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Multichannels Strategy Implementation: The Role of Channel Alignment Capabilities*

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ABSTRACT

A firm's distribution channels represent a key portfolio of resources that can be leveraged for competitive advantage. One approach to this portfolio that has become increasingly important in recent years is multichannel distribution (MCD). While this strategy has important benefits in terms of market coverage and firm performance, the use of multiple channels seriously affects downstream channel roles such as service delivery, as the financial rewards to channel members and the services they offer are separated. A channel member who offers poor or no service can free-ride on the services offered to the same customer from a different channel. We draw on agency theory to explain these negative consequences. Additionally, the resource-based view of the firm along with capabilities theory provides two key means of alleviating these consequences: channel tracking capabilities and reward alignment capabilities. The study, conducted in an industry facing serious MCD issues (the outdoor sporting goods industry), used key informant data matched to secondary data. Our results show that managers can reap the performance rewards of MCD strategies while minimizing its negative consequences. In particular, monitoring practices such as frequent site visits and phone contact with customers develop the firm's channel tracking capabilities, allowing managers to better monitor downstream activities. This becomes particularly important as the complexity from having multiple channels increases. Likewise, reward alignment capabilities such as retail price maintenance agreements and cooperative advertising enable the manager to minimize conflict among channel participants by ensuring sufficient profitability for all channel members.

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Subject Areas: B2C E-Commerce, Business-to-Business Marketing, Channel Management, Distribution Channels, and Supplier–Customer Relationship.

INTRODUCTION

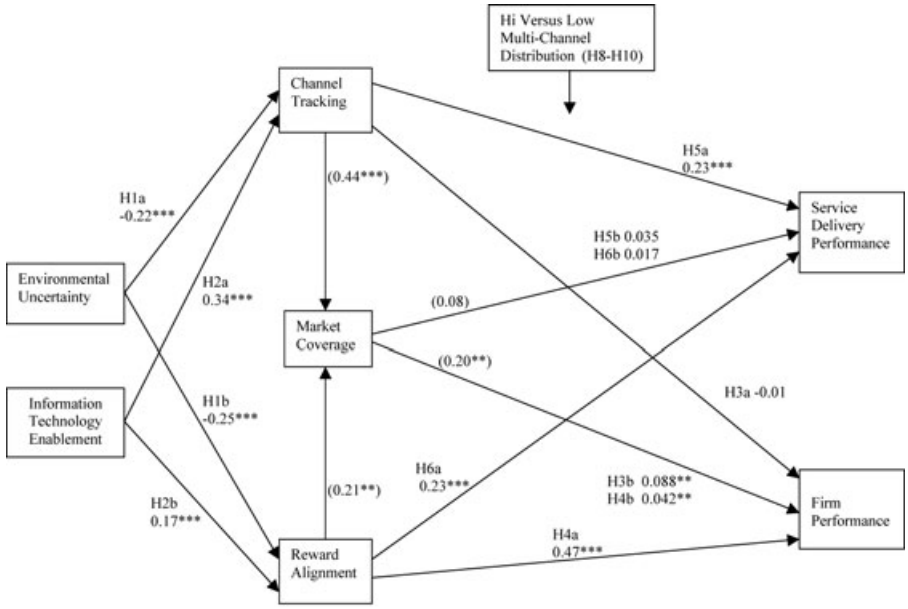
Heterogeneity in firm performance may be attributed to differential collections of resources (Penrose, 1958; Wernerfelt, 1984) that managers leverage in an effort to achieve sustainable competitive advantage (Barney, 1991). A firm's distribution channels represent key organizational resources; these link a firm to its customers, and ensure downstream market coverage and service delivery. Increasingly, firms have taken a portfolio approach to distribution resources through multichannel strategies, where the same product line is sold to the same target market by more than one channel (Boyer & Hult, 2005; Rangaswamy & Van Bruggen, 2005). Developments in the literature suggest that greater integration of a firm's supply chain elements, of which distribution channels are a part, is central in achieving strategic advantage (Sahin & Robinson, 2002; Vickery, Jayaram, Droge, & Calantone, 2003). Effective management of the portfolio of channel resources has therefore become critical in the contemporary competitive landscape.

Multichannel distribution (MCD) provides a variety of potential benefits: channel synergies, competitive parity, dependence balancing, greater market coverage, and ultimately better firm performance through greater sales (Dutta, Bergen, Heide, & John, 1995; Boyer & Hult, 2005). Interestingly, MCD makes it possible for customers to unbundle value-added services from the purchased product (e.g., product information search in a bricks-and-mortar store before purchasing from an Internet channel) (Bakos, 1997; Dutta, Heide, & Bergen, 1999). This idiosyncrasy poses unique challenges to managerial decision making with regards to MCD implementation. Customer "channel surfing" gives rise to a chronic misalignment where channel roles—such as service delivery—become divorced from compensation for the role performance (Van Baal & Dach, 2005). In essence, the rewards are out of alignment with service delivery; while one channel provides services needed by a customer, another, different channel gets the sale and thus, the financial reward.

The literature suggests that deployment of additional channels does not always yield performance gains (Bakos, 1997; Geyskins, Gielens, & Dekimpe, 2002; Lee & Grewal, 2004), likely we argue, due to the misalignment problems that necessarily plague MCD. Drawing on resource-based theory and capabilities theory, we argue that differential firm resources and capabilities play a key role in effective management of MCD and realization of potential gains from MCD. Our research focuses on the critical capabilities necessary for overcoming MCD alignment challenges, their antecedents and their consequences. Specifically, what bundle of resources and capabilities enable a firm to overcome the misalignment of channel member rewards with service delivery so that performance gains ensue? What factors inhibit or encourage the capabilities necessary for successful MCD?

Using agency theory as the framework (Alchian & Demsetz, 1972), we articulate fundamental challenges that decision makers face in effectively

Figure 1: Model of alignment capabilities and performance outcomes.



implementing MCD strategies. We advance MCD alignment capabilities, specifically, channel tracking and reward alignment capabilities, essentially as reward and control mechanisms to be leveraged by managers. As depicted in Figure 1, we expect these capabilities will positively relate to important outcomes in terms of market coverage, service delivery, and firm performance, suggesting steps that managers can take to improve likelihood of achieving favorable outcomes in MCD. Importantly, because not all firms implement MCDs in the same way, we consider the impact of the alignment capabilities on favorable outcomes across various levels of MCD complexity. In addition, we expect that strong technology resources (IT enablement) should facilitate alignment capabilities while adverse environmental conditions may inhibit the development of strong alignment capabilities.

Recent research examines MCD from several different perspectives. For example, one branch considers MCD adoption by suppliers. Rabinovich, Bailey, and Carter (2003) show that adding an Internet channel reduces transaction costs by allowing inventory to be kept further upstream until needed by a customer. Sa Vinhas and Anderson (2005) examine the sources and consequences of destructive conflict between a supplier's own and independent channels. Another branch of the literature examines MCD from a retailer perspective. Boyer and Hult (2005) develop behavioral scoring models to predict customer retention in an MCD environment, while Wallace, Giese, and Johnson (2004) demonstrate the implications of multiple retail channels on customer retailer loyalty. Finally, MCD has been examined from a customer perspective. Bakos (1997)

examines the impact of MCD on customer search costs, while Kumar and Venkatesan (2005) examine customer characteristics associated with multichannel purchase behaviors.

We significantly augment this literature by investigating the supplier's MCD strategy performance outcomes in terms of sales revenues measured at the point of sale and in terms of managerial assessments related to relevant resources and capabilities in a context of varying MCD complexity. More importantly, our conceptualization of channel alignment capabilities advances understanding of resources and capabilities perspectives (Kearns & Lederer, 2003; Escrig-Tena & Bou-Llusar, 2005). Finally, as the supply chain management integration perspective suggests that supply chains are more effective when managed as an integrated whole (Frohlich, 2002; Vickery et al., 2003), we extend this perspective to the MCD arena.

We organize the remainder of the article as follows. First, based on agency and capabilities theory we present our central concepts, the alignment capabilities as channel tracking and reward alignment capabilities and develop hypotheses regarding their antecedents and their outcome across varying levels of MCD complexity. We test the hypotheses on data from two sources, survey data collected from key informants in the outdoor sporting goods industry coupled with firm-level objective performance data purchased from an industry-specific market research firm. Empirical results are presented and the article closes with a discussion of implications and future research suggestions.

THEORETICAL UNDERPINNINGS

Here we consider MCD as concerned with supplier strategies simultaneously employing three common channels: mail order, bricks-and-mortar stores, and the Internet. A key issue for effective supply chain management is to integrate all supply chain elements to align the efforts and outcomes of all parties (Frohlich, 2002; Vickery et al., 2003). This holds true for MCD as well: if the supplier is not able to effectively integrate its portfolio of channel resources, a likely result is destructive interchannel and intrabrand competition (Frazier & Shervani, 1992). This problem is particularly acute for high value-added intermediaries. In MCD, the service delivery becomes a form of public good of which customers can take advantage from one channel while consummating a purchase with another channel (Wu, Ray, Geng, & Whinston, 2004). A consumer might get fitted for running shoes at a brick and mortar retailer, then purchase later from an online rival. Likewise, a retailer might consult extensively with a regional sales representative, and then place its purchases through a buying-group Web site. This serious channel alignment problem is damaging to buyer–supplier relationships and may result in serious downstream consequences that threaten the success of the supplier's MCD strategy.

The alignment problems deriving from MCD strategies are rooted in an exacerbation of the agency relationships that comprise distribution channels. Agency theory describes two primary challenges that decision makers encounter in managing downstream intermediaries, (i) goal incongruence, where agent and principal may have widely diverging priorities, and (ii) incomplete information, where the

principal has limited intelligence about agent activities (Alchian & Demsetz, 1972; Eisenhardt, 1989; Bhattacherjee, 1998).

Agency theory suggests that goal incongruence in the relationships among a supplier and its various downstream agents may be particularly severe in an MCD setting. For example, when a customer receives extensive pre-sale training on the use of a photocopy machine from a specialty office-supply store and then consummates the purchase with an off-price discount retailer (e.g., Bakos, 1997), what recourse is there for the specialty office-supply store? In such situations where the channel incentive system is out of alignment (Rangaswamy & Van Bruggen, 2005), high service value-adding retailers may become disenchanted and respond by decreasing their own service activities or entirely dropping the supplier's line (Frazier & Shervani, 1992). Because an intermediary is not compensated for providing value adding customer service, while a competing channel free-rides on those services provided and receives compensation that is not "rightfully theirs" (Van Baal & Dach, 2005, p. 83), service provision that is key in market and brand development, customer satisfaction and loyalty, may be jeopardized and even lost. Hence, a key problem for the supplier is to align goals among all channels and various intermediaries to ensure that the provision of services and market coverage continues in the presence of the heightened complexity and competitiveness of channel relationships.

Agency theory also suggests that it is not always possible to closely track agent behavior (Alchian & Demsetz, 1972); thus decision makers face another alignment problem in MCD—incomplete information—which plays out in terms of adverse selection and moral hazard. Adverse selection describes a condition where it is difficult for managers to ascertain ex-ante downstream intermediary capabilities (Eisenhardt, 1989; Bhattacherjee, 1998). Are agents able to do what they say they will do? Until a relationship has been established, or a number of site visits have taken place, it is difficult for the supplier to be certain that its downstream channel partners have the capabilities and competences necessary to provide critical service delivery and other support functions; picking an inappropriate intermediary can be damaging to the supplier's brand, and even its health (McHugh, Humphreys, & McIvor, 2003). In the highly complex MCD arena, assembling and managing a set of intermediaries for the provision and maintenance of an optimal portfolio of downstream customer service is a chronic concern.

Moral hazard occurs when it is difficult for principals to track ex-post agent behaviors and activities (Bhattacherjee, 1998). Did agents do what they said they would do? Suppliers face a moral hazard problem with regard to downstream activities: downstream channel members are in a privileged position compared to suppliers concerning whether they have performed critical sales and service functions (Dutta et al., 1995). Without frequent site visits or other surveillance mechanisms, it is difficult for a supplier to ensure that intermediaries properly sell the product, provide necessary customer information, respond to customer needs, or appropriately use merchandizing and point-of-purchase materials, for example. As the complexity of a supplier's channel system increases, so also does the number of intermediary activities that must be monitored, raising the likelihood of moral hazard and increasing the risk of channel members

to free-riding on the service provision of others (Dutta et al., 1999; Wu et al., 2004).

Given that the portfolio of intermediaries and channel relationships comprising MCD represents key firm resources for downstream service delivery and market coverage (Barney, 1991; Escrig-Tena & Bou-Llusar, 2005), we argue that leveraging these resources requires the appropriate firm-level skill-sets. As such, we draw on capabilities theory (Teece, Pisano, & Shuen, 1997; Eisenhardt & Martin, 2000; Kearns & Lederer, 2003) to conceptualize channel alignment capabilities as a firm-level skill-set needed to effectively coordinate the highly complex agency relationships inherent in MCD. As we discuss below, channel alignment capabilities, consisting of channel tracking and reward alignment capabilities, are aggregate organizational routines that effectively collect channel information and align channel objectives and outcomes.

Capabilities are socially complex routines deeply embedded in the firm that combine with other resources in the firm and result in competitive advantage (e.g., Teece et al. 1997; Eisenhardt & Martin, 2000; Kearns & Lederer, 2003). The routines or sets of routines that comprise capabilities can be deliberately built and cultivated by the firm (Pisano, 1994). Essentially, capabilities involve learning and acquiring the "how to" knowledge needed to perform complex multifaceted tasks such as those required in MCD implementation. Through the appropriate capabilities, the firm can leverage and coordinate multiple distribution channels for advantage in the market place. Put broadly, in our context getting alignment problems under control requires "the cybernetic process of monitoring and rewarding performance" (Eisenhardt, 1985, p. 135). Desired behaviors must be appropriately monitored and incentivized (Bhattacherjee, 1998). In this channel setting, downstream service delivery must be effectively monitored, and when performed correctly, must be properly rewarded.

Incentive design constitutes an important supply chain alignment capability (Mahajan, Radas, & Vakhaira, 2002). Accordingly, we cast *reward alignment capabilities* as coordinating activities and routines that align the interests, efforts, and outcomes of all channel members. The application of these supplier capabilities ensures compensation for downstream service delivery functions; they align downstream reward structures with the supplier's interests, and thereby mitigate the effects of goal incongruence. In addition, alignment problems such as moral hazard and adverse selection make adequate information gathering routines critical to successfully managing a supplier's agency relationships (Eisenhardt, 1989). *Channel tracking capabilities*, the supplier's abilities to gather information about the activities of downstream channel members serve to mitigate the effects of incomplete information. Channel tracking capabilities like other control related mechanisms involve behavior, and the outputs that result from that behavior and are in part a matter of timing: control during the behavior itself and control after the fact (Jaworski, Stathakopoulos, & Krishnan, 1993). Thus, we conceptualize channel tracking as a higher-order construct incorporating two sub-constructs: *process tracking* and *output tracking*. Ex-ante (i.e., process) tracking capabilities are critical for coordinating the processes of diverse channel members found in MCD strategies, while ex-post (i.e. output) tracking capabilities are used to monitor important channel outputs.

HYPOTHESES

As illustrated in our model (Figure 1), we expect that channel alignment capabilities, specifically channel tracking capabilities and reward alignment capabilities, underlie the variance in MCD success. We also expect that antecedents in the form of information technology and environmental turbulence will impact channel alignment capabilities. We argue that channel tracking and reward alignment capabilities can overcome the significant agency problems inherent in multichannel strategies, leading to important strategic consequences, including both enhanced market coverage, service delivery and, ultimately, increased firm performance. Additionally, given that greater channel diversity increases the number and intricacy of channel relationships, we expect that MCD complexity, the breadth and depth of the MCD strategy, will moderate the effectiveness of channel alignment capabilities.

Antecedents of Alignment Capabilities

Unpredictable change in the levels of key environmental variables heightens decision-making uncertainty of channel members (Dess & Beard, 1984). For example, uncertain or changing demand levels make it difficult for a retailer to make decisions about how much inventory to carry, how that inventory should be allocated among different products or brands, and what products should be most responsive to various promotions (Mahajan et al., 2002). This makes the retailer's own behaviors more unpredictable to the upstream supplier's sales managers, who must make effective decisions concerning appropriate reward and control policies. In addition, by attenuating the connection between effort and reward, uncertainty has the effect of transferring risk downstream, thereby exacerbating the differential risk preferences inherent in principal/agent relationships (Bhattacherjee, 1998). Thus we expect environmental uncertainty to reduce the effectiveness of supplier efforts to both monitor and motivate downstream retailer behaviors.

H1: *Environmental uncertainty negatively influences a firm's*

(a) channel tracking capability, and
(b) reward alignment capability.

Information technology can provide an important means to supply chain integration (Frohlich, 2002; Vickery et al., 2003). Information technology facilitates boundary-spanning activities that enable a firm to better manage relationships with its downstream buyers (Saeed, Malhotra, & Grover, 2005). It introduces significant inventory ordering efficiencies, particularly as supply chain coordination increases (Robinson, Sahin, & Gao, 2005). Information technology enhances better monitoring of downstream functions, as well as better communication with downstream intermediaries. We argue that *information technology (IT) enablement,* the firm's capacity for using IT for gathering, analysis, and dissemination of information, can be expected to enhance the firm's channel tracking and reward alignment capabilities (Bharadwaj, 2000).

H2: *IT enablement positively influences a firm's*

(a) channel tracking capability, and
(b) reward alignment capability.

Consequences of Alignment Capabilities

We have argued that superior channel tracking capabilities will attenuate the moral hazard and adverse selection that are especially problematic with MCD strategies; as such we expect firms with superior channel tracking capabilities to exhibit enhanced performance. Additionally, we expect channel tracking capabilities to enhance firm performance indirectly through market coverage (Frazier & Antia, 1995). We conceptualize *market coverage* as the access potential customers have to a product at the time a purchase decision is made, thus making it readily available when and where it is needed (Rosenbloom, 1994). Suppliers accrue significant benefits through enhanced market coverage, and these benefits can be enhanced through effective MCD policies (Mahajan et al., 2002). Retailers often do not carry the entire breadth of a supplier's product line; the larger the line, the more such cherry picking becomes an issue. In part this is because retailers are most interested in maximizing the performance of whole product categories rather than individual brands (Stern & Weitz, 1997). Greater market coverage increases the customer's contact points with the supplier's product, and decreases the customer's transaction costs. This combination of increased exposure and decreased difficulty should lead to increased sales, and ultimately enhanced firm performance.

However, MCD strategies threaten existing retailers and distributors who may be motivated to reduce or eliminate support for the supplier's line. Channel tracking capabilities should help suppliers enjoy the market coverage benefits of MCD strategy, while discouraging the exit of any disaffected channel members. When agents know that they are being monitored, their behaviors are more likely to be in line with the expectations of principals (Eisenhardt, 1989). Effective deployment of controls that influence the means by which intermediaries fulfill their channel functions improves channel performance (Bello & Gilliland, 1997). Furthermore, the "hands on" approach that characterizes channel tracking, with frequent dealer visits, constant communication, and ongoing monitoring of customer and intermediary activities, signals high supplier involvement with and commitment to the distribution system. When such commitment is reciprocated, the resulting mutual trust motivates a long-term relationship that is resistant to the "destructive act" of MCD implementation (Hibbard, Kumar, & Stern, 2001). Hence we hypothesize the following:

H3: *Channel tracking capability positively influences firm performance (objective and managerial assessments)*

(a) directly, and
(b) indirectly through market coverage.

From the retailer's side, the additional market coverage provided by a supplier's multichannel strategies constitutes increased competition. Even where the retailer offers its own multiple channels (i.e., it has its own Web site,

bricks-and-mortar location, and/or catalog), it faces a general dilution of its business as more alternative channels open (Van Baal & Dach, 2005). In agency terms, the channel relationship may cease to satisfy the retailer's minimum reservation utility (Bergen, Dutta, & Walker, 1992), resulting in reduced retailer commitment to the supplier's line. At its extreme, this alignment problem will lead the retailer to drop the supplier's line entirely. Of course, when this happens, the supplier's market coverage is reduced. As such, the supplier faces a trade-off: it must enhance its market coverage to ensure that all customers have access to its full range of products. At the same time, the line must remain financially rewarding for its resellers to stock. Supplier firms with stronger reward alignment capabilities should be able to maintain higher market coverage than those with lower reward alignment capabilities. Hence we posit

H4: *Reward alignment capability positively influences firm performance (objective and managerial assessments)*

(a) directly, and
(b) indirectly through market coverage.

Product and service traditionally form a package; services provided before, during, and after purchase augment the core product and form an important basis for differentiation. The result is that enhanced service delivery is a strategically important function, one that relies critically on channel intermediaries (Froehle, 2006). *Service delivery performance* describes the system-wide delivery of all service dimensions provided by the supplier's combined channels of distribution. This includes the combined services of all the bricks-and-mortar retailers (such as prepurchase product experience), Internet sites (intensive information about product attributes and comparative pricing), and catalogs (superior image quality and product positioning) that carry the supplier's products.

As a firm's portfolio of channels increases in complexity so does the difficulty in monitoring downstream activities that ensure adequate service delivery. We expect that channel tracking capabilities will enhance a firm's monitoring functions, thus ensuring improved service delivery. In addition, intermediaries incur expenses in the performance of service-related activities. When supplier policies and procedures ensure that such expenses will be recovered when the sale is made, it will encourage intermediaries to continue with these support activities. We therefore expect that as a supplier's ability to reward intermediaries for performing their important functions increases, so to will service delivery performance.

As we have argued, service delivery depends critically on the activities of downstream intermediaries. Customers have reduced access to both products and services in markets where intermediaries are few and the supplier's brand is under-represented. Service delivery therefore requires adequate coverage. We would expect that as market coverage increases, service delivery performance will increase as well. In light of our expectation that channel alignment capabilities will increase market coverage, we expect a mediated effect of channel tracking and reward alignment capabilities on increased service delivery performance through market coverage.

H5: *Channel tracking capability positively influences service delivery performance*

(a) directly, and
(b) indirectly through market coverage.

H6: *Reward alignment capability positively influences service delivery performance*

(a) directly, and
(b) indirectly through market coverage.

Additionally, we expect channel tracking and reward alignment capabilities to be efficacious in combination; multiple control mechanisms are typically employed simultaneously to coordinate channel relationships (Weitz & Jap, 1995). Empirical results suggest that where one compensation or coordination mechanism is effective, we are likely to see others effective as well (Celly & Frazier, 1996). As channel tracking activities increase, their relationship building effects can be expected to improve the efficacy of reward alignment; intermediaries receive both commitment and positive rewards from the channel relationship. Likewise, as rewards are increasingly aligned throughout the channel, information gathering becomes more efficient and more effective. Thus, the effect on market coverage of channel tracking and reward alignment capabilities when used in tandem is greater than their effects when used alone. We therefore hypothesize that:

H7: *Channel tracking and reward alignment capabilities* in combination *positively influence firm performance (objective and managerial assessments)*

(a) directly, and
(b) indirectly through market coverage.

We expect that the complexity of a firm's MCD strategy will moderate the effects of channel tracking and alignment capabilities on performance outcomes. We define *MCD complexity* as the breadth and depth of the MCD strategy pursued by the supplier. This construct captures the number and intricacy of channel relationships that must be monitored. We have argued that as channel relationships become more numerous and more complex as a result of MCD strategies, the effects of incomplete information and goal incongruence become more severe. Difficulty in monitoring downstream activities and difficulty in ensuring that the supplier's line represents the best possible alternative to all of its downstream partners increases. As such, we expect moderated mediation: MCD complexity will influence the effects of channel tracking and reward alignment capabilities on market coverage, and hence supplier performance.

H8: *MCD complexity moderates*

(a) the direct effect of channel tracking capability on firm performance, and
(b) the indirect effect of channel tracking capability on firm performance through market coverage.

H9: *MCD complexity moderates*

(a) the direct effect of reward alignment capability on firm performance, and
(b) the indirect effect of reward alignment capability on firm performance through market coverage.

Furthermore, in light of our expectation that channel tracking and reward alignment capabilities work in combination and in light of our expectation of moderation by MCD complexity, we also expect the combinative effects to be likewise moderated. Thus, we hypothesize

H10: *MCD complexity moderates*

(a) the direct combinative effects of channel tracking and reward alignment capabilities on firm performance, and
(b) the indirect combinative effects of channel tracking and reward alignment capabilities on firm performance through market coverage.

METHOD

Context and Data Collection Procedures

The research context for this study, suppliers in the specialty outdoor sporting goods industry, happens to be currently in the throes of a variety of MCD–related issues that threaten to inflict major changes to the industry. Because virtually every firm in this industry employs some form of MCD strategy, and incumbent firms exhibit considerable variance in their response and adaptation, this is an appropriate context for our research. The industry has a traditional structure, with suppliers selling to distributors or retailers and then on to the end customer. Both suppliers and retailers are experimenting with opening additional channels. Many other industries are similarly organized and facing comparable changes as MCD strategies take hold. Results from this research should, therefore, generalize reasonably well to other specialty/shopping goods industries.

Research started with structured depth interviews with managers attending the industry's semi-annual trade show. Participants expressed keen interest in MCD issues; they discussed their various information collection procedures and their concern that channel partners be able to make a reasonable profit selling their line. These discussions suggested that the research questions were relevant and reasonably articulated, and helped delineate domains for the two key constructs.

The main study consisted of a key informant mail survey. The sales and marketing managers for suppliers in the specialty outdoor sporting goods industry form our target population. The sampling frame was the exhibitor list for the annual industry trade show; this list explicitly identified our target population. The study employed elements of Dillman's (2000) tailored design method. Multiple points of contact were pursued, including prenotification, a main mailing, and one follow-up. A token financial incentive ($1) was included in the final mailing. A total of 666 firms with valid addresses were contacted. The data collection netted

a total of 183 usable returned surveys, for a response rate of 27%. Non-response bias was assessed by comparing early and late responders (Armstrong & Overton, 1977). Respondents were asked to rate both their involvement and knowledge with the firm's distribution decisions. High means (6.3 and 6.6 out of 7, respectively) indicate that the key informants were highly qualified.

The research instrument was coded so that data from the mail survey could be coupled with secondary data collected from an industry market research firm. This firm collects point-of-sale scanner data from participating industry retailers, and organizes these data at the stock keeping unit, category, and supplier levels. Secondary data for this study were extracted for critical financial (i.e., sales volume) and strategic (i.e., market share) performance for each survey respondent. This enables us to draw a connection between a supplier's channel alignment capabilities and its real-world outcomes at the point of sale. It also serves as an important hedge against common methods bias by providing a measure of the dependent variable that is separate from the primary survey document.

Instrument Development and Measures

Instrument development followed standard techniques including qualitative interviews, a literature search, expert panel review, and in-person pretesting. We used existing measures where possible and developed or modified the rest as needed. Our IT–enablement measure was drawn from the literature (Bharadwaj, 2000) and consisted of seven items tapping the firm's IT planning, infrastructure, skills, and staffing. The environmental uncertainty measure, adapted from previous research (Dess & Beard, 1984; Celly & Frazier, 1996) consisted of eight items tapping uncertainty and turbulence regarding various environmental factors. For the detail on these and other measures, see Appendix A.

We conceptualize channel tracking capabilities as varying according to timing (Bello & Gilliland, 1997). As such, we develop six items each for organizational routines relating to ex-post process tracking and ex-ante output tracking. Process tracking measures were concerned with the supplier's procedures for monitoring downstream inventory, merchandizing, and training practices, while output tracking measures focused on supplier efforts to research end customer satisfaction with dealer service delivery and other product support activities. Items have been modified where appropriate from Celly and Frazier (1996), and Jaworski et al., (1993). For the reward alignment measure, five items tapped the supplier's ability to ensure that its product line was at least as profitable for its retailers as that of any competitors (Anderson & Narus, 1984). Market coverage was developed as a completely new measure. Its six items covered the access potential customers have to the supplier's product line.

Service delivery performance was defined as the system-wide delivery of all service dimensions provided by the supplier's combined channels of distribution. Based on Wallace et al. (2004), four items tapped the ability of the supplier's channels to make available important service dimensions, while another four items assigned importance weights to each service delivery dimension. The availability and importance of the four dimensions were multiplied and then summed,

creating a single service delivery score comparable to an expectancy-value measure.

Based on Grewal and Tansuhaj (2001), firm performance was measured as six items focused on assessment of the firm's profitability and return on investment relative to both expectations and competition. Objective performance measures, including industry-wide sales and market share for the prior year, were purchased from a market research firm. The secondary data were extracted and matched to survey responses allowing us to assess performance both as perceived by management and as achieved in the marketplace. As we were able to collect sales and market share data for several fiscal years, we calculated the change in sales and change in market share over a three year time period as a reflection of performance.

MCD complexity, the key moderator, is a new measure; it is conceived as the breadth and depth of the supplier's distribution system with regard to bricks and mortar, catalog, and Internet outlets. We treat MCD strategies as varying across channel domain (bricks and mortar, Internet, catalog) and vertical integration (company-owned channels, independent channels, and multichannel merchants). Accordingly, our measure tapped the channel format used (retail, Web, and catalog), as well as the overall strategy (company-owned channels, independent channels, and multichannel merchants). This provided for a matrix of nine possible choices (e.g., company-owned retail channels, independent retail channels, etc.). Respondents checked all channels that would apply, such that a greater number of checked boxes would indicate a more complex MCD strategy.

Control variables included product type, intermediary market concentration, number of employees, previous year's sales, year founded, and respondent characteristics. We control for *supplier dependence* because dependence has long been seen as influencing channel activities and also can be expected to impact MCD issues thereby potentially confounding our results (Geyskins et al., 2002). Our supplier dependence measure consisted of four items adapted from Achrol and Stern (1988). We also control size through the past year's sales as measured directly from the secondary data. Most controls were not significant and thus dropped from analysis.

Measure validation

As reported in Appendix A, all indicators load significantly and strongly on their respective constructs. In addition, an analysis of cross-loadings reveals that all items load more strongly on their intended constructs than on any other constructs in the study. Composite reliabilities and average variance extracted were calculated as per Fornell and Larcker (1981). Reliability is satisfactory, with all measures over 0.7 (Nunnally & Bernstein, 1994); Appendix A does not report reliabilities for service delivery or MCD complexity as these are not reflective measures. Average variance extracted for each construct exceed Fornell and Larcker's (1981) suggested cutoff of 0.5, indicating that explained variance due to the construct is greater than variance due to measurement error.

To establish discriminant validity, constructs should have more variance in common with their own items than with other constructs in the model; in other words, discriminant validity is suspect if a measure shares more variance with other

Table 1: Correlation matrix.[a]

	FP	MKT	RA	CTC	SuDp	ITE	UN	SD	FSD	MSD	FS
Assessed firm performance (FP)	**.85**										
Market coverage (MKT)	.39	**.82**									
Reward alignment (RA)	.55	.35	**.82**								
Channel tracking capability (CTC)	.27	.51	.31	**.75**							
Supplier dependence (SuDp)	−.13	−.19	−.06	−.01	**.82**						
IT enablement (ITE)	.33	.34	.23	.39	−.11	**.84**					
Environmental uncertainty (UN)	−.39	−.32	−.29	−.29	.05	−.23	**.71**				
Service delivery (SD)	.28	.25	.31	.35	.14	.23	−.08	**N/A**			
Change in firm sales (FSD)	.13	−.07	.09	.08	.08	.00	.09	.15	**N/A**		
Change in market share (MSD)	.13	−.03	.15	.12	.07	.03	.08	.11	.92	**N/A**	
Firm size (FS)	.08	.11	−.02	.18	.07	.17	−.08	.11	.22	.21	**N/A**
Mean	4.92	3.72	5.74	7.02	4.82	4.3	3.78	4.82	417346	.0005	5.50
Standard deviation	1.08	1.32	.92	2.65	1.35	1.5	1.10	1.35	295737	.0006	1.66

[a]Note that numbers in bold show the square root of average variance extracted, for reflective measures only. For single-item variables, average variance extracted is listed as N/A.

constructs than it does with its own items (Fornell & Larcker, 1981). In keeping with other research using the partial least-squares methodology, this is assessed by comparing the square root of each construct's average variance extracted with its correlation with every other construct in the study (Brown & Chin, 2004). Table 1 depicts off-diagonal elements as correlations while the diagonal elements are the square root of each construct's average variance extracted. Each average variance extracted is significantly higher than any correlation occurring in its associated column or row, thus indicating discriminant validity.

Because we conceptualized channel tracking capability as a higher-order construct composed of process tracking and output tracking, we estimated a first-order confirmatory factor analysis model in which the two constructs were free to covary, and a second-order confirmatory factor analysis in which they were constrained to indicate a higher-order construct. In the first confirmatory factor analysis, χ^2 was 265.5 with 64 *df*, while in the higher-order confirmatory factor analysis χ^2 was 295.7, with 65 *df*. The target coefficient *T*, the ratio of the first-order model χ^2 to the second-order model χ^2 is .90, which indicates acceptable fit for the second-order model (Marsh & Hocevar, 1985). We verify, consistent with our conceptualization, that process tracking and output tracking are indicators of the higher-order construct, channel tracking capability, and henceforth treat it as such.

We assess the impact of common methods bias given that it may threaten the validity of survey research data (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Relationships among variables, rather than supporting hypotheses, may simply be artifacts of participant interaction with the survey document itself. If common methods bias is a problem, a single underlying factor (the survey itself) accounts for a majority of the covariance among variables. To address this threat, we apply Harmon's one-factor test (Podsakoff et al., 2003) by estimating two confirmatory factor analyses. The first included our six reflective variables ($\chi^2 = 802$ with 390 *df*). In the second, all manifest variables reflected a single latent variable ($\chi^2 = 2600$ with 405 *df*). A χ^2 difference test indicates that the single-factor model represents a significant loss of fit over the six-factor model, suggesting that common methods bias is not a threat. Additional hedges against common methods bias are achieved by our use of secondary data and through separating the survey into separate sub-sections with different response options as per Podsakoff et al. (2003).

RESULTS

Hypothesis Testing

We used partial least squares (PLS) to analyze the data as our hypotheses involve endogenous variables and latent variable interactions. PLS has seen increased use in supply chain and channels research (e.g., Brown & Chin, 2004). Appendix B provides a description of hypothesis testing procedures. The model was estimated simultaneously; key dependent variables were channel tracking, reward alignment, market coverage, service delivery, and firm performance (managerially assessed, change in sales, and change in market share). Overall, hypothesized relationships appear to fit the data reasonably well, with R^2s as follows: channel tracking, 19%; reward alignment, 11%; market coverage, 34%; service delivery, 20%; and managerially assessed firm performance, 35%. From the secondary data, R^2 for the changes in firm sales and market share was 11% for each. Given that PLS does not assume normal distributions, standard errors and path significance are determined using a bootstrapping procedure (Chin, 1998). Hypothesis testing results depicted in Tables 2a–2c are based on 500 bootstrapping runs; we next report these results.

Table 2a: Partial least-squares (PLS) estimation results for antecedents of alignment capabilities.

Dependent Variable	Predictor Variable	All Firms
Channel tracking capability	Environmental uncertainty	−.22***
	IT enablement	.34***
Reward alignment capability	Environmental uncertainty	−.25***
	IT enablement	.17***

***Significant at $p < .01$ (two-tailed).

Table 2b: Partial least-squares (PLS) estimation results for consequences of alignment capabilities: market coverage and service delivery.

Dependent Variable	Predictor Variable	All Firms	High MCD Complexity	Low MCD Complexity	Low-High *t*-Value
	Control variables				
Market coverage	Supplier dependence	−.18***	−.12	−.21***	−.90
	Firm size	.05	−.04	.13**	2.48**
Service delivery	Supplier dependence	.17**	.22***	.12	−1.00
	Firm size	.05	−.04	.14**	2.07**
	Main effect variables				
Market coverage	Channel tracking capability	.44***	.38***	.45***	.76
	Reward alignment capability	.21***	.20***	.25***	.58
Service delivery	Channel tracking capability	.23***	.35***	.18**	−1.35
	Reward alignment capability	.23***	.33***	.23***	−.90
	Market coverage	.08	.19**	−.05	−1.95**
	Combined capabilities				
Market coverage	Channel tracking capability × Reward alignment capability	−.02	−.04	.13*	1.93**

***Significant at $p < .01$ (two-tailed); **significant at $p < .05$ (two-tailed); *significant at $p < .10$ (two-tailed).

Hypothesis 1a that environmental uncertainty would negatively associate with channel tracking capability was supported as indicated in Table 2a ($b = -.22$, $p < .01$). Hypothesis 1b predicted a similar effect on reward alignment capability; this too is supported ($b = -.25$, $p < .01$, Table 2a). Hypothesis 2a predicted IT enablement would be associated with an increase in channel tracking capability; this is supported ($b = .34$, $p < .01$, Table 2a). Hypothesis 2b predicted a similar effect on reward alignment capability; this too is supported ($b = .17$, $p < .01$, Table 2a).

Table 2c: Partial least-squares (PLS) estimation results for consequences of alignment capabilities: assessed and objective performance.

Dependent Variable	Predictor Variable	All Firms	High MCD Complexity	Low MCD Complexity	Low-High *t*-Value
	Control variables				
Assessed firm performance	Supplier dependence	−.07	−.24***	.06	3.44***
	Firm size	.07	.11*	.04	−.99
Change in sales	Supplier dependence	.03	.03	−.01	−.26
	Firm size	.22***	.14***	.25***	1.89*
Change in market share	Supplier dependence	.04	.09	−.05	−.94
	Firm size	.21***	.13***	.25***	2.31**
	Main effect variables				
Assessed firm performance	Channel tracking capability	−.01	.22***	−.16**	−3.36***
	Reward alignment capability	.47***	.52***	.49***	−.27
	Market coverage	.20**	.02	.37***	2.80***
Change in sales	Channel tracking capability	.08	.14*	−.09	−1.60
	Reward alignment capability	.13*	−.23***	.28***	3.91***
	Market coverage	−.17**	−.24***	−.08	1.55
Change in market share	Channel tracking capability	.10	.25**	−.09	−1.51
	Reward alignment capability	.18**	−.10	.34***	4.21***
	Market coverage	−.15*	−.20***	−.07	1.21
	Combined capabilities				
Assessed firm performance	Channel tracking capability × Reward alignment capability	.00	−.00	.04	.16
Change in sales	Channel tracking capability × Reward alignment capability	.12	.24***	.02	−1.82*
Change in market share	Channel tracking capability × Reward alignment capability	.14	.26***	.01	−1.95**

***Significant at $p < .01$ (two-tailed); **significant at $p < .05$ (two-tailed); *significant at $p < .10$ (two-tailed).
MCD = Multichannel distribution.

Hypothesis 3a predicted that channel tracking capability would positively influence firm performance; as Table 2c indicates, this hypothesis is not supported for managerial assessments ($b = -.01$). For objective performance measures based on secondary data, as shown in Table 2c, channel tracking is not a statistically significant predictor of change in firm sales ($b = .08$) nor of change in market

share ($b = .10$). Hypothesis 3b predicted a mediated effect of channel tracking on firm performance through market coverage. The path from channel tracking capability to market coverage is statistically significant ($b = .44, p < .01$, Table 2b) and so is the path from market coverage to managerially assessed performance ($b = .20$, $p < .05$, Table 2c). While evidence of a mediation is provided by structural equation-based methods, we further strengthen these results through a procedure to test for the *significance* of the indirect effect (see Appendix B for additional details). The results presented in Table 3 suggest a significant mediated effect of channel tracking capability on assessed performance ($z = 2.13, p < .05$), as well as on change in sales ($z = -1.88, p < .05$.). We conclude that Hypothesis 3b is supported for managerially assessed firm performance.

Hypothesis 4a predicted that reward alignment capability would positively influence managerially assessed and objective indicators of firm performance. As shown in Table 2c, this prediction is supported ($b = .47, p < .01$) for managerially assessed firm performance, as well as for change in market share ($b = .18$, $p < .05$); the effect on change in sales ($b = .13$) is significant at the $p = .1$ level. Hypothesis 4b predicted a mediated effect of reward alignment capability on firm performance through market coverage. The path from reward alignment capability to market coverage is significant ($b = .21$, $p < .01$, Table 2b), and as in Hypothesis 3b, so is the path from market coverage to managerially assessed performance ($b = .20$, $p < .05$, Table 2c), again suggesting a mediated effect. As Table 3 indicates, the mediated effect of reward alignment capability on firm performance through market coverage is statistically significant for assessed performance ($z = 1.89, p < .05$).

Hypothesis 5a predicted a positive effect of channel tracking capability on service delivery; this hypothesis is supported ($b = .23$, $p < .01$, Table 2b). Hypothesis 5b predicted a mediated effect of channel tracking capability on service delivery through market coverage. This is not supported as the effect of coverage on service delivery is not statistically significant ($b = .08$, Table 2b). Hypothesis 6a predicted a positive effect of reward alignment capability on service delivery; this hypothesis is supported ($b = .23, p < .01$, Table 2b). Hypothesis 6b, a mediated effect of reward alignment capability on service delivery through market coverage, was not supported as the effect of coverage on service delivery is not statistically significant ($b = .08$, Table 2b).

Hypothesis 7a predicted that channel tracking and reward alignment would in combination positively influence firm performance. Given that this requires testing for an interaction between these two latent variables, we created a new latent variable for the interaction term that involved product terms for all pair-wise combinations of indicators for the predictor and moderator variables (Chin, 1998). Results in Table 2c show that the combined variable is a statistically significant predictor for neither managerially assessed firm performance ($b = 0$), change in sales ($b = .12$), nor change in share ($b = .14$). Hypothesis 7b predicted that channel tracking and reward alignment in combination would affect firm performance through market coverage; this mediated moderation effect is not supported, however, as the combined variable is not a statistically significant predictor of market coverage ($b = -.02$, Table 2b).

Table 3: Effects of channel alignment capabilities on performance as mediated by market coverage.

	Independent Variable	Path from IV to Mediator (a)	Path from Mediator to Dependent Variable (b)		$a \times b$	z: Significance of $a \times b$
			Variable	Estimate		
All firms	Channel tracking capability	.44	Service delivery	.08	.035	.96
All firms	Reward alignment capability	.21	Service delivery	.08	.017	.96
All firms	Channel tracking capability	.44	Managerial assessment	.20	.088	2.13**
			Change in sales	−.18	−.08	−1.88**
			Change in market share	−.15	−.07	−1.59
All firms	Reward alignment capability	.210	Managerial assessment	.20	.042	1.89**
			Change in sales	−.17	−.036	−1.72*
			Change in market share	−.15	−.032	−1.51
High MCD complexity	Channel tracking capability	.38	Service delivery	.19	.072	2.26**
High MCD complexity	Reward alignment capability	.20	Service delivery	.19	.038	2.08**
High MCD complexity	Channel tracking capability	.38	Managerial assessment	.02	.008	.38
			Change in sales	−.24	−.091	−2.88**
			Change in market share	−.20	−.076	−2.49**
High MCD complexity	Reward alignment capability	.20	Managerial assessment	.02	.004	.38
			Change in sales	−.24	−.048	−2.49**
			Change in market share	−.20	−.04	−2.42**
Low MCD complexity	Channel tracking capability	.45	Service delivery	−.05	−.023	−.53
Low MCD complexity	Reward alignment capability	.25	Service delivery	−.05	−.13	−.53
Low MCD complexity	Channel tracking capability	.45	Managerial assessment	.37	.17	3.47**
			Change in sales	−.08	−.036	−.91
			Change in market share	−.07	−.032	−.75
Low MCD complexity	Reward alignment capability	.25	Managerial assessment	.37	.093	2.78**
			Change in sales	−.08	−.020	−.91
			Change in market share	−.07	−.018	−.76

**Significant at $p < .05$; *significant at $p < .10$.

Hypotheses 8 through 10 predicted MCD complexity would moderate the direct and indirect effects of channel alignment capabilities on firm performance. We employ multiple groups analysis in order to test these hypotheses. We split our sample based on high ($n = 79$) versus low ($n = 100$) MCD complexity and compared coefficients for each group to test for significant differences; such differences would indicate significant moderation.

Hypothesis 8a predicted that MCD complexity would moderate the direct effect of channel tracking capability on firm performance. An examination of Table 2c shows that channel tracking capability is a positive predictor of firm performance for high MCD complexity ($b = .22$, $p < .01$), while it is a negative predictor of managerially assessed firm performance for low MCD complexity ($b = -.16$, $p < .05$). There is a significant difference between these two coefficients ($t = -3.36$, $p < .01$), suggesting that the effect is indeed moderated by MCD complexity. For the objective indicators of performance, Table 2c shows that channel tracking capability estimates for high MCD complexity are statistically significant for both change in sales ($b = .14$, $p < .10$) and change in market share ($b = .25$, $p < .05$), while channel tracking capability does not influence either performance indicator to a statistically significant extent for the low MCD group, again indicating moderation. As such, Hypothesis 8a is supported for all three performance indicators, assessed firm performance, change in sales, and change in market share. In Hypothesis 8b, we predicted that MCD complexity would moderate the indirect effect of channel tracking capability on firm performance through market coverage. According to Table 2b, channel tracking capability is a significant predictor of market coverage for both high MCD firms ($b = .38$, $p < .01$), and low MCD firms ($b = .45$, $p < .01$), but the difference between high and low is not statistically significant. On the other hand, as shown in Table 2c, the effects of market coverage on managerial performance assessments differ significantly between high and low MCD complexity firms ($t = 2.8$; $p < .01$), and while the effects of market coverage on the objective performance indicators for high complexity firms are significant, the results for low complexity firms are not. These differences in combination with the effects of channel tracking capabilities on market coverage indicate support for a moderated mediational effect on managerial assessment of performance. Additionally, Table 3 shows that while there is not a significant mediated effect of channel tracking on firm performance for high complexity firms ($z = .38$), there is one for low complexity firms ($z = 3.47$, $p < .05$). This suggests that the indirect effect is indeed moderated by MCD complexity; Hypothesis 8b is partially supported.

Hypothesis 9a predicted that MCD complexity would moderate the direct effect of reward alignment capability on firm performance. As reported in Table 2c, reward alignment capability is a significant predictor of managerially assessed firm performance for both high MCD complexity firms ($b = .52$, $p < .01$), and low MCD complexity firms ($b = .49$, $p < .01$). For the objective performance indicators, Table 2c shows that the effects of reward alignment capabilities differ significantly between high and low MCD complexity for both change in sales ($t = 3.91$; $p < .01$) and change in market share ($t = 4.21$; $p < .01$). These results suggest partial support for Hypothesis 9a. Hypothesis 9b predicted that MCD

complexity would moderate the indirect effect of reward alignment capability on firm performance through market coverage. Reward alignment capability is a significant predictor of market coverage for both high MCD complexity ($b = .20$, $p < .01$, Table 2b), and low MCD complexity ($b = .25$, $p < .01$, Table 2b); however, there is no statistical difference between the two coefficients. As above, for Hypothesis 8b the effects of market coverage on managerial performance assessments differs significantly between high and low MCD complexity ($t = 2.8$; $p < .01$), the effects of market coverage on the objective performance indicators for high complexity firms are significant, while the results for low complexity firms are not. As shown in Table 3, there is no significant mediated effect on assessed performance for high complexity firms ($z = .38$), but there is change in sales ($z = -2.49$, $p < .05$) and change in share ($z = -2.42$, $p < .05$). Meanwhile, there is a significant mediated effect on assessed performance for low complexity firms ($z = 2.78$, $p < .05$), but not for change in sales or share. These mixed results suggest partial support for Hypothesis 9b.

Hypothesis 10a predicted that MCD complexity would moderate the combinative direct effects of channel tracking and reward alignment capabilities on firm performance. As shown in Table 2c, the combinative effects are not significant and do not differ between high and low complexity firms for managerial assessments. However, there is a statistically significant difference in the combinative effects for both change in sales ($z = -1.82$, $p < .10$, and change in share ($z = -1.95$, $p < .10$). In both cases, the combined capabilities are effective for high MCD firms, but not for low MCD firms. These results suggest partial support for Hypothesis 10a. Hypothesis 10b predicted indirect combinative effects of channel tracking and reward alignment capabilities on firm performance through market coverage. As from the other market coverage mediated relationships, the effects of market coverage on managerial performance assessments varies to a statistically significant extent by high versus low MCD complexity; however, the effects on change in sales and change in market share do not. The combined latent variable, as shown in Table 2b, is not a significant predictor of market coverage for high complexity firms ($b = -.04$, $p > 0.5$), while it is significant for low complexity firms ($b = .13$, $p < .10$), and this difference is significant ($t = -1.95$; $p < .05$). These results suggest partial support for Hypothesis 10b.

Turning to control variables, for all firms together, as supplier dependence increases, market coverage decreases ($b = -.18$, $p < .01$, Table 2b). Apparently suppliers who feel dependent on a few important retailers are likely to feel that their market coverage is not satisfactory. Firm size significantly relates to change in sales ($b = .22$, $p < .01$, Table 2c) and change in market share ($b = .21$, $p < .01$, Table 2c). In the high MCD versus low MCD comparisons, for market coverage and service delivery as shown in Table 2b, supplier dependence and firm size had more impact in low MCD complexity firms. For the performance indicators shown in Table 2c, both supplier dependence and firms size relate to managerial assessments in the high MCD complexity group but not the low MCD complexity group. Firm size relates to change in sales and change in market share for both high and low MCD complexity groups, while supplier dependence does not relate any group.

DISCUSSION

Channel intermediaries have long been seen as an important resource for maximizing downstream market coverage and service delivery. Integrating this portfolio through MCD strategies is becoming an increasingly imperative means to this end. In this study, a mail survey of managers responsible for MCD decisions was linked to secondary data in order to examine the antecedents and consequences of tracking and reward alignment capabilities as understood by managers and as reflected in marketplace performance. In particular, we found that investments in IT enhanced alignment capability, while environmental uncertainty diminished it. In turn, these channel alignment capabilities were significant predictors of firm performance, both as reported by our informants and as extracted from our secondary data. This effect occurred both directly, and through expanded market coverage, which is a key strategic benefit of MCD. The central contribution of this research is to suggest that alignment capabilities allow a supplier to reap this benefit and boost downstream service delivery while maintaining strong relationships with current channel partners, assuring their full participation in service and support functions for all downstream markets.

Importantly, we also found that MCD complexity moderated these relationships. In this setting, virtually every firm pursues a MCD strategy of some sort, but firms varied in the intensity with which these strategies were pursued (e.g., Lee & Grewal, 2004). Our findings suggest that as a firm's distribution channels multiply, the number of relationships becomes increasingly difficult to monitor. Thus, complexity decreased the mediated effect of channel tracking on firm performance through market coverage. However, despite this decreased mediated efficacy, we found that the direct effect of channel tracking capability increases in importance as complexity increases. This demonstrates the criticality of channel tracking capability, and supports our use of agency theory to argue that incomplete information is a key challenge for MCD strategy implementation.

It is also interesting to note the positive interaction between our two key independent variables. There is some support for the expectation that the metering effects of channel tracking and the incentive effects of reward alignment together will be especially effective. We found that the combinative effects were particularly important for firms following high-complexity strategies; while each capability on its own attenuates alignment problems, they must be deployed in combination for optimum results.

Implications

The key question driving this research was how firms can successfully leverage their portfolio of channels resources for competitive advantage. In answering this question, we make a number of important theoretical and managerial contributions. First, we show that effectively managing agency relationships in an MCD setting is critical for ensuring strategic and performance outcomes. The more time and effort—site visits, phone conversations, trade show encounters—that sales managers and their representatives invest in monitoring intermediary activities, the more attenuated the effects of incomplete information become. These visits, conversations, etc., represent critical channel tracking capability components. As

managers develop their tracking capability, the firm's ability to integrate its portfolio of channels improves, and the more successful the MCD strategies become. Important strategic outcomes include enhanced market coverage and service delivery, along with, ultimately, improved firm performance.

We also show some circumstances under which MCD implementation would be inadvisable. In particular, where perceived environmental uncertainty is high, management's key control and reward capabilities are degraded, thereby mitigating the potential MCD benefits of service delivery and market coverage. However, should managers decide to implement MCD, prospects for success can be enhanced through investment in information technology solutions, which, according to our analyses, clearly aided both monitoring and reward capabilities.

As it has been argued in the literature, capabilities theories have little relevance unless operationalized (Escrig-Tena & Bou-Llusar, 2005). We develop and operationalize two new constructs: channel tracking capability and reward alignment capability. We show that suppliers with superior levels of these capabilities are better able to align the efforts and outcomes of intermediaries for more effective MCD strategy implementation. This represents an important managerial contribution as well, because like all capabilities, channel tracking and reward alignment can be developed (Eisenhardt & Martin, 2000).

The operationalization of reward alignment activities suggest that managers must listen closely to their downstream intermediaries concerning the profitability of their brands relative to the competing alternatives. Dealers must be able to cover the expenses they incur during service delivery activities. Our results suggest that managers must continue to implement a variety of programs to ensure that their product lines remain as profitable as competitive alternatives, and keep open lines of communication as to which programs are working and which are not. Managers should implement programs such as joint promotions, better dealer service, differential access to products, retail price maintenance agreements, sales incentives, and cooperative advertising.

Our operationalization of channel tracking activities likewise suggested specific steps suppliers can undertake to improve their monitoring abilities. By illustrating the role of combined channel alignment capabilities, this study suggests managerially actionable procedures and organizational routines for mitigating the potentially destructive effects of MCD strategies on a firm's relationships with its existing channel members. Our results show that managers should employ formal programs for information sharing among sales representatives and between representatives and management, frequent store visits and training sessions, market research, and other customer linking activities.

This research answers calls in the literature for more research on intrabrand and intrachannel conflict where multiple channels of distribution are deployed (Rangaswamy & Van Bruggen, 2005). MCD strategies may come to be viewed by channel intermediaries as destructive acts, because they threaten previous channel relationships (Hibbard et al., 2001). Again, the monitoring and reward activities operationalized suggest steps that managers can take to lessen the destructive impact of MCD implementation. Intermediaries remain engaged in channel activities enhancing service delivery and market coverage when they feel that, even in the presence of competition from new channels, a supplier's brand is still more

profitable than alternatives. Managers of supplying companies should reduce this conflict by ensuring that downstream intermediaries have sufficient margin to support service delivery activities.

In response to customer needs, competitive imperatives, and technological forces, MCD is becoming an increasingly common part of this overall channel management strategy. Agency theory shows us that as MCD strategies proliferate so do channel alignment problems. Unfortunately, existing downstream channel members that already provide a high level of services are at risk of free-riding as alternative channels multiply. These channel members face a bleak choice: decrease services provided or exit. Neither of these outcomes is congruent with supplier goals, because the service delivery functions contributed by the channel member will be lost, and research suggests that these activities can significantly contribute to customer satisfaction and loyalty in MCD settings (Wallace et al., 2004). Our research has shown that managers can boost their firm's market coverage, service delivery performance, and profitability through MCD strategies, but that these benefits come at the risk of serious agency problems. Managers can ameliorate these problems through developing their firm's channel tracking and reward alignment capabilities as operationalized in our study.

Limitations and Conclusions

While our results should generalize reasonably well to many other industries that, like this one, are structured with manufacturers/suppliers selling to distributors or retailers and then on to the end customer, future research might fruitfully duplicate this study across multiple industries. In addition, this was a cross-sectional survey and as such, inferences regarding the direction of causality should be treated with caution. Ideally, a future study would track MCD implementation over time, from inception to the development of channel alignment capabilities, and on through performance outcomes.

Other future research might study the long-term ramifications of MCD strategies. As this research has suggested, superior performance is not a certain result. Lee and Grewal (2004) found that Internet sales channel adoption does not have a direct effect on firm performance. Geyskins et al. (2002) found that where manufacturer channel power and public relations efforts are high, adding an Internet channel produces superior returns. This research has suggested that superior performance in an MCD setting is contingent on channel alignment capabilities. This leads to the question: what other as yet unresearched variables moderate the relationship between multichannel strategies and firm performance and account for these varying results?

In conclusion, MCD has become a strategic imperative across industry. However, these strategies provoke serious challenges for existing channel relationships that threaten to overwhelm their strategic or competitive benefits. Drawing on agency theory, we suggest that channel alignment problems occur in the form of incomplete information and goal incongruence. In the study, channel alignment capabilities were shown to be effective at tracking and aligning the efforts and outcomes of channel intermediaries. Important consequences result, including enhanced market coverage, and firm performance. Finally, these results are matched

to secondary data purchased from a market research firm, demonstrating the efficacy of channel alignment capabilities in a real-world channel context. [Received: March 2006. Accepted: June 2009.]

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APPENDIX A: MEASURES USED IN THE STUDY

IT Enablement (Scale anchors 1 = Disagree, 7 = Agree);
Construct reliability = .94; average variance extracted = .71; range of loadings .75–.90
Your firm currently:
Has strong IT–planning capabilities.
Has strong technical support staff.
Has an understanding of possible benefits of IT applications.
Has adequate knowledge about information technology.
Has adequate IT–infrastructure capabilities.
Has skills to integrate the various IT components.
Has a reliable and state-of-the-art order-processing system.

Environmental Uncertainty Semantic Differential Scale Range 1–7
Construct reliability = .89; average variance extracted = .50; range of loadings .59–.82

Growing market demand/shrinking market demand
Stable market shares/unstable market shares
Easy to monitor trends/difficult to monitor trends
Stable industry volume/unstable industry volume
Certain that selling efforts will pay off/uncertain whether selling efforts will pay off
Sales forecasts are likely to be accurate/sales forecasts are likely to be inaccurate
Sufficient information for marketing decisions/insufficient information for marketing decisions
Confident of results of marketing actions/unsure of the results of marketing actions

Channel Tracking Capabilities (Scale anchors 1 = Strongly disagree, 7 = Strongly agree)
Construct reliability = .94; average variance extracted = .57; range of loadings .70–.85;
Process Tracking
Potential dealers must demonstrate that they can offer convenient access to our products.
We carefully evaluate potential dealers for their ability to represent our brand effectively.
We regularly visit dealers to ensure that their personnel understand all our product offerings.
We track the time and effort our dealers commit to educating their employees about how to sell our products.
We have procedures for evaluating the ongoing effectiveness of our dealers in servicing their customers.
We closely monitor the training level and product knowledge of our dealer's salespeople.

Output Tracking
We have procedures for finding out if customers are dissatisfied with a particular dealer.
We gather information from end customers in order to evaluate whether our dealers have serviced them properly.
We monitor whether customers are able to acquire sufficient information about our products from our dealer network.
We provide feedback to our dealers about how to improve the services they provide.
We regularly monitor how effectively stores, catalogs, and Web sites represent our products to the end customer.
We evaluate the services provided by our downstream channel dealers according to specific performance standards.

Reward Alignment Capabilities (Scale anchors 1 = Disagree 7 = Agree)
Construct reliability = .91; average variance extracted = .66; range of loadings .76–.86;

Our retail dealers find our product line to be profitable even given competition from Web sites and catalogs.
Our dealers find our product line to be profitable despite expenses incurred for employee training, inventory carrying costs, etc.
Despite competition from other channels, our dealers continue to support our product line because it is profitable for them.
Although supporting services like employee training and providing a broad selection are expensive, our dealers are able to recover these expenses upon making a sale.
Despite expenses incurred providing services and competition from other channels, our product line is profitable for our dealers.

Firm Performance (Scale anchors 1 = Very low, 7 = Very high)
Construct reliability = .93; average variance extracted = .72; range of loadings .79–.88
Profitability relative to expectations.
Sales volume relative to expectations.
ROI relative to expectations.
Profits relative to competitors.
Market share of main products relative to expectations.
Sales growth relative to expectations.

Service Delivery
Respondents rated the likelihood customers could find each service in the dealer network (Scale anchors 1 = Not at all likely, 7 = Very likely), and the importance of each service (Scale anchors 1 = Disagree, 7 = Agree). These scores were then multiplied and summed to create a single item measure; hence no reliabilities are reported.
How likely is it that potential customers can find the following through your dealer network?
Sufficient product information
Breadth of selection
Convenient access
Immediate delivery

Market Coverage (Scale anchors 1 = Strongly agree, 7 = Strongly disagree)
Construct reliability = .92; average variance extracted = .67; range of loadings .79–.88
We do a good job of reaching all the end customers who might want our products.
We fully penetrate all of our target segments.
A customer who wanted to purchase one of our products would not have a hard time finding it somewhere.
It is unlikely that a potential customer would have a hard time finding our products.
Our channels reach every customer likely to be interested in our products.
Every potential customer can get access to our product line through our channel system.

Multiple Channel Distribution Complexity
This measure consists of the number of checked boxes. No reliabilities are reported.

COMPANY OWNED		INDEPENDENT		MULTICHANNEL MERCHANTS	
Stores	☐	Stores	☐	Stores	☐
Web Sites	☐	Web Sites	☐	Web Sites	☐
Catalogs	☐	Catalogs	☐	Catalogs	☐

Supplier Dependence (Scale anchors 1 = Agree, 7 = Disagree)
Construct reliability = .89; average variance extracted = .67; range of loadings .66–.87
We are dependent on our major dealer.
Our major dealer would be difficult to replace.
Our major dealer would be costly to lose.
We do the majority of our business with a few key dealers.

APPENDIX B: PLS MODEL

To test hypotheses H1, H2, H3a, H4a, H5a, and H6a, a PLS structural model was estimated using the complete data set. H8, H9, and H10 predict that the main effects of channel tracking and reward alignment are moderated by MCD complexity. The dataset was split into two groups based on MCD complexity; firms above median were considered high complexity, while those below median were considered low complexity. We then performed multiple group analysis; we computed *t*-tests to establish significant differences in path coefficients across the groups, thereby testing for moderation.

Hypotheses 3b, 4b, 5b, 6b, 7b, 8b, 9b, and 10b predict that the separate and combined effects of channel alignment capabilities on firm performance and service delivery will be mediated by market coverage. We test for the significance of these effects following a procedure described by MacKinnon, Warsi, and Dwyer (1995). We cross-multiply the coefficient of the path from the independent variable (channel tracking) to the mediator (market coverage), with the coefficient of the path from the mediator to the dependent variable (firm performance). This cross-product is then divided by its standard error using the formula supplied by Goodman (1960):

$$z = \frac{a * b}{\sqrt{b^2 * s_a^2 + a^2 * s_b^2 + s_a^2 * s_b^2}},$$

where a is the coefficient for the channel tracking → market coverage path, b is the coefficient for the market coverage → firm performance path, and s_a and s_b are the standard errors of a and b.

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