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The Role of Trust as Mediator between Contract, Information and Knowledge within Business Incubators

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Abstract

The relationship between the incubator team and the tenants is very important to the success of the incubation process. A good relationship is based on cooperation and both parties need to be committed (Rice, 2002). From a monitoring point of view, incubator managers can use two mechanisms to build good relationships with their tenants: the contract and trust. We analysed 177 incubated firms using multiple regression analysis and a structural equation methodology. Our results show that trust acts as a mediator between the contract and both information disclosure and knowledge acquisition.

Keywords

Business incubation, trust, information disclosure, contract specificity, knowledge, mediation, multiple regression analysis; structural equation methodology

Introduction

Business incubator (BI) centres are widely used tools to energise entrepreneurship (CSES, 2002; Lalkaka, 2002). They are believed to have a positive impact on project development by providing strong support to firms (such as access to financial services, psychological support, mentoring, monitoring, subsidised space, administrative tasks, internet, phone, printer, mailbox, etc.) in their early years of struggle to survive, evolve and become self-sustainable. Generally, researchers have examined: (1) the benefits of the incubation process for the firms (enhancing reputation, knowledge, visibility, and access to networks and resources through a variety of services) or the sponsors (enhancing local economy, technology transfer) and (2) methods to evaluate incubators (Mian, 1997). Few studies, however, have focused on the nature of the relationship between an incubator tenant and the incubator manager (Hackett and Dilts, 2004; Rice, 2002).

Rice (2002) describes this relationship as a coproduction system, which implies a link between a consumer (the tenant) and a producer (the incubator manager). The system functions when a joint effort is made by both consumer and producer. The potential output of this cooperation is adapted counselling from the incubator manager to help solve crisis events (Rice, 2002) and improve the tenant's knowledge base and skill development (Bruneel et al., 2012). Rice (2002) noted that this cooperation is dependent on the involvement of both parties: the disengagement of one nullifies the potential gain from the coproduction. This has raised questions about tenant involvement during the incubation process (Rice and Matthews, 1995; Rice, 2002; Vanderstraeten and Matthyssens, 2012).

Hackett and Dilts (2004) explored several theories to explain the incubation process and suggest that the tenant-manager dyad can be seen as a peculiar agency relationship. An agency relationship assumes that the tenant may hide information from the manager and act opportunistically. Moreover, in an agency relationship the agent works for the principal, which differs from the incubation situation where the tenant is working for his own project and not for the BI (Hackett and Dilts, 2004). In order to manage their tenant portfolio and minimise investment in projects that may fail, incubator teams must be able to select and follow only the firms that will benefit from the incubation process (Hackett and Dilts, 2004). BIs are evaluated by their sponsors and they thus have to carefully assess the amount of investment to put into each

project and be able to stop the incubation process if necessary. Vanderstraeten and Matthyssens (2012) indicate that the expectations and willingness-to-interact of potential tenants should be evaluated before a selection is made in order to determine the kind of services they are looking for and the likelihood that they will cooperate during the incubation process (Rice and Matthews, 1995; Rice, 2002).

However, the monitoring role of business incubators continues after tenant selection, and they thus need mechanisms that help them over the entire incubation process, from incorporation to the exit of the tenant. In this article, we use governance theory to describe the tenant-manager dyad. Governance theory (Williamson, 1975, 1979) has been widely used to describe the cooperation system (Williamson, 1991) and other organisational aspects, such as interorganisational exchanges (Dyer and Singh, 1998; Poppo and Zenger, 2002; Ring and Van de Ven, 1992; Yli-Renko, Autio and Sapienza, 2001). We study two kinds of mechanisms that BIs can use to establish good relationships with their tenants from the perspective of governance theory: contract specificity and the establishment of trust. We assume that these mechanisms will have an influence on the amount of information that tenants disclose to managers and the amount of knowledge that they acquire over the incubation process.

CONCEPTUAL MODEL AND HYPOTHESES

The research on incubation to date does not clearly explain the manager-tenant dyad. The academic literature has mostly focused on the bonds between tenants (Bollingtoft and Ulhoi, 2005; McAdam and Marlow, 2007; Tötterman and Sten, 2005) and the impact of stakeholders on incubator development (Alsos et al., 2011; Rothaermel and Thursby, 2005). Although we know from these studies that there are distinct advantages to being incubated (access to networks, assistance, mediation), we do not know why this relationship works. Agency theory, for example, provides a disciplinary vision of the relationship and does not fully explain the nature of the cooperation within the incubator.

Indeed, traditional governance theories focus on a contractual approach to the firm (property rights, transaction and agency costs). This contractual approach sees the company as a 'node of contract' between actors. Individuals are potentially opportunistic with limited rationality, which implies the exchange of incomplete information. The only way to retrieve information (compared

with the ideal type of the perfect market) is to set up disciplinary governance (because of the suspicion of opportunism) to minimise potential losses, which in turn generates governance costs or 'agency cost' (i.e. monitoring).

This perspective, which is based on a negative description of business operations, paints a restrictive picture of the governance process and forgets the informal control mechanisms (Ghoshal and Moran, 1996; Gulati, 1995). The traditional analysis of governance focuses mainly on the system's ability to prevent and resolve conflicts of interest between managers and other stakeholders. It also has the characteristic of being under-socialised (Granovetter, 1985). However, the analysis of governance based on relationship goes beyond explicit contracts and takes into account implicit controls like trust between partners (Gulatti, 1995; Uzzi, 1997). Larson (1992) indicates that this relational approach integrates the notions social control, trust, and norms of reciprocity (Larson, 1992) and can be a substitute for formal control (Dyer and Singh, 1998; Gulati, 1995; Larson, 1992).

A complementary approach indicates that the contract is needed to guide the relationship (Poppo and Zenger, 2002). The role of relational governance is to reduce the stiffness of the contract and simplify its implementation (Luo, 2002). It acts as a 'lubricant' (Arrow, 1974). However, as Puranam and Vanneste (2009) indicate, the relationship between contract and trust is more complex than the simple opposition of substitutivity and complementarity. This classic opposition fails to explain more complex situations. For example, these authors suggest that the initial complexity of the contract may have a negative influence on the development of trust between partners. On the other hand, trust helps to fill the gaps in an incomplete contract. Moreover, the substitutivity of trust and contract is more likely when individuals lack legal understanding about contracts or when contracts are not a common practice. Complementarity manifests in ambiguous situations and incomplete contracts. Contracts establish the basis for the relationship and trust reinforces it (Luo, 2002; Puranam and Vanneste, 2009). In this case, trust and contracts enhance one another.

Our research analyses the relationship between the contracts established at the beginning of the incubation process and the trust developed between managers and tenants during that process. We expect that these variables will influence (1) the amount of information disclosure during the process and (2) tenants' knowledge acquisition. We also expect that trust will act as a mediator

between the formal contract and the non-economic outputs (knowledge acquisition and information disclosure). We further assume that one benefit of cooperation will be an increase in shared and incorporated knowledge during the incubation process. Figure 1 presents our conceptual model.

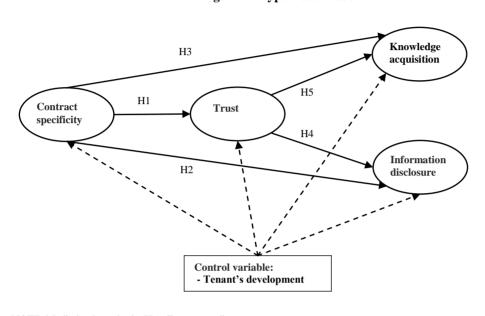


Figure 1: Hypothesis model

NOTE: Mediation hypothesis (H6): Trust as mediator

- Contract term specificity → Trust → Knowledge
- Contract term specificity → Trust → Information disclosure

Bruneel et al. (2012) point out that the incubation process helps new firms to cope with rapid environmental shifts by providing opportunities for learning. Because of the initial lack of resources, these firms learn fast and evolve quickly on the learning curve. The reasoning is that incubator tenants avoid a long period of experimentation to develop routines and capabilities by collaborating with the incubator. Cooperating on relevant topics will also increase their knowledge base and enhance firm performance (Bruneel et al., 2010; Chrisman and McMullan, 2004; Friels, 2012). For example, Chrisman and McMullan (2004) indicate that business assistance increases the stocks of firm knowledge and improves their survival rate. Similarly, Bogner and Bansal (2007) point out that new knowledge (patents) improves firm performance (ROE). Chandler and Lyon (2009) show that involvement in knowledge acquisition activities is linked to venture performance.

Information disclosure is an important element in relational governance (Poppo and Zenger, 2002, Uzzi, 1997). Cannon and Perreault (1999) define an information exchange between parties as the expectations of open sharing of information that may be useful. Wu (2008) indicates that exchanging information limits opportunistic behaviour and captures the intensity of the cooperation within a dyad (Anderson and Weitz, 1992). But the communication between two parties embedded in a close relationship is also more tacit and exclusive than in arm's-length relationships (Uzzi, 1997), and this has the additional advantage of facilitating the exchange of fine grained information such as strategic or financial information. Cannon and Perreault (1999) indicate that the exchange of information may have an influence on the performance of a relationship. With open communication and information sharing, each party of the dyad has a better understanding of how cooperation works in the relationship (Dyer and Chu, 2003; Poppo and Zenger, 2002). This in turn increases commitment and the capacity to adapt. Thus, the exchange of information between partners can be seen as a factor contributing to knowledge acquisition and the overall performance of the relationship (Lincoln et al., 1998; Norman, 2004; Reychay, 2011).

The role of contract specificity inside the tenant-manager dyad

The relationship between staff and tenants is very important to the success of the incubation process (Scillitoe and Chakrabarti, 2010). This relationship, or dyad, is based on the principle of cooperation and needs the engagement of both parties (Ahmad and Ingle, 2011; Long, 2012; Rice, 2002). Indeed, Aaboen (2009) underlines that incubated firms must be convinced that the BI can help them and their relationship must be based on clear agreement. Clear agreements and well-defined entrance and exit policies will foster the capacity of incubators to help their tenants (Bruneel et al., 2012). In the same vein, McAdam and Marlow (2007) indicate that tenants prefer to interact with neutral experts with whom they have established a clear understanding. Long (2012) indicates that tenants must be involved in BI programs and must fulfil certain requirements if they wish to continue being hosted by the incubator. An important step is thus the establishment of a formal written contract at the beginning of the incubation program. This official agreement between parties will regulate the cooperation and protect against opportunistic behaviour (Luo, 2002; Williamson, 1979). Its objective is not to predict behaviour but to lay the

foundation for the relationship. It defines the structure of the information exchange by decreasing opportunism and moral hazards (Luo, 2002).

Contracts help to clarify the rights and duties of the incubator and the tenants. They range from simple contracts (such as leasing agreements) to complex contracts (those describing in detail every part of the incubation process, such as services, obligations, exit policies, etc.). A document can be considered as a binding contract if it is composed of an offer and the acceptance of that offer in exchange for something of value (i.e. rent). Luo (2002) indicates that contractual completeness creates a binding structure for cooperation. Conversely, the lack of a clear contract may have negative consequences, such as a difficulty for the incubator to exit some projects (Adegbite, 2001; Bruneel et al., 2012). Long (2012) indicates that a verbal contract can create confusion between tenants and incubator managers. Moreover, the strength and complexity of the contract seems to be linked to the capacity of the incubator to attract new projects. Alsos et al. (2011) underline that ideal projects (projects meeting the incubator's objectives) are able to negotiate their agreement before entering the incubator, probably because of the sponsors' expectations regarding incubator development.

Luo (2002) suggests that the degree of specificity and the detailed terms of a contract (clear statement regarding rights, benefits and responsibilities) will increase the efficacy and efficiency of cooperation and the resulting performance. By setting boundaries and formally specifying the objectives and expectations, the parties know what must be done to solve joint problems. Contracts help to create shared knowledge and decrease misinterpretations about the other's expectations (Li et al., 2010; Mayer and Argyres, 2004). In agreement with the above-cited authors, we assume that contracts help to structure cooperation and foster trust by formalising the incubator process (Poppo and Zenger, 2002). Formalising the relationship also facilitates the information flow (Luo, 2002; Mayer and Argyres, 2004) and enhances learning (Lane et al., 2001).

Trust is enhanced by contracts because contracts generate a guarantee to the relationship (Mayer and Argyres, 2004) and complete the informal insurance of trust (Li et al., 2010). Poppo and Zenger (2002) found that an increase in contractual complexity does not decrease the level of trust but instead has a positive effect. They argue that difficulties in establishing a formal arrangement at the beginning of a relationship foster short-term opportunism and lowers long-

term outputs. Contracts thus strengthen the belief that the other party will cooperate. Mayer and Argyres (2004) indicate that contracts can be used to encourage information disclosure and reduce miscommunication. Last, Lane et al. (2001) show that learning is fostered by formalising knowledge transfer (i.e. explicit goals, business plans, training). Li et al. (2010) propose that more complete contracts will facilitate the acquisition of explicit and implicit knowledge (Nonaka and Takeuchi, 1995) because they reduce cognitive and coordination barriers. Based on these findings, three hypotheses have been developed.

H1: Contract specificity will have a positive influence on trust between tenants and incubator managers.

H2: Contract specificity will have a positive influence on the amount of information disclosed by tenants.

H3: Contract specificity will have a positive influence on the amount of knowledge acquired by tenants.

The role of trust in the tenant-manager dyad

Relying on contracts only would nevertheless be counterproductive. Firm creation also requires informal relational governance tools (Gulati, 1995). Researchers have long discussed the importance of developing relationships and their capacity to decrease exchange hazards (Luo, 2002; Poppo and Zenger, 2002; Puranam and Vanneste, 2009). To do so, adaptation is needed alongside cooperation, and trust allows this adaptation (Poppo and Zenger, 2002; Uzzi, 1997).

From the viewpoint of social capital theory, the interactions between managers and tenants are shaped by trust relationships (Ahmad and Ingle, 2011; Scillitoe and Chakrabarti, 2009). Trust is generally assumed to be an ingredient in building relationships (Claro et al., 2003; De Clercq and Sapienza, 2006; Ring and Van de Ven, 1992;). Trust can be defined as confidence in others' goodwill, the predictability of one's expectations (Ganesan, 1994; Gulati, 1995; Ring and Van de Ven, 1992; Uzzi, 1997), or a positive belief in the other's competency (Ganesan, 1994; Nahapiet and Ghoshal, 1998). Partners who trust each other are more willing to take risks (Ring and Van de Ven, 1992) and believe in the information they share (Uzzi, 1997). Indeed, cooperative interactions occur often when trust between partners is high (Nahapiet and Ghoshal, 1998).

Trusting reduces the likelihood of opportunism (Larson, 1992), enables people to cope with changes (Puranam and Vanneste, 2009), and helps to solve problems quickly (Claro et al., 2003).

Nevertheless, trust needs time to develop (Puranam and Vanneste, 2009), and new relationships are thus not yet based on trust (Poppo et al., 2002) because a history of interaction is lacking. Trust also functions as 'informal safeguards', preventing deviant behaviour between individuals (Coleman, 1990; Dyer, 1997; Dyer and Singh, 1998). Larson (1992) highlights the importance of 'social control' in relational networks and identifies three stages of relationship building in which the inter-social aspect is important: (1) the construction of the relationship, based on personal relationships and reputation, which reduces uncertainty; (2) the establishment of the values of both parties; and (3) the operation of business.

Yli-Renko, Autio and Sapienza (2001) show that the quality of the relationship (linked to trust) has a positive impact on the knowledge acquisition of young firms and key customers. A learning alliance facilitates the acquisition of new knowledge and its exploitation (Lane and Lubatkin, 1998) and by doing so opens the range of opportunities. Social relationship provides the opportunity to obtain external knowledge (Dyer and Singh, 1998) and creates the context for its acquisition (Nahapiet and Ghoshal, 1998; Yli-Renko, Autio and Sapienza, 2001).

Trust also has an influence on the degree of information exchange within a dyad (Dyer and Chu 2003; Wu 2008). Anderson and Narus (1990) and Morgan and Hunt (1994), underline that past communication between individuals deepens trust and that trust in turn enhances future communication.

As part of the incubation process, trust has mainly been evoked to describe the relationship between tenants (Bollingtof and Ulhoi, 2005; Bollingtoft, 2012; McAdam and Marlow, 2007; 2008; Schwartz and Hornich, 2010; Tötterman and Sten, 2005). From this literature, we know that trust is a precondition for any collaboration or exchange of information (McAdam and Marlow, 2007; 2008). It is the basis for building 'healthy' social capital (Tötterman and Sten, 2005) and therefore the proximity between incubated firms may need to be improved (Bollingtoft and Ulhoi, 2005). But trust is not only related to the interactions between tenants: it is also a critical issue in the interactions of BI managers and their incubated firms (Ahmad and Ingle,

2011). Indeed, it is a prerequisite for interaction (Aaboen, 2009) because, as Tötterman and Sten (2005) observe, trust allows information exchange between tenants and the incubator staff.

However, sometimes tenants do not share firm-specific information with other tenants or incubator staff. The decision to hide information from other tenants could come from the expectations and secrecy needs of the incubated firm (McAdam and Marlow, 2007; Vanderstraeten and Matthyssens, 2012). Also, tenants may feel that sharing information with managers is unnecessary (Tötterman and Sten, 2005). This can be related to the 'openness to interaction' described by Vanderstraeten and Matthyssens (2012) and, to avoid this situation, managers should evaluate the future tenant's readiness to share at the time of selection (Rice, 2002). Another explanation may be the tenant's feeling of vulnerability: the fear that sharing important information will result in opportunistic behaviours (Cannon and Perreault, 1999; Wu, 2008). In all these situations, the development of trust should be seen as a way to foster and stabilise communication. Therefore, we propose two more hypotheses.

H4: Trust will have a positive influence on the information disclosed by the tenants to the incubator managers.

H5: Trust will have a positive influence on the amount of knowledge acquired by the tenants.

We also propose that trust will act as a mediator between the contract and outputs (knowledge and information disclosure). Indeed, formal contracts are incomplete, as they are unable to provide solutions to all the difficulties encountered in a relationship (Li et al., 2010). A firm's creation will also require informal governance tools due to the complexity of the process. From this perspective, trust complements the contract. Poppo and Zenger (2002) found that the contract increases the exchange performance through relational governance. According to these authors, relational governance refers to trust, open communication, and exchange of information. Collaboration is facilitated when tenants believe in the willingness and capacity of the incubator to help them.

H6: Trust will mediate the relationship between the contract and information disclosure and knowledge acquisition

Context and Methodology

The study was conducted in France. The French BI environment is characterised by a dense territorial network focused on developing entrepreneurship. French BIs obtain financing from diverse public institutions (European, national and local levels), and this multiplicity of sponsors influences the objectives of the incubators. Through the European Business and Innovation Centres (EBN), Europe is seeking to develop innovation in SMEs and start-ups. The French government is interested in technology transfers and the development of new companies linked to public research. Local authorities (regional councils, county councils, cities, communities, municipalities) are mainly interested in local economic development. French BIs can receive financing at any of these levels, depending on their connections. For example, the university incubators created in 1999 following the French law on innovation and research (Clarysse and Bruneel, 2007) can be funded at all three institutional levels (European, national, and local), even though they were created by a national law. Indeed, the national government does not intend to be alone in investing in incubators.

A questionnaire was sent to 1,586 incubated companies in 64 public not-for-profit incubators in France between November 2006 and February 2007. As a preliminary step, our project was presented to the 64 public business incubators. Indeed, several studies on incubation indicate difficulties concerning data collection leading to non-response bias (Hackett and Dilts, 2008) and selection bias (Colombo and Delmastro, 2002), which means receiving responses from successful projects only. To reduce these biases, several strategies were employed. We first identified the incubators and called each one to introduce the research. The objective was to obtain the email addresses of their tenants. Some incubators were not interested in our study and refused to play an intermediary role between us and their tenants. Other incubators allowed us to contact their tenants but with different levels of involvement (from a formal presentation letter sent to their tenants to informal verbal authorisation). However, we did observe that the incubators that refused the study were more likely to have their own system for questioning tenants (for evaluation purposes) or were over-solicited for study participation. Another strategy to limit the non-response bias was to send our questionnaire to incubated firms in two waves. The first wave lasted two months (125 questionnaires obtained) and the second wave, one month (52 questionnaires obtained). The second wave was launched in continuation of the first and was focused on the tenants that did not respond to the first wave. To stimulate replies, we indicated a deadline at the end of the second wave. The final sample reflects an answer rate of 11.16% (177 tenants). The tenants of this sample were between 36 and 45 years old, with a high level of education (generally Master's degree). They belonged to a range of sectors, mostly technology (32.8%), biotechnology (15.3%), engineering (18.1%), and services (18.1%).

Our model includes endogenous and exogenous variables, which were evaluated on 5-point Likert scales with responses ranging from 'Completely disagree' (1) to 'Completely agree' (5). Data were analysed using regression analysis and structural equation modelling (Hair et al., 2010).

- The endogenous variables are represented by 'knowledge acquisition' (Yli-Renko, Autio and Sapienza, 2001) and 'information disclosure' (Cannon and Perreault, 1999; De Clercq and Sapienza, 2006; Morgan and Hunt, 1994; Wu, 2008). Knowledge acquisition refers to the academic knowledge obtained via the incubation process. This kind of knowledge is recognised to have an impact on the development of new firms (Colombo et al., 2004). Because most new firms lack this kind of knowledge, acquisition can be seen as an objective. Three items were rated: The incubator helps us to improve (1) our knowledge of financial tools, (3) our knowledge of managerial tools, and (3) our knowledge of the legal environment. 'Information disclosure' is focused on one-way communication and refers to the extent to which the tenant provides important information about project developments (Dyer, 1997; Cannon and Perreault, 1999; Morgan and Hunt, 1994; Wu, 2008). Two items were rated: (1) We provide useful information to our incubator's manager and (2) We keep our incubator's manager informed of any events or changes that may affect the project.
- The exogenous variables are represented by 'contract' and 'trust'. To analyse trust, we used four items (Nahapiet and Ghoshal, 1998; Tsai and Ghoshal, 1998): (1) I can trust my incubator manager; (2) My incubator's manager is not reliable (reverse coded); (3) I can be sure that my incubator's manager will not act opportunistically towards us even if the opportunity arises; and (4) My incubator's manager shows goodwill when I need him.

The 'contract specificity' variable was constructed from the variable of legal ordering (Cannon and Perreault, 1999; Nooteboom et al., 1997) and contractual governance flexibility of Yli-

Renko, Sapienza and Hay (2001). Contract specificity requires that all relevant terms and clauses be indicated (Luo, 2002). Two items were rated: The contract you signed when you entered the structure: (1) was as detailed as possible and (2) precisely defines the rights and obligations of each party.

- The control variable: Our research focuses on the exchange between the tenant and the incubator manager through two governance tools, contract and trust. Given that tenants' interest in incubation will decline with project development (McAdam and Marlow, 2007; McAdam and McAdam, 2008), we introduced a control variable: 'tenant's development step'. This variable was composed of six items (idea, prototype, test, final concept, pre-commercialisation, and commercialisation).

Analysis and results

Before testing our model, we first ran a confirmatory factor analysis (with structural equation software AMOS 18) to guarantee that our variables could be used in the same model (convergent and discriminant validities). To ensure the reliability of our scales, convergent validity was calculated through Cronbach's alpha, Joreskog's rho and AVEs. All indices showed satisfactory internal reliability (Table 1). We also ensured that every item correctly loaded significantly on their latent variables (Table 2). To assess the discriminant validities, we compared the square correlation between every pair of constructs with their corresponding AVEs (Table 3). Smaller square correlations validated the discriminant validity (Fornell and Larcker, 1981). We also used the chi-square test, which compares the fit of an unconstrained model with constrained ones. The constrained model is obtained by fixing the correlation between two constructs to one (Anderson and Gerbing, 1988; Hair et al., 2010). Our analysis showed that the unconstrained model obtained better fit indicators (Table 4). In addition, we tested for the common method bias with Harman's one-factor analysis (Podsakoff and Organ, 1986). The common method bias evaluates whether only one factor explains the correlation within a model. In our analysis, no single factor appeared, indicating that the variance was well represented by our five variables. Last, we tested for the overall fit of our model through goodness-of-fit indices. We obtained correct values with the measurement model (Hair et al., 2010): $\chi^2 = 62.204$ (df= 45; p=0.045); $\chi^2/df=1.382$; IFI/ CFI= 0.981; RMSEA= 0.051 (0.020< RMSEA< 0.077; p= 0.441); PNFI= 0.638.

Table 1: Convergent validity indices

Latent constructs	Cronbach's alpha	Joreskog's rho	AVE
Contract	0.870	0.871	0.771
Trust	0.837	0.814	0.527
Knowledge acquisition	0.852	0.793	0.563
Information disclosure	0.771	0.752	0.606

Table 2: Convergent analysis – Standardized Regression Weights (AMOS)

Items		Latent variables	Estimate	S.E.	C.R.	P
Contract1	<	Contract	.888	.084	11.451	***
Contract2	<	Contract	.874	.074	11.283	***
Trust1	<	Trust	.930	.065	15.223	***
Trust2	<	Trust	.745	.082	11.081	***
Trust3	<	Trust	.670	.083	9.627	***
Trust4	<	Trust	.666	.064	9.557	***
Info_disc1	<	Information disclosure	.900	.087	10.567	***
Info_discl2	<	Information disclosure	.700	.092	8.599	***
Knowl_acq1	<	Knowledge acquisition	.794	.086	11.875	***
Knowl_acq2	<	Knowledge acquisition	.884	.080	13.724	***
Knowl_acq3	<	Knowledge acquisition	.766	.082	11.316	***

^{*}p<0.05; **p<0.01; ***p<0.001

Table 3: Correlation matrix

	Contract	Trust	Knowledge acquisition	Exchange disclosure	Tenant's dev.
Contract	1				
Trust	0.466***	1			
Knowledge acquisition	0.251**	0.457***	1		
Information disclosure	0.302***	0.505***	0.389***	1	
Tenant's dev.	-0.029	-0.086	-0.252**	-0.216**	1

^{*}p<0.05; **p<0.01; ***p<0.001, two tailed test

Table 4: Divergent validity - Chi-square test

Unconstrained measurement model Chi ² : 62.204; (df:45); p (0.045)						
Constrained re	elationship between and	Constrained model - Chi ²	ΔChi²	Δdf		
Trust	Contract	193.4	131.2	1		
Trust	Information	127.2	65	1		
Trust	Knowledge	240.2	178	1		
Trust	Tenant's development	122.7	60.5	1		
Contract	Information	138.2	76	1		
Contract	Knowledge	215.7	153.5	1		
Contract	Tenant's development	133.0	70.8	1		
Information	Knowledge	144.1	81.9	1		
Information	Tenant's development	138.7	76.5	1		
Knowledge	Tenant's development	80.2	18	1		

To test the hypotheses, we used multiple regression analysis to investigate the influence among variables. Models 1 to 5 (Tables 5 to 7) tested these direct relationships. According to their F-values, all the models were significant. Models 1 and 2 validated the influence of contract and

trust on knowledge acquisition. Models 3 and 4 analysed the influence of trust and contract on information disclosure and showed that the explanatory power of trust was stronger than that of contract (R-square of 25.5% and 21.4% for trust and around 10% for contract). In Table 7, we validated the links between contracts and trust (Model 5). Another important result is related to our control variable. We found a negative effect of the tenant's development on knowledge acquisition and information disclosure, which confirms the work of McAdam and McAdam (2008). Tenants' perceptions and needs change when projects mature. Conversely, trust and contract increase the output of the collaboration (knowledge acquisition and information disclosure).

Table 5: Regression analysis on knowledge acquisition

	Independent variable: Knowledge acquisition					
	Model	1	Model 2			
	Coefficients, β	t-student	Coefficients,β	t-student		
(Constant)	0.686	3.086**	0.589	2.900**		
Contract	0.214	2.975**	-	-		
Trust	-	-	0.446	6.797***		
Tenant's development	-0.234	-3.260**	-0.201	-3.063**		
F	9.999***		29.812***			
\mathbb{R}^2	0.103		0.255			

p*<0.1; *p*<0.05; ****p*<0.001;

VIF is between 1.001 - 1.008; Multicollinearity is acceptable.

Table 6: Regression analysis on information disclosure

	Independent variable: Information disclosure					
	Mode	Model 3 Model 4				
	Coefficients, β	t-student	Coefficients, β	t-student		
(Constant) Contract	0.511	2.286**	0.422	2.021**		
	0.240	3.285***	-	-		
Trust	-	-	0.427	6.329***		
Tenant's development	-0.175	-2.415**	-0.144	-2.135**		
F	8.612***	23.648***				
\mathbb{R}^2	0.090	0.214				

*p<0.1; **p<0.05; ***p<0.001;

VIF is between 1.001 - 1.008; Multicollinearity is acceptable.

Table 7: Regression analysis on trust

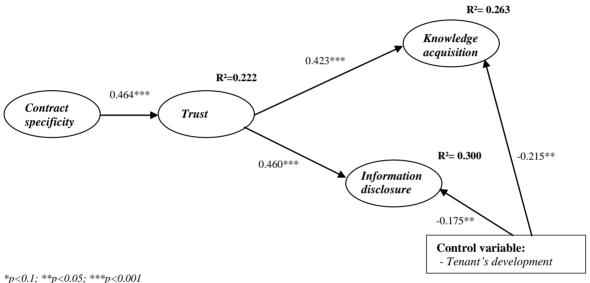
Independent variable: Trust					
	Model 5				
	Coefficients, β	t-student			
(Constant)	0.222	1.040			
Contract	0.403	5.825***			
Tenant's development	-0.076	-1.099			
F	17.747***				
\mathbb{R}^2	0.169				

*p<0.1; **p<0.05; ***p<0.001;

VIF is between 1.001 - 1.034; Multicollinearity is acceptable.

To test mediation (hypothesis 6), we used structural equations with AMOS software. The results are shown below (Figure 2 and Table 8). Only significant paths are represented. We also performed bootstrap analysis (number of bootstrap samples: 2000, bias-corrected confidence intervals of 95%) to test the significance of our direct and indirect effects. The test model gives correct values: χ^2 = 65.086 (df= 46; p= 0.033); χ^2 /df= 1.414; IFI/ CFI= 0.979; RMSEA= 0.049 (0.014<RMSEA<0.074; p= 0.510); PNFI= 0.650.

Figure 2: Full model, structural analysis



*p<0.1; **p<0.05; ***p<0.001 Latent variables are symbolized by ovals.

The control variable is a single question item and is represented by a rectangle.

Trust was introduced as a mediator between contract, knowledge acquisition, and information disclosure (Figure 2). We expected several effects: (1) a decrease in the direct relationships between variables that are mediated and (2) an increase in the R-square of the endogenous variable. If the direct relationship between two variables became non-significant when we introduced the mediator, we assumed that total mediation was obtained. If there was a decrease in the link but not enough to become non-significant, it was considered partial mediation (Hair et al., 2010). We observed total mediation, because the direct paths between (1) contract and information disclosure and (2) contract and knowledge acquisition become non-significant and the R-square of knowledge acquisition and information disclosure improved. We then tested the direct and indirect influences of contract through trust (Tables 9 and 10). The indirect paths indicated that contract still had an influence on the two variables through the variable of trust.

Our six hypotheses were validated and provide support for the complementary role of relational governance and control (Li et al., 2010; Poppo and Zenger, 2002) in the context of the incubation process. A contract is a good way to initiate the tenant-manager relationship and it provides structure for future collaboration (Ring and Van de Ven, 1994). Tenants are more likely to provide information and learn because clear statements have been made (Long, 2012). This study is also consistent with previous research on the importance of the relationship between the incubator's manager and tenants (Ahmad and Ingle, 2011; Scillitoe and Chakrabarti, 2009; 2010; Tötterman and Sten, 2005). The formal contract is not a sufficient tool and trust is needed because contracts are incomplete. According to our results, the presence of a contract will help the tenant to trust the incubator.

Academics have described other tools that can be used to establish a trust-based relationship with the incubation staff. Aaboen (2009) describes several strategies that BIs can use to obtain needed trust. For example, before recruiting projects, BIs can set the stage for trust-building by hosting seminars and giving talks (broadcasting strategy) and by being visibly engaged with the right professionals (networking strategy). When a future tenant is attracted to the BI, the BI can employ a strategy of courting aimed only at that desired client. Reputation is also a good way to generate trust among tenants. Having a portfolio that includes some well-known successful entrepreneurial firms is an advantage for an incubator as these successes testify to the incubator's quality (Rice and Matthews, 1995). Trust is obtained when the client is satisfied ('sufficient solutions in an efficient way', Aaboen, 2009). For example, Rice (2002) shows that when tenants do not want proactive assistance, informal and ad hoc counselling enhances trust.

Conclusion and discussion

The objective of this research was to study the relationship between tenants and the incubator manager. Few studies have focused on this topic (Ahmad and Ingle, 2011; Scillitoe and Chakrabarti, 2010), as most have preferred to study the tenant-tenant dyad. To analyse the relationship between tenants and incubator managers, we considered the monitoring aspect of the incubation process. This approach places the incubator manager in a more active position and opens a new way to analyse the incubation process. Our results show that a more complete and precise contract has a positive impact on 'knowledge acquisition' and 'information disclosure'.

This positive impact is mediated by a bonding dimension: trust. A contract can help tenants to trust the incubator, and this confidence increases communication between tenants and managers, which in turn ensures a better transmission of knowledge. These results are consistent with previous works. The new entrepreneur must be convinced from the beginning that the incubator is able to help him or her and that the terms of the relationship are clear (Aaboen, 2009). A good agreement avoids ambiguity and misunderstanding (Li et al., 2010) and reduces interpersonal risks between the actors (Nooteboom et al., 1997). The research shows the importance of trust in the business incubation process, as a trust-based relationship improves the degree of cooperation. Better communication based on a contract and trust will help the incubator to succeed in its mission. The capacity to build trust in the manager-tenant relationship merits deeper exploration. Future research could also analyse the destruction of this relationship and the generation of distrust (Connelly et al., 2012). The difference between interpersonal trust in the relationship built by the dyad and organizational trust is another direction for research that has been overlooked in the literature on the incubation process.

To conclude, several limitations need to be underlined. First, our study was conducted in the context of the French incubation system, and future research in other countries is needed to determine whether similar results would be found. Second, collecting data is a major problem in incubation studies (Hackett and Dilts, 2008). We tried to decrease the 'selection' and 'non-respond' biases (Colombo and Delmastro, 2002; Hackett and Dilts, 2008) with several collection waves and contact with the incubator managers to facilitate direct access to their tenant portfolios. However, attentive readers should bear in mind that this may still be a matter of concern. Our model would also be improved by adding more objective variables or variables like social capital, in addition to the subjective variables that we used. Doing so would undoubtedly provide greater insight into the complex relationship between tenants and managers.

Appendix

Table 8: Standardized regression weight - Full model

			Estimate	S.E.	C.R P
Contract	<	Tenant dev.	-,030	,050	-,370 ,711
Trust	<	Contract	,464***	,100	5,274 ***
Trust	<	Tenant dev.	-,072	,051	-,989 ,323

Information disclosure <	Trust	,460***	,110	4,416 ***
Information disclosure <	Contract	,084	,109	,927 ,354
Information disclosure <	Tenant dev.	-,175**	,056	-2,337 ,019
Knowledge acquisition <	Trust	,423***	,100	4,363 ***
Knowledge acquisition <	Contract	,050	,104	,553 ,580
Knowledge acquisition <	Tenant dev.	-,215**	,053	-2,924 ,003

^{*}p<0.05; **p<0.01; ***p<0.001

Table 9: Standardized direct effects

	Tenant dev	Contract	Trust	Information	Knowledge
Contract	-,030	,000	,000	,000	,000
Trust	-,072	,464***	,000	,000	,000
Information disclosure	-, <i>175</i> **	,084	,460**	,000	,000
Knowledge acquisition	-,215**	,050	,423***	,000	,000

^{*}p<0.05: **p<0.01: ***p<0.001

Table 10: Standardized indirect effects

	Tenant dev	Contract	Trust	Information	Knowledge
Contract	,000	,000	,000	,000	,000
Trust	-,014	,000	,000	,000	,000
Information disclosure	-,042	,213**	,000	,000	,000
Knowledge acquisition	-,038	,196***	,000	,000	,000

^{*}p<0.05: **p<0.01: ***p<0.001

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