

The Choice of Knowledge Transfer Mechanisms in Franchising Networks

A Property Rights View

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Abstract

The paper offers a property rights view on the choice of knowledge transfer mechanism in franchising networks. Starting from the information richness theory, we argue that the degree of contractibility of knowledge determines the information richness of the knowledge transfer mechanism. The lower the contractibility of knowledge, the more knowledge transfer mechanisms with a high degree of information richness are used, such as training, visits and meetings. We examine the following hypotheses: (a) If the franchisor's knowledge is contractible/explicit, knowledge transfer mechanisms with a lower degree of information richness are used. (b) If the franchisor's knowledge is noncontractible/tacit, knowledge transfer mechanisms with a higher degree of information richness are used. (c) If the franchisor's knowledge is partly contractible and partly noncontractible, knowledge transfer mechanisms with a high and low degree of information richness are used. We test these hypotheses by using data from 83 franchising firms in the Austrian franchise sector. The data provide support for the hypotheses.

KEYWORDS:

KNOWLEDGE TRANSFER, INFORMATION RICHNESS, PROPERTY RIGHTS THEORY, CONTRACTIBILITY, FRANCHISING

Executive Summary

The success of franchising networks is highly dependent on the ability of franchisees to replicate the franchisor's business concept at the local markets under different environmental conditions. In order to create competitive advantage by setting up a franchising network, the franchisor has to use knowledge transfer mechanisms - like initial and annual training, outlet visits, meetings (conferences, councils, committees), fax, phone, intra- and internet and other electronic communication modes - that facilitate the interorganizational transfer of knowledge. Thus successful knowledge transfer between franchisors and franchisees is a key to the network performance. We adopt a property rights view to explain the use of knowledge transfer mechanisms in franchising networks. We argue that the concept of contractibility of knowledge assets developed in the property rights theory is closely related to the concept of tacitness. Tacit system-specific knowledge is noncontractible and cannot be easily transferred among network partners, while explicit knowledge is contractible and can be more easily transferred from the franchisor to the franchisees. Furthermore, we combine the property rights view with the information richness theory. Information richness describes the ability of a communication mechanism to reduce task ambiguity; it refers to the following attributes: feedback capability, availability of multiple cues (voice, body, gestures, and words), language variety, and personal focus (emotions, feelings). The more of these attributes a mechanism possesses, the higher is the degree of information richness of the mechanism, the greater is its capacity to handle ambiguity, and the higher is the knowledge transfer capacity. Thus information-rich communication media, like face-to-face meetings, seminars, visits and trainings, are suitable for transferring tacit knowledge, while media with low information richness, like

manuals, letters, fax messages, databases, postal mailings and emails, are suitable for the transfer of codifiable knowledge. The data from our survey of 83 Austrian franchising firms indicate that the knowledge transfer from franchisor to franchisees is governed by more high-information rich-mechanisms if the system knowledge is not codifiable but at least teachable, and it is governed by more low-information rich-mechanisms if the system-knowledge is codifiable. Therefore, for a franchising strategy to be successful for both the local entrepreneurs and the franchisors, the franchisors have to use the right knowledge governance strategy. An efficient knowledge transfer from the franchisor to the franchisees can be only realized if person-based knowledge transfer mechanisms (like training, visits, council, committee and conference meetings) are used for the transfer of noncontractible but at least teachable system-specific knowledge, and if information-based knowledge transfer mechanisms (like reports, handbooks, databases, fax, intra- and internet) are used for the transfer of more codifiable and hence contractible system-knowledge.

1 Introduction

The success of franchising networks, strategic alliances, joint ventures and clusters is highly dependent on the capability to create and transfer knowledge within the network (Albino et al. 1999; Maskell, Malmberg 1999; Hult et al. 2004). Franchising networks require the transfer of system-specific know-how to local entrepreneurs to create a network of successful franchised outlets. Higher efficiency of the network partners results in a higher residual surplus for the whole system. Thus, a successful replication of the business concept by the franchisees and managers of the local outlets is a key to realize competitive advantage (Argote, Ingram 2000; Winter 1987). This requires an efficient governance of the knowledge transfer from the franchisor to the franchisees. The franchisor can use a variety of transfer mechanisms: Training, conference meetings, councils, committees, outlet visits, telephone, fax, intra- and internet and other electronic transfer mechanisms. The paper addresses the issue of the choice of knowledge transfer mechanisms in franchising networks.

In previous years a large number of researchers in organization theory and management examined knowledge transfer within and across organizational boundaries using information (media) richness theory and the knowledge-based view of a firm. The first attempt was to answer the questions of how to reduce ambiguity in order to facilitate the transfer of information (Daft, Lengel 1986; Russ et al. 1990; Dennis, Kinney 1998; Sheer, Chen 2004). The knowledge based view of the firm (Barney 1991; Kogut, Zander 1993; Nonaka, Takeuchi 1996; Conner, Prahalad 1996) argues that gaining competitive advantage by setting up networks requires effective mechanisms to facilitate

interorganizational transfer of tacit and explicit knowledge (Zander, Kogut 1995; Inkpen 1996; Hakanson 2005). In this paper we develop a property rights approach that integrates results from the knowledge based view of the firm and information richness theory. We argue that differentiation between tacit and explicit knowledge in the knowledge based theory is closely related to the concept of contractibility of knowledge in the property rights theory. In addition, information richness theory offers a criteria ('information richness' (IR)) to differentiate knowledge transfer mechanisms according to their information processing (knowledge transfer) capacity. In franchising, knowledge transfer mechanism with a relatively higher degree of information richness are training, conference meetings, councils and committees, visits of the outlets; and knowledge transfer mechanisms with a relatively lower degree of information richness are fax, phone, intra- and internet and other electronic transfer mechanisms. According to the property rights theory, contractibility of knowledge determines IR of the knowledge transfer mechanisms. The thesis of our paper is: The higher the noncontractibility of the franchisor's system knowledge, the more knowledge transfer mechanisms with a higher degree of IR should be used to facilitate an efficient knowledge transfer from franchisor to franchisees. Empirical results from the Austrian franchise sector support this view.

The article is organized as follows: Section two reviews the relevant literature related to knowledge transfer in networks. In section three we develop the property rights view of knowledge transfer mechanisms and derive testable hypotheses. Finally, we test the hypotheses that the choice of knowledge transfer mechanisms in franchising depends on the contractibility of knowledge using data from the Austrian franchise sector.

2 Related Literature

Research on information and knowledge transfer in organization started with the information richness theory in the 1980-ies (Daft, Macintosh 1981; Daft, Lengel 1984, 1986; Trevino et al. 1987; Daft et al. 1987; Russ et al. 1990; Sheer, Chen 2004). According to this view, effective communication requires a fit between task ambiguity/equivocality and 'richness' of the communication media. Recent studies extend this view to new electronic communication media (Lim, Benbasat 2000; Büchel, Raub 2001; Sexton et al. 2003). However, information richness theory cannot explain the knowledge transfer, because it does not relate the concept of information richness to the characteristics of knowledge. Since the 1990s many researchers in the field of the knowledge based view of the firm have examined the problem of internal and inter-organizational knowledge transfer (Zander, Kogut 1995; Nonaka 1994; Mowery et al. 1996; Szulanski 1995, 2000; Baum, Ingram 1998; Simonin 1999a,b; Argote 1999; Albino et al. 1999; Argote et al. 2003; Bresman et al. 2003; Nonaka et al. 2003; Gertler 2003; Moffat, Archer 2004). Starting from Polanyi's knowledge concept (Polanyi 1962), they investigated knowledge transfer in organizations and networks. According to the knowledge based view of the firm, tacitness positively varies with the difficulty of knowledge transfer. On the other hand, most of this literature does not investigate the relationship between knowledge characteristics and knowledge transfer mechanism. Inkpen and Dinur (Inkpen 1996; Inkpen, Dinur 1998) are an exemption. They go further by analyzing the relationship between knowledge characteristics and knowledge transfer mechanisms in international joint ventures.

However, they do not develop a more general approach that explains the relationship between knowledge types and knowledge transfer mechanisms in networks.

Although franchising has been treated extensively in organization economics, management and marketing in the last decade, the problem of knowledge transfer between the franchisor and franchisees remains largely unexplored (Darr et al. 1995; Paswan, Wittmann 2003; Paswan et al. 2004). Darr et al. (1995) examine the transfer of knowledge between franchisee-owned outlets by using reports, phone calls, personal acquaintances and meetings as transfer mechanisms. The study shows that knowledge is primarily transferred across stores owned by the same franchisee but not across stores owned by different franchisees because the frequencies of phone calls, personal acquaintances and meetings are significantly higher in the case of stores owned by the same franchisee compared to stores owned by different franchisees. Furthermore, Paswan and Wittmann (2003) argue that franchising firms as network organizations characterized by dense social contacts have the potential to benefit greatly from knowledge created by its distributed network members. This is compatible with Kogut and Zander's view (Zander, Kogut 1995) who point out that social relations among the network partners may support the transfer of tacit knowledge. However, Paswan et al. do not investigate the problem of the choice of knowledge transfer mechanisms in the network.

In sum, the existing studies have the following theoretical and empirical deficits: Firstly, they do not offer a theoretical framework for the explanation of the knowledge transfer mechanisms in networks, and, secondly, they do not develop and test hypotheses about knowledge transfer mechanisms in franchising networks. Starting from this gap, the

objective of our paper is to develop a property rights approach on the choice of knowledge transfer mechanisms that integrates results from the knowledge based view of the firm and the information richness theory. Our main contribution to the literature is to apply the property rights theory to explain knowledge transfer mechanisms in franchising networks. Further, our study utilizes primary data from Austrian franchise systems that enables us to estimate the factors which the theory considers affect the choice of knowledge transfer mechanism. We present the first empirical evidence that the information richness of knowledge transfer mechanisms in franchising is positively related to the noncontractibility/tacitness of system-knowledge. Consequently, this research moves forward the theoretical aspect of knowledge transfer in networks by stating that the choice of knowledge transfer mechanisms depends on the contractibility of knowledge.

3 Theory Development

Since our property rights approach uses the concept of information richness to operationalize the knowledge transfer capacity, first we discuss the main proposition of the information richness theory.

3.1 Information Richness Theory

The information richness (IR) concept was developed by Lengel and Daft (Daft, Lengel 1984; 1986). IR-theory examines the question, which communication (knowledge transfer) mechanisms are effective under different degrees of ambiguity (or equivocality) of the communication task (Daft et al. 1987). An effective knowledge transfer requires a fit between IR of the communication mechanism and the information processing requirements

of the task (Sheer, Chen 2004). The information processing requirements directly vary with the task ambiguity. 'Richness' consists of four attributes of the communication mechanism: feedback capability, availability of multiple cues (voice, body, gestures, words), language variety, and personal focus (emotions, feelings). The more of these attributes a mechanism possesses, the higher is the degree of IR of the mechanism, and the greater is their capacity to handle ambiguity and hence the knowledge transfer capacity. Knowledge transfer mechanisms with a high degree of IR refer to face-to-face interactions and team-based mechanisms (meetings, trainings, seminars, workshops, visits) and knowledge transfer mechanism with a low degree of IR refer to written media, manuals, reports, data base and written instructions. Face-to-face is the richest communication mechanism because it has the capacity for direct experience, multiple information cues, immediate feedback and personal focus. Written impersonalized documents, like standardized computer reports, databases, computer prints, are the media with the lowest information richness level. There is no opportunity for feedback and these documents have quantitative nature. The information richness theory can be summarized by the following proposition: The higher the task ambiguity, the more rich knowledge transfer mechanisms are needed for an effective knowledge transfer.

3.2 A Property Rights View on the Choice of Knowledge Transfer Mechanisms

According to the property rights theory, the characteristic relevant for the determination of the efficient knowledge governance mechanisms is the degree of contractibility of knowledge (Hart and Moore 1990; Brynjolffson 1994; Hart 1995; Baker and Hubbard 2003, 2004; Lerner, Malmendier 2005). If the knowledge is explicit and hence codifiable, all

relevant information on actions and environment can be written down in contracts. In this case, knowledge can be efficiently transferred by using low-IR-knowledge transfer mechanisms. If the knowledge is tacit and hence difficult to codify, contracts are incomplete because not all relevant knowledge and actions can be written down. In this case, higher-IR-transfer mechanisms are needed to process and transfer the noncontractible component of knowledge. This is compatible with Teece' view (Teece 1985, 229): "Tacit knowledge is extremely difficult to transfer without...teaching, demonstration and participation". Therefore, as noncontractibility of knowledge increases by degree, a larger knowledge transfer capacity and hence more higher-IR-knowledge transfer mechanisms are required for an efficient knowledge transfer. In addition, Berry & Broadbent (1987), Argote (1999) and Almeida & Kogut (1999) argue that high-information rich mechanisms facilitate both the transfer of tacit and explicit knowledge because of the complementarity between tacit and explicit knowledge. In sum, the property rights view can be summarized by the following proposition: The more noncontractible/tacit the knowledge is, the more knowledge transfer mechanisms with a higher degree of IR are needed to facilitate an efficient knowledge transfer.

Now we apply this approach to the choice of knowledge transfer mechanisms in franchising networks. We start with an example by comparing three knowledge situations and ask the question which knowledge transfer mechanisms should be used (see figure 1).

First, we assume that the system knowledge of the franchisor is codified in reports, manuals and databases. With a high-contractibility component the system knowledge can be

easily transferred by using lower-IR-mechanisms (for instance postal mailings, fax, intra- and internet and other electronic transfer mechanisms) (see FIT I in figure 1).

Second, we assume that the system-specific knowledge is not codifiable. In this case, most of the franchisor's knowledge and organizational capabilities reside within persons and groups in the franchisor's headquarters and at the outlets. With a high-noncontractibility component the system-specific knowledge can be only transferred by using more higher-IR-mechanisms (for instance training, meetings, visits, committees, councils) (see FIT II in figure 1).

If these fit conditions are not fulfilled, the following inefficiencies may arise (Russ et al. 1990): (a) MISFIT I: If the franchisor's system-specific knowledge is mainly tacit, the knowledge is not efficiently transferred to the franchisees by using low-IR mechanisms. In this case, the franchisees are unable to understand and adequately apply the noncontractible system know-how because it is based on organizational capabilities of employees and groups in the headquarters and at the company-owned outlets. (b) MISFIT II: If the franchisor's knowledge is codifiable, it is not efficiently transferred by using high-IR mechanisms. Although high-IR-mechanisms facilitate the transfer of contractible knowledge, it is not efficient because high knowledge transfer costs arise due to the high set-up costs of high-IR-mechanisms. In addition, due to behavioural uncertainty the risk of information selection and manipulation increases uncertainty under personal knowledge transfer mechanisms.

Insert Figure 1

Third, we assume that the system-specific knowledge of the franchisor is partly contractible and partly noncontractible. Further we assume that the explicit part is codified in manuals, reports, and databases and additional system-specific knowledge resides within the managers, employees and teams in the franchisor's headquarters and the outlets. Although codified manuals, reports and databases exist, their utility for franchisees is relatively low because they cannot adequately apply the codified part of the system-specific knowledge because this requires specific organizational capabilities. If in this case the franchisor only adopts lower-IR-knowledge transfer mechanisms, the franchisees are unable to adequately understand and apply the requisite system knowledge. Consequently, since a large part of the system knowledge to be transferred to the franchisees is noncontractible, low-IR-mechanisms are insufficient to facilitate the transfer of the requisite knowledge. In this case, both low- and high-IR mechanisms are needed to efficiently transfer the system knowledge. For instance, training, visits and meetings would facilitate the transfer of the high-tacit component of knowledge and thereby also improving the understanding of the more-explicit-component of the system knowledge.

As a result, the property rights proposition can be stated as follows: The more noncontractible the system knowledge of the franchisor, the more higher-IR-transfer mechanisms are needed for an efficient knowledge transfer; and the more contractible the system knowledge, the more lower-IR-transfer mechanisms are needed for an efficient knowledge transfer. Therefore the following testable hypothesis can be derived:

H1: The less (more) contractible the knowledge of the franchisor, the more higher-IR-mechanisms relative to lower-IR mechanisms are used. Further, we can derive two sub-hypotheses:

- H1A): If the franchisor's knowledge is more contractible, more knowledge transfer mechanisms with a lower degree of IR are used.
- H1B) If the franchisor's knowledge is more noncontractible/tacit, more knowledge transfer mechanisms with a higher degree of IR are used.

Finally, we can answer the question, which relationship does exist between the information richness theory and the property rights view. As argued above, information richness theory examines the influence of task ambiguity on the choice of the knowledge transfer mechanism and the PR-theory examines the influence of noncontractibility of knowledge on the choice of knowledge transfer mechanism. Following Simonin (1999a), we argue that tacitness and hence noncontractibility of knowledge is an antecedent of task ambiguity. Hence the more tacit the franchisor's system-specific knowledge, the higher the level of ambiguity. Greater levels of ambiguity, and therefore of difficulties of transferring knowledge to the franchisees, are associated with aspects of system-specific knowledge that are less contractible.

4 Empirical Analysis

4.1 Data Collection

The empirical setting for testing the hypotheses is the franchising sector in Austria. We used a questionnaire to collect data from 326 franchise systems in Austria. The data was collected between October 2000 and March 2001. The questionnaire took approximately 10 minutes to complete on the average. We received 83 completed responses. To trace non-response bias, we investigated whether the results obtained from analysis were driven by differences between the group of respondents and the group of non-respondents. Non-response bias was measured by comparing two groups of responders (October and March) (Amstrong and Overton 1977). No significant differences emerged between the two groups of respondents.

Before examining our hypotheses, we ask the question, which knowledge transfer mechanisms are used by the 83 franchising firms in Austria (see figure 2 and 3). Figure 2 shows the percentage of franchising firms that use the following mechanisms: Personal contacts (89 %), partner meetings (84 %), postal mailings (77 %), telephone (69 %), fax (62 %), seminars (56 %), internet (56 %), conferences, which provide a forum for exchange of experience between franchisors and franchisees (50 %), intranet (36 %), councils (42 %) and committees (29 %), which have advisory and decision making/supporting functions. In addition, figure 3 shows that the system knowledge of the franchisor is primarily transferred by using higher-IR-mechanisms, such as training, meetings between franchisor and franchisee and visits. Lower-IR-mechanisms are less important for the transfer of system-specific knowledge to the franchisees.

Insert Figure 2 and 3

4.2 Measurement

To test the hypotheses the following variables are important: Information richness of knowledge transfer mechanisms, characteristics of knowledge, and sector as control variable (see appendix).

Information Richness

Information richness is measured by the extent to which the franchisors use intra- and internet, fax, phone, initial and annual training, annual meetings between franchisors and franchisees, councils and committees, and franchisors' visits to franchisees outlets. The franchisors were asked to rate the use of these mechanisms on a seven-point scale. The higher the indicator, the higher is the franchisor's use of a certain mechanism. In addition, we construct indicators for the use of lower-IR-mechanisms (LIR) like intra- and internet, fax, phone and for the use of higher-IR mechanisms (HIR) like initial training for the opening of franchisees outlets, annual training, annual meetings between franchisors and franchisees, councils and committees, and franchisors' visits to franchisees outlets.

Knowledge Characteristics

Knowledge characteristics are classified on a continuum that ranges from explicit to tacit knowledge (Winter 1987; Inkpen, Dinur 1998). Tacit knowledge was defined by Polanyi (1962) as intuitive and unarticulated. Tacit knowledge is difficult to formalize and communicate (Nonaka 1994, Nonaka et al. 2000) and explicit knowledge can be codified

and easily transmitted. Winter (1987) points out that transfer of tacit knowledge, if possible at all, requires teaching. For instance, if the system knowledge of the franchisor cannot be taught, the franchisees cannot acquire and apply the requisite knowledge to efficiently manage the local outlets. Hence the degree to which knowledge is codifiable and teachable influences the ease of its transfer. The measure for the degree tacitness of knowledge is adopted from Zander and Kogut (1995). Codifiability (COD) is used as a measure for contractible/explicit knowledge and teachability (TEACH) as a measure for noncontractible/tacit knowledge. Codifiability refers to the ease by which knowledge is expressed in language, formal procedures, explicit techniques and manuals, and teachability refers to the ease by which knowledge can be expressed in personal interactions and experience (Zhang, Faerman 2004). Since the constructs are produced by the indicators representing the domain of the content we use formative indicators (Edwards, Bagozzi 2000; Diamantopoulos, Winkelhofer 2001). Adapted from Zander and Kogut (1995), we use two-item scales to measure codifiability and teachability (see appendix). The higher COD, the more contractible is the system knowledge, and the higher TEACH, the more noncontractible is the system-specific knowledge.

Control Variable

Since the know-how intensity of franchising firms varies between product/distribution and service firms (Zeithaml et al. 1985), we include a sectoral variable (SEC) to control for sectoral effects. 0 refers to product and distribution franchising and 1 to the service sector. Since the firms in the service sector are characterized by a higher fraction of

noncontractible system-specific knowledge compared to the product franchising firms, franchisors in the service sector should use a relatively higher proportion of high-IR mechanisms.

4.3. Results

4.3.1 Descriptive Results

Table 1 present descriptive data for the sample.

Insert table 1

4.3.2 Regression Analysis

To test the hypotheses we carry out a regression analysis. First we test hypothesis 1 by using OLS regression and second we test hypotheses 1a,1b and 1c by using ordinal regression.

(a) Hypothesis 1

We conduct an OLS regression analysis with RELHIR as independent variable measuring the extent of the use of higher-IR-mechanisms (HIR) relative to lower-IR mechanisms (LIR). HIR refers to the use of meetings between the franchisor and the franchisees, initial and annual training, councils and committees and franchisor visits, and lower-IR-mechanisms (LIR) refers to the use of intranet, internet, fax and phone. The franchisors were asked to rate the use of higher-IR- and lower-IR-mechanisms (HIR, LIR) on a seven-point scale. By averaging the scale values we constructed HIR- and LIR-indicators. The

dependent variable is modelled as the natural log of the ratio of HIR divided by LIR. The explanatory variables refer to codifiability of knowledge (COD), teachability of knowledge (TEACH), and the sectoral dummy variable (SEC). Therefore, we estimate the following regression equation:

$$\mathbf{RELHIR} = \alpha + \beta_1\mathbf{COD} + \beta_2\mathbf{TEACH} + \beta_3\mathbf{SEC} \quad (1)$$

Based on our property rights view, RELHIR varies negatively with codifiability (COD) and positively with teachability (TEACH). Hence β_1 has a negative and β_2 has a positive sign. Further, we include a control variable (SEC). Since service franchising firms have a higher fraction of noncontractible system-specific knowledge, the use of higher-IR mechanisms should be higher in the service sector than in product franchising sector; hence β_3 should have a positive sign. Table 2 presents the correlations of the variables used in the regression analysis. We do not find any collinearity indication. Table 3 reports the result of OLS regression analysis. Model fit is acceptable with F value = 4.083 and $R^2 = 0.134$. The coefficients of teachability and codifiability (TEACH, COD) are significant and consistent with our hypothesis. An increase in teachability of knowledge implies the use of more higher-IR-mechanisms and an increase of codifiability implies the use of more lower-IR-mechanisms. The coefficient of the sectoral variable is not significant.

Insert table 2 and table 3

(b) Hypotheses 1a and 1b

Since lower-IR-mechanisms are primarily used when the knowledge is more codifiable, and higher-information rich mechanisms are used when the knowledge is more teachable, we estimate the influence of COD on the use of lower-IR-mechanisms (LIR) and of TEACH on the use of higher-IR-mechanisms (HIR), separately. To test the hypotheses 1a and 1b, we conduct an ordinal regression with HIR and LIR as dependent variable. We constructed an ordinal HIR- and LIR- variable varying between 1 and 7.

$$\mathbf{LIR} = \alpha + \beta_1\mathbf{COD} + \beta_3\mathbf{SEC} \quad (2)$$

$$\mathbf{HIR} = \alpha + \beta_1\mathbf{COD} + \beta_2\mathbf{TEACH} + \beta_3\mathbf{SEC} \quad (3)$$

According to H1a and H1b, LIR varies positively with COD and HIR varies positively with TEACH. According to the property rights view, LIR does not vary with TEACH because less contractible knowledge cannot be transferred by using lower-IR-mechanisms. Hence β_1 is positive in equation (2). In addition, we include both COD and TEACH in equation (3) because higher-IR-mechanisms may facilitate both the transfer of explicit and tacit knowledge (Argote 1999). Hence HIR varies positively with TEACH and COD; β_1 and β_2 have a positive sign in equation (3).

The regression equation is estimated in two steps: First we test the influence of COD on LIR according to equation (2) and of TEACH on HIR according to equation (3), and second we include both TEACH and COD in both equations. Results of the ordinal regressions are provided in table 4.

Insert table 4

The fit of the models is tested based on the log of the likelihood ratio. The chi-square values are significant at $p < 0.01$ thus rejecting the null hypothesis that the estimated coefficients are zero. The data supports our hypotheses. The coefficients of teachability and codifiability (TEACH, COD) are significant and consistent with our hypotheses 1a and 1b. Consistent with the property rights view, the knowledge transfer is governed by more lower-IR-mechanisms, if codifiability of knowledge increases, and by more higher-IR-mechanisms, if teachability of knowledge increases. In addition, the data supports the view that higher-IR-mechanisms facilitate both the transfer of codifiable and tacit knowledge (see model 4, table 4). On the other hand, the impact of TEACH on LIR is not significant, because the knowledge transfer capacity of lower-IR-mechanisms is not sufficient to facilitate the transfer of noncontractible knowledge (see model 2).

4.4 Discussion and Conclusion

The goal of the paper is to provide a property rights explanation on the choice of knowledge transfer mechanisms in franchising networks. According to the property rights view, the knowledge transfer from franchisor to franchisees is governed by more high-IR-mechanisms if the system knowledge is more noncontractible, and it is governed by more low-IR-mechanisms if the system-knowledge is more contractible. Using data from the Austrian franchising sector, the results provide support for these hypotheses.

How does our approach extend the results in the literature? *First*, our property rights theory integrates results from the knowledge based view of the firm and the information

richness theory. According to the knowledge based view of the firm, tacit knowledge is the main source of competitive advantage because it cannot be easily codified and hence transmitted. In order to create competitive advantage by setting up a network, knowledge governance mechanisms are needed to facilitate the interorganizational transfer of knowledge. We argue that the concept of tacitness of knowledge in the knowledge based theory is closely related to the concept of noncontractibility in the property rights theory. In addition, information richness theory offers 'richness' as criterion to determine the knowledge transfer capacity of knowledge governance mechanisms. *Second*, the major contribution of our study is to apply this approach for the explanation of knowledge transfer mechanisms in franchising networks. *Third*, our study utilizes primary data from the Austrian franchise sector that enables the estimation of factors the theory considers to affect the choice of knowledge transfer mechanisms. Based on Zander and Kogut (1995), we use knowledge constructs, such as teachability and codifiability, that operationalize more and less contractible system knowledge. However, the measurement of the constructs is not without limitations; it is only a first step to operationalize knowledge with different degrees of contractibility. In future research, case studies should complement quantitative studies in order to sharpen and refine the theoretical constructs (Ragin, Becker 1994). In addition, future empirical research in franchising should also include additional electronic knowledge transfer mechanisms (such as video technologies, electronic bulletin boards, discussion groups, corporate directories) that can support all forms of knowledge transfer between franchisors and franchisees (Alavi, Leidner 2001; Andreu, Ciborra 1996).

Our findings also have practical relevance for the franchisors. According to the property rights approach, franchisors have to select knowledge transfer mechanisms according to the contractibility of knowledge source. In order to gain competitive advantage by setting up a franchising network, low-IR-knowledge transfer mechanisms are needed to facilitate the transfer of codifiable system-specific knowledge and high-IR-knowledge transfer mechanisms are needed to facilitate the transfer of non-codifiable system knowledge. Hence a successful franchiser has to match the knowledge transfer practices to the information processing requirements of the different types of system-knowledge.

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	Lower-IR-Knowledge Transfer Mechanisms	Higher-IR-Knowledge Transfer Mechanisms
Contractible/ Explicit Knowledge	FIT I Postal mailings fax, phone intra- and internet	MISFIT II
Noncontractible/ Tacit Knowledge	MISFIT I	FIT II Training, outlet visits, conferences, committees, councils

Figure 1: Relationship between Knowledge Transfer Mechanisms and Contractibility of Knowledge

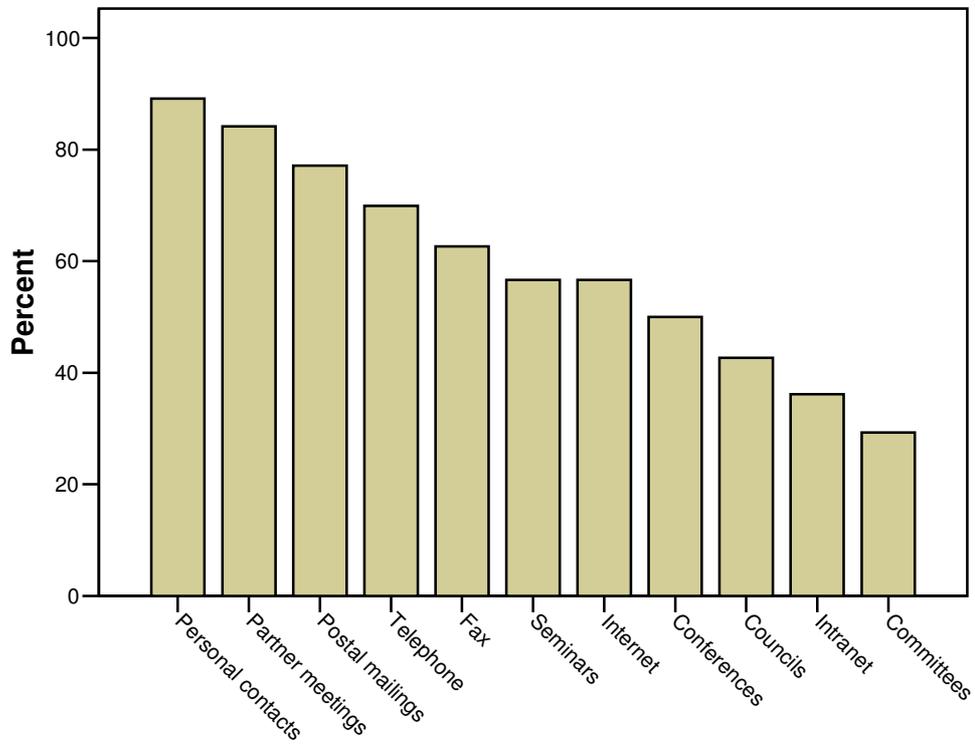


Figure 2: Knowledge Transfer between Franchisors and Franchisees in Austria

**How is the system know-how transferred from the franchisor to franchisees?
(1:no extent - 7: very large extent)**

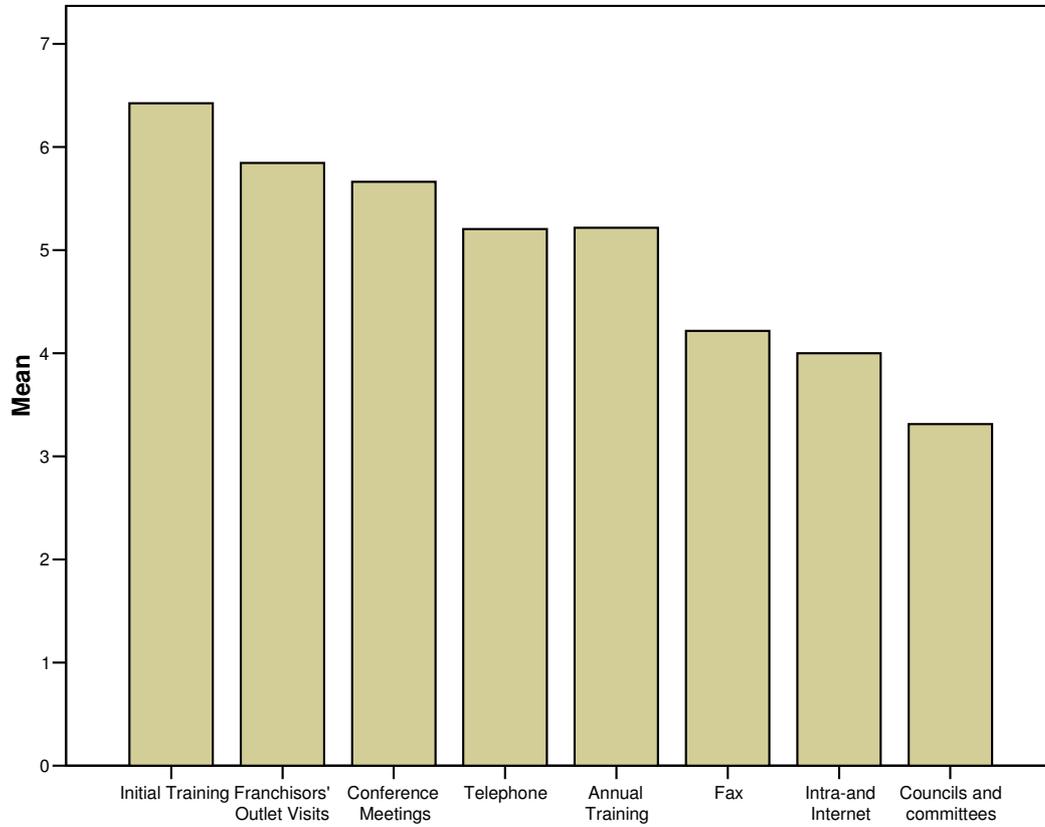


Figure 3: Transfer of System Know-how

	Minimum	Maximum	Mean	Std. Deviation
SEC: 0: Production and distribution; 1: services	0	1	0,59	,495
Intra-and Internet	1	7	4,00	2,295
Fax	1	7	4,22	1,976
Phone	1	7	5,20	1,591
Initial Training	1	7	6,42	1,298
Annual Training	1	7	5,22	1,506
Conference Meetings	1	7	5,66	1,618
Councils Committees	1	7	3,31	2,230
Franchisors' Outlet Visits	1	7	5,84	1,384
COD1	1	5	3,80	1,187
COD2	1	5	3,39	1,386
TEACH1	2	5	4,58	,683
TEACH2	1	5	3,78	1,169
COD	1	5	3,58	1,089
TEACH	1,5	5	4,18	,787

Table 1: Descriptive Data

	SEC	TEACH	COD
SEC	1		
TEACH	,130	1	
COD	,151	,250	1

Table 2: Correlations

OLS Regression RELHIR	B	Std. Dev.	Sig.	Model statistics
COD	,024	,303	,938	N = 83 F = 4.083 R Square = 0.134
TEACH	-,144	,050	,005	
SEC	,177	,069	,013	
	-,050	,108	,644	

Table 3: OLS Regression

Ordinal Regression	Model		Estimate	Std. Dev.	Sig.	Model Statistics
LIR (Model 1)	Threshold	[1,00]	-,436	,764	,568	N = 83 Model Chi-square = 14.864 (p < 0,001) -2 Log likelihood = 150.468 Nagelkerke R Square = 0.17
		[2,00]	,577	,707	,415	
		[3,00]	1,682	,715	,019	
		[4,00]	2,789	,757	,000	
		[5,00]	4,105	,818	,000	
		[6,00]	6,539	1,076	,000	
	COD		,733	,197	,000	
	SEC		-,081	,402	,841	
LIR (Model 2)	Threshold	[1,00]	-1,219	1,189	,305	N = 83 Model Chi-square = 15.729 (p < 0,001) -2 Log likelihood = 226.887 Nagelkerke R Square = 0.18
		[2,00]	-,193	1,146	,867	
		[3,00]	,931	1,143	,415	
		[4,00]	2,038	1,161	,079	
		[5,00]	3,349	1,194	,005	
		[6,00]	5,796	1,381	,000	
	COD		,781	,203	,000	
	SEC		-,056	,404	,889	
	TEACH		-,229	,260	,378	
HIR (Model 3)	Threshold	[2,00]	-1,389	1,454	,339	N = 83 Model Chi-square = 9.421 (p < 0,001) -2 Log likelihood = 85.653 Nagelkerke R Square = 0.12
		[3,00]	,739	1,128	,512	
		[4,00]	2,504	1,143	,028	
		[5,00]	4,642	1,221	,000	
		[6,00]	6,761	1,347	,000	
	SEC		-,292	,418	,485	
	TEACH		,839	,276	,002	
HIR (Model 4)	Threshold	[2,00]	-,779	1,519	,608	N = 83 Model Chi-square = 12.142 (p < 0,001) -2 Log likelihood = 170.47 Nagelkerke R Square = 0.15
		[3,00]	1,349	1,209	,264	
		[4,00]	3,135	1,228	,011	
		[5,00]	5,337	1,321	,000	
		[6,00]	7,468	1,449	,000	
	SEC		-,377	,423	,373	
	TEACH		,717	,280	,010	
	COD		,337	,199	,091	

Table 4: Ordinal Regression – Lower-IR and Higher-IR Knowledge Transfer Mechanisms

APPENDIX: MEASURES OF VARIABLES

LIR	To which extent does the franchisor use knowledge transfer mechanisms with a lower degree of IR: (no extent 1 – 7 to a very large extent) (Intra- and internet, fax, telephone)
HIR	To which extent does the franchisor use knowledge transfer mechanisms with a higher degree of IR: (no extent 1 – 7 to a very large extent) (Initial and annual training, conference meetings between franchisor and franchisees, committees and councils, outlet visits)
RELHIR	Extent of use of higher-IR- relative to lower-IR-knowledge transfer mechanisms
Codifiability (COD)	The franchisor has to evaluate codifiability on a 5 point scale: COD1: Large parts of the business processes between the headquarters and the outlets are carried out by using information technology. COD2: We have an extensive documentation describing critical parts of the business processes in the system.
Teachability (TEACH)	The franchisor has to evaluate teachability on a 5 point scale: TEACH1: Franchisees can easily learn the main procedures and activities through personal support and personal meetings with the employees of the franchisor. TEACH 2: Franchisees can easily learn the procedures and activities by reading the franchisor's handbook.
Sector (SEC)	0: Product and distribution franchising; 1: Service franchising