從經銷商的觀點來探討經銷商與供應商聯合行動之影響因素—以台灣汽車業爲例

Determinants of Joint Action in Distributor-Supplier Relationships: The Perspective of the Distributor in Taiwan's Automobile Industry

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摘 要：本研究探討汽車經銷商與供應商之間的聯合行動，不僅增加關係交易中行爲因素的研究，並在經濟動機的考量之外，探究策略動機對聯合行動的影響。結果發現，從經濟動機而言，經銷商的動機性投資與特殊資產愈多，對供應商的依存度也愈高，使得經銷商願意配合供應商，共同採取聯合行動，進而提升經銷商的績效；從策略動機而言，經銷商投入的特殊資產越多，市場的競爭強度越激烈，則經銷商會提供給顧客更多差異化的服務，然而爲了服務差異化，以獲取競爭優勢，就會與供應商採取聯合行動，進而提昇經營績效。

關鍵詞：聯合行動、依存度、服務差異化、汽車業

Abstract: The study is intended to explore determinants of joint action in automobile distributor-supplier relationships. It provides more research in behavioral exchange and, in addition to economizing motives, includes strategizing motives to explore their impacts on the joint action. From the economizing motives perspective, the distributor dependence increases as the distributor motivational investment and specialized investment increase. As a distributor depends more on its supplier, the joint action will increase; therefore its performance will be better improved. From the strategizing motives perspective, the distributor service differentiation increases as the distributor specialized investment and competitive intensity increase. As a distributor provides more differentiate services to customers, the joint action will increase; therefore its performance will be better improved.

Key words: joint action, dependence, service differentiation, automobile industry

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I.Introduction

Recent studies on marketing channels show an increasing propensity towards relational exchanges, for instance, trust, commitment, and long-term orientation, to name a few. Nevertheless, these researches mostly focused on attitudinal elements and few engaged in behavioral elements (Kim, 1999). It is obvious that successful relational exchange should take both attitude elements and behavioral elements into consideration (Nevin, 1995; Wilson, 1995). Consequently, the behavioral elements of relational exchange are worthy of further studies.

Joint action is one aspect of behavior elements of relational exchange. In Taiwan's automobile industry distributors often engage in joint action with suppliers in order to promote competitive ability. The obvious phenomena are seen, for instance, that they jointly collect market information, conduct customer analysis, set up sales objectives, and plan promotion programs. Needless to say, joint action will produce benefits but there also exist risks (Pilling and Zhang, 1992), for example, increasing complexities, mutual dependence, and information asymmetry causing transaction costs to increase. Because joint action needs much investment in personnel, time and money, careless failure could result in great loss. Therefore, it is necessary to understand the factors that affect a firm's taking the strategy of joint action.

On the basis of the above reasons, this study explores joint actions between distributor and supplier in Taiwan's automobile industry, to see the determinants of joint action and the impact of joint action on a distributor's performance. Suggestions are then made to distributors and suppliers for their future reference in taking joint action.

II.Research hypotheses

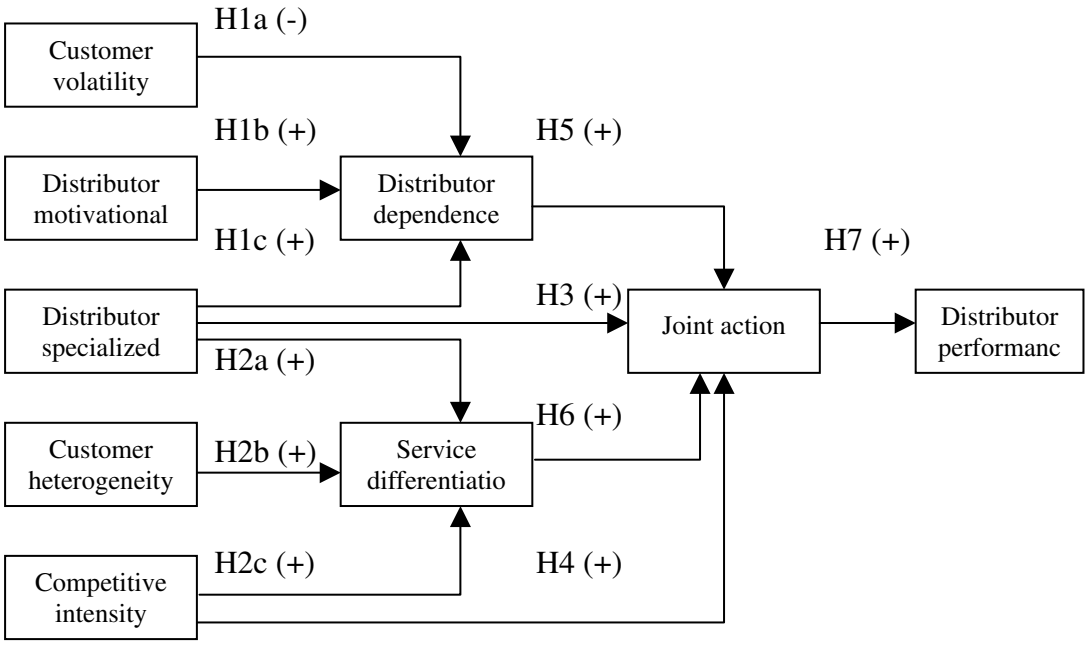
In transaction cost analysis, the adopted governance has been toward bilateral tools to curtail dyadic opportunism cooperatively (Heide, 1994); joint action is one form of bilateral governance. As Heide and John (1990) pointed out, specialized assets and uncertainty are the major determinants that evoke more bilateral governance between distributor and supplier. Kim (1999) recognized that for a distributor, environmental uncertainly mainly originates from customers and competitors. As an extension of Kim's (1999) research, the present study proposes that influential factors on joint action come primarily from specialized assets, customer uncertainty and competition uncertainty.

As shown in Figure 1, the factors that affect distributor and supplier include distributor's dependence and service differentiation, of which distributor dependence and

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its influence factor represent the economic factor, whereas service differentiation and its influence factor represent the strategic factor. Kim (1999) points out that past research mostly focused on transaction cost economic factor but ignored strategic factor that obtained transaction benefit. Consequently, both warrant more research attention simultaneously. With regard to the economic factor that relies on the concept of transaction cost theory, it proposes three factors that influence distributor dependence, are: (1) customer volatility, (2) distributor motivational investment, and (3) distributor specialized investment. On the other hand, the strategic factor also proposes three factors that influence service differentiation. The three factors are: (1) distributor specialized investment, (2) customer heterogeneity and (3) competitive intensity. In addition, distributor's specialized investment and competitive intensity have direct impact on joint action.

Figure 1 Research framework



The distinction between the present study and Kim's (1990) is that it ignores customer munificence but takes the distributor's performance into consideration. As Achrol and Stern's (1988) study pointed out the uncertainty of downstream channel with customer mainly comes from customer volatility, i.e., rapid and abrupt changes in customer needs and preferences; heterogeneity, i.e., dissimilar needs and preferences among customers; and munificence, i.e., varying degrees of riches in the customer's opportunities and

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resources. Because customer's munificence is primarily used to assess local customer's market demand – the broad territory with varying degrees of local market needs. In contrast, Taiwan's limited market demands that the automobile industry has reached its apex, implying that different local market demands are not as volatile as those of the U.S. After interviewing with automobile distributors, customer's munificence is not a suitable variable. Therefore, it is not included in the study.

Furthermore, Kim (1999) suggested that the attitudinal and behavioral elements of relational exchange need to be related to the channel performance because the relationships are still equivocal. Therefore, this research includes distributor's performance so as to understand the impact of joint action on the performance.

A. The antecedents of distributor dependence

Dependence is defined as a firm's need to maintain a relationship with exchange partner to achieve desired goals (Frazier, 1983). For a distributor, the antecedents of dependence include customer volatility, distributor motivational investment, and distributor specialized investment.

(A) Customer volatility

Customer volatility refers to the extent to which customer needs and preferences change rapidly and abruptly. In a highly volatile customer environment, it is difficult to foresee and adapt to customer needs, with the possibility of incurring a high transaction cost (Achrol and Stern, 1988). As Rubin (1990) pointed out, under uncertain circumstances, the exchange relationship between manufacturer and supplier maintains some flexibility for the purpose of dealing with the future. Therefore, in the context of customer volatility, a distributor would have to have self-determination and flexibility so as to lessen its dependence on its supplier and switch to more efficient suppliers (Balakrishnan and Wernerfelt, 1986) Thus, it is apparent that customer volatility has negative effects on distributor dependence.

H1a: Customer volatility is negatively related to distributor dependence.

(B) Distributor motivational investment

El-Ansary (1975) recognized that motivational investment between channel members would have positive effect on interdependence. As the supplier's products make significant sales and profit for the distributor, the latter would have higher motivational investment and make it difficult to drop or replace the supplier. Therefore, the distributor's motivational investment is likely to make the distributor rely on the supplier more (Emerson, 1962; El-Ansary and Stern, 1972). Kim's (1999) practical evidence with industrial products of distributors supported the above statement.

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H1b: Distributor motivational investment is positively related to distributor dependence.

(C) Distributor specialized investment

Specialized investment refers to distributor's heavy investment in physical and human assets that are adaptable only to the focal supplier. It is costly to switch to another supplier (Erramilli and Rao, 1993; Heide, 1994). Heide and John (1988) pointed out that when the distributor is engaged in specialized investment with its supplier, their mutual relationship is closely aligned with the distributor's interests; that make switching costly. Moreover, a distributor would need substantial resources to invest specialized assets for a new supplier without being assured that the new supplier will be better than the original supplier (Kogut, 1988).

Specialized investment would bring about serious transaction cost problems because it would make the distributor more inclined to depend on the supplier (Ganesan, 1994; John and Weitz, 1989), leading to safeguarding problems (Williamson, 1985). According to Joskow (1987), one of the ways of protecting specialized investment is to establish a long-term relationship. As a result, distributor's specialized investment would likely increase the willingness to sustain the current relationship (Katz, 1986; Ganesan, 1994). Kim (1999) also found that distributor's specialized investment increases its dependence on supplier.

H1c: Distributor specialized investment is positively related to distributor dependence.

B. The antecedents of service differentiation

Differentiation is purported to provide customer service that is distinctive to competitors. The origination of differentiation is to create specialized customer value. Distribution channel is the important source to provide specialized service by suppliers (Porter, 1985). For the distributor, service differentiation is affected by the factor such as distributor specialized investment, customer heterogeneity and competitive intensity.

(A) Distributor specialized investment

For economizing motives, specialized investment might save transaction costs whereas strategizing motives light the beneficial aspects of specialized investment (Kim, 1999). A distributor's specialized investment in physical and human assets facilitates the differentiation of its offering through value-added service. For example, an automobile distributor's personnel would be able to exhibit its line of products effectively, thus providing much better after-sales service. Stump and Heide (1996) pointed out that specialized investment would not only control exchange partners but also help distributors

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promote productivity, with the ability to increase competitive advantage. As such, a distributor's specialized investment will be conceived to the important factor of strategizing motive, allowing its products as well as services to be distinctive and thus providing better customer services (Day and Klein, 1987; Kim, 1999).

H2a: Distributor specialized investment is positively related to service differentiation.

(B) Customer heterogeneity

Customer heterogeneity is the extent to which needs and preferences for the focal product are dissimilar among customers (Scott, 1992). If customer requirement for the product is homogeneous, the distributor is likely to be able to meet customer needs with standardized products and services. However, as customer needs become more diverse and dissimilar to one another, the distributor has to provide differentiated products and services to satisfy heterogeneous customer requirements. Thus, customer heterogeneity is likely to have positive effects on service differentiation.

H2b: Customer heterogeneity is positively related to service differentiation.

(C) Competitive intensity

Intensive competition makes it imperative for a distributor to differentiate its products from competitors' products. In response to low-priced competitors, many domestic suppliers have shifted their focus to providing better value-added services to customers through distributors (Buzzell and Ortmeyer, 1994). As the physical quality gap between the competing brands narrows, because of competition and subsequent quality improvement effects, distributors look increasingly to value-added services as a source of differentiation and competitive advantage to their offering (Elliott, 1994). Therefore, competitive intensity has positive effects on service differentiation.

H2c: Competitive intensity is positively related to service differentiation.

C. The effect of distributor specialized investment on joint action

In the developing process of exchange relationship, distributor's specialized investment includes economizing motives and strategizing motives (Kim, 1999). Specialized investment is distinct from common investment in that it is difficult to apply to other channel relationships and has considerably less value outside the focal relationship. Therefore, the investing firm ought to safeguard its specialized assets so as to avoid the harmful result caused by relationship termination or opportunistic behavior (Klein, Crawford, and Alchian, 1978). In the transaction cost analysis literature, the initial safeguard is vertical integration that adopts bureaucratic control to curtail the occurrence of opportunistic behavior. Subsequent studies propose some bilateral governance mechanism, including hostages (Williamson, 1985), offsetting investments (Heide and John, 1988) and

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joint action (Heide and John, 1990; Joshi and Stump; 1999; Kim, 1999).

Joint action refers to the extent to which distributors and suppliers cooperate on certain activities toward their respective or common goals (Stern and Reve, 1980; Kim, 1999). It is a nonequity mode of governance in which both manufacturers and suppliers cooperate on certain important activities (Joshi and Stump, 1999). Heide and John (1990) conceived that joint action is the degree of interpenetration of organizational boundaries. For instance, automobile distributor and supplier jointly collect market information, conduct customer analysis, set up sales goals, and plan sales promotion programs. In the traditional market-driven channels, members' functions are independent, with shared responsibilities according to their specialized knowledge. But with respect to relational exchange, the role between distributor and supplier is a highly integrated phenomenon (Stern, El-Ansary, and Coughlan, 1996). As distributor and supplier collaboratively complete various functional distributions, organizational boundaries tend to be blurred.

Previous studies have focused on joint action to save transaction costs due to specialized investment (Heide and John, 1990). But Kim (1999) added strategizing motives of transaction profits in his study. To save on transaction costs, Palay (1984) found, in his railway transportation, that using joint planning might safeguard shipper-specific investments to prevent carriers' opportunistic behavior. Further, Zaheer and Venkatraman (1995) recognized that joint action is to safeguard specialized assets with which to establish relationships with other companies and to reduce risk due to opportunistic attempts. Heide and John (1990) also found that in the relationship between manufacturer and supplier, joint action is one type of governance mechanism to safeguard manufacturer's specialized assets, with sharing control over assets to restrain supplier's opportunism.

In terms of strategizing motives to garner transaction benefits, putting in specialized investment might be conceived to be the distributor's credible commitment to the relationship (Williamsan, 1990). The commitment through specialized investment alters the distributor's own incentive structure and makes cooperating behavior and doing extra work for the supplier being congruent with the self-interest of the distributor (Anderson and Weitz, 1992). Moreover, Kim (1999) argued that a distributor's commitment motivates supplier commitment to the relationship through joint action. Consequently, a distributor that has invested specific assets may garner strategic benefit from joint action. Kim (1999), and Joshi and Stump (1999) evidenced that distributor's or manufacturer's specialized investment will increase joint action with the supplier.

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H3: Distributor specialized investment is positively related to joint action.

D. The effect of competitive intensity on joint action

The main source of a distributor's uncertainty is, in addition to customers, construed to the competitive intensity. Taiwan's automobile industry has advanced to a mature stage. In an effort to avoid low price competition, distributors need to offer value-added services that differentiate them from competitors so as to keep a competitive advantage and reduce customers' sensitivity to pricing with further attempts to enjoy higher marginal profit. Therefore, distributors have to cooperate with suppliers even closer to enhance their competitive status. It is seen clearly that as market competition intensifies, the distributor would have to engage in joint action with the supplier to garner competitive advantage. That means that joint action might help distribution channel members solve the daily increasing competitive pressure (Kogut, 1988). Therefore, the cooperation between the distributor and the supplier might counter attack other competitors' challenges to accomplish the channel goal effectively.

H4: Competitive intensity is positively related to joint action.

E. The effect of distributor dependence on joint action.

Kim (1999) recognized that, in order to save transaction costs and garner transaction benefits, distributor's higher dependence will enhance more connection in joint action with the supplier, as evidenced by research results.

For saving transaction costs, a distributor has a strong motive to balance a dependence relationship to avoid supplier's opportunism (Heide and John, 1988). One of the mechanisms of distributor's dependence balance is to take part in joint action with the supplier to become a major sale and profit source for the supplier. As such, the supplier will increase motivational investment and depend on the distributor more, thus reaching a mutual dependence balance (Emerson, 1962).

In order to gain transaction benefits, the distributor may make a great effort to get close cooperation with the supplier, because the supplier plays an important role pertaining to the distributor's management and performance. Once the joint action increases all business distributors or suppliers might consider and/or see the other as important business partners, thus mutual dependence is seen to be balanced, so is the increasing in profitability.

H5: Distributor dependence is positively related to joint action.

F. The effect of service differentiation on joint action.

Because Taiwan's automobile industry has reached its mature stage, therefore, in

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regards to the distributor, service differentiation should be strengthened particularly in distributor's value-added services. Value-added services are defined as distributor services that create customer value (Kim, 1999), for example, a salesperson's guidance and enthusiastic assistance, periodical call back for check-ups, and 800 special phone line services. For supplier and distributor, service differentiation is an important strategy, through which they offer the best products and services to satisfy customer needs (Katz, 1986; Fites, 1996). Therefore, as service differentiation increases, joint action is also increased (Etgar, 1977; Kim. 1999).

H6: Service differentiation is positively related to joint action.

G. The effect of joint action on performance

Stern, El-Ansary, and Coughlan (1996) recognized the effects of cooperation and channel relationship on channel performance. Joint action is the one that would increase mutual relationship. It includes cooperative way among members to accomplish specified action (Heide and John, 1990). Joint action gives distributors more opportunities to save a lot of unnecessary transaction costs and subsequently obtain transaction profits, thus promoting performance. Therefore, for distributors, joint action has a positive effect on their performance.

H7: Joint action is positively related to distributor performance.

III.Research Design

A. Sample and data collection

The research hypotheses were examined in the context of Taiwan's automobile industry. This industry was chosen for the reason that most distributors sell only one supplier's products and often engage in joint action with their suppliers. Therefore, it is suitable to explore the antecedents and consequences of their joint action.

Based on the "Taiwan Business Lists" published by China Credit Information Service, Ltd. in 1999/2000 and data supplied by automobile suppliers and distributors, there are 243 distributors in Taiwan's automobile market. The first wave of questionnaires was sent to all the distributors. Two weeks later a follow-up questionnaire was sent to nonrespondents. After two mailings and one telephone call, 71 responses were received; the final response rate was 29.22%. After eliminating 4 invalid returned questionnaires because of incomplete information, the final sample consisted of 67 distributors.

B. Measures

The measurement items used for each construct are listed in the appendix. With the

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exception of distributor motivational investment, all the other parts make use of the seven-point Likert scale. The antecedents of distributor dependence include customer volatility, distributor motivational investment, and distributor specialized investment. *Distributor dependence* measures the extent of distributor's dependence on the supplier. Four items were drawn from Heide and John (1988) and Kim (1999). *Customer volatility* measures the degree of change in customer's preferences in automobile equipments, price ranges, brands, and colors. Four items were referenced from Achrol and Stern (1988) and industry characteristics. *Distributor motivational investment* measures the importance of the focal supplier's in the distributor's business. The scale was referenced from Kale (1986) and Anderson and Weitz (1989), using the percentage of distributor's total sales and the percentage of distributor's gross profit accounted for by the focal supplier to measure. *Distributor specialized investment* measures the degree of a distributor's engagement in putting in long-term assets so as to maintain relationship with the focal supplier. Four items were drawn from Heide and John (1988) and Kim (1999).

The antecedents of service differentiation include distributor specialized investment, customer heterogeneity, and competitive intensity, the scale of distributor specialized investment has been stated as above. *Service differentiation* measures the extent of value-added services offered by a distributor to its customers. The scale was based on field interviews with distributors and industry characteristics, including "salesperson's guidance and enthusiastic assistance", "0800 special phone line service", "periodical call back for check-up", and "test run on site". *Customer heterogeneity* measures the dissimilar extent of needs and preferences among customers. Four items were referenced from Achrol and Stern (1988) and industry characteristics, including automobile types, price range, product features and purchasing behaviors. *Competitive intensity* measures the competitive extent of Taiwan's automobile market. Four items were drawn from Kim's (1999).

Joint action measures the extent to which distributor and supplier work together. Five items were developed on the field interview with supplier and distributor and referenced from Heide and John (1990) and Kim (1999).

Distributor performance measures the financial performance of a distributor. With reference to expert opinion, four items were developed on the comparison of distributor's average actual performance and expected performance over the past three years, including "sales volume", "market share", "market growth rate" and "reached rate of sales goal".

C. Reliability and validity

In the questionnaire, joint action, service differentiation, customer volatility, and

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customer heterogeneity are a formative scale rather than a reflective scale. Even though the formative scale lacks a better statistical test for reliability and validity yet its measurement items are based on previous literature and industry characteristics. According to the response of informants in the pilot test, the measurement items have completely covered all constructs, and are clearly to be understood. Therefore, the measurement should have achieved the requirements of reliability and validity (Cannon and Homburg, 2001).

In other constructs, such as distributor motivational investment, distributor specialized investment, competitive intensity, distributor dependence, and distributor performance, all are reflective scales. This study made use of item-to-total correlations to screen bad items; Item 1 for distributor dependence with a correlation of 0.37 and item 2 for distributor specialized investment with a correlation of 0.33 considered low, were eliminated. Thereafter, a confirmatory factor analysis was used by LISREL 8.2W to check the overall fitness. The chi-square value for this model was not significant (85.15 with 94 degree, $p = 0.73$), GFI (goodness-of-index) value 0.87 and AGFI (adjusted goodness-of-fit index) value 0.81, respectively, indicating that overall fit was acceptable.

With regard to reliability, the LISREL-based composite reliabilities ranged from 0.71 (distributor dependence) to 0.93 (distributor performance), and Cronbach's α ranged from 0.71 (distributor dependence) to 0.93 (distributor performance), indicating that reliability was quite acceptable.

The convergent validity of the measurement scales was examined through confirmatory factor analysis. All factor loadings were significant (minimum t-value = 3.477, $p < 0.01$). The factor loadings ranged from 0.45 to 0.99 and the average factor loading was 0.77. These results suggest the convergent validity of the measurement scales were acceptable (Kumar et a1., 1995). With regard to discriminant validity, the highest correlation between distributor dependence and distributor performance (0.41) was set to the value 1, then a chi-square difference test was conducted. The result was significant ($\Delta \chi^2 (1) = 471.87$, $p < 0.01$), thereby providing evidence of discriminant validity.

Ⅳ.Analyses and Results

LISREL 8.2W was used to perform path analysis with maximum likelihood estimations to test the model's overall fitness and hypotheses. With the 67 responses returned and to avoid estimating excessive parameters, a path analysis was used to treat all variables as directly observed variables. The independent variables include customer volatility (X_1), distributor motivational investment (X_2), distributor specialized investment

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(X_3), customer heterogeneity (X_4) and competitive intensity (X_5). The dependent variables consist of distributor dependence (Y_1), service differentiation (Y_2), joint action (Y_3) and distributor performance (Y_4).

The correlation matrix as listed in Table 1 was input for path analysis. Because the single index could not fully estimate a construct, error terms needed to be estimated. Previous researches suggested estimation methods (Anderson and Gerbing, 1988; Howell, 1987), error terms (θδ and θε) of each construct were fixed at (l-α)S^2, with the λ fixed at α½S. It should be noted that α value was Cronbach's α value, and S was the standard deviation of each construct. Since a formative scale does not require Cronbach's α, a hypothesized value of 0.85 was used (Joreskog and Sorbom, 1993).

Table 1 Correlation Matrix

	Y1	Y2	Y3	Y4	X1	X2	X3	X4	X5
Distributor dependence (Y1)	(0.71)								
Service differentiation (Y2)	0.21	(0.85)							
Joint action (Y3)	0.32	0.49	(0.85)						
Distributor performance (Y4)	0.28	0.29	0.53	(0.93)					
Customer volatility (X1)	-0.13	0.30	0.14	0.00	(0.85)				
Motivational investment (X2)	0.28	-0.22	-0.05	0.04	-0.13	(0.91)			
Specialized investment (X3)	0.23	0.30	0.27	0.08	0.31	-0.21	(0.77)		
Customer heterogeneity (X4)	-0.07	0.10	0.10	-0.06	-0.02	-0.05	0.08	(0.85)	
Competitive intensity (X5)	0.15	0.32	0.48	0.28	0.09	-0.13	0.16	-0.10	(0.77)
Mean	5.28	5.71	5.60	5.11	4.52	4.46	5.56	4.33	5.80
Standard deviation	0.92	0.83	0.95	1.03	1.00	0.70	0.88	1.00	0.92

Coefficient α values are on the diagonal. Y2, Y3, X1, and X4 are formative scale, hypothesized value is 0.85.

A. Overall model fitness

In the overall model fitness test, the result showed that $\chi^2_{(15)} = 14.76$ (p = 0.47), p > 0.05, indicating not significant and the model fitness being good; RMR (root mean square residual) = 0.056 was a little more than the acceptable value of 0.05. The value of GFI = 0.95, being greater than 0.9, showed that the model fitness was good. Although the value of AGFI = 0.86, smaller than 0.9, it fell in the acceptable range, indicating model fitness as

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satisfactory. Overall, the 4 indices indicate the model fitness is quite adequate.

B. Hypotheses tests

With LISREL's maximum likelihood estimation, the study found the following results for testing the hypotheses as showed in Table 2 below.

Table 2 Path Analysis Results

Hypotheses	Estimate	t value
H1a: Customer volatility (X1)—Distributor dependence (Y1)	-0.03	-0.90
H1b: Motivational investment (X2)—Distributor dependence (Y1)	0.42	3.05a
H1c: Specialized investment (X3)—Distributor dependence (Y1)	0.52	3.18a
H2a: Specialized investment (X3)—Service differentiation (Y2)	0.30	2.28b
H2b: Customer heterogeneity (X4)—Service differentiation (Y2)	0.16	1.26
H2c: Competitive intensity (X5)—Service differentiation (Y2)	0.35	2.52b
H3: Specialized investment (X3)—Joint action (Y3)	0.03	0.20
H4: Competitive intensity (X5)—Joint action (Y3)	0.39	3.02a
H5: Distributor dependence (Y1)—Joint action (Y3)	0.27	2.05b
H6: Service differentiation (Y2)—Joint action (Y3)	0.37	2.80a
H7: Joint action (Y3)—Distributor performance (Y4)	0.58	4.96a

a Significant at p<0.01
b Significant at p<0.05

With regard to the antecedents of distributor dependence, the expected negative effect of customer volatility on distributor dependence is not found (γ_{11} = -0.03, t =-0.90), whereas both distributor motivational investment and specialized investment have a positive effect on distributor dependence (γ_{12} = 0.42, t = 3.05; γ_{13} = 0.52, t = 3.18). Thus, H1a was not supported and H1b and H1c were supported.

With regard to the antecedents of service differentiation, both distributor specialized investment and competitive intensity have a positive effect on service differentiation (γ_{23} = 0.30, t = 2.28; γ_{25} = 0.35, t = 2.52), whereas the expected positive effect of customer heterogeneity on service differentiation is not found (γ_{24} = 0.16, t = 1.26). Thus, H2a and H2c were supported and H2b was not supported.

As for the antecedents of joint action, with the exception of distributor specialized investment (γ_{33} = 0.03, t = 0.20), all the other three variables have a positive effect on joint action. The values between joint action and competitive intensity (γ_{35} = 0.39,

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t = 3.02), distributor dependence (β_{31} = 0.27, t = 2.05), and service differentiation (β_{32} = 0.37, t = 2.80) are all positively significant. Thus, H3 was not supported; H4, H5, and H6 were supported.

The relationship between joint action and distributor performance was significant as expected (β_{43} = 0.58, t = 4.96). Thus, H7 was supported.

V.Conclusion

A. Discussion

This study explores joint action between automobile distributor and supplier, not only looking at research into behavioral elements of relational exchange, but also considering the effect of both economizing and strategizing motives on the joint action. The results indicate that, with respect to economizing motives, when a distributor invests more motivational investment and specialized assets, it will depend more on the supplier, making it willing to comply with the supplier, and taking joint action for the purpose of enhancing its performance.

With regard to strategizing motives, when a distributor invests more specialized assets and when market competitive intensity is more severe, it will offer customer more differentiated services. However, for the purpose of enhancing service differentiation to garner competitive advantage, a distributor will take joint action with a supplier to enhance performance. In addition, market competition also directly affects joint action because a distributor will adopt joint action with the supplier to cope with competitive pressure and to gain competitive advantage. The result is consistent with that of Kogut (1988).

In the customer related factor, customer volatility has no effect on distributor dependence; customer heterogeneity also has no significant influence on service differentiation. Thus, the results show that customer volatility and heterogeneity have no expected effect, which coincides with Kim's (1999) finding. This is very peculiar because automobile distributors are very concerned with customers' needs. The situation may reflect the fact that Taiwan's distributors confine only to one supplier's products. Therefore, it highly depends on the supplier (average score 5.28). The sources of dependence come from distributor's specialized investment and supplier's profit contribution, making customer volatility as nonsignificant factor.

Furthermore, automobile service differentiation mainly concerns after sales services, which deal with technical problems, so a distributor may be able to provide distinctive service in complying with the supplier. Consequently, specialized investment becomes an

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important influential factor. It should be noted that the quantitative demand for automobiles is decreasing each year. According to a statistical report from Taiwan Transportation Vehicle Manufacturers Association, the total in 2000 was only 356,694, which is a 0.65% decrease compared to 1999. It is predicted that because of an economic slowdown, demand shall fall again in 2001. In this downturn, competition among the 12 automobile manufacturers together with 40 or more input brands will be extremely severe (competition intensity average score 5.80). Correspondingly, customer heterogeneity shows a low average score of 4.33 in this survey. As such, this is the reason why automobile suppliers are willing to provide distinctive service to garner competitive advantage, not due to customer heterogeneity but to market competition.

Additionally, distributor specialized investment does not affect joint action directly. This result is not consistent with past research (Heide and John, 1990; Joshi and Stump, 1999; Kim, 1999), perhaps owing to a different business environment. The research sample of Heide and John (1990) and Joshi and Stump (1999) were OEM manufacturers, whereas Kim (1999) was industrial product distributors, all investigating relationships with their suppliers. The difference between the above three researches and this study lies in distributor dependence. The present study considers the supplier as the major force in joint action and the distributor as a subordinate. Joshi and Stump (1999) also found that relative power had a positive effect on joint action. Therefore, this study's business environment is that the distributor depends more on the supplier and the commanding force of joint action is in the hands of the supplier. Consequently, specialized investment makes a distributor depend more on its supplier and more able to provide customer differentiated services; the distributor is then willing to adopt joint action with its supplier, providing an indirect influence effect.

B. Managerial implication

The above stated results bear important meaning to automobile distributors and suppliers. Because most automobile distributors are engaged in only one supplier's products, therefore, motivational investment is relatively high. On the demand of the supplier, distributors frequently invest more specialized assets, thus causing higher dependence on suppliers. From the perspective of transaction costs, the more the distributor depends on the supplier, the higher the risk the distributor takes, making it possible for him to be replaced. However, on the basis of the findings, the distributor may go through many joint actions to establish partnership with its supplier. This behavior will not only balance mutual dependence but will also promote higher performance.

臺灣大學學術期刊資料庫

With regard to competitive strategy, because Taiwan's automobile demand decreases yearly, distributors are faced with competition every day (even more fierce competition after the entry in the WTO). Therefore, providing distinctive service to attract customers is a must. Furthermore, the distributor's specialized investment also increases the capability of service differentiation. Therefore, an automobile distributor may be able to gain more market information and resources to offer differentiated services and promote performance through joint action, such as collaboratively gathering market information, analyzing customer demand, setting sales goal, and so on.

C. Suggestions for future research

The present study is confined to the distributor's perspective to explore joint action without taking both distributor and supplier into consideration. One of the reasons is sample limitation: the number of suppliers in Taiwan's automobile market is small, so it is difficult for data collection. Since joint action is a mutual behavior, future studies should choose some industries with a large dyadic sample and consider dyadic perspectives of distributor and supplier.

In addition, because automobile distributors by large deal with only one supplier's products, therefore, this study only investigated the distributor and its focal supplier joint action without making comparisons between different suppliers. A follow-up study may select more suppliers to compare the distributor with the major supplier and the second supplier or even the third supplier, so as to shed more light on the joint action and the relationship between them.

臺灣大學學術期刊資料庫

Appendix

Measurement Items

Distributor dependence ((based on Heide and John, 1988 ; Kim, 1999) 1.You will suffer greatly if you dismissing this supplier. 2.It is difficult for you to replace this supplier. 3.It is difficult to develop a profitable business relationship with a new supplier if you sever the relationship with this supplier. 4.It is difficult to sell new automobile if you drop this supplier.
Customer volatility (based on Achrol and Stern, 1988) 1.Customers' preferences for automobile equipments are changed frequently. 2.Customers' preferences for price ranges are changed frequently. 3.Customers' preferences for brands are changed frequently. 4.Customers' preferences for colors are changed frequently.
Distributor motivational investment (based on Kale, 1986; Anderson and Weitz, 1989) 1.What percentage of your total sales is accounted for by this supplier's automobile? 2.What percentage of your gross profit is accounted for by this supplier's automobile?
Distributor specialized investment (based on Heide and John, 1988; Kim, 1999) 1.You have put in a great deal of time and effort to the supply firm's organization and personnel. 2.A lot of tasks you perform to market this supplier's automobile are quite unique compared with other supplier's products. 3.It took a lot of resources to develop the sales territory for this supplier's automobile. 4.It took a long time for your salesperson to learn about this supplier's automobile and customers thoroughly.
Service differentiation 1.To what extent do you provide the following services to the customer? 2.Salesperson's guidance and enthusiastic assistance. 3.0800 special phone line services. 4.Periodical call back for check-up. 5.Test run on site.
Customer heterogeneity (based on Achrol and Stern, 1988) 1.Customers' preferences for the automobile types are similar. 2.Customers' preferences for price ranges are similar.

臺灣大學學術期刊資料庫

3.Customers' preferences for product features are similar. 4.Customers' purchasing behaviors are similar.
Competitive intensity (based on Kim, 1999) 1.Distributors are vying with each other to gain more customer patronage. 2.There is a great deal of competitive pressure in this market. 3.The rivalry between distributors in this market is not intense. (r) 4.The struggle for higher market share among distributors is severe.
Joint action (based on Heide and John, 1990, Kim, 1999) 1.You and your supplier usually jointly gather market information. 2.You and your supplier usually jointly analyze customer need. 3.You and your supplier usually jointly undertake performance evaluation. 4.You and your supplier usually jointly set sales target or goals 5.You and your supplier usually jointly set sales promotion programs
Distributor performance 1.Please compare your average actual performance and expected performance over the past three years, including: 2.Sales volume 3.Market share 4.Market growth rate 5.Reached rate of sales goal

臺灣大學學術期刊資料庫

References

Achrol, R. S. and L. W. Stern, Environment Determinants of Decision Making Uncertainty in Marketing Channels, Journal of Marketing Research,1988:25, 36-50.

Anderson, E. and B. A. Weitz, Determinants of Continuity in Conventional Industrial Channel Dyads, Marketing Science, 8 (4), 1989: 310-323.

Anderson, E. and B. A. Weitz, The Use of Pledges to Build and Sustain Commitment in Distribution Channels, Journal of Marketing Research, 29, 1992: 18-34.

Anderson, J. C. and D. W. Gerbing, Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach, Psychological Bulletin, 103 (3), 1988: 411-423.

Balakrishnan, S. and B. Wernerfelt, Technical Change, Competition, and Vertical Integration, Strategic Management Journal, 7, 1986: 347-359.

Buzzell, R. D. and Ortmeyer, G., Channel Partnerships: A New Approach to Streamlining Distribution, Report No. 94-104, Cambridge, MA: Marketing Science Institute, 1994.

Cannon, J. P. and C. Homburg, Buyer-Supplier Relationships and Customer Firm Costs, Journal of Marketing, 65 (January), 2001: 29-43.

Day, G. S. and S, Klein, Cooperative Behavior in Vertical Markets: The Influence of Transaction Costs and Competitive Strategies, in Houston, M. (ED), Review of Marketing, American Marketing Association, Chicago, 1987:39-66.

El-Ansary, A. I., A Model for Evaluating Channel Performance, Unpublished Paper, Louisiana State University , 1975:10-11.

El-Ansary, A. I. and L. W. Stern, Power Measurement in the Distribution Channel, Journal of Marketing Research, 9, 1972: 47-52.

Elliott, H., The Value-Added Trail, Electronic Business Buyer, 20, 1994: 22-24.

Emerson, R. M., Power-Dependence Relations, American Sociological Review, 27, 1962:31- 41.

Erramilli, M. K. and C. P. Rao, Service Firms' International Entry-Mode Choice, Journal of Marketing, 57 (July), 1993:19-83.

Etgar, M., Channel Environment and Channel Leadership, Journal of Marketing Research, 14, 1977: 69-76.

Fites, D. V., Make Your Dealers Your Partners, Harvard Business Review, 74, 1996: 84-96.

Frazier, G. L., On the Measurement of Interfirm Power in Channels of Distribution, Journal of Marketing Research, 20, 1983: 158-166.

臺灣大學學術期刊資料庫

Ganesan, S., Determaints of Long-term Orientation in Buyer-Seller Relationships, Journal of Marketing, 58, 1994: 1-19.

Heide, J. B., Interorganizational Governance in Marketing Channels, Journal of Marketing, 58 (January), 1994:71-85.

Heide, J. B. G. John, The Role of Dependence Balancing in Safeguarding Transaction-Specific Assets in Conventional Channels , Journal of Marketing, 52 , 1988: 20-35 .

Heide, J. B., G. John, Alliances in Industrial Purchasing: The Determinants of Joint Action in Buyer-Supplier Relationships, Journal of Marketing Research, 27, 1990: 24-36.

Howell, R. D., Covariance Structure Modeling and Measurement Issues: A Note on Interrelations among a Channel Entity's Power Sources, Journal of Marketing Research, 24 (February), 1987:119-126.

John, G. and B. Weitz, Salesforce Compensation: An Empirical Investigation of Factors Related to Use of Salary Versus Incentive Compensation, Journal of Marketing Research, 26 (February), 1989: 1-14.

Joreskog K. G. and D. Sorbom, LISREL 8, A Guide to the Program and Application. Chicago, Chicago: SPSS Inc, 1993.

Joshi, A. W. and R. L. Stump, The Contingent Effect of Specific Asset Investments on Joint Action in Manufacturer-Supplier Relationships: An Empirical Test of the Moderating Role of Reciprocal Asset Investments, Uncertainty, and Trust, Journal of the Academy of Marketing Science, 27 (3), 1999: 291-305.

Joskow, P. L., Contract Duration and Relationship-Specific Investments: Empirical Evidence from Coal Markets, American Economic Review, 77 (1), 1987: 168-185.

Kale, S., Dealer Perception of Manufacturer Influence Strategies in a Developing Country, Journal of Marketing Research, 23, 1986: 387-393.

Katz, M. L., Vertical Contractual Relations, in SchMalensee, R., Willing, R.D. (Eds.). Handbook of Industrial Organization, Amsterdam: North-Holland, 1986: 655-721.

Kim, K., On Determinants of Joint Action in Industrial Distributor- Supplier Relationships: Beyond Economic Efficiency, International Journal of Research in Marketing, 16, 1999: 217-236.

Klein, B, R. G. Crawford , and A. A. Alchian, Vertical Integration , Appropriable Rents , and the Competitive Contracting Process , Journal of Law and Economics , 21 (October), 1978: 297-326.

Kogut, B., Joint Ventures: Theoretical and Empirical Perspectives, Strategic Management

臺灣大學學術期刊資料庫

Journal, 9, 1988: 319-332.

Kumar, N, L. K. Scheer and J. E. M. Steenkamp, The Effects of Perceived Interdependence on Dealer Attitudes, Journal of Marketing Research, 32(3),1995: 348-356.

Nevin, R. M., Relationship Marketing and Distribution Channels: Exploring Fundamental Issues, Journal of the Academy of Marketing Science, 23, 1995: 327-334.

Pilling, B. K. and L. Zhang, Cooperative Exchange: Rewards and Risks, International Journal of Purchasing and Materials, 28 (2), 1992: 2-9.

Palay, T. M., Comparative Institutional Economics: The Governance of Rail Freight Contracting, Journal of Legal Studies, 13 (June), 1984: 265-288.

Porter, M. E., Competitive Strategy: Creating and Sustaining Superior Performance, New York: The Free Press, 1985.

Rubin, P., Managing Business Transactions: Controlling the Cost of Coordinating, Communicating, and Decision Making, New York: Free Press, 1990.

Scott, W. R., Organizations: Relational, Natural, and Open System, 3rd ed. Englewood Cliffs, NJ: Prentice Hall, 1992.

Stern, L. W, A. E. El-Ansary, and A. T. Coughlan, Marketing Channels, 5th ed. Englewood Cliffs, NJ: Prentice-Hall, 1996.

Stern, L. W. and T. Reve, Distribution Channels as Political Economic: A Framework for Comparative Analysis, Journal of Marketing, 44, 1980: 52-69.

Stump, R. L., and J. Heide, Controlling Supplier Opportunism in Industrial Relationships, Journal of Marketing Research, 33, 1996: 431-441.

Williamson, O. E., The Economic Institutions of Capitalism, NY: The Free Press, 1985.

Williamson, O. E., Introduction, in Aoki, M, Gustafsson, B., Williamson, O. E. (Eds.), The Firm as a Nexus of Treaties, London: Sage Publications, 1990: 1-25.

Wilson, D. T., An Integrated Model OF Buyer-Seller Relationships, Journal of the Academy of Marketing Science, 23 (Fall), 1995: 335-345.

Zaheer, A. and N. Venkatraman, Relational Governance as an Interorganizational Strategy: An Empirical Test of the Role of Trust in Economic Exchange, Strategic Management Journal, 16 (5), 1995: 373-392.

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