Customer Intimacy through Intra-Firm Relationship Governance

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Globalization, acute competition, the information technology revolution, and increasing customer sophistication are radically redefining environmental conditions, and, meanwhile, challenging managerial representations and traditional organizational recipes for managing intra- and inter-firm relationships. Hence, we examine in this study the way companies interact with their employees and customers. As such, the research question poses itself: how does the management of intra-organizational relationships create superior customer value and close business relationships. The results of our empirical study indicate that there exists a strong association between the key constructs involved. From contingency point of view, especially, moderate market dynamism and technology-driven business logic influence this interface. These findings are of evident practical interest crystallized by the following implication for management: by developing organizational design in line with the dominant business logic and evolving market structures, companies are able to enhance their customer value and intimacy. Indeed, the point is of a real managerial dilemma and key challenge within our rapidly evolving information era.

Introduction

Relationship marketing and management constitute a major shift both in marketing and organization theory and practice. Changing the managerial perspective from transactions towards relational exchanges has been addressed as one of the key success factors for a modern company. Major subjects that, at least implicitly, address these issues include the knowledge/resource-based theory of the firm (Grant 1996; Sanchez and Mahoney 1996; Sanchez and Heene 1996), dynamic capabilities of market driven firms (Day 1994; Teece et al. 1997), market orientation and learning organizations (Sinkula 1994; Moorman 1995; Slater and Narver 1996; Baker and Sinkula 1999), and inter-firm relationships (Heide and John 1992; Heide 1994; Homburg 1998).

Recently, a considerable amount of research has been carried out on the management of inter-organizational relationships, and on the application of portfolio management practices to deal with the firm's customer and supplier base, and lately also on developing and managing suppliers and customers from a network perspective (e.g. Achrol 1991; Webster 1992; Heide 1994; Morgan and Hunt 1994; Möller and Wilson 1995; Ford et al. 1998; *Industrial Marketing Management*, Special Issue, 1998). Respectively, a lot of attention has

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been paid in management literature on designing organizational structures and coordinating systems in order to facilitate and enhance the management of intra-organizational relationships (e.g. Lawrence and Lorch 1967; Pfeffer and Salancick 1978; Burns and Stalker 1994).

However, due to the lack of integrated perspectives recent academic discourse on the interplay between intra- and inter-firm relationship management has been limited and heterogeneous both in management and marketing literature (Becker and Homburg 1999; Hoekstra et al. 1999). Hence, there exists scant prior research covering explicitly the questions: *what kinds of organizational forms and managerial systems sustain close customer relationships, and, how this interplay between intra- and inter-organizational designs is influenced by the dominant business logic and environmental dynamism* – the topic of the present study.

What relates our study to the interest of the IMP-oriented research focusing on relationship and network management, is our examination of how customer intimacy could be enhanced through the management of intra-firm relationship governance (see e.g. Möller and Rajala 1999 for an in-depth discussion). The empirical context of our study consists of the Finnish metal, engineering and electrotechnical industries. A cross-sectional research design, using a questionnaire-based survey, will be employed in order to collect a statistically analyzable set of data.

Links between Intra-Firm Relationships and Customer Intimacy: Hypotheses

The globalization of competitive markets, rapid technological shifts, changes in managerial mental models, and, especially, the rise of 'true marketing companies' within networks of functionally specialized organizations have radically altered the ground rules for competing in the new millennium (Achrol 1991; Volberda 1996). These shifts in environmental conditions and managerial mental models have a direct impact both on the customer interface and organizational solutions adopted (Homburg et al. 1999). Indeed, in this 'new' environment, management will put the emphasis on inter- and intra-firm relationships instead of transactions only (Hoekstra et al. 1999).

Management of *intra-organizational relationships*[1] refers to organizational design. An important premise in designing flexible and effective organizational forms and managerial systems is the understanding of how the functional activities should be managed in order to achieve close inter-firm relationships, and success in business performance (Becker and Homburg 1999). Traditionally this issue has been discussed within management literature. Recently, however, a number of authors have made important suggestions of how to link the organizational view with marketing aspects of organizing the firm (Deshpandé et al. 1993; Day 1994; Day and Nedungadi 1994; Piercy and Cravens 1995; Workman et al. 1998; Hoekstra et al. 1999; Homburg et al. 2000).

Two key aspects can be distinguished. Firstly, the emerging relational forms of building and maintaining relationships with customers emphasize the boundary-spanning role of marketing personnel. Secondly, the increased intensity of customer and supplier relationships requests more interfunctional coordination within the organization (e.g. Ruekert et al. 1985). These developments embody cross-functional dispersion of traditional marketing activities and an increased use of teams and other relational organizational

[1] The terms 'intra-firm links' and 'organizational design' are used interchangeably with 'intra-organizational relationships' (e.g. Ruekert et al. 1985).

solutions (Menon et al. 1997). These trends call for an integration and coordination of resources in production, technology, and marketing in order to safeguard competitiveness and profitability (Sanchez and Mahoney 1996). This, in turn, presumes the establishment of processes and information systems that facilitate communication and managerial control within an organization (Ruekert and Walker 1987; Menon and Varadarajan 1992). Many companies have put a lot of effort in enhancing interaction between the functional units by using business process approach and cross-functional teams (Denison et al. 1996; Song et al. 1997). Focusing on the extent to which the characteristics of cross-functional teams and contextual influences affect new product innovativeness makes several contributions to both marketing practice and theory (Sethi et al. 2001). The establishment of cross-functional teams strives for integrating the distinctive views and capabilities of especially marketing and technology (Menon et al. 1997; Workman et al. 1998) and for making product development more effective (Olson et al. 1995). The former discourse is consistent with the dimensions of organizational design (i.e. structure, coordination, culture and power) endorsed by Homburg et al. (2000). However, prior research both in organizational and marketing literature have mainly focused on these individual dimensions of organizational design without considering relationships among them.

Several perspectives can be used for describing the intra-organizational relationships. We adopt a broad, partly overlapping, classification of (1) structural arrangements for the coordination of separate functional activities, and of (2) managerial systems for the coordination of interfunctional resource and information flows. With structural arrangements we mean the traditional dimensions of centralization and formalization for organizing functional activities (Ruekert et al. 1985). Managerial systems form a loose category covering the amount and intensity of resource and information flows between functional units and top management (Ruekert and Walker 1987).

Customer intimacy [2] means simply the same as segmenting and targeting markets and then tailoring offerings to match exactly the demands of those niches (Anderson and Narus 1999). This tailoring refers to what Sheth et al. (2000) express as customer centric marketing where marketing function seeks to fulfill the needs and wants of each individual customer. Therefore, companies that excel in this field integrate market and customer knowledge with their own operational flexibility in superior way (Treacy and Wiersema 1993). Organization's ability to continuously generate intelligence about customers' expressed and latent needs, and about how to satisfy these needs, is essential for it to continuously create superior customer value (Slater and Narver 2000). In more academic terms, customer intimacy implies the design of inter-firm relationships, or governance (Hoekstra et al. 1999). These relationships are traditionally classified either into transactional or collaborative (Heide 1994; Parvatiyar and Sheth 1997). On the other hand, between these two extremes are the so-called value-adding exchanges, where the focus of the selling firm shifts from getting customers to keeping customers. In this sense, the inter-firm governance can be seen as a continuum between the two opposite ends of relationship spectrum (Webster 1992; Day 2000).

Transaction cost approach (TCA) views governance in terms of designing particular mechanism (price vs. unified authority) for supporting transactions, i.e. the choice between a 'market' and a 'hierarchy' by emphasizing efficiency implications (Williamson 1975). TCA parallels resource dependence theory (RDT) in that it views inter-firm governance as a

[2] When referring to 'customer intimacy', explicated by Möller and Anttila (1987), and Treacy and Wiersema (1993) the terms 'closeness to customer', close 'inter-firm links', close 'inter-organizational relationships', and close 'business relationships' are used synonymously in this study.

strategic response to conditions of uncertainty and dependence (Pfeffer and Salancik 1978). From RDT point of view, however, firms will seek to reduce uncertainty and manage dependence by purposely structuring their exchange relationships by means of establishing formal or semiformal links with other firms. The ongoing maintenance of inter-firm governance requires certain sub-processes to be carried out as follows (Heide 1994): role specification, planning, nature and means of adjustments, monitoring processes, and incentive systems.

From relationship marketing point of view, firms establish relationships with selected individual target customers with whom superior customer value are designed, offered, redefined and realized in close cooperation with other partners in the marketing system, in order to realize long-term profits through customer satisfaction, partner- and employee satisfaction (Hoekstra et al. 1999). Relationships become closer, more selective and may become so familiar that the term intimacy is used (Treacy and Wiersema 1993). Business-to-business marketing research has shown that when there are fewer customers, there are often closer partnerships and joint product development (product customization) with customers (Heide and John 1992). Furthermore, among the dyadic norms identified by Heide and John (1992), flexibility, information exchange, customer-specific investments, and employee involvement are considered to be elements of customer intimacy in buyer-seller relationships. Homburg (1998) explicates that in industrial markets closeness to customers (customer intimacy) refers to supplier's behavior including (1) offering high quality products, i.e. added customer value, (2) exhibiting a high level of flexibility towards the customer, and (3) a high readiness to exchange information with customers openly with customer interaction throughout the hole organization. Indeed, commitment and trust are the key mediating factors in the management of close inter-firm relationships (Morgan and Hunt 1994). Actually, one principle dominates customer intimacy: it is a profit over the lifetime of the relationship with a single customer, not a profit or loss on a single transaction (Treacy and Wiersema 1993).

In short, and in line with relationship marketing approach (e.g. Morgan and Hunt 1994) and 'network paradigm' (e.g. Möller and Wilson 1995), we employ in this study a classification of (1) governance of inter-firm links, and (2) business processes alignment in describing the key characteristics of inter-organizational relationships. The former puts emphasis especially on common bonds and formal design, while the latter considers partnering, respectively. Thus, we hypothesize that:

$H1_a$: The more intensive the intra-firm linkages, the higher the customer intimacy.

Firms that are confronted with uncertainties in the market and technology environments must make adaptations in their business logic and processes to realize customer value that, in turn, leads to customer intimacy and superior business performance (Treacy and Wiersema 1993; Hoekstra et al. 1999). Hence, the interplay between intra- and inter-organizational relationships is expected to be affected by the nature of the *environmental dynamism* and the type of *business logic* adopted. These external and internal contingencies are suggested to take a role as antecedents and moderators regarding the interplay between the key constructs. Managers must address the dynamics of external environments, the company's own systems and behavior, and, in particular, they must harness the power of technology to enhance human potential and organizational capabilities (Lynch 1994).

Business logic, in turn, influences organizational capabilities by providing a boundary to decision-making and context for the perception and interpretation of the competitive environment (Cyert and March 1963). As far as market-driven business logic is concerned,

recent research in this field has provided strong empirical evidence for a market-oriented management's role as a real key driver within inter- and intra-organizational relationships, and, further, in customer value creation (Workman 1993; Becker and Homburg 1999; Slater and Narver 2000). It is, therefore, further hypothesized that:

$H1_b$: The less market-driven the business logic, the lower the customer intimacy.

$H1_c$: The less volatile or stagnant the external environment, the higher the customer intimacy.

Environmental uncertainty presents a particular challenge to management which must attempt to give shape and purpose to organizational activity under such external conditions. From theoretical point of view, we need a mechanism for modeling the dynamics of competitive behavior in evolving market structures (Doz and Prahalad 1991). Environmental stability or turbulence affects not only organizational forms and systems, but also managerial representations (Menon and Varadarajan 1992). Briefly, excessive stability within an organization can be dysfunctional, while market and technological turbulence makes it difficult for managers to interpret the environment. Weick (1979) explicates that the level of stress and the degree of uncertainty about past success influence how the environment is perceived and interpreted. If the external environment is too complex for managers to handle, an overload may occur. Analogously, moderate external uncertainties affects positively inter-organizational relationships, while, in the case of environmental turbulence or, respectively, of market stagnation, the impact is opposite (Weick 1979; Menon and Varadarajan 1992).

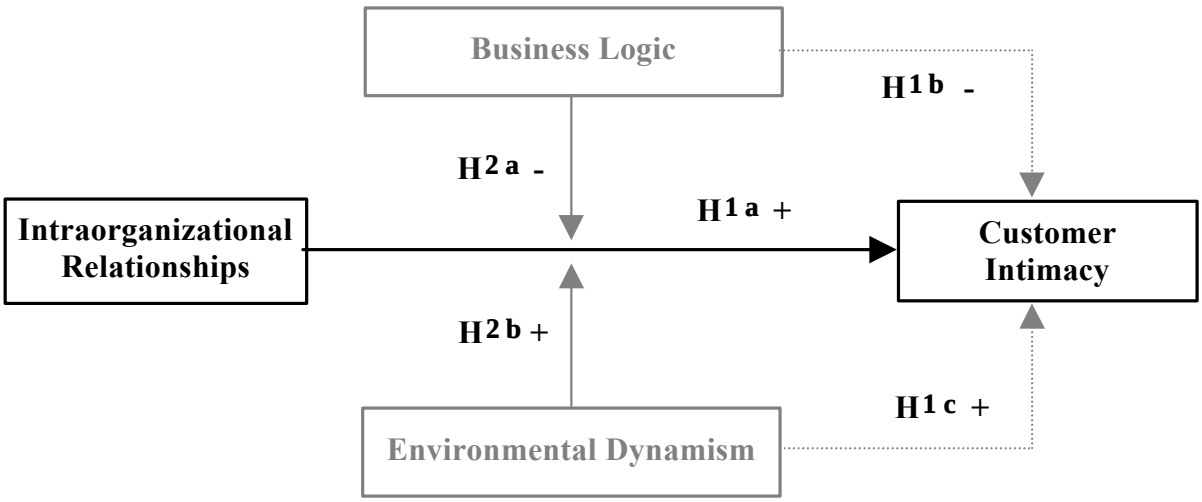
Business logic, in turn, determines the strategic scope of a firm (Day 1994). Competitive markets are not unambiguous realities, rather they are abstractions given meaning through learning and information processing. While managers must reduce or absorb environmental uncertainty to make decisions, a mental model is a way to do it, but a comprehensive assessment of each firm's strategic posture is simply not feasible at all (Day & Nedungadi 1994). In this sense, a firm's dominant business logic is an adaptive emergent property emphasizing complex systems, especially, organizational learning (Bettis and Prahalad 1995). More generally, business logic may emphasize either customer/market-based or product/technology-based orientation (Day 1999; Becker and Homburg 1999). The former has a positive impact on inter-firm links, while the latter stresses dominantly the importance of intra-firm relationships, respectively (Workman 1993; Treacy and Wiersema 1993; Hoekstra et al. 1999). These two types of business logic are not, by all means, mutually exclusive but we assume that in every industrial company one of them dominates, and, thus, it is further hypothesized that:

$H2_a$: The less market-driven the business logic, the lower the impact of intra-firm linkages on customer intimacy.

$H2_b$: The less volatile or stagnant the external environment, the greater the impact of intra-firm linkages on customer intimacy.

To clarify the nature of our hypotheses, Figure 1 depicts the structural relationships between our key constructs.

FIGURE 1
Interplay between Intra- and Inter-Firm Links: An Organizing Framework



In brief, we hypothesize a main effect (customer intimacy is directly affected by the state of intra-firm links and contingency factors involved) and a moderator effect (the strength of this association is negatively affected by the internal contingency factor, and, respectively, positively by the external contingency factor).

Methodology

The linkages between the key constructs of our study are displayed in terms of a contingency-specific model (Figure 1). In view of our hypotheses stated, the interplay between these constructs is discovered by an exploratory study. Since the constructs of intra-organizational relationships and customer intimacy have both been well delineated in the literature, and also partially structured by earlier research (e.g. Aiken and Hage 1968; Ruekert et al. 1985; Heide and John 1992; Treacy and Wiersema 1993; Parvatiyar and Sheth 1997; Hoekstra et al. 1999), the present study follows a deductive approach to data generation and a comparative research setting for generating statistically analyzable data. To this end, a postal survey was used as a method of data collection.

Research Context and Data Collection

In view of the discovery of the moderating effects of business logic and environmental dynamism, as we conducted, manufacturing firms were chosen as the context for examining the interplay between intra- and inter-firm linkages. Based on a limited set of interviews of managers we ensured that the management of intra- and inter-organizational relationships was highly relevant in many types of firm representing the engineering and electrotechnical industries. A sample was drawn from the member companies of the *Federation of the Finnish Metal, Engineering and Electrotechnical Industries* (FIMET) providing a single industrial sector consisting of multiple sub-industries. The initial sample consisted of 340 single firms or strategic business units (SBUs) with more than 60 employees.

Informants (managing directors) were mailed a copy of the questionnaire together with a personalized instruction letter and a return envelope. A total of 142 firms/SBUs responded, which yielded a usable response of 140 fully completed questionnaires and a response rate of 41%. Non-response bias was assessed indirectly by a multivariate analysis of variance comparing early versus late respondents (Armstrong and Overton 1977). The results indicated no significant differences between the groups, and, thus, we do not expect that non-response bias is a problem here.

Measures

A number of multi-item measures were adopted for generating data. Given the limitations of data availability and accessibility to generating objective performance, i.e., customer intimacy assessments, we employed perceptual performance judgments. Studies indicate that there is validity in this approach where a high correlation has been found between objective and perceptual indicators (e.g. Venkatraman and Ramanujam 1986; Venkatraman 1990). We utilized both existing scales derived from prior research, and new ones, developed, especially, for this inquiry through reference to the extant literature. All measures deployed in this study used a 5-point Likert-type scale ranging from 'low' (strongly disagree) = 1 to 'high' (strongly agree) = 5.

Intra-organizational relationships was operationalized by utilizing prior measures, such as interdepartmental connectedness and conflict, centralization vs. decentralization, market-based reward systems (Aiken and Hage 1968; Jaworski and Kohli 1993; Menon et al. 1997), in combination with a number of variables grounded in management and marketing literature (e.g. Miles and Snow 1978; Ruekert and Walker 1985; Ruekert et al. 1987; Doyle and Hooley 1992). Thereafter, we reduced the number of the original items. To this end, we conducted an exploratory analysis by regressing the original indicators with a set of financial performance variables and selected those items which entered ($^{*}p<0.05$) into the stepwise regression and accounted for most of the variation in the performance scores. This screening process provided a multi-item (13) intra-organizational relationship inventory (INTRAO) for the follow-up analysis. These 13 items were then principal component analyzed in order to compose the INTRAO scale (Tuominen et al. 2000). In general, performance regression is used for screening as we contend that intra-organizational relationships (input) leads to intermediate output in terms of customer intimacy, that, in turn, leads to final outcomes (performance).

Customer intimacy was measured unidimensionally by a 6-item scale. The customer intimacy items tapped the extent to which a business has obtained the objectives in: (1) involving in customer's planning process, (2) involving customers in our planning process, (3) partnering and joint planning with customers, (4) aligning each other's operating process, (5) designing operational interface, and (6) formalizing the system of joint decision-making (e.g. Treacy and Wiersema 1993; Sheth and Parvatiyar 1995; Parvatiyar and Sheth 1997; Homburg 1998). Finally, a mean summated score was computed in order to derive the composite scale labeled CUSIN.

Business logic and *environmental dynamism* - two closely intertwined contingency factors (Homburg et al. 1999) - were operationalized as variables moderating the interplay between intra- and inter-firm relationships. First, in order to specify business logic, we employed a principle component analysis on a set of variables describing types of the business logic utilized (Miles and Snow 1978; Doyle and Hooley 1992; Jaworski and Kohli 1993). This analysis produced a two-group solution reflecting market-based (analyzer) and technology-based (prospector) emphasis on the business logic employed. Thereafter, a mean summated

score was computed in order to compose the final unidimensional business logic scale (LOG). Respectively, environmental dynamism was operationalized by the same statistical technique as above, but on the basis of a set of variables derived from the competitive forces model (Porter 1980). The procedure yielded a two-group solution providing a logical interpretation of market volatility and technology turbulence as representatives of significant sources of environmental uncertainty. Here again, a mean summated score was computed to produce the final one-dimensional scale of environmental dynamism (DYN). Reliability of the two composite scales was moderate with an alpha of 0.72 for LOG, and, respectively, 0.90 for DYN. Moreover, within both scales each element exhibited significant item-to-total correlation in the anticipated direction (Nunally 1967; Churchill 1979).

Analysis and Results

Before submitting the data to the main analyses, basic psychometric tests were deployed to provide evidence of the internal validity and reliability of the two key scales involved.

Scales Construction and Validation

Customer intimacy, as conceptualized in this study, is an unidimensional construct. A mean summated score was computed containing the six customer intimacy items in order to derive the composite scale index labeled CUSIN. As for subsequent statistical analyses, certain tests had to be performed on these data so as to assure the integrity of the measurement scale. The scale validation was accomplished by (1) the analysis of item intercorrelations, and (2) item-to-total scale correlations. These results are reported in Table 1.

The scale has an acceptable reliability coefficient (alpha) exceeding the recommended *0.60* threshold (Nunally 1967) for an exploratory study. Also each item-to-total scale correlation was in the anticipated direction indicating high internal scale validity.

TABLE 1
Scale Statistics and Analyses of Internal Validity and Reliability of the Customer Intimacy (CUSIN) Scale (N=139)

Scale	No of items	Mean	Standard deviation	Chronbach alpha	Item-to-total correlations (1)	(2)	(3)	(4)	(5)	(6)
CUSIN*	6	17.35	5.45	0.88	0.61	0.72	0.66	0.68	0.69	0.70

* **CUSIN** items = (1) involving in customer's planning process, (2) involving customers in our planning process, (3) partnering and joint planning with customers, (4) aligning each other's operating process, (5) designing operational interface, and (6) formalizing the system of joint decision-making.

Intra-organizational relationships scale construction started with a product-moment correlation analysis among the selected 13 items. The results indicated a relatively strong between-item association. We then utilized a principle component analysis with varimax orthogonal rotation to identify the number and content of components underlying the construct. The analysis provided a four-factor solution. Mean summated scores were computed for these sub-scales, and the reliability coefficient (alpha) of each of the sub-scales was in the acceptable range, varying between *0.54* and *0.81*, respectively (Tuominen et al. 2000). Thereafter, we mean-summated the sub-scales in order to compose a unidimensional multi-item intra-organizational relationships scale index labeled INTRAO.

TABLE 2
Scale Statistics and Analyses of Internal Validity and Reliability of the Intra-Firm Relationships (INTRAO) Scale (N=136)

Scale	No of items	Mean	Standard deviation	Chronbach alpha	Item-to-total correlations (1)	(2)	(3)	(4)
INTRA 1	3	11.18	2.37	0.81	0.73	0.65	0.60	
INTRA 2	4	15.82	2.08	0.54	0.45	0.35	0.26	0.26
INTRA 3	3	12.56	1.95	0.55	0.56	0.56	0.07	
INTRA 4	3	10.17	2.01	0.57	0.38	0.51	0.28	
INTRAO*	4	15.31	1.75	0.55	0.33	0.28	0.29	0.47

*** INTRAO** sub-scales = (1) incentive systems, INTRA 1; (2) decentralization, INTRA 2; (3) interfunctional coordination, INTRA 3; (4) commitment of employees INTRA 4.

The results of internal validity analysis (see Table 2) refer to the patterns of high intercorrelations of the scale. Also reliability (alpha) for the scale satisfies the standard level suggested by Nunnally (1967). Indeed, the coefficient alpha for the 13 items pooled into a single aggregate measure was *0.73* (Tuominen et al. 2000). This indicates that the items included in the scale are all related to a common construct, and, thus, the scale constitutes a coherent whole in measuring the state of intra-firm relationships (e.g. Churchill 1979).

Interplay between Intrafirm - Interfirm Relationships: Hypotheses Tests

The testing of hypothesis requires the investigation of the main effects of both intra-firm relationships, and contingency and control variables on customer intimacy, and moderator effects from internal and external contingencies. This was done by employing hierarchical moderated regression analysis (Hair et al. 1995; Arnold, 1982; Sharma et al. 1981). This procedure requires the investigation of the main effects with the following equation:

(1) $$Y = a + b_1X_1 + \ldots b_9X_9 + e$$

where Y denotes the dependent variable: customer intimacy; X_1 corresponds to intra-firm links, while X_2 to X_5 correspond to incentives, decentralization, coordination, and commitment (the four sub-components of intra-firm links); X_6 and X_7 correspond to business logic and environmental dynamism; and X_8 and X_9 correspond to control variables (company size and age), respectively. The analysis also requires the investigation of moderator effects, and, to this end, a supplementary regression equation was built in which multiplicative interaction terms were entered to the regression model, as follows:

(2) $$Y = a + b_1X_1 \ldots + b_9X_9 + b_{10}X_1X_6 \ldots + b_{19}X_5X_7 + e$$

where, in addition to Equation (1); X_1X_6 to X_5X_7 are the ten multiplicative interaction terms (the cross product of the predictor and the moderator variables), and, b_{10} to b_{19} are the regression coefficients of these ten potential interaction terms between the predictor and moderator variables. If the multiplicative interaction term coefficient is statistically significant, a moderator effect is present. A significant interaction term identifies either a quasi or pure moderator effect. A pure moderator is not related to either the dependent or predictor variables, but interacts with the predictor variable to modify the form of the

relationship. A quasi moderator, in turn, not only interacts with the predictor variable, but is also a predictor itself (Sharma et al. 1981; Schoonhoven 1981).

The results of our *main effects multiple regression analysis*, reported in Table 3 (left column), show that 'intra-firm links' (INTRAO) (*b=0.34, p<0.001*) and the control variable 'company age' (*b=0.20, p<0.05*) are the only significant predictors for customer intimacy.

TABLE 3
Results of the Main Effects and Moderated Effects Multiple Regression Analyses: Standardized Regression Coefficients (*b*) and *t*-values (N=126)

Independent variables	Dependent variable (customer intimacy)			
	Main effects regression*		Moderated regression*	
Intrafirm links INTRAO (X_1)	**0.34**	(4.00***)	0.10	(0.94)
Business logic (X_6)	-0.02	(-0.21)	0.06	(0.69)
Interaction term (X_1X_6)	-	-	0.04	(0.22)
Environmental dynamics (X_7)	0.71	(0.83)	0.07	(0.85)
Interaction term (X_1X_7)	-	-	-0.11	(-0.89)
Incentives INTRA 1 (X_2)	-0.01	(-0.09)	0.09	(1.02)
Business logic (X_6)	-0.02	(-0.21)	0.06	(0.69)
Interaction term (X_2X_6) *prospector*	-	-	**-0.25**	(-3.09**)
Environmental dynamics (X_7)	0.71	(0.83)	0.07	(0.85)
Interaction term (X_2X_7)	-	-	-0.04	(-0.43)
Decentralization INTRA 2 (X_3)	-0.16	(-1.60)	-0.03	(-0.39)
Business logic (X_6)	-0.02	(-0.21)	0.06	(0.69)
Interaction term (X_3X_6)	-	-	0.09	(0.83)
Environmental dynamics (X_7)	0.71	(0.83)	0.07	(0.85)
Interaction term (X_3X_6)	-	-	-0.11	(-1.37)
Coordination INTRA 3 (X_4)	0.18	(1.76^a)	**0.28**	(3.39***)
Business logic (X_6)	-0.02	(-0.21)	0.06	(0.69)
Interaction term ($X4X_6$)	-	-	-0.14	(-1.75^a)
Environmental dynamics (X_7)	0.71	(0.83)	0.07	(0.85)
Interaction term (X_4X_7)	-	-	0.03	(0.32)
Commitment INTRA 4 (X_5)	0.01	(0.08)	0.10	(1.17)
Business logic (X_6)	-0.02	(-0.21)	0.06	(0.69)
Interaction term (X_5X_6)	-	-	0.13	(1.15)
Environmental dynamics (X_7)	0.71	(0.83)	0.07	(0.85)
Interaction term (X_5X_7) *market turbulence*	-	-	**0.21**	(2.54*)
Company size (X_8)	-0.02	(-0.21)	0.12	(1.42)
Company age (X_9)	**0.20**	(2.31*)	0.05	(0.55)
F	9.65***		10.31***	
Adjusted R^2	0.12		0.18	
Multiple *R*	0.37		0.45	

Notes: ***$p<0.001$, **$p<0.01$, *$p<0.05$, ($^a p<0.1$)

Neither the sub-components of intra-organizational relationships: coordination, decentralization, commitment, and incentives, nor our moderators: business logic and environmental dynamism are by themselves significant predictors for customer intimacy. The coefficient of determination (i.e. adjusted R^2 values) for the main effects regression model is found to be *0.12*. This value is satisfactory, especially, due to the fact that we have utilized field data, and the number of our observations was relatively small (140). The small

sample size is likely to reduce the likelihood of finding any significant relationship, thus, increasing the conservatism of statistical tests (Speed 1996).

In brief, these results provide strong empirical evidence for our hypothesis H1a, while our hypothesis H1b and H1c are rejected, respectively. It is worth of mentioning that business logic takes also the role of an antecedent or predictor of intra-firm links. It had a significant positive impact on both the mean summated INTRAO *(b_4=0.57; p<0.001; R^2=0.32)* and its sub-components (results are not reported here). On the other hand, no significant effects were found for environmental dynamism in this respect.

Next, the key results of our *moderated multiple regression analysis* are reported and interpreted in a more detailed manner (see Table 3 right column).

The aim of this analysis was to test whether business logic and environmental dynamism have any significant impact on the association between intra-organizational relationships and customer intimacy. As hypothesized, we expected that 'anti'-market-driven business logic would weaken the association (H2a), whereas moderate environmental conditions would have a positive effect on it (H2b).

The stepwise regression analysis, where the interaction terms were introduced, produced somewhat confusing findings. In the first step, INTRAO, the mean summated scale of the four intra-organizational relationships components, was entered in the model *(F=13.47***; R^2=0.09)*. In the second step, the interaction term between commitment (INTRA 4) and environmental dynamics entered the model *(F=10.34***; R^2=0.13)*. The third step provided a model were also the interaction term between incentives (INTRA 1) and business logic was entered the model *(F=8.72***; R^2=0.16)*. In the next step, coordination (INTRA 3) entered the model *(F=7.95***; R^2=0.18)* as a pure predictor. However, the regression analysis was able to find a fifth, and statistically even better model by dropping out the INTRAO variable *(F=10.31***; R^2=0.18)*. If this is accepted as the best solution, the equation explaining the variation in customer intimacy can be written as:

(3) $$Y = a + b_4X_4 - b_{12}X_2X_6 + b_{19}X_5X_7 + e$$

Accordingly, coordination is the only predictor *(b_4=0.28; p<0.001)* for customer intimacy, while business logic *(b_{19}= -0.25; p<0 .01)* and environmental dynamism *(b_{12}=0.21; p<0.05)* are moderators, although not with coordination, but with incentives and commitment, respectively. More precisely, business logic is a pure moderator, while environmental dynamism takes a role of a homologizer moderator due to the fact that it does not interact significantly neither with the predictor nor with the dependent (criterion) variable (Sharma et al. 1981). One explanation for this is the nature of the functional relationship between the predictor and dependent variables, and, respectively, between the moderator and the former ones. In this concern, the former ones, intra- and inter-firm relationships, are mutually interrelated, while environmental dynamism does not have any direct links neither with intra-firm nor with inter-firm relationships. Actually, a homologizer moderator influence the strength of the interplay between predictor and criterion variables across homogeneous sample sub-groups defined by itself (Greenley 1999). This was verified by a follow-up analysis in terms of a split sample test indicating significant differences in the sub-group profiles (Tuominen et al. 2000).

In short, the better the interfunctional coordination between a firm's organizational units, the greater the customer intimacy. But then again, it is more difficult to interpret the role of the two moderators because neither incentives (INTRA 1) nor commitment (INTRA 4) did have statistically significant *b*-coefficients, hence they were not entered the model. One reason could be those relatively high correlations between the interaction terms and the

predictors. Derived from the results of our follow-up analyses, there were significant correlation between incentives (INTRA 1) and business logic (*R=0.35***), while no significant correlation was found between commitment (INTRA 4) and environmental dynamism (*R=0.16*). In the former case, the correlation between the predictor and moderator may explain why the predictor is dropped out by the moderated regression analysis.

Some tentative conclusions of the moderating effects can be made. The more incentives used, and, the closer the prospector type the business logic, the lower the customer intimacy. This association can be explained by the fact that following a prospector type of business logic a company's incentive system usually focuses on rewarding innovativeness and new product development affecting negatively the level of customer intimacy. Similarly, the more moderate the environmental dynamism in terms of market uncertainty, and, the more the employees are committed to the company, the greater the customer intimacy. In other words, to maintain and even enhance close customer relationships in evolving market structures, companies need to put emphasis, especially, on committing their employees. Actually, these results give partially empirical evidence for our hypothesis H2b and H2b due to the fact that we expected a negative moderating effect regarding business logic and, respectively, a positive one as far as a moderate environmental dynamism is concerned.

Furthermore, where moderator effects are identified then further analysis can verify monotonicity in the form of the relationship between the predictor and dependent variables over the measured range of the moderator (Greenley 1999). We utilized standardized variables (z-scores) in our moderated regression analyses, and, thus, also standardized regression coefficients, instead of unstandardized, are valid inputs in this follow-up analysis (Schoonhoven 1981). In our case, the partial derivative[3] for the interaction terms 'incentives' by 'business logic' (Equation 4), and, respectively, 'commitment' by 'environmental dynamism' (Equation 5) are

(4) $dCIN/dINC = 0.09 + (-0.25)LOG = 0$
$LOG = 0.36$

(5) $dCIN/dCOM = 0.10 + (0.21)DYN = 0$
$DYN = -0.48$

where the numbers are standardized regression coefficients, *CIN* is 'customer intimacy', *INC* is 'incentives', *LOG* is 'business logic', *COM* is 'commitment', and *DYN* is 'environmental dynamism'. The values of LOG and DYN are the inflection points of the moderating effects. Since values above and below that point have been substituted into equation, the signs of the answers will indicate the direction of the moderating relationship. Accordingly, if values of LOG above *0.36* are substituted into Equation (4) the answers are negative, whereas below *0.36* they are positive, and, respectively, if values of DYN above *-0.48* are substituted into Equation (5) the answers are positive, while in the case of below *-0.48* they are negative. Hence, both relationships are nonmonotonic: incentives are negatively associated with customer intimacy among highly market-oriented management (market-driven business logic), while environmental stagnation is dysfunctional from the point of view of the interplay between intra-firm commitment and close customer relationships.

[3] Schoonhoven (1981) explicates that monotonicity cannot be identified by simply inspecting the signs and magnitude of the regression coefficients, but can be determined from a partial derivative of the moderated regression model: $dY/dX_1 = b_i + b_jX_k$, where b_i and b_j are unstandardized regression coefficients.

Last but not least, multicollinearity may cause problems when both the individual and the interaction terms are included in a regression equation (Hair et al. 1995). In order to address this concern, we transformed the variables in the second equations (moderated regression model) by using mean centered variables, i.e. z-scores (Aitken and West 1991). Furthermore, *Variation Inflation Factor* (VIF) was calculated for each of the predictor variables in each of the equations. The tolerance for each of the variables was moderate (*0.99* or above) and the VIF was relatively low (*1.01* or lower). Thus, multicollinearity is not a problem in this study (Sharma et al. 1981). More generally, the explanatory power (adjusted R^2=*0.18*) of our moderated regression model is satisfactory indicating a relatively strong association between intra- and inter-organizational relationships.

Conclusions

The notions of inter- and intra-organizational relationships have received increased academic attention during the last decade. Both the management and marketing literature have put a lot of emphasis on this field of research. While the former has predominantly focused on the intra-firm domain from cognitive, behavioral or systems perspectives, the latter has been centered in the inter-firm linkages from network or relationship marketing point of view. However, juxtaposition of these diverse research traditions does not run through academic discourse due to the fact that previous research has not integratively or simultaneously addressed the two (for an in-depth discussion see e.g. Becker and Homburg 1999; Bisp 1999). Hence, this study has attempted to lay out what we know about the interrelationships among intra- and inter-firm links, and, meanwhile, to improve our understanding of marketing performance in terms of customer intimacy.

This study has contributed on our understanding of external and internal moderating factors on the interplay between intra-organizational relationships and customer intimacy. The establishment and management of new organizational forms and systems in order to sustain close customer relationships is a key prerequisite for successful business in an environment characterized by the increasing use of networks and networking activities (Möller and Rajala 1999). In this process, environmental dynamism in terms of technology and market turbulence takes a moderating role in a company's ability to perform close and intimate relationships with its customers. On the other hand, a successful adaptation to changing environmental conditions needs a clear statement of business strategy or logic, thus, enhancing value for the customers and inventing or adopting appropriate technologies. Therefore, business logic is a moderating factor for the association between intra-firm links and customer intimacy.

Empirical evidence has been obtained from a small open economy, which has experienced high levels of technology and market changes during the last decade. On the other hand, the industrial field examined consists of companies deploying different types of strategy and business logic. As for studying the interplay between the key constructs involved, we employed a method of hierarchical moderated regression analysis for testing both the main effects and the moderating effects in this respect. We found a strong association between the levels of intra-firm links and customer intimacy. Moreover, companies with longer experience in the market were found to perform better in customer intimacy. This finding also indicates that the older companies are putting more effort on closer and more long-term customer relationships. Although business logic and environmental dynamism did not have any direct impact on customer intimacy, empirical evidence show that these contingencies are important moderating factors in this respect,

especially, when connected to issues such as incentive systems and employee commitment, respectively.

Briefly, our conceptual framework and results extend past theories in this field of research. As far as intra- and inter-organizational relationships are simultaneously concerned, our major findings verify prior research results and formerly made suggestions (e.g. Workman 1993; Treacy and Wiersema 1993; Becker and Homburg 1999; Hoekstra et al. 1999). More generally, this study has contributed to bridging the gap between intra- and inter-firm linkages, and, meanwhile, between the management and marketing literature.

The major findings of this study are of evident practical interest. We crystallize the implication recipe for management as follows: (1) by developing organizational design in line with the dominant business logic and evolving market structures, companies are able to improve their closeness to customer, and (2) by creating and maintaining flexible intra-firm links, in line with organizational forms and systems of key customers, companies may enhance their competitive advantage and success in business performance. As such, flexible and adaptive strategies and organizational forms must be preferred - not as fixed, but fluid - and, increasingly, relationships instead of transactions should be emphasized in real business life. In this respect, one foundation for the change is a sift in managers' mental model - and so to consider - how to build and sustain customer intimacy, and what kind of role intra-firm consistency will have. Indeed, this is a managerial dilemma and a key challenge within our rapidly evolving information era.

In terms of further research, implications for advance work in this endeavor are threefold. Firstly, and in light of our results, more research must be done to verify the findings of this study and to explore whether and how some other significant contingencies (e.g. business strategy and market globalization) moderate the interplay between intra- and inter-firm links. In this concern, research should address the role of intra- and inter-firm links by deploying an environment-structure-performance contingency approach. Secondly, we need more sophisticated and validated measures of the organizational design and customer intimacy constructs tapping all the elements of intra- and inter-organizational relationships involved. Hence, a cross-industrial study by employing confirmatory approaches and structural equation models (LISREL type of techniques) would further validate the measures and results of this study. Finally, the cross-sectional nature of this study implies that the conclusions that are made must be restricted to those of association. A study employing a longitudinal research setting would provide stronger evidence on causal links between the key constructs involved.

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