





Resort to Third Parties

for the Governance of Technology Licensing Agreement:

a Transaction Cost Perspective

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ABSTRACT

While the literature on licensing through the Transaction Costs lens is rather extensive,

the role played by third parties in the licensor-licensee relationship has received very limited

attention. However, although licensing agreements are essentially dyadic exchanges, licensors

and licensees frequently decide to resort to services developed by third parties in order to ease

and support their licensing relationships. This support can be required at one or more contractual

level(s): the identification of a licensing partner, the negotiation of the licensing contract, the

monitoring of the licensing relationship, and the enforcement of the licensing contractual terms.

In this paper, I propose, first, a typology of support services developed by third parties. Second,

in line with the Transaction Costs arguments, I develop propositions regarding the incentives for

licensing partners to resort to support services develop by third parties. I argue that this resort is

contingent to the levels of asset specificity and uncertainty characterizing the licensing

transaction.

Keywords: Technology Licensing Agreement; Third Parties; Transaction Costs

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INTRODUCTION

When studying technology licensing agreements through the Transaction Costs (TC) approach, most of the business economics and management literature has been focused on the trade-off between the licensing mode of governance and alternative modes of governance structure (e.g.; Buckley and Casson, 1976,1998; Dunning, 1981; Rugman, 1981; Hennart, 1982, 1988). The main tenet of this broad literature is that firms will opt for a governance structure along the market-hierarchy continuum, which minimizes the costs of transacting, in turn determined by the attributes of transaction and the institutional environment. Licensing agreements are considered as a hybrid form of coordination between markets and hierarchy (Williamson, 1985; Coase, 1988; Aoki, 1988; Hennart, 1993) since they simultaneously involve mechanisms proper to the markets and mechanisms proper to the hierarchy².

More recently, scholars have begun to explore the trade-off between distinct forms of licensing agreement (e.g.; distinct financial conditions, distinct combinations of transferred resources, distinct dispute resolution mechanisms, distinct regimes of exclusivity) in a TC tradition (e.g.; Bessy and Brousseau, 1999; Anand and Khanna, 2000; Arora and Fosfuri, 2002; Brousseau and Coeurderoy, 2005; Hagedoorn and Hesen, 2007; Brousseau, Coeurderoy, and Chasserant, 2007). These scholars show that licensing agreements do not form a homogeneous set of contractual arrangements. Instead, they investigate the *raison d'être* of the wide variety of licensing agreements, which cover a sub-spectrum of governance structures within the market-hierarchy continuum.

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² As pointed out by Sampson (2004) while licensors and licensees remain independent and keep strong market incentives, they are mutually committed to the medium or long run.

The literature on licensing is undeniably rather abundant. Surprisingly, albeit this abundant literature, very limited attention has been dedicated to the role played by third parties in licensing. Indeed, although licensing agreements are essentially dyadic exchanges, licensors and licensees frequently decide to resort to services developed by third parties in order to ease and support their licensing relationships. This support can be required at one or more contractual level(s); namely the identification of a licensing partner, the negotiation and writing of the licensing contract, the monitoring of the licensing relationship, and the enforcement of the licensing contractual terms. As examples of third parties, we can mention technology brokers, auditing firms, mediators and arbitrators, chambers of commerce, sectoral federations, collective research centers, technology transfer offices, etc.

We can, therefore, easily observe in practice that the choice for a specific mode of governance structure (unilateral contractual agreement, bilateral contractual agreement, equity joint venture, subsidiary, etc.) is not the only way to deal with the level of transaction costs. Whilst collaborating, firms may decide to resort to services developed by third parties in order to ease their inter-firm relationships and, therefore, to mitigate the transaction costs.

The paper proceeds as follows. First, a typology of support services developed by third parties is proposed. Six categories of support services are considered: (1) assistance for the identification and selection of a licensing partner, (2) legal assistance for the negotiation of the licensing contract, (3) technical assistance for the implementation of the knowledge, once transferred to the licensee, (4) alternative dispute resolution method, (5) formal and/or informal regulation and collective sanctions, and (6) external control of the licensing partner's performance. Second, in line with the TC arguments, I develop propositions regarding the incentives for licensing partners – licensor and licensee respectively – to resort to support services developed by third parties. I argue that this resort is contingent to the levels of asset specificity and uncertainty, which are

considered in the existing TC literature as the core attributes of the transaction and the primary determinants of cost efficiency of a governance choice (Williamson, 1979, 1985, 1991, 1996).

TYPOLOGY OF SUPPORT SERVICES PROVIDED BY THIRD PARTIES

When conducting a series of exploratory interviews with R&D managers and heads of legal department in several Belgian firms involved in licensing practices, it appeared that licensor and licensee commonly resort to services provided by third parties at one or multiple contractual level(s) – either the identification of potential licensing partners, the negotiation of the licensing contract, the monitoring of the licensing relationships or the enforcement of the licensing terms – in order to ease their contractual relationship. It seems therefore clear that considering licensor and licensee as the only players in the licensing strategic game does not relate the reality.

In this section, instead of providing a typology of third parties, a typology of support services developed by third parties is proposed. The reason motivating this choice is that two third parties may be similarly labeled – such as sectoral federation – but provide distinct support services. Indeed, sectoral federations provide very diverse sets of services according to the sector and the country they cover. As my purpose is to understand the factors motivating the resort to third parties to ease inter-firm relationships, it is essential to focus on the support services that they offer. Here, I focus on 6 categories of support services.

Assistance for the identification and selection of a licensing partner: Some third parties like technology brokers or technology transfer offices collect and disseminate information about players' resources, capabilities and needs. They enable, therefore, firms to gather superior

information on each other (Gulati, 1995; Gulati et al., 2000), to identify potential partners, and to learn about their resources and capabilities.

Some third parties can even collect and convey information about players' reputation and publicize defaults under the rules (Hadfield, 2000). They can serve as repositories of information about players' reputation regarding, for instance, the debts unpaid or the low-quality goods delivered.

Legal assistance for the negotiation of the licensing contract: Some third parties enable firms to benefit from their own experience regarding the negotiation and writing of agreements or just from their licensing contract templates or convention templates. These templates and assistance can be provided, for instance, by the legal department of several sectoral federations or by thematic professional associations³.

Technical assistance for the implementation of the knowledge, once transferred to the licensee: Third parties, such as collective research centers, may put at the firms' disposal their specialist facilities and/or may perform activities such as diagnostics, testing, prototyping, and training dedicated to facilitating the inter-firm knowledge exchange and/or the research collaboration (Howells, 2006).

Alternative dispute resolution method: Some third parties may play a role of mediator or arbitrator. When opting for arbitration, parties voluntary agree to refer their dispute to an impartial third person and agree, in advance, to be bound by the decision of that person (Bonn,

³ In the specific case of the licensing agreement, we can mention for instance the Licensing Executives Society International.

1972). These mechanisms enjoy sources of efficiencies over the public courts (Richman, 2004; McMillan and Woodruff, 2000; Hadfield, 2000) and that is particularly true in the case of innovation given its technical complexity. Indeed, first, arbitrators are market participants more expert and specialized than public courts and are chosen⁴ on the basis of their expertise regarding the subject matter in dispute. Second, specialized rules are tailored to the idiosyncratic needs and transactional challenges of firms that belong for example to the same industry or the same technological domain. The principles guiding the dispute resolution process rest on custom rather than on law (Bonn, 1972). Third, specialized procedures are used to act more swiftly, at lower costs, and with more nuances than public courts. Indeed, they permit "greater flexibility in decision making and they are considered to be more private, economic, rapid, certain, and conducive to business relationships" (Bonn, 1972). Fourth, arbitrator can consider information that could not be introduced in public court⁵.

Formal and/or informal regulation and collective sanctions: Firms may refer to and benefit from formal and/or informal regulation⁶ framework provided by third parties. Indeed, first, third parties may offer formal regulation by specifying and dictating "roles, role relationship, conventions" (Jones et al., 1997), and setting standards, norms, and guidelines which formally drive the inter-firm collaboration. Second, third parties may offer informal regulation by diffusing values and fostering a culture (Jones, 1996; Jones et al., 1997), which contribute to easing and enhancing the inter-firm relationships. This can be allowed through socialization

⁴ "the parties participate actively in the selection of the arbitrator" (Bonn, 1972).

⁵ "Such as impressionistic evidence about business trends or judgments about the quality of items sold. They can base their decisions on a firm's behavior over time, on probabilistic patterns that would not be admissible evidence in court." (McMillan and Woodruff, 2000)

⁶ Informal control is performed when a culture (i.e., set of norms, values, and practices) is fostered and diffused by a third party and when minority that does not conform to the culture is visible (Oliver, 1991).

meetings organized, for instance, by professional or scientific associations. This socialization leads to a convergence of expectations, an idiosyncratic language, and tacitly understood rules (Camerer and Vepsalainen, 1988).

Moreover, formal and/or informal regulation may lead to formal and/or informal collective sanction(s). As defined by Jones et al. (1997), "collective sanctions involve group members punishing other members who violate group norms, values, or goals and range from gossip and rumors to ostracism (exclusion from the network for short periods or indefinitely) and sabotage".

External control of the licensing partner's performance: A formal and external control of partners' performance can be allowed by third parties such as accreditation agencies or auditing firms. These third parties inspect, control and certify the parties' activities - and notably the respect of the contractual terms - via pre-defined mechanisms and rules.

RESORT TO THIRD PARTIES WITHIN THE LICENSING FRAMEWORK: THEORY AND PROPOSITIONS

In line with the TC arguments, I develop propositions regarding the incentives for licensing partners to resort to services developed by third parties. I argue that this resort is contingent to the levels of asset specificity and uncertainty, considered in the existing TC literature as the core attributes of the transaction and the primary determinants of cost efficiency of a governance choice (Williamson, 1979,1985,1991,1996). Transaction Costs result from the direct costs of managing relationships and the possible opportunity costs of making inferior governance decisions (Williamson, 1991; Malone, 1987; Masten, Meehan, and Snyder, 1991). In this section,

we consider the factors determining the level of asset specifity and uncertainty respectively at the licensor's and licensee's level.

Asset specificity

Williamson (1991) defines the asset specificity of a transaction as the degree to which the assets used in support of the transaction can be redeployed to "alternative uses and by alternative users without sacrifice of productive value". Six main types of asset specificity can be distinguished (Williamson, 1991): site specificity, physical asset specificity, human asset specificity, brand name capital, dedicated assets, and temporal specificity. According to the TC literature, in the presence of opportunism, the asset specificity poses a safeguarding problem. Without appropriate safeguards, there are risks of expropriation (ex post) or productive losses resulting from the failure to invest in specialized assets (ex ante).

At the licensor's level, a key determinant of asset specificity is the tacitness of the know-how transferred to the licensee. Indeed, licensing may require to transfer not only the permission to use the knowledge covered by the patents but also tacit know-how necessary to implement this knowledge. The required tacit know-how may be spread across multiple employees and made up of many tacit elements (Chi and Roehl, 1997). Its transfer has in most cases to be achieved through training of personnel, trips by the licensor's engineers or other technical services (Teece, 1977; Contractor, 1981; Arora, 1996). Transferring tacit know-how to the licensee presents significant risks for the licensor. As soon as the transferred knowledge is tacit, it is not codifiable, it cannot be protected by property rights (Arora et al., 1999) and so, once transferred, the licensor risks the escape of its knowledge from proprietary control.

At the licensee's level, the asset specificity is determined by the investment the licensee performs in assets dedicated to a specific licensing agreement. In order to implement the licensed

knowledge, licensee may have to make substantial investments in physical, human and temporal specificity such as plant, equipment, marketing commitment, and dedicated personnel. In case these assets are characterized by high relationship-specificity, they represent sunk costs that have little value for the licensee outside of the particular exchange relationship.

Both at the licensor's and licensee's level, in the presence of high asset specificity, opportunism by the licensing partner has to be discouraged and/or costs of crafting appropriate safeguards have to be incurred. I argue that licensing partners will tend to resort to support services developed by third parties in order to deal with high asset specificity.

HYP1: the greater the level of tacitness of the knowledge transferred by the licensor, the more likely the licensor will resort to third parties

HYP2: the greater the level of the licensee's investment in assets dedicated to the licensed knowledge, the more likely the licensee will resort to third parties

Discouraging the opportunism can be eased when licensor and licensee belong to a same group set up by a third party and when this third party is able to apply collective sanctions within the group. Collective sanctions can take various forms going from penalties, substantial deterioration of reputation to the exclusion from the group. In that case, opportunism is more costly as it damages not only the specific agreement in which one behave opportunistically, but also the other current and potential agreements with current and future members of the group (Blumberg, 2001). Whether formal sanctions like the exclusion of a group's membership or informal sanctions as a deterioration of reputation, collective sanctions mechanisms decrease the need for safeguards, discourage the opportunism since "they define and reinforce the parameters of

acceptable behavior by demonstrating the consequence of violating norms and values" (Jones et al., 1997), and so reduce the transaction costs associated with asset specificity.

HYP1a: the greater the level of tacitness of the knowledge transferred by the licensor, the more likely the licensor will resort to third parties for 'formal and/or informal regulation and collective sanctions'

HYP2a: the greater the level of licensee's investment in assets dedicated to the licensed knowledge, the more likely the licensee will resort to third parties for 'formal and/or informal regulation and collective sanctions'

Besides making the opportunism more costly; crafting appropriate safeguards is also important to deal with the high level of asset specifity. In this line, resorting to third parties providing alternative dispute resolution such as arbitrators may correspond to a safeguard against vulnerabilities caused by asset specificity. As mentioned before, alternative dispute resolution methods enjoy sources of efficiencies over the public court (Richman, 2004; McMillan and Woodruff, 2000; Hadfield, 2000).

HYP1b: the greater the level of tacitness of the knowledge transferred by the licensor, the more likely the licensor will resort to third parties for 'alternative dispute resolution method'

HYP2b: the greater the level of licensee's investment in assets dedicated to the licensed knowledge, the more likely the licensee will resort to third parties for 'alternative dispute resolution method'

Environmental uncertainty

Williamson (1991) considers three types of uncertainty. The first two ones - primary and secondary uncertainties - were developed by Koopmans (1957). The primary uncertainty is of state-contingent kind and reflects a lack of knowledge about states of nature, such as the uncertainty regarding natural events. The secondary uncertainty reflects a lack of knowledge about the actions of other economic actors and arises "from lack of communication, that is from one decision maker having no way of finding out the concurrent decisions and plans made by others" (Williamson, 1991). Williamson (1985) describes both primary and secondary uncertainties as 'innocent' and 'non strategic' forms of uncertainty and highlights the existence of a third type of uncertainty, which is attributable to opportunism and will be referred to as behavioral uncertainty. This third type of uncertainty corresponds to the deliberate nondisclosure of information or the strategic misrepresentation of information by economic agents.

Whatever the type of uncertainty, it will only have a significant influence if the transaction is specific and supported by idiosyncratic investments. It is, therefore, conditional to the level of asset specificity. Indeed, whatever the level of uncertainty, in the presence of low asset specificity and standardized transactions, the continuity has little value, adaptative capabilities are not crucial, and arrangement can easily be adopted by both parties if necessary (Williamson, 1985).

As uncertainty consists of a number of distinct constructs (Sutcliffe and Zaheer, 1998; Leiblein and Miller, 2003; David and Han, 2004; Parmigiani, 2007), a better understanding of how each type of uncertainty affects the resort to services developed by third parties can be reached by

exploring separate hypotheses for each; namely the environmental uncertainty and the behavioral uncertainty.

The environmental uncertainty can originate from suppliers, customers, competitors, regulatory agencies, unions, or financial markets (Miles and Snow, 1978). It "reflects the uncertainty arising from exogenous sources such as natural events, from changes in preferences, as well as from regulatory changes, such as those involving standards or tariffs" (Stucliffe and Zaheer, 1998). According to the TC literature, the environmental uncertainty combined with bounded rationality causes an adaptation problem. This refers to the difficulties with modifying agreements in reaction to the "unanticipated changes in circumstances surrounding an exchange" (Noordewier, John, and Nevin, 1990). The direct costs resulting from adaptation problem are costs of communicating new information, renegotiating agreements, or coordinating activities to reflect new circumstances. The failure to adapt represents the opportunity cost of maladaptation (Malone, 1987).

At the licensor's level, the level of inefficacy of the Intellectual Property (IP) rights system in the licensee's country is a strong determinant of environmental uncertainty. In the licensing context, the 'quality' of the institutional environment depends widely on the IP rights regime (Williamson, 1991; Oxley, 1999; La Porta et al., 1999) whose 'strength' and 'completeness' vary across countries and industries (Anand and Khanna, 2000). The 'quality' of the institutional environment in terms of IP rights protection has commonly been assessed on the basis of the levels of IP rights measurement and enforcement achieved by public institutions (e.g., Ginarte and Park, 1997; Ostergard, 2000). The efficacy of the IP rights system is critical for the licensor as weak and unpredictable IP protection may always make possible for the licensee to invent around the knowledge transferred and to renege on the terms of the agreement (Anand and Khanna, 2000; Teece, 1988).

At the licensee's level, the demand volatility and technological uncertainty are significant dimensions to consider. Indeed, the technology may not work properly in the new location, the demand for the product that embodies it may change, newer technologies may displace it (Caves et al., 1983). This uncertainty is even more present when technology is licensed abroad since information about foreign firms and markets, necessary to assess the probable return to a technology transaction, is costly to secure. The potential returns to the technology licensed abroad are accordingly uncertain (Caves et al., 1983).

Both at the licensor's and licensee's level, in the presence of significant environmental uncertainty, adaptation is unavoidable and so communication of new information, renegotiation of agreements, and coordination activities have to be favored and eased. I argue that licensing partners will tend to resort to support services developed by third parties in order to deal with significant environmental uncertainty.

HYP3: the greater the inefficacy of the IP rights system in the licensee's country, the more likely the licensor will resort to third parties

HYP4: the greater the demand volatility and technological uncertainty, the more likely the licensee will resort to third parties

In the presence of potential adaptation problems, the coordination challenges are magnified, the modification of agreements is often required and, therefore, the resort to third parties able to provide legal assistance and make licensing partners benefit from their own experience in terms of negotiation is more likely.

HYP3a: the greater the inefficacy of the IP rights system of the licensee's country, the more likely the licensor will resort to third parties for 'legal assistance'

HYP4a: the greater the demand volatility and technological uncertainty, the more likely the licensee will resort to third parties for 'legal assistance'

When considering more specifically the technological uncertainty arising from changes in technology framework due to inventions and discoveries (Stucliffe and Zaheer, 1998), the support from third parties providing technical expertise via diagnostics, testing, prototyping, and training may significantly contribute to easing the adaptation required at this level. These third parties are in most cases aware of the latest technological evolutions and their applicability.

HYP4b: the greater the demand volatility and technological uncertainty, the more likely the licensee will resort to third parties for 'technical assistance'

Finally, adaptation problem can more easily be handled if licensing partners refer to formal and/or informal regulation provided by third parties. Indeed, as exposed before, referring to third parties' regulation may involve the respect for "roles, role relationship, conventions" (Jones et al., 1997) specified and dictated by themselves. Moreover, socialization events and activities can be organized by third parties and help diffuse values and a culture. Having this ability, third parties can respond to unanticipated change by designing collective support services to ease and frame the necessary adaptation process.

HYP3b: the greater inefficacy of the IP rights system of the licensee's country, the more likely the licensor will resort to third parties for 'formal and/or informal regulation'

HYP4c: the greater the demand volatility and technological uncertainty, the more likely the licensee will resort to third parties for 'formal and/or informal regulation'

Behavioral uncertainty

This third type of uncertainty corresponds to the deliberate nondisclosure of information or the strategic misrepresentation of information by economic agents. According to the TC literature, the behavioral uncertainty causes performance evaluation problem and the relevant opportunity costs are associated with losses resulting from establishing relationships with parties that lack needed skills or motivations.

At the licensor's level, the behavioral uncertainty is determined by the difficulty in measuring the performance of the licensee and in detecting its potential strategic misbehavior. Once transferred, it is hardly possible for the patentee-licensor to withdraw the knowledge from the licensee's own stock of knowledge. The licensee's strategic misbehavior is therefore particularly damaging; the licensee can either use the knowledge transferred without paying any compensation to the inventor, thereby depriving him of anticipated revenue, or worse, can use this knowledge to actually harm the licensor. For instance, the inventor's insights may form the basis for innovations that surpass the licensor's own technical solutions. In such a context, it is critical for the licensor to detect easily the potential infringement of patents and the cheating about payment, secret, or other contractual commitments by the licensee.

At the licensee's level, the required additional assistance in management, marketing and engineering from the licensor determines the importance of behavioral uncertainty for the licensee. When licensing involves more than just the permission to use the knowledge covered by the patent and requires a transfer of heuristics, rules of thumb, and other "tricks of the trade" for successful utilization (Arora, 1996), the quality and the extent of these additional transfers must be delivered by the licensor as expected by the licensee. However, while additional assistance may be necessary to implement the licensed knowledge, licensor may be tempted to skim on its quality or extent due to its costs often prohibitive. Routines and rules of thumb - technical services (Teece, 1977; Contractor, 1981) - may result from a long period of technological development by the licensor, often through trial and error type search processes (Sahal, 1981;see also Nelson, 1990 and Pavitt, 1987). The quality or the extent of the additional assistance (services) in engineering but also in management and marketing may vary according to the efforts made by the licensor (Arora, 1996).

Both at the licensor's and licensee's level, in the presence of high behavioral uncertainty, the *ex ante* (prior to the signature of the licensing agreement) and *ex post* (throughout the contractual duration) partner's performance assessments are critical. I argue that licensing partners will tend to resort to services developed by third parties in order to deal with the high behavioral uncertainty.

HYP5: the greater the difficulty in detecting the licensee's strategic misbehavior, the more likely the licensor will resort to third parties

HYP6: the greater the required additional assistance in management, marketing and engineering from the licensor, the more likely the licensee will resort to third parties

As pointed out by Gulati and Gargiulo (1999), "imperfect information about potential partners raises search costs and the risk of exposure to opportunistic behavior (Gulati, 1995; Gulati and Singh, 1999)". The ability to properly evaluate potential partners' ex ante performance in terms of resources, capabilities, and reliability enables to identify appropriate and reliable licensing partners a priori, and so to reduce the risks for misinformation with the intention of profiting at its expense. However, this evaluation can give rise to significant direct screening and selection costs (Bergen, Dutta, and Walker, 1992). Resorting to repository of information about player's resources, capabilities and needs helps gather superior information on each other (Gulati, 1995; Gulati, Nohria, and Zaheer, 2000), identify potential partners, and learn about their resources and capabilities.

Moreover, some third parties provide information about players' reputation as well. This type of information is mostly conveyed informally by third parties that have a higher ability to collect it and to publicize defaults under the rules. This allows to avoid allying with recurrent opportunistic partners.

HYP5a: the greater the difficulty in detecting the licensee's strategic misbehavior, the more likely the licensor will resort to third parties for 'assistance in the identification and selection of a licensing partner'

HYP6a: the greater the required additional assistance in management, marketing, and engineering from the licensor, the more likely the licensee will resort to third parties for 'assistance in the identification and selection of a licensing partner'

The partners' ex post performance evaluation is also critical to avoid the deliberate nondisclosure of information or the strategic misrepresentation of information by the licensing partner. However, it can be impeded by the significant direct measurement costs - either to measure the outputs or to measure the behaviors (Eisenhardt, 1985) - that this evaluation may induce. It will be even "greater for more complex goods, especially those that involve multiple components and technologies, since complexity increases the difficulty in evaluating quality through inspection prior to use (Coles and Hesterly, 1998; Bensaou and Anderson, 1999; Novak and Eppinger, 2001) " (Parmigiani, 2007). The direct measurement costs (Eisenhardt, 1985) of outputs and/or behaviors of other parties may be mitigated by resorting to 'external control providers'. These third parties can perform activities such as inspection of the parties' activities and their certification.

HYP5b: the greater the difficulty in detecting the licensee's strategic misbehavior, the more likely the licensor will resort to third parties for 'external control'

HYP6b: the greater the required additional assistance in management, marketing, and engineering from the licensor, the more likely the licensee will resort to third parties for 'external control'

Insert Table 1 about here

CONCLUSION

My purpose was to shed light on the role played by third parties in the licensor-licensee

relationship. Indeed, while the studies anchored in the Transaction Costs tradition and devoted to

licensing are rather abundant, most of them consider licensing exclusively as a bilateral game.

However, we can easily observe in practice that services developed by third parties are frequently

solicited at one or multiple contractual level(s) by licensing partners.

In this context, I argue that opting for a more hierarchical form of governance structure is not

the only way to deal with the level of transaction costs. In the presence of high transaction costs

stemming from significant uncertainty and high asset specificity, licensing partners can decide to

resort to services developed by third parties in order to ease their relationships and so mitigate the

level of transaction costs.

In order to strengthen this vision about the way licensors and licensees manage their

relationships, further research is undeniably required. Empirical research is essential to justify the

use of the Transaction Costs arguments to explain the recourse to third parties in licensing

relationships.

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Table1: Support services developed by third parties and governance problems

Exchange	Licensor/Licensee	Governance	Support Services	Reduction of
characteristics		problems	provided by	TC
			Third parties	
Asset	Licensor: tacit know-	Needs for	'formal and/or	ex post
specificity	how transferred	reduction of	informal regulation	enforcement cost
		opportunism	and collective	
	Licensee: investment		sanctions'	
	performed in assets	Needs for	'alternative dispute	ex post
	dedicated to the	appropriate	resolution method'	enforcement cost
	licensed knowledge	safeguards		
Environmental	Licensor: inefficacy	Needs for	'legal assistance for	ex ante
uncertainty	of the IP rights	adaptation	the negotiation of the	contractual cost
	system in the		licensing contract'	
	licensee's country		'technical assistance	ex post
			for the	monitoring cost
	Licensee: demand		implementation of	
	volatility and		the knowledge'	
	technological		'formal and/or	ex post
	uncertainty		informal regulation'	monitoring cost
Behavioral	Licensor: difficulty to	Needs for party's	'assistance in the	ex ante search
uncertainty	detect licensee's	ex ante	identification and	cost
	strategic misbehavior	performance	selection of a	
		assessment	licensing partner'	
	Licensee: required			
	additional assistance			
	in management,	Needs for party's	'external control'	ex post
	marketing, and	ex post		monitoring cost
	engineering	performance		
		assessment		