

Why Do Firms Use Dual Channel Systems?

ABSTRACT

An important topic in marketing channel research is channel design decision. Early studies on this topic have assumed that a firm chooses either the direct channel or the indirect channel systems. But, as the third type of channel system, recent studies start considering the dual channel system, which can be defined as a simultaneous use of both direct and indirect channels of distribution for the same product line.

When examining the reason that a firm use the dual channel system rather than either the direct or indirect channel systems, previous studies have relied upon transaction cost theory. However, there is a limitation in these studies. These studies have focused only on cost savings. They have neglected the fact that firms consider not only cost savings, but also value creation when making decisions about channel design. If firms choose the dual channel system, they can utilize distributors' resources through indirect channels and, at the same time, leverage its own resources through direct channels.

Thus, in this study, resource-based theory is employed to emphasize on the value creation of the dual channel system. Moreover, we extend the theory by including not only vertical resource heterogeneity, but also horizontal resource heterogeneity in its framework. In other words, this study constructs a framework describing that channel design decisions are made based on two kinds of resource heterogeneity, i.e., vertical heterogeneity (heterogeneity between the focal manufacturer and distributors) and horizontal heterogeneity (heterogeneity between the manufacturer and its rival manufacturers). Based on the extended framework, hypotheses are proposed regarding the interaction effects between vertical and horizontal heterogeneity.

Primary data is collected through a mail survey of Japanese B2B manufacturers and used to test the hypotheses. The results show that given that there are competent distributors, a manufacturer chooses the dual channel system if it has a strong information resource or if it has a weak reputation.

This study makes an important advance by suggesting that manufacturers use the dual channel systems to utilize other firms' resources and, at the same time, leverage their own resources. In addition, this study contributes to resource-based theory by extending its framework and applying it to channel design decisions.

KEY WORDS

Marketing channels, channel design, B2B manufacturers, resource-based theory

INTRODUCTION AND OBJECTIVES

Channels of distribution are becoming increasingly complex. In business-to-consumer settings, manufacturers typically use not only traditional merchandisers but also manufacturer-owned stores to sell products (Moriarty and Moran, 1990; Cespedes and Corey, 1990). Similarly, in business-to-business settings, many manufacturers deal directly with end users while also using traditional wholesale distributors to sell products (Sa Vinhas and Anderson, 2005). In this way, manufacturers in the various industries often rely on the simultaneous use of both integrated and independent channels of distribution for the same product line. Such systems are referred to as dual channel systems.

As adopting dual channel systems becomes more common, marketing channel researchers have become increasingly interested in why manufacturers use these systems. Previous studies of the antecedents of dual channels have relied upon transaction cost theory (e.g., Dutta, Bergen, Heide, and John, 1995; Kabadayi, 2011). In one instance, researchers argued that manufacturers choose dual channel systems when asset specificity is high. Using dual channel systems, manufacturers can make it clear to independent distributors that they (the manufacturers) are able to replace the independent distributors if necessary. Such a signal prevents opportunistic behavior on the part of distributors. Thus, manufacturers can reduce transaction costs associated with distributors' opportunistic behavior by choosing dual channels instead of only independent channels.

Although previous studies have contributed greatly to the understanding of dual channel systems, they have been limited in at least one important respect: they have focused only on the aspect of cost savings when evaluating the impetus for choosing dual channel systems. However, manufacturers often also consider value creation when making decisions about channel design (e.g., Barney, 1999; Rosenbloom, 2012). More specifically, manufacturers may choose a dual channel system because it allows them to utilize distributors' resources through independent channels while also leveraging their own resources through integrated channels. To improve our understanding of dual channel systems, it is important to examine their antecedents from different points of view (Mols, 2000). Doing so from the perspective of value creation is important for advancing research on channel management.

To overcome the limitations of previous studies, this study adopts resource-based theory (Argyres, 1996; Barney, 1999). Compared with transaction cost theory, the most distinctive feature of resource-based theory is that the emphasis is not on cost savings but, rather, on the creation of value through holding and leveraging resources. Thus, unlike previous approaches, resource-based theory provides an appropriate framework for examining the drivers of the use of dual channel systems while taking into account value creation.

Therefore, this study theoretically and empirically examines the antecedents of dual channels, relying on resource-based theory. In addition, this study extends the framework of

resource-based theory by including not only vertical resource heterogeneity but also horizontal resource heterogeneity. In other words, this study argues that channel design decisions are made based on resource heterogeneity between the focal manufacturer and distributors (i.e., vertical heterogeneity), and between the manufacturer and its rival manufacturers (i.e., horizontal heterogeneity). Thus, this study will contribute not only to research on marketing channels but also to research on resource-based theory.

LITERATURE REVIEW

The channel design decision is an important topic in marketing channel research. Early studies on this topic have assumed that a firm chooses either integrated or independent channels (e.g., Aspinwall, 1962; Bucklin, 1966; Anderson, 1985). Although these studies on single channel choices have provided interesting findings, not many manufacturers use only integrated or independent channels. In the real world, many manufacturers rely on both integrated and independent channels, which means they have dual channels of distribution. According to Sa Vinhas and Anderson (2005), more than half of the sample firms use dual channels. In fact, the use of dual channel strategies has now become the rule rather than the exception (Frazier, 1999).

Several studies on marketing channels have identified the antecedents of dual channel use (e.g., Dutta, *et al.*, 1995; Mols, 2000; Kabadayi, 2011). Most of these studies have employed transaction cost theory (Coase, 1937; Williamson, 1975), and thus focused on cost savings. A set of empirical studies have found that asset specificity, behavioral uncertainty, and environmental uncertainty have positive impacts on the use of dual channels (e.g., Dutta, *et al.*, 1995; Kabadayi, 2008; 2011). For example, Kabadayi (2011) showed that when asset specificity and/or uncertainty were high, manufacturers could minimize transaction costs using not only independent channels but also integrated channels. This finding implies that adding integrated channels to an independent channel system provides a safeguard against distributors' opportunistic behavior.

While the transaction cost analysis has improved the understanding of the choice of dual channels in terms of cost savings, it has neglected the fact that firms consider not only cost savings but also value creation when making decisions about channel design (e.g., Barney, 1999; Rosenbloom, 2012). Several researchers regard resource-based theory as a suitable perspective for emphasizing value creation (e.g., Gulbrandsen, Sandvik, and Haugland, 2009). Resource-based theory (Argyres, 1996; Barney, 1999) focuses on organizational resources and capabilities as the determinants of the make-or-buy decision. It underscores value creation that results from holding and leveraging strategic resources/capabilities (Barney, 1991). According to Kozlenkova, Samaha, and Palmatier (2014), more and more marketing scholars have evaluated resource-based theory as an important framework for describing firm boundary and performance.

In the area of marketing channels, some recent studies on export channel selection have employed resource-based theory (Li, He, Sousa, 2017). For example, Fernández-Olmos and Díez-Vial (2015) showed that human resources and firm size influence the use of either direct or indirect exporting, i.e., integrated or independent channels. In addition, He, Brouthers, and Filatotchev (2013) investigated the impacts of market orientation capability on the use of export channel selection. However, these studies restricted the sample to firms that used only a single channel. Although these studies found that some firms used dual channels, they excluded these firms in their observations.

In summary, there is a gap in the channel literature. On one hand, dual channel research has overlooked value creation by employing transaction cost theory. On the other hand, marketing channel studies using resource-based theory have focused on single channel choices. To address this gap in the channel literature, this study develops hypotheses regarding the antecedents of dual channel use based on resource-based theory.

HYPOTHESES

According to resource-based theory, firms use integrated channels if they have stronger resources than potential distributors and independent channels if they have weaker resources (e.g., Argyres, 1996; Barney, 1999). Therefore, marketing channel scholars have argued that channel design decisions are made by considering resource differences between a manufacturer and its distributors (i.e., vertical heterogeneity). However, firms may also consider resource differences between themselves as manufacturers and rival manufacturers (i.e., horizontal heterogeneity) when making channel design decisions. Thus, when developing hypotheses, this study takes into account both types of heterogeneity.

Resource-based theory posits that, in cases where potential distributors perform distribution activities better than the manufacturer, the manufacturer outsources these activities to distributors. This is because firms with high competence can perform activities more successfully, or at a lower cost (Argyres, 1996).

However, in this case, a manufacturer with stronger information resources than its rival manufacturers uses not only independent distributors but also their own channels. Information resources include useful information about customers and competitors (e.g., Morgan, Vorhies, and Schlegelmilch, 2006). When obtaining information, firms with greater existing information have higher absorptive capacities, and can acquire new information efficiently and effectively (Cohen and Levinthal, 1990). Thus, for manufacturers with stronger information resources than rival manufacturers, using integrated channels and obtaining information directly is an effective strategy. On the other hand, for manufacturers with weaker information resources than rival manufacturers, using integrated channels is not an effective strategy because they do not have the ability to acquire information successfully. Therefore, the following hypothesis is proposed:

H1: In cases where distributor competence is high, if a manufacturer's information resources are stronger than those of rival manufacturers, the manufacturer chooses a dual channel system.

In cases such as the above, where a manufacturer outsources distribution activities to distributors, a manufacturer with a better reputation than rival manufacturers should use not only independent distributors but also its own channels. Reputation refers to favorable perceptions that customers and channel members have for a firm (Srivastava, Shervani, and Fahey, 1998). For manufacturers with strong reputations, using integrated channels that leverage their reputation is an effective strategy. On the other hand, for manufacturers with weak reputations, using integrated channels is not an effective strategy because they do not have the ability to acquire information successfully. Therefore, the following hypothesis is proposed:

H2: In cases where distributor competence is high, if a manufacturer's reputation is stronger than that of its rivals, the manufacturer chooses a dual channel system.

METHOD

Data collection

In order to test these hypotheses, primary data were collected through a mail survey of industrial manufacturing firms in Japan. These firms belong to the chemical, machine, electronics, or metal industries. The sample of potential respondents was drawn from a Tokyo Stock Exchange list. Then, 1,000 participants were each mailed a survey questionnaire, along with a cover letter and a return envelope. Two weeks after the initial mailing, reminder post cards were mailed to all participants who had not returned the questionnaire. Respondents were asked to provide information about their firm's major product line and the distribution channels for the product line. A total of 273 questionnaires were returned. The return rate of 27.3% was relatively high compared with similar studies on marketing channels (e.g., Wuyts and Geysken, 2005; Kabadayi, 2011). Of the 273 questionnaires, 34 were excluded from the final sample because (1) they were returned as refusal of responses, (2) they did not meet the criteria of key informant check, or (3) they had missing data. Therefore, there were a total of 239 usable questionnaires (usable response rate was 23.9%).

This study examined the possibility of nonresponse bias following Armstrong and Overton's (1977) procedure. Study variables were compared between early and late respondent groups. Respondents who returned the questionnaires in the first two weeks were considered to be early respondents ($N = 169$) and those who returned later to be late respondents ($N = 70$). A MANOVA analysis showed no significant differences between the two groups. Thus, nonresponse bias is unlikely to affect the results of this study.

Key informant checks

This study focused on decisions about marketing channel strategies. Thus, experienced managers were selected as key informants of this study. In addition, this study performed post hoc checks on the informants' knowledge about and experience with the company and its channels of distribution (Campbell, 1955). The results indicated that the key informants had been working for their firms for an average of 23.4 years ($SD = 9.8$), and had occupied their current positions for an average of 13.5 years ($SD = 10.2$). Furthermore, when asked to evaluate their level of knowledge about their companies' channel strategies, the respondents on average gave scores of 6.0 ($SD = 1.1$) and 5.9 ($SD = 1.3$) out of seven points, respectively. The level of knowledge and experience was sufficiently high, compared with previous studies (e.g., Kabadayi, Eyuboglu, and Thomas, 2007; Fürst, Leimbach, and Prigge, 2017). Most informants held senior positions such as Chief Executive Officer, Executive Officer, General Manager, or Section Manager. Overall, these checks confirmed the knowledge and experience of the key informants used in this study.

Common method bias

This study collected data from a single source at a specific point in time. Therefore, it is always possible that common method bias affects the findings. To determine whether common method bias was a serious issue, we performed two analyses. First, we conducted Harman's one-factor analysis. If common method bias is a serious problem, a single factor would emerge from factor analysis or one general factor would account for most of the variance. Factor analysis results showed that five factors had eigenvalues greater than one, and the first factor accounted for 20.4% of the total variance. Second, we employed Lindell and Whitney's (2001) marker variable analysis. The second-smallest correlation was used among the study variables to calculate the common method bias-adjusted correlation matrix. A comparison between original and the common method bias-adjusted correlations showed that the pattern of significant and nonsignificant correlations remained the same after adjustment. In sum, the results of these analyses revealed no indication of serious common method bias.

Measures

Measures of all constructs were developed based on the existing literature and pre-interviews. To measure the dependent variable, that is *channel type*, informants were asked to report the percentage of sales through integrated channels. Then, three categories were created based on the percentage. If the percentage was more than 95%, the manufacturer was considered to use integrated channels and coded "2". If the percentage was less than 5%, the manufacturer was considered to use independent channels and coded "0". If the percentage was between 5% and 95%, the manufacturer was considered to use a dual channel system and coded "1".

Most items for independent variables were scored using a seven-point scale. The two-item measure for *information resource* captures the degree to which manufactures had information about the demands of end users and the behavior of rival firms. This measure was based on Morgan, *et al.* (2006). The two-item measure for *reputation* reflects the degree to which manufactures or their products were highly evaluated by end users; this measure was based on Weiss, *et al.* (1999). The three items for *distributor competence* capture the degree to which there are competent distributors for performing distribution activities; this measure was adopted from Takata (2013).

This study controlled for three other variables thought to have a possible influence on the results. In particular, firm size, market heterogeneity, and product standardization were included in the model. *Firm size* was measured based on the annual reports of each firm and operationalized as annual sales (e.g., Dutta, *et al.*, 1995). This factor was controlled for because previous studies have implied that large firms tend to use dual channels. *Market heterogeneity* and *product standardization* were adopted from Sa Vinhas and Anderson (2005). They suggested that market heterogeneity has positive impacts and that product standardization has negative impacts on the use of dual channels.

This study assessed the measurement reliability, convergent validity, and discriminant validity and conducted a confirmatory factor analysis. The results indicated good model fit ($\chi^2 = 34.91$ [d.f. = 29, $p > 0.10$], $\chi^2 / \text{d.f.} = 1.20$, GFI = 0.97, CFI = 0.99, RMSEA = 0.03, TLI = 0.99). To check the measurement reliability, composite reliability (CR) and Cronbach's alpha were calculated (Bagozzi and Yi, 1988). Both reliability assessments indicated good reliability, with values ranging from 0.66 to 0.79 for CR and from 0.64 to 0.90 for Cronbach's alpha. In addition, the results of the confirmatory factor analysis showed that all the observable items loaded significantly on their intended factors. This implies convergent validity among the items of each scale. Furthermore, the average variances explained (AVE) was calculated to confirm the discriminant validity. Each AVE for all constructs was greater than its respective squared inter-construct correlation (Fornell and Lacker, 1981). The results of these analyses supported measurement reliability, convergent validity, and discriminant validity.

RESULTS

Table 1 shows the results of multinomial logistic regression. The results showed that, on the one hand, distributor competence influences whether a manufacturer uses integrated channels or dual channels ($\beta_1 = 0.78$, $p < 0.01$). On the other hand, the interaction terms (DCM \times INF, DCM \times REP) influence whether a manufacturer uses independent channels or dual channels. Thus, this suggest that channel design decisions are made based on a decision tree. In other words, manufacturers initially consider vertical resource heterogeneity in

deciding whether to adopt only integrated channels or a dual channel system, but also take into account horizontal resource heterogeneity.

The results showed that the coefficient of the interaction term between distributor competence and information resources was positive and significant ($\beta_4 = 0.37, p < 0.10$). Thus, H1 was supported. In other words, when the distributor competence is high, manufacturers' information resources have a positive influence on the use of dual channels. Therefore, when there are competent distributors, manufacturers with strong information resources should choose dual channel systems because they can access distributors' capabilities while also leveraging their own resources.

Insert Table 1 around here

The coefficient of the interaction term between distributor competence and reputation was negative and significant ($\beta_5 = -0.74, p < 0.05$). Thus, H2 was not supported. This implied that when distributor competence is high, a manufacturer's reputation has a negative influence on the use of dual channels. In other words, this suggests that manufacturers with "weak" reputations should use integrated channels to "build" their reputations.

To gain a better understanding of the interaction effects, a simple slope analysis was conducted. Figure 1 on the left side shows a simple slope of information resource on the use of dual channels for high and low distributor competence. This figure shows that when distributor competence is high, manufacturers with high information resources are likely to choose dual channel systems. Figure 1 on the right side shows a simple slope of reputation on the use of dual channels for high and low distributor competence. This figure shows that when distributor competence is high, manufacturers with high reputation are not likely to choose dual channel systems; however, manufacturers with low reputations are likely to choose dual channels. The additional analysis of the interactions facilitated a clearer hypothesis testing.

Insert Figure 1 around here

DISCUSSION

Previous studies have relied on transaction cost theory and focused on cost savings when examining antecedents of the use of dual channels. However, manufacturers often make decisions about channel design to achieve superior value creation. Thus, this study focused on the aspect of value creation and identified new antecedents for the use of dual channels. Specifically, the author adopted resource-based theory and found that manufacturers in the various industries used dual channel systems to access other firms' distribution competence while also leveraging their own information resources.

In contrast, when distributor competence was high, a manufacturer's reputation had a negative influence on the use of dual channels. This finding implies that manufacturers with weak reputations should use integrated channels. Such a decision may be explained from an entrepreneurship perspective, not from a resource-based perspective. It would be an important attempt to identify which resources have positive or negative impacts on the use of dual channels.

In addition, previous studies have assumed that manufactures make channel design decisions considering only vertical resource heterogeneity. However, it has been suggested that manufacturers use their marketing channels to gain an advantage over their rival manufacturers. Thus, this study incorporates not only vertical resource heterogeneity but also horizontal resource heterogeneity into the framework of resource-based theory. By considering these two types of resource heterogeneity, this study extends resource-based theory and applies the extended theory to marketing channel management.

LIMITATIONS AND FUTURE RESEARCH

This study has several limitations that offer directions for future research. First, the transaction cost factors, such as asset specificity or uncertainty, were not considered. To our knowledge, this study is the first attempt to investigate the antecedents of using dual channels while relying on resource-based theory. Therefore, the authors focused on only resource-based factors. However, future research can provide additional implications by evaluating both factors.

Second, this study focused only on specific resources or capabilities, and particularly on information resources, reputation, and distributor competence. However, there are other important resources/capabilities such as knowledge sharing and trust. Thus, future research should examine the effects of other resources or capabilities.

Third, this study did not provide performance implications. Most previous studies assumed implicitly that the fit between channel type and important variables results in higher firm performance. Several studies have empirically tested this assumption. Therefore, future research should include performance variables in the model.

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Table 1. Multinomial Logistic Regression Results

Independent variable	Dual channels vs. integrated channels	Dual channels vs. independent channels
β_1 : Distributor competence (DCM)	0.78 ^{***} (0.17)	-0.23 (0.19)
β_2 : Information resource (INF)	0.05 (0.32)	0.22 (0.37)
β_3 : Reputation (REP)	0.38 (0.41)	-0.07 (0.48)
β_4 : DCM \times INF [H ₁ (+)]	0.22 (0.22)	0.37 [*] (0.26)
β_5 : DCM \times REP [H ₂ (+)]	-0.08 (0.29)	-0.74 ^{**} (0.35)
β_6 : Firm size (log)	-0.29 ^{**} (0.11)	0.37 ^{**} (0.15)
β_7 : Market heterogeneity	0.68 ^{***} (0.17)	0.12 (0.18)
β_8 : Product standardization	0.19 (0.22)	0.12 (0.25)
β_0 : Constant	3.75 [*] (2.23)	-4.62 [*] (2.62)
Nagelkerke R^2		0.40
N		239

Note: Unstandardized coefficients are shown (standard errors in parentheses);

^{***} $p < 1\%$, ^{**} $p < 5\%$, ^{*} $p < 10\%$ (one-tailed tests for hypotheses; two-tailed tests for controls)

Figure 1. Simple Slope Analysis

