but they also revealed considerable sensitivity to the issues at hand, especially to the questions about competition. This sensitivity pointed to possible data collection challenges and the need for extensive presurvey efforts.

We contacted 12 different distributor associations (most members of the National Association of Wholesalers-Distributors) for participation in our study. Based on interviews with top executives of each organization, we eliminated one association from the study whose members sold refurbished materials (rather than original manufacturer's products); lack of comparability between the products sold could impact the nature of the competition between the channels.

Six distributor associations representing the bearings (industrial equipment), industrial automation, industrial machine tools, IT equipment and service, electronics, and power transmission industries, agreed to endorse our study and provided access to their members. In exchange for participation, each distributor association was given a summary of the results and a benchmarking report. Our sample is comprised of independent distributors who take title to the product, as well as agents who represent a manufacturer in a given territory but who do not take title to the products in question.[5] The distributors were typically nonexclusive and sold several product lines.

Our informants were the distributor association's primary contact within each firm (usually the president of the distributorship or the local sales manager). These individuals had been involved with selling the manufacturer's product line for an average of 15.4 years. A formal post-hoc check on informant quality suggested that they were highly familiar with the relationship between their firm and the manufacturer (a mean score of 6.6 on a 7-point informant knowledge scale).

Questionnaires were mailed to each informant along with a postage-paid envelope and a cover letter on university stationery explaining the purpose of the study. The respondents were also given the option to complete the survey online. One hundred sixty-seven surveys were returned of 762 sent,[6] for a response rate of 22%. Nonresponse bias was assessed by comparing early to late respondents (based on all of the study variables). No significant differences were found between the groups.

The informants were instructed to complete the questionnaire with regard to their relationship with a particular manufacturer (1) whose products the distributor firm resold to business customers in a territory, (2) who also used a direct sales force in the territory, and (3) whom the distributor had represented for at least three years. Forty distributors indicated that they did not meet these criteria, and were eliminated from further consideration. Nine additional observations were excluded due to excessive missing data. Our final sample consisted of 118 observations.

5.3. Measures

Constructs were first defined conceptually based on the past literature and our theoretical framework. Distributor *opportunism* is the extent to which the distributor pursues her self-interest with guile (Williamson 2010). Customer *satisfaction* describes whether customers are happy with the way the distributor is serving them while selling a given manufacturer's products.

We define competition for *customers* in terms of the frequency of a distributor's exposure to competition with the manufacturer-owned channel for the same order from the same customers. Upstream competition for *resources* describes the distributor's exposure to competition with the manufacturer-owned channel for common tangible and intangible resources allocated to both channels (Luo et al. 2006, Tsai 2002). Manufacturer involvement in downstream *customer-centered functions* is the extent to which the manufacturer is involved in particular selling functions (lead generation, qualification, presales service, negotiation, sale closing, customer retention) that involve access to the distributor's customers. We created a measure by computing the total number of selling functions in which the manufacturer was involved.

We define *vertical market separation* as the extent to which the manufacturer imposes rules on the channel system which (1) clarify which channel is allowed to contact a customer for a given lead or order, and (2) help mediate disputes over interpretation and encroachment issues. Given the complexity of this construct and its multiple dimensions, we operationalized it through a formative indicator.

As per standard psychometric practice, we developed a set of items for each construct based on past measures. New measures were developed for constructs with no measurement precedent. The measures are presented in the appendix. Our pretests indicated that a number of constructs were quite transparent to the informants and could be indexed

[5] We will later show empirically that these two subsamples are poolable.

[6] Approximately half of the members of one of the associations sold refurbished products exclusively and were eliminated from our sample. We sent surveys to all other members of the participating associations.

with a single item. To avoid overburdening the informants, multiple items were not used for these constructs, as per Rossiter's (2002) recommendation. For example, a number of past studies have measured customer satisfaction in this manner (e.g., Anderson and Sullivan 1993, Bowman and Narayandas 2004).

Covariates. Based on past research, we included several covariates that may play a role in the relevant models. Given our interest in how a manufacturer's efforts to vertically differentiate the two channels impact competition, opportunism, and customer satisfaction, we explicitly controlled for the extent to which each channel is a *specialist* in its own area of responsibility and has a comparative advantage in performing certain functions. When the two channels are experts in certain areas, each channel creates unique customer value, thus: (1) reducing the competition for customers between the two channels, (2) reducing concerns about manufacturer opportunism, and (3) improving customer satisfaction. We also considered the degree of *compensation* for joint selling situations that involve both channels. Beyond ex-ante efforts to differentiate the two channels, manufacturers may also compensate the distributor ex-post for lost sales to the direct channel. This may alleviate distributor concerns and hence the likelihood of opportunism (Sa Vinhas and Anderson 2005), and ultimately encourages both parties to collaborate to improve customer satisfaction.

We also controlled for other possible aspects of competition that may affect the three dependent variables. We controlled for the level of distribution *intensity*, or the extent to which a manufacturer relies on numerous intermediaries in each trade area to carry its brand (Frazier and Lassar 1996). We also controlled for the level of competition at the manufacturer level, captured through (1) the level of *price competition* between the different manufacturer brands, and (2) *product standardization*. Conceivably, both may influence a distributor's reactions to intrabrand competition and her sensitivity to competition with the direct channel (e.g., Coughlan 1985, McGuire and Staelin 1983). These competitive factors may also impact customer satisfaction.

Given our focus on the final customer, we also measured the extent to which customer buying behavior was characterized by a desire for *bundling*, including products not made by the focal manufacturer (Sa Vinhas and Anderson 2005). Competition between the two channels is less likely when each channel plays a separate role. Bundling preferences may also have an impact on customer satisfaction.

In addition to the competitive effects described, we included covariates that could impact the different dependent variables. As discussed, our focus is relationships *between* different channels. Our vertical separation variable captures the manufacturer's use of rules to define the respective channels' domains with respect to the order ownership process. Conceivably, however, our focal outcomes may also be impacted by a manufacturer's management efforts *within* a particular relationship. Based on past research (e.g., Dwyer and Oh 1988), we controlled specifically for relationship *formalization* (defined as the reliance on formal rules), and relationship *centralization* (defined as the degree to which decision-making authority is retained by the manufacturer).

We also controlled for possible antecedents of opportunism. We accounted for the ease with which the manufacturer could *replace* the distributor, given the likelihood that opportunism may be impacted by the degree of lock-in (Anderson and Weitz 1992). Less dependent distributors may exhibit lower sensitivity to competition with the direct channel. We also controlled for product-market *uncertainty*, or the difficulty of predicting demand and customer behavior. Opportunism is likely to be higher under conditions of uncertainty that require on-going renegotiations of distribution agreements. We also expect replaceability and uncertainty to impact the level of competition between the two channels. When distributors are difficult to replace, manufacturers are more likely to actively manage competition between the two channels. Market uncertainty makes it difficult for manufacturers to segment markets and manage competition; consequently, competition is more likely to prevail.

Our final three covariates were relationship *length*, distributor sales *turnover*, and distributor *adaptability*. The historical length of the relationship between the manufacturer and the distributor was included to account for how relationships may strengthen over time. The level of distributor sales was included in the model as an indicator of distributor size; larger distributors may be in a better position to convince manufacturers to reduce competition between the channels. Finally, distributor adaptability, or the willingness to change marketing practices in response to market-level changes, is a potential determinant of customer satisfaction.

Measure purification. First, item analysis and exploratory factor analysis were used to assess and purify the reflective measures. Items with high loadings on the intended factor and no substantial cross-loadings were retained. The exploratory factor analysis indicated that all of the measures were unidimensional. Next, we used confirmatory factor analysis (CFA) to assess the convergent and discriminant validity of the reflective measures. The CFA model has a comparative fit index (CFI) of 0.96, a goodness-of-fit index (GFI) of 0.83, a Root Mean Square Error of Approximation of 0.05, and a standardized root

mean square residual (SRMSR) of 0.07 which indicates a satisfactory fit to the data. All of the observable indicators loaded significantly on their intended factors, which suggests convergent validity. Discriminant validity was assessed using Fornell and Larcker's (1981) criteria. All pairs of factors met these criteria, providing evidence of discriminant validity. Reliability was assessed through calculation of coefficient alpha for each item set, all of which were acceptable. Table 1 presents the descriptive statistics for the set of variables.

Common Method Variance (*CMV*). Ideally, concerns about CMV could have been alleviated by relying on (1) data from secondary sources, (2) data from both sides of the manufacturer distributor dyad or (3) longitudinal data. Unfortunately, however, such data are not available given our particular questions and research context. First, secondary data are typically not available for privately held organizations like the distributors in our sample. Second, multiple knowledgeable informants were not available in our context; a distributor's key decisions are typically carried out by a single individual. Finally, while longitudinal designs may help with CMV, research shows that cross-sectional data frequently exhibit comparable validity levels (Rindfleisch et al. 2008).

Nonetheless, we recognized the potential for CMV bias and adopted a series of design procedures to reduce validity threats. First, we placed the questions for the independent and dependent variables in different survey sections, as suggested by Podsakoff et al. (2003). Furthermore, we adopted heterogeneous scale formats and anchors to disrupt respondent consistency biases.

Constructs that are relatively concrete, externally oriented, and verifiable tend to display lower CMV bias than constructs that are abstract, internally oriented, and nonverifiable (Doty and Glick 1998, Rindfleisch et al. 2008). Our main competition constructs are concrete, externally oriented, and verifiable. Vertical market separation is an externally oriented and verifiable measure. While our opportunism items are concrete, this construct is more internally oriented and subjective. Similarly, we acknowledge that while customer satisfaction is also externally oriented, it has some degree of subjectivity.

As a final ex-ante safeguard against CMV, we guaranteed respondent anonymity, which reduces respondent apprehension and the risk of socially desirable responses. Beyond our ex-ante efforts to minimize the risk of CMV, we conducted three separate ex-post analyses. First, Harman's one-factor test (Podsakoff et al. 2003) revealed multiple factors; no single factor explained the majority of the variance. We also conducted a confirmatory factor analysis wherein all manifest items were modeled as the indicators of a single factor. The model did not fit the data well, suggesting an absence of bias.

Second, Lindell and Whitney (2001) suggest that the smallest correlation among the manifest variables provides a reasonable proxy for CMV. The authors suggest using the second smallest positive correlation as a more conservative estimate. Following their suggestion, this indicator of CMV was assumed to have a constant correlation with all of the measured items. We calculated CMV-adjusted correlations between the variables under investigation, partialling out the CMV coefficient from the unadjusted correlations. We found no differences in the size and patterns of significance between the unadjusted and CMV-adjusted correlations.

Finally, we used a variant of the above technique suggested by Malhotra et al. (2006), wherein the CMV-adjusted correlation matrix is used as input to a path analysis. We found that the CMV-adjusted correlation matrix did not differ significantly from the uncorrected matrix. All of the significant correlations in the uncorrected correlation matrix remained significant in the CMV-adjusted matrix, and there were no significant differences in the path coefficients. Overall, these tests indicate that CMV is unlikely to represent a validity threat.

Range and distribution of the main variables. Given our focus on distributors engaged in dual distribution situations, it is possible that distributors would not enter or exit situations with high levels of competition. This could lead to a potential selection process based on one independent variable and/or a nonnormal distribution for the competition variables. Our data, however, show a normal distribution for these variables, which alleviates such concerns.

Tests of mulicollinearity. Low correlations among the different variables (and latent constructs) suggest that multicollinearity is unlikely to be a concern. Nonetheless, we conducted a set of tests to formally evaluate the presence of multicollinearity. All variance-inflation factors were below two, with the exception of the quadratic terms. However, the introduction of the quadratic terms did not affect the stability of the results for the other coefficients. The condition indices were below 40 for the three equations. In addition, the determinant of the matrix of independent variables (X′X) was large, thus reducing potential concerns about multicollinearity.

5.4. Model Estimation and Results

Recall from our earlier discussion that the distributor sample comprises both traditional independent distributors and manufacturer representatives. While our hypotheses pertain to dual structures in general, we conducted a series of pooling tests to formally explore whether the effects of the independent variables on

Table 1 Variable Means, Standard Deviations, and Correlations

	Means	S.D.	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12
Distributor opportunism (V1)	2.4	1.3	1.00											
Customer satisfaction (V2)	5.5	0.9	−0.1	1.00										
Competition for customers (V3)	2.8	1.8	0.4*	−0.1	1.00									
Upstream competition for resources (V4)	2.9	1.4	0.3*	−0.1	0.4*	1.00								
Manufacturer involvement in downstream customer-centered functions (V5)	2.8	2.1	0.0	0.1	−0.4*	−0.3*	1.00							
Vertical market separation (V6)	3.8	1.3	−0.2*	−0.1	−0.3*	−0.3*	0.3*	1.00						
Channel specialization (V7)	4.3	1.5	−0.3*	1.1	−0.2	−0.1	0.1	0.2	1.00					
Compensation for joint selling (V8)	0.7	0.4	−0.2*	−0.0	−0.3*	−0.2*	0.2	0.4*	0.0	1.00				
Distribution intensity (V9)	3.9	1.8	0.1	0.1	0.1	0.1	0.1	−0.4*	−0.0	−0.2*	1.00			
Price competition at the manufacturer level (V10)	5.8	1.2	0.1	−0.0	−0.0	0.1	0.1	0.0	0.2*	−0.2*	−0.1	1.00		
Product standardization (V11)	4.1	1.1	−0.1	−0.1	−0.1	0.1	−0.1	−0.2*	0.0	−0.1	0.2*	0.1	1.00	
Product-market uncertainty (V12)	3.8	1.2	0.1	−0.1	0.1	0.0	0.1	0.1	0.1	0.0	−0.1	−0.1	−0.2*	1.00
Customers buy product-line in a bundle (V13)	3.8	1.7	0.1	0.0	0.0	−0.1	0.1	0.1	0.0	0.0	0.3*	−0.1	0.1	0.1
Relationship formalization (V14)	4.8	1.2	0.1	−0.1	0.2*	0.1	0.1	−0.1	−0.2*	−0.2*	0.1	0.1	0.1	0.0
Relationship centralization (V15)	2.8	1.1	0.1	−0.2*	0.1	0.1	0.1	0.0	−0.1	0.1	0.1	−0.1	0.0	0.2*
Ease of replacing distributor (V16)	2.8	1.6	0.3*	−0.1	0.1	0.1	−0.2	−0.0	−0.2	−0.1	0.1	0.0	0.0	0.0
Relationship length (V17)	21.0	16.1	0.1	0.0	−0.1	−0.1	0.1	0.2*	0.1	0.1	0.1	0.1	0.1	−0.1
Level of distributor sales (V18)	4.4	1.7	−0.1	0.1	−0.1	−0.1	0.2*	0.1	0.1	0.3*	−0.0	0.1	0.1	−0.1
Distributor adaptability (V19)	5.0	1.0	−0.1	0.2*	−0.1	−0.1	0.1	0.1	0.0	0.1	−0.1	0.1	−0.2	0.1

	Means	S.D.	V13	V14	V15	V16	V17	V18	V19
Customers buy product-line in a bundle (V13)	4.1	1.1	1.00						
Relationship formalization (V14)	2.8	1.6	0.0	1.00					
Relationship centralization (V15)	2.8	1.6	−0.2*	0.4*	1.00				
Ease of replacing distributor (V16)	3.8	1.7	0.1	0.1	0.2*	1.00			
Relationship length (V17)	21.0	16.1	0.1	−0.1	−0.1	0.1	1.00		
Level of distributor sales (V18)	4.4	1.7	0.1	−0.1	−0.0	−0.1	0.3*	1.00	
Distributor adaptability (V19)	5.0	1.0	−0.2	0.1	−0.0	−0.2	0.0	−0.0	1.00

*$p < 0.05$.

the three dependent variables differ between these two subsamples. The pooling tests failed to reject the null hypotheses that all of the intercepts and coefficients are the same for the two subsamples.

Because the sample of independent distributors is drawn from six distributor associations across industries, we also explored the possibility of association-level effects by adding a dummy variable for each distributor association.

To test our research hypotheses (H1–H8), we estimated the following simultaneous equation system for the three dependent variables of (1) competition for customers, (2) distributor opportunism, and (3) customer satisfaction, respectively:

(1) $\text{compcust}_i = a_0 + a_1 * \text{vmktsep}_i + a_2 * \text{cspec}_i + a_3 * \text{pcompm}_i + a_4 * \text{pstand}_i + a_5 * \text{pmunc}_i + a_6 * \text{bundle}_i + a_7 * \text{formaliz}_i + a_8 * \text{centraliz}_i + a_9 * \text{replace}_i + a_{10} * \text{length}_i + a_{11} * \text{dsales}_i + a_{12} * d1_i + a_{13} * d2_i + a_{14} * d3_i + a_{15} * d4_i + a_{16} * d5_i + e_{1i}$,

(2) $\text{opport}_i = b_0 + b_1 * \text{compcust}_i + b_2 * \text{compres}_i + b_3 * \text{compfunc}_i + b_4 * \text{vmktsep}_i + b_5 * \text{cspec}_i + b_6 * \text{dcomp}_i + b_7 * \text{dintens}_i + b_8 * \text{pcompm}_i + b_9 * \text{pstand}_i + b_{10} * \text{pmunc}_i + b_{11} * \text{bundle}_i + b_{12} * \text{formaliz}_i + b_{13} * \text{centraliz}_i + b_{14} * \text{replace}_i + b_{15} * \text{length}_i + b_{16} * \text{dsales}_i + b_{17} * d1_i + b_{18} * d2_i + b_{19} * d3_i + b_{20} * d4_i + b_{21} * d5_i + e_{2i}$,

(3) $\text{csatis}_i = c_0 + c_1 * \text{compcust}_i + c_2 * \text{compcust}_i^2 + c_3 * \text{compres}_i + c_4 * \text{compfunc}_i + c_5 * \text{compfunc}_i^2 + c_6 * \text{vmktsep}_i + c_7 * \text{cspec}_i + c_8 * \text{dcomp}_i + c_9 * \text{dintens}_i + c_{10} * \text{pcompm}_i + c_{11} * \text{pstand}_i + c_{12} * \text{pmunc}_i + c_{13} * \text{bundle}_i + c_{14} * \text{formaliz}_i + c_{15} * \text{centraliz}_i + c_{16} * \text{replace}_i + c_{17} * \text{length}_i + c_{18} * \text{dsales}_i + c_{19} * \text{dadapt}_i + c_{20} * d1_i + c_{21} * d2_i + c_{22} * d3_i + c_{23} * d4_i + c_{24} * d5_i + e_{3i}$.

The model terms are defined as follows:

opport_i = distributor i's opportunism in the relationship with the manufacturer

csatis_i = satisfaction of distributor i's customers for the manufacturer's product

compcust_i = distributor i's exposure to competition with the manufacturer for customers

compres_i = distributor i's exposure to upstream competition with the manufacturer for resources

compfunc_i = distributor i's exposure to downstream manufacturer involvement in customer-centered functions

vmktsep_i = vertical market separation between distributor i and the manufacturer channel

cspec_i = degree to which distributor i and the manufacturer channel are specialists in their areas of responsibility

dcomp_i = extent to which the manufacturer compensates distributor i for joint selling situations
dintens_i = distribution intensity in distributor i's trade area
pcompm_i = level of price competition between the different manufacturer brands for the manufacturer's product line sold by distributor i
pstand_i = level of product standardization for the manufacturer's product line sold by distributor i
pmunc_i = product-market uncertainty for the manufacturer's product line sold by distributor i
bundle_i = the desire of distributor i's customers for bundling
formaliz_i = formalization of the relationship between distributor i and the manufacturer
centraliz_i = centralization of the relationship between distributor i and the manufacturer
replace_i = ease with which the manufacturer can replace distributor i
length_i = length (in the number of years) of the distributor i-manufacturer relationship
dsales_i = distributor i's level of annual sales (in dollars)
dadapt_i = distributor i's adaptability
d1_i, d2_i, d3_i, d4_i, d5_i = association specific dummies.

Our system is a triangular simultaneous equations model in the Xs and Ys and thus can be treated as a Seemingly Unrelated Regression (SUR) model for estimation purposes (Greene 2008). As suggested by Lahiri and Schmidt (1978), an efficient (as opposed to consistent) estimator of sigma should be used. We thus report our ITSUR results in Table 2, and discuss our hypothesized results below. We also report the results for ordinary least squares (OLS), 2SLS, and 3SLS estimation processes in the online appendix (available as supplemental material at http://dx.doi.org/10.1287/mksc.2014.0880). In general, the results are remarkably consistent across the different estimation methods.

Competition for Customers. We report the coefficients for the determinants of competition for customers in the first column of Table 2. Consistent with Hypothesis H1, we find that vertical market separation decreases competition for customers ($-0.31, p < 0.05$). We also find that competition for customers is reduced for higher levels of channel specialization ($-0.20, p < 0.10$), and increased for higher levels of product-market uncertainty ($0.27, p < 0.10$).

Distributor Opportunism. The coefficients for the hypothesized determinants of opportunism are shown in the second column of Table 2. Consistent with Hypotheses 2, 3, and 4, we find that the different types of competition between the two channels increase distributor opportunism (0.15, $p < 0.05$ for competition for customers; 0.19, $p < 0.05$ for upstream competition for resources; and 0.17, $p < 0.01$ for manufacturer involvement in downstream customer-centered functions).[7]

As described earlier, we also estimated the opportunism model by replacing the aggregate manufacturer involvement in the downstream distribution functions variable with dummies representing the individual functions. None of the individual dummies were significant, which suggests that it is the manufacturer's overall involvement in a set of functions that creates distributor concern and drives opportunism.

Regarding the covariates, distributor opportunism is impacted negatively by channel specialization (-0.18, $p < 0.05$) and distribution intensity (-0.19, $p < 0.05$), and positively by the absence of lock-in ($0.13, p < 0.10$).

Customer satisfaction. We present the results for customer satisfaction in the third column of Table 2. Consistent with Hypothesis H5, we find a quadratic relationship between competition for customers and the level of customer satisfaction (0.51, $p < 0.05$ for the main term, $-0.07, p < 0.05$, for the quadratic term). Consistent with Hypothesis H7, we find a quadratic effect for the manufacturer's involvement in the performance of customer-centered selling functions on customer satisfaction (0.33 for the main term and -0.05 for the quadratic term, significant at $p < 0.01$). We do not find a significant effect of upstream competition for resources on customer satisfaction. Thus, Hypothesis H6 is not supported. As per Hypothesis H8B, vertical market separation has a negative effect on customer satisfaction ($-0.15, p < 0.05$). The competing Hypothesis (H8A) is thus not supported.

Turning to the covariates, customer satisfaction decreases for higher levels of product-market uncertainty ($-0.15, p < 0.05$) and relationship centralization ($-0.16, p < 0.10$). Customer satisfaction increases for higher levels of distributor adaptability (0.26, $p < 0.01$) and distributor replaceability (0.10, $p < 0.10$), respectively.

5.5. Consistency Test

We conducted an additional test to verify the consistency of our results. The results are provided in the online appendix.

Our focus, as noted, is distributors who are part of dual distribution systems. In principle, such distributor relationships represent a nonrandom sample of the overall distributor population. This raises questions

[7] We also explored the possibility of quadratic effects for the competition variables, but found no evidence of such.

Table 2 ITSUR Estimation Results—Dual Distribution Model[a]

Variable		1. Competition for customers		2. Distributor opportunism		3. Customer satisfaction
Constant		**4.34***** (1.51)		**2.79**** (1.13)		**4.96***** (0.94)
Competition for customers			H2→ (+)	**0.15**** (0.07)	H5→ (+)	**0.51**** (0.21)
Competition for customers (square term)				—	H5→ (−)	**−0.07**** (0.03)
Upstream competition for resources			H3→ (+)	**0.19**** (0.09)	H6→ (+)	−0.02 (0.06)
Manufacturer involvement in downstream customer-centered functions			H4→ (+)	**0.17***** (0.06)	H7→ (+)	**0.33***** (0.14)
Manufacturer involvement in customer-centered functions (square term)				—	H7→ (−)	**−0.05**** (0.02)
Vertical market separation	H1→ (−)	**−0.31**** (0.13)		−0.15 (0.10)	H8A, B→ (+, −)	**−0.15**** (0.07)
Channel specialization		**−0.20*** (0.11)		**−0.18**** (0.08)		0.07 (0.05)
Compensation for joint selling				−0.08 (0.29)		0.18 (0.21)
Distribution intensity				**−0.19**** (0.08)		−0.02 (0.06)
Price competition at the manufacturer level		0.10 (0.13)		0.02 (0.09)		−0.07 (0.07)
Product standardization		−0.14 (0.15)		0.02 (0.10)		−0.06 (0.07)
Product-market uncertainty		**0.27*** (0.14)		0.12 (0.09)		**−0.15**** (0.07)
Customers buy product-line in a bundle		−0.02 (0.10)		−0.01 (0.06)		0.06 (0.05)
Relationship formalization		0.13 (0.15)		0.04 (0.10)		−0.07 (0.07)
Relationship centralization		−0.01 (0.17)		−0.15 (0.12)		**−0.16*** (0.09)
Ease of replacing distributor		−0.17 (0.11)		**0.13*** (0.08)		**0.10*** (0.06)
Relationship length		0.01 (0.01)		0.01 (0.01)		0.00 (0.00)
Level of distributor sales		−0.15 (0.10)		−0.09 (0.07)		0.01 (0.05)
Distributor adaptability						**0.26***** (0.09)
System weighted R^2				0.33		

Note. Significant results ($p < 0.10$) in bold.
[a]Association-specific dummies omitted.
$^{*}p < 0.10$; $^{**}p < 0.05$; $^{***}p < 0.01$.

about sample selection bias (e.g., Heckman 1979). Given the focus and design of our study, where our main independent variables (i.e., competition) apply only to the particular sample of dual distribution situations, such concerns may not be significant. Note also that when sample selection is based on an independent variable, and this variable is included in the model of interest, the regression model in question provides unbiased estimates (e.g., Hausman and Wise 1976). In our case, one of the main determinants of the joint (distributor and manufacturer's) decision to enter a dual distribution arrangement is the expected competition between the two channels. If we assume the distributor and the manufacturer to be rational and well informed agents, it is reasonable to assume a high correlation between this expectation and the actual levels of competition, the main independent variable in our model. Including this selection variable in our model thus reduces the likelihood of selection biases.

Ideally, we would have liked to gather a representative sample of nondual systems to estimate a two-stage selection model (e.g., Heckman 1979, Garen 1984), with a first stage modeling the likelihood of both parties entering a dual distribution arrangement.

However, this would have entailed (1) significant incremental data collection costs, and (2) a high probability of a low response rate. As to the latter, because most of our constructs relate to dual distribution, our study and its findings would be of little interest to nondual distributors and their associations.

We did, however, obtain data on a set of environmental and relationship characteristics from 10 of the 40 responding distributors that were not part of a dual system. We used these observations to estimate a Heckman two-stage model wherein the selection model included variables describing the parties' willingness to enter a dual distribution situation. Specifically, we estimated the following Heckman two-stage model separately for each of our three equations:

$$y_i = b_0 + b_1 * x_{1i} + b_1 * x_{2i} + \cdots + e_i, \quad (1)$$
for dual distribution situations ($Z = 1$),
where the set of relevant independent variables was included for each equation,

$$Z^* = c_0 + c_1 * \text{dintens}_i + c_2 * \text{pcompm}_i + c_3 * \text{pstand}_i + c_4 * \text{pmunc}_i + c_5 * \text{bundle}_i + c_6 * \text{turnover}_i + e, \quad (2)$$
$$Z = 1 \quad \text{if } Z^* > 0, \text{ and } Z = 0 \text{ otherwise.}$$

The procedure involves estimating Equation (2) by probit and using the estimates to correct Equation (1) for the non-zero expectation of the error term (Garen 1984).

Overall, our results were quite consistent with our main estimation results. This suggests that sample selection is not a source of bias in our study. Note, however, that these results should be interpreted carefully given (1) the limited number of nondual observations, and (2) the fact that the observations are not representative of the overall population of nondual distributor relationships.

We discuss our main results in the next section.

6. Discussion

Dual distribution channels that combine a company sales force with independent distributors are increasingly common in many industries. Our main focus was the specific problems that dual systems create for a distributor. Our findings point to a complex pattern of effects involving the distributor as well as her final customers. For instance, we found that competition between the two channels has direct and negative consequences for the distributor, to the point of promoting opportunism. At the same time, we found that competition for customers and functions actually benefits a distributor's end users within certain ranges of competition. The latter findings contribute to the recent literature on the potential benefits of intrabrand competition (e.g., Arya et al. 2007, Neslin and Shankar 2009).

We showed a similar differentiated pattern of effects for a manufacturer's efforts to create vertical market separation between the parts of a dual system. On one hand, such efforts reduce the level of competition for customers and thus suppress distributor opportunism. At the same time, vertical market separation had a direct negative effect on customer satisfaction. The general pattern that emerges from our findings is that a particular variable (competition, vertical market separation) has distinctly different effects within a channel system, and influences individual parties (distributors, end customers) in different ways. Interestingly, such differentiated effects across levels would not be revealed by standard channel frameworks such as transaction cost economics (e.g., Williamson 2010), which uses individual transactions as the unit of analysis. These results answer recent calls in the literature for research on how multichannel marketing impacts the individual channels in general, and in particular those channels which involve the use of a sales force (Neslin et al. 2007).

By adopting the distributor's perspective on dual channels, we developed a comprehensive and fine-grained conceptualization of competition that went beyond the standard notion of intrabrand competition (i.e., competition for customers). Our conceptualization included upstream competition for resources and a manufacturer's downstream involvement in customer-centered selling functions. We believe that adopting a multidimensional view of competition in a dual channel is crucial because each dimension has unique effects on the distributor.

In general, our study shows that competition is not just a standard feature of a dual channel; it has the distinct potential to provoke potentially dysfunctional actions. The fact that a manufacturer's involvement in customer-centered distribution functions is capable of inducing opportunism is perhaps counterintuitive. However, we show that such involvement does indeed raise distributor concerns that are sufficiently severe to drive opportunism.

From a theoretical standpoint, our results highlight the importance of accounting for differences among channel types when considering the effects of competition. For instance, while competition between direct and indirect channels promotes distributor opportunism, as per our a priori hypotheses, competition between indirect channels (i.e., higher levels of distribution intensity) has the opposite effect. Thus, distributor concerns about unfair competition carry considerably more weight in a dual distribution system.

As to managerial implications, our results demonstrate that competition with a direct channel raises significant concerns for distributors. These concerns affect their own relationship behavior and the level of channel coordination. Consequently, distributors

must (1) carefully consider the specific implications of representing manufacturers that rely on dual channels, and (2) encourage the focal manufacturer to actively reduce competition. Note, however, that the effects of competition are quite complex, and go beyond the distributor level in a particular channel. In fact, our findings suggest that limiting competition for customers and functions may actually decrease customer satisfaction, and thus ultimately undermine profitability and customer retention. Furthermore, the initiatives that a manufacturer uses to manage competition (i.e., vertical market separation) may impose costs on the end customers, and thus indirectly have a negative effect at the distributor level. Consequently, distributors who are part of dual channels must adopt a balanced and nuanced view of competition that accounts for (1) its particular sources, and (2) its effects at different channel levels.

7. Limitations and Future Research

Our findings must be viewed in light of certain limitations. First, our study was limited to documenting the perspective of the distributor. Additional insights could be gained by obtaining the view of the manufacturer in question, and by obtaining matched manufacturer-distributor data sets that reveal the different parties' unique perspectives on channel problems, solutions, and outcomes. Note, however, that obtaining such data poses considerable challenges, given the sensitivity that surrounds dual channel issues.

Second, the current study captures channel relationships at a single point in time. We believe, however, that dual systems have interesting dynamic properties that can be addressed through longitudinal research designs. For instance, the manner in which a particular system is built, including the order in which channel types are added, raises interesting questions. It would also be useful to consider a more comprehensive model of the distributor's initial decision to enter a dual arrangement, thus better controlling for possible sample selection biases. Similarly, a more comprehensive account of the determinants of the different types of competition would more accurately control for possible endogeneity biases. Our results should thus be interpreted with some caution.

Third, our analyses for a manufacturer's involvement in distribution functions centered on those that involve direct customer contact. A manufacturer's involvement in other distribution functions (e.g., logistics) may have fundamentally different effects on distributor behavior and customer satisfaction.

Fourth, while our cross-sectional empirical context adds richness to our analysis and enhances external validity, there may be unexplained for variation across industries that could affect the reported results.

Finally, given a lack of strong a priori theory that identified contingent relationships, we did not examine interactions among the relevant variables. We acknowledge, however, that more complex relationships may exist. For instance, a distributor's reaction to competition for functions with a direct channel may depend on the nature of the value allocation process between the two. Similarly, the overall level of resources available in a channel system may serve as a buffer and diminish the effect of competition on opportunism. In this regard, it would be important to explicitly account for a manufacturer's potential budget constraints, and how they influence the resource allocation process and the distributor's reactions. For instance, to the extent that the manufacturer faces resource constraints, distributors may inherently accept competition for resources. Future research would also benefit from including more complete measures of distributor dependence, such as the number of product lines she carries.

Overall, we believe that our current conceptual framework and empirical tests, which comprise three forms of competition that manifest themselves at two different channel levels (in some cases, in nonlinear fashions), adds meaningfully to a modest literature on dual channels. We believe, however, that more complicated linkages exist among the relevant variables, and we hope that future research will be directed towards exploring them.

Supplemental Material

Supplemental material to this paper is available at http://dx.doi.org/10.1287/mksc.2014.0880.

Acknowledgments

Funding for this research was provided by the Institute for the Study of Business Markets of the Pennsylvania State University. The first author would like to thank the Goizueta Business School at Emory University for financial and research assistance. The authors would like to thank the National Association of Wholesaler-Distributors for facilitating access to its distributor associations and the participating distributor associations for endorsing our research and providing access to their member lists. The authors thank Hubert Gatignon and Sriram Venkatraman for their helpful comments on previous versions of this manuscript. The authors would like to thank the editor, area editor, and two reviewers for their helpful suggestions throughout the review process. In particular, the authors thank the editor and the anonymous associate editor for their very specific guidance and suggestions. The second author is a Professorial Fellow, Department of Marketing and Management, University of Melbourne, and Senior Research Associate, Cambridge Judge Business School, University of Cambridge. The contents of this research report reflect the views of the researchers who are solely responsible for the facts and accuracy of the data presented herein.

Appendix. The Measures

Distributor Opportunism[a] (Reliability = 0.84, AVE = 0.83)
Based on Dwyer and Oh (1987) *and John* (1984)
On occasion, we lie about certain things to protect our interests
At times, we overstate our difficulties to get more support from the manufacturer's sales organization
Occasionally, we shirk certain obligations with the manufacturer when we can profit from doing so
Sometimes, we promise the manufacturer to do things without actually doing them later

Customer Satisfaction[b]
How satisfied do you believe the manufacturer's customers in your territory are with the way in which you are serving them?

Competition Between the Two Channels for Customers[c]
How frequently do your own salespeople and this manufacturer's sales operation compete for a particular sale?

Upstream Competition Between the Two Channels for Resources[a] (Reliability = 0.81, AVE = 0.89)
Based on Tsai (2002) *and Luo et al.* (2002)
This manufacturer makes marketing and technical support people available to support our marketing efforts for this product line (R)
We have access to the same manufacturer resources as its own sales organization (R)
We have similar access to product and service innovations as this manufacturer's own sales organization (R)

Manufacturer Involvement in Downstream Customer-Centered Functions
We are interested in the role played by this manufacturer's sales operation throughout the sales cycle for this product line, for the bulk of the orders for this product line sent to your organization. We are interested in the selling functions performed by the manufacturer for your customers. Please check all that apply.
(1) lead generation; (2) lead qualification; (3) presales service; (4) negotiation phase; (5) closing the order; (6) customer retention activities

Vertical Market Separation[a] (formative indicator)
Based on Sa Vinhas and Anderson (2005)
This manufacturer has developed restrictions that keep us and its own sales operation from contacting the same customer
When we inform the manufacturer about a sales lead, they have policies in place to ensure that we are the only ones pursuing that lead
At a given time, both our sales force and this manufacturer's own sales force know which of the two channels should pursue a particular sales lead
This manufacturer has established standard operating procedures for coordinating the actions of our salespeople with its own salespeople when both interact with a particular customer for a sales lead

Channel Specialization[a]
Our sales organization and this manufacturer's sales operation are specialists in their own areas of responsibility

Compensation for Joint Selling Situations
Does the manufacturer compensate you when a sale is made in situations of joint sales or technical assistance by this manufacturer's own sales representatives and your sales operation?

Price Competition at the Manufacturer Level[a]
There is significant price competition between different manufacturer brands in this sales territory

Distribution Intensity[a]
Based on Frazier and Lassar (1996)
We are the only distributor in this territory that is allowed to sell this manufacturer's brand to these customers (R)
This manufacturer tries to keep the number of distributors selling its brand to a minimum (R)

Product Standardization (Reliability = 0.75, AVE = 0.78)
Based on Sujan and Bettman (1989)
Identical to competitors' offers/Differentiated from competitors' offers (R)[d]
Many common features with other brands/Few common features with other brands (R)[d]
Typical of the category/Not typical of the category (R)[d]

Product-Market Uncertainty (Reliability = 0.81, AVE = 0.84)
Based on Anderson (1985) *and John and Weitz* (1988)
Stable market volume/Volatile market volume[d]
Customer product needs stable/Customer product needs volatile[d]
Customer service needs stable/Customer service needs volatile[d]

Customers Buy Product in a Bundle[a]
Our customers tend to buy this product-line as part of a bundle that includes other product-lines

Relationship Formalization[a] (Reliability = 0.82, AVE = 0.84)
Based on Dwyer and Welsh (1985), *Ferrell and Skinner* (1988), and *Heide* (2003)
Our dealings with this manufacturer are subject to a lot of rules and procedures stating how various aspects of the relationship are handled
The interaction with this manufacturer involves doing things "by the rule book"
Most things in our relationship are covered by some formal procedure
Interactions with this manufacturer and its representatives are normally preplanned

Relationship Centralization[a] (Reliability = 0.74, AVE = 0.85)
Based on Heide and Weiss (1995) *and Olson et al.* (2005)
The manufacturer gives us wide latitude in choosing how to sell this product-line in this territory (R)
We are given flexibility in how we get work done (R)
We can take very little action on our own unless this manufacturer approves it

Appendix. (Continued)

Ease of Replacing Distributor for Manufacturer[a]

If they wanted to, this manufacturer could easily replace us with another distributor without significant losses

Level of Distributor Sales

Which of the following annual turnover categories did your business fall into in your last business year?
(1) Under $500,000; (2) $500,000 to $1 m; (3) $1 m to $5 m; (4) $5 m to $10 m; (5) $10 m to $50 m; (6) $50 m to $100 m; (7) more than $100 m

Distributor Adaptability[a] (Reliability = 0.73, AVE = 0.81)

Based on Kumar et al. (1992) *and Noordewier et al.* (1990)

Our firm adjusts its selling practices for this manufacturer's products according to trends in the market
Our firm is innovative in its marketing of this manufacturer's products
Our firm makes a regular effort to meet competitive changes for this product-line
Our sales operation handles change well

Note. (R) Reversed item.

[a]7-point scale anchored by "strongly disagree" and "strongly agree."
[b]7-point scale anchored by "customer satisfaction is very low" and "customer satisfaction is very high."
[c]7-point scale anchored by "the two rarely compete" and "the two frequently compete."
[d]7-point semantic differential scale.

References

Anderson E (1985) The salesperson as an outside agent or employee: A transaction cost analysis. *Marketing Sci.* 4(3):234–254.

Anderson E, Weitz B (1992) The use of pledges to build and sustain commitment in distribution channels. *J. Marketing Res.* 29(1):18–34.

Anderson EW, Sullivan MW (1993) The antecedents and consequences of customer satisfaction for firms. *Marketing Sci.* 12(2):125–143.

Arya A, Mittendorf B, Sappington DE (2007) The bright side of supplier encroachment. *Marketing Sci.* 26(5):651–659.

Beersma B, Hollenbeck JR, Humphrey SE, Moon H, Conlon DE, Ilgen DR (2003) Cooperation, competition, and team performance: Towards a contingency approach. *Acad. Management J.* 46(5):572–590.

Bowman D, Narayandas D (2004) Linking customer management effort to customer profitability in business markets. *J. Marketing Res.* 41(4):433–447.

Coughlan A (1985) Competition and cooperation in marketing channel choice: Theory and application. *Marketing Sci.* 4(2): 110–129.

Coughlan AT, Anderson E, Stern L, El-Ansary AI (2001) *Marketing Channels* (Prentice-Hall, Upper Saddle River, NJ).

Desiraju R (2004) Costs and benefits of inducing intrabrand competition: The role of limited liability. *Marketing Sci.* 23(3):429–450.

Doty DH, Glick WH (1998) Common methods bias: Does common methods variance really bias results? *Organ. Res. Methods.* 1(4): 374–406.

Dutta S, Bergen M, John G (1994) The governance of exclusive territories when dealers can bootleg. *Marketing Sci.* 13(1):83–99.

Dutta S, Heide JB, Bergen M (1999) Vertical territorial restrictions and public policy: Theories and industry evidence. *J. Marketing.* 63(4):121–134.

Dutta S, Heide J, Bergen M, John G (1995) Understanding dual distribution: The case of reps and house accounts. *J. Law Econom. Organ.* 11(1):189–204.

Dwyer FR, Oh S (1987) Output sector munificence effects on the internal political economy of marketing channels. *J. Marketing Res.* 24(4):347–358.

Dwyer FR, Oh S (1988) A transaction cost perspective on vertical contractual structure and interchannel competitive strategies. *J. Marketing* 52(April):21–34.

Dwyer FR, Welsh MA (1985) Environmental relationships of the internal political economy of marketing channels. *J. Marketing Res.* 22(4):397–414.

Fein AJ, Anderson E (1997) Patterns of credible commitments: Territory and category selectivity in industrial distribution channels. *J. Marketing* 61(April):19–34.

Ferrell OC, Skinner SJ (1988) Ethical behavior and bureaucratic structure in marketing research organizations. *J. Marketing Res.* 25(1):103–109.

Fornell C, Larcker DF (1981) Evaluating structural equation models with unobservable variables and measurement error. *J. Marketing Res.* 18(1):39–50.

Frazier GL (1999) Organizing and managing channels of distribution. *J. Academy Marketing Sci.* 27(2):226–240.

Frazier GL, Lassar WM (1996) Determinants of distribution intensity. *J. Marketing* 60(4):39–51.

Frazier GL, Shervani T (1992) Multiple channels of distribution and their impact on retailing. Peterson R, ed. *The Future of U.S. Retailing: An Agenda for the 21st Century* (Quorum Books, New York), 217–237.

Garen J (1984) The returns to schooling: A selectivity bias approach with a continuous choice variable. *Econometrica* 52(5): 1199–1218.

Greene WH (2008) *Econometric Analysis*, 6th ed. (Pearson Education, Inc., Upper Saddle River, NJ).

Hausman JA, Wise DA (1976) The evaluation of results from truncated samples: The New Jersey income maintenance experiment. *Ann. Econom. Soc. Measurement* 5(4):421–445.

Heckman JJ (1979) Sample selection bias as a specification error. *Econometrica* 47(1):153–161.

Heide JB (2003) Plural governance in industrial purchasing. *J. Marketing* 67(4):18–29.

Heide JB, John G (1988) The role of dependence balancing in safeguarding transactions. *J. Marketing* 52(1):20–35.

Heide JB, Weiss AM (1995) Vendor consideration and switching behavior for buyers in high-technology markets. *J. Marketing* 59(3):30–43.

Heide JB, Wathne KH, Rokkan AI (2007) Interfirm monitoring, social contracts, and relationship outcomes. *J. Marketing Res.* 44(3):425–433.

Helper S, Levine D (1992) Long-term supplier relations and product-market structure. *J. Law Econom. Organ.* 8(3):561–581.

Ingene CA, Parry ME (1995) Channel coordination when retailers compete. *Marketing Sci.* 14(4):360–377.

Jap SD (1999) Pie-expansion efforts: Collaboration processes in buyer-supplier relationships. *J. Marketing Res.* 36(4):461–475.

Jeuland A, Shugan S (1983) Managing channel profits. *Marketing Sci.* 2(3):239–272.

John G (1984) An empirical investigation of some antecedents of opportunism in a marketing channel. *J. Marketing Res.* 21(3):278–289.

John G, Weitz B (1988) Forward integration into distribution: An empirical test of transaction cost analysis. *J. Law Econom. Organ.* 4(2):337–355.

Kreps DM (1990) *A Course in Microeconomic Theory* (Princeton University Press, Princeton, NJ).

Kumar N, Stern LW, Achrol R (1992) Assessing reseller performance from the perspective of the supplier. *J. Marketing Res.* 29(May):238–253.

Lahiri K, Schmidt P (1978) On the estimation of triangular structural systems. *Econometrica* 46(5):1217–1221.

Lindell MK, Whitney DJ (2001) Accounting for common method variance in cross-sectional research designs. *J. Applied Psyc.* 86(1):114–121.

Luo X, Slotegraaf RJ, Pan X (2006) Cross-functional coopetition: The simultaneous role of cooperation and competition within firms. *J. Marketing* 70(April):67–80.

Magrath A, Hardy KG (1989) A strategic paradigm for predicting manufacturer-reseller conflict. *Eur. J. Marketing* 23(3):94–108.

Malhotra D, Gino F (2011) The pursuit of power corrupts: How investing in outside options motivates opportunism in relationships. *Admin. Sci. Quart*. 56(4):559–592.

Malhotra NK, Kim SS, Patil A (2006) Common method variance in IS research: A comparison of alternative approaches and a reanalysis of past research. *Management Sci.* 52(12):1865–1883.

McGuire TW, Staelin R (1983) An industry equilibrium of downstream vertical integration. *Marketing Sci.* 2(2):161–191.

Moriarty R, Moran TU (1990) Managing hybrid marketing systems. *Harvard Bus. Rev.* 68(6):146–155.

Neslin SA, Shankar V (2009) Key issues in multichannel customer management: Current knowledge and future directions. *J. Inter. Marketing* 23(1):70–81.

Neslin SA, Grewal D, Leghorn R, Shankar V, Teerling ML, Thomas JS, Verhoef P (2007) Challenges and opportunities in multichannel customer management. *J. Service Res.* 9(2):95–112.

Noordewier TG, John G, Nevin JR (1990) Performance outcomes of purchasing arrangements on industrial buyer-vendor relationships. *J. Marketing* 54(4):80–93.

Nunes PF, Cespedes FV (2003) The customer has escaped. *Harvard Bus. Rev.* 81(11):96–105.

Olson EM, Slater SF, Hult GTM (2005) The performance implications of fit among business strategy, marketing organization structure, and strategic behavior. *J. Marketing* 69(3):49–65.

Podsakoff PM, MacKenzie SB, Lee JY, Podsakoff NP (2003) Common method biases in behavioral research: A critical review of the literature and recommended remedies. *J. Appl. Psych.* 88(5): 879–903.

Purohit D (1999) Dual distribution channels: The competition between rental agencies and dealers. *Marketing Sci.* 16(3): 228–245.

Rangan VK (2006) *Transforming Your Go-to-Market Strategy* (Harvard Business School Press, Boston).

Rindfleisch A, Malter AJ, Ganesan S, Moorman C (2008) Cross-sectional versus longitudinal survey research: Concepts, findings, and guidelines. *J. Marketing Res.* 45(3):261–279.

Rossiter JR (2002) The C-OAR-SE procedure for scale development in marketing. *Internat. J. Res. Marketing* 19(4):305–335.

Sa Vinhas A, Anderson E (2005) How potential conflict drives channel structure: Concurrent (direct and indirect) channels. *J. Marketing Res.* 42(4):507–515.

Sujan M, Bettman JR (1989) The effects of brand positioning strategies on consumers' brand and category perceptions: Some insights from schema research. *J. Marketing Res.* 26(4): 454–467.

Telser LG (1980) A theory of self-enforcing agreements. *J. Bus.* 53(1): 27–44.

Thibaut JW, Kelley HH (1959) *The Social Psychology of Groups* (John Wiley, New York).

Tsai W (2002) Social structure of "coopetition" within a multiunit organization: Coordination, competition, and intraorganizational knowledge sharing. *Organ. Sci.* 13(2):179–190.

Venkatesan R, Kumar V, Ravishanker N (2007) Multichannel shopping: Causes and consequences. *J. Marketing.* 71(2):114–132.

Williamson OE (1975) *Markets and Hierarchies: Analysis and Antitrust Implications* (Free Press, New York).

Williamson OE (2010) Transaction cost economics: The natural progression. *Amer. Econom. Rev.* 100(3):673–690.

Zhang X (2009) Retailers multichannel and price advertising strategies. *Marketing Sci.* 28(6):1080–1094.