



# Management control paths: applying levers of control in interorganisational relationships.

Silva Domingo, Luis  
*Universidad ORT Uruguay*

Canet-Giner, Teresa  
*Universitat de Valencia*

Redondo-Cano, Ana  
*Universitat de Valencia*

Abril de 2011

## **Abstract**

Despite all the attention LOC model has deserved, there has not been a consistent attempt to apply it in interorganisational relationships. Since intraorganisational control is a more mature and developed area of research, its concepts may be useful for IOR management control. However, IOR literature has somewhat neglected the intraorganisational knowledge on management control; it is not a surprise, though, since control problem in IOR has been generally approached - explicitly or implicitly - from a governance perspective. Recently there have been some efforts to apply LOC in an IOR situation, although most of them consider just a portion of Simons' model. A theoretical model that aims to apply the full potential of LOC to the IOR has been proposed under the concept of Management Control Paths. It presents an innovative way to look at the control problem in IOR. However, it is a theoretical contribution without a sound operationalisation of the variables. We aim to make a contribution from the management control theory, applying intraorganisational concepts to interorganisational relationships through the MCP model. The findings from the case study research of four dyadic relationships are put forward as a refined and improved MCP model.

**Keywords:** Management control paths, Levers of control, Interorganisational relationships, Management control

## **Management control paths: applying levers of control in interorganisational relationships**

### **Abstract**

Despite all the attention LOC model has deserved, there has not been a consistent attempt to apply it in interorganisational relationships. Since intraorganisational control is a more mature and developed area of research, its concepts may be useful for IOR management control. However, IOR literature has somewhat neglected the intraorganisational knowledge on management control; it is not a surprise, though, since control problem in IOR has been generally approached - explicitly or implicitly - from a governance perspective.

Recently there have been some efforts to apply LOC in an IOR situation, although most of them consider just a portion of Simons' model. A theoretical model that aims to apply the full potential of LOC to the IOR has been proposed under the concept of Management Control Paths. It presents an innovative way to look at the control problem in IOR. However, it is a theoretical contribution without a sound operationalisation of the variables.

We aim to make a contribution from the management control theory, applying intraorganisational concepts to interorganisational relationships through the MCP model. The findings from the case study research of four dyadic relationships are put forward as a refined and improved MCP model.

### **Keywords**

Management control paths, Levers of control, Interorganisational relationships, Management control

### **Abbreviations**

MCP: Management Control Paths

LOC: Levers of Control

IOR: Interorganisational relationships

TCE: Transaction Costs Economics

RBV: Resource Based View of the firm

## **Introduction**

The Levers of Control (LOC) model proposed by Robert Simons (1995) suggests a control system directly and explicitly related to the competitive strategy. The model has received an intense attention in literature, even though it is a descriptive model and it does not explain causal relations among variables. This may be explained by the fact that it shows the need of arriving to a strategic fit in the design of the management control mechanisms as a way for solving the control problem from a strategic perspective (Simons, 2000). This perspective has been stated and shared in recent contributions (Widener, 2007; Mundy, 2009).

Despite all the attention LOC has deserved, it seems that there has not been a consistent and enduring attempt to apply the model to the problem of control in interorganisational relationships (IOR). The potential benefit in doing so resides in the fact that intraorganisational management control is a more mature and developed area of research, following that IOR management control literature should at least discuss whether the intraorganisational concepts might be useful. The IOR literature has somewhat neglected the intraorganisational knowledge on management control; but it is not a surprise, though, since control problem in IOR literature has been generally approached - explicitly or implicitly - from a governance perspective.

Recently Mahama (2006) made one of the first efforts to apply LOC in an IOR situation, although the model considers just a portion of Simons' model. A few years later, a theoretical model that applies the full potential of LOC to the IOR setting has been proposed under the concept of Management Control Paths (Silva-Domingo and Canet-Giner, 2010). This Management Control Paths (MCP) model presents an innovative way to look at the control problem in IOR. However, it is a theoretical paper, with no empirical evidence, and it lacks a sound operationalisation of the variables.

This paper aims to make a contribution to the IOR literature from the management control theory. It tries to apply sound and recognised research advancements of intraorganisational settings to the distinctive situation of interorganisational relationships.

The paper is structured as follows. In the first section we discuss and identify the management control problem in intra and inter organisational settings. In the next section we present the model, explaining the concept of management control paths as a general framework for the design of management control systems in IOR. In the following sections, we describe the research methodology and findings, presenting the induced model. In the last section we discuss the managerial implications of the research, identifying future research lines.

## **Management control**

### **Intraorganisational settings**

Considering the intraorganisational reality, it is possible to say that a reasonable agreement already exist about the nature of the basic problem of management control. Authors of diverse disciplines and theories share the view that the basic problem is the impact of the possible misfit of personal and organisational objectives in the behaviour of individuals (for example in

Jensen and Meckling, 1976, 1994; Flamholtz, 1979; Ouchi, 1979; Merchant, 1985; Otley, Broadbent and Berry, 1995; Simons, 1995), and the behavioural problem of the people that is actually developing the tasks has a direct impact on performance (Taylor, 1911; Bernard, 1938; Merchant, 1985).

Different authors consider that management control is a process that tries to align individual and organizational objectives. With this aim, this process attempts to solve the problems of direction, motivation and personal limitations of the individuals. The formal mechanisms used by managers in the management control process are named as management control systems.

Since there seems to be some disagreement in the literature about the concept of formal systems, we would like to present a brief discussion trying to clarify the issue. A classification described by Langfield-Smith (1997) based on Smith et al (1995) implies that we can talk about formal and informal controls. Langfield-Smith (1997: 208) defines exactly informal control mechanisms as those not consciously designed. At the same time, informal mechanisms have been compared (Smith et al, 1995; Dekker, 2004) with organic, social or clan controls (Ouchi, 1980). This could lead to think that organic or social controls cannot be designed. However, we defend that organic control mechanisms can be designed in a conscious way and be based on formal mechanisms. In fact, formal mechanisms can drive the development social control mechanisms by the time (Ring and Van de Ven, 1994; Smith et al, 1995). As a matter of fact, we understand that there are two different variables (formal vs informal, and organic vs mechanic) and all possible combinations do exist.

### **IOR setting**

Recent literature talks about the *extended make or buy decision* (van der Meer-Kooistra and Vosselman, 2000) that refers not only to the decision on which activities should be outsourced and which is the best supplier, but also studies how the externalised relationship must be coordinated. There is a growing interest in the research on coordination and control of IOR (Otley, 1994; Hopwood, 1996). The problems of cooperation between the two parts of the agreement have increased the use of non-contractual control mechanisms (Sako, 1992; Gietzmann, 1996). As a consequence, this topic has received a growing interest and step by step management control in IOR is becoming a specific area of research by itself.

### **Management control problem in IOR**

Caglio and Ditillo (2008) make a review of literature based on the management control of interorganisational relationships. They say that organizations must define clearly if their control problem is an appropriation problem, a cooperation problem or a coordination problem. Previously Dekker (2004) focused the attention on the need of taking into account the coordination problem between organisations, and not only the problems derived from the existence of opportunistic behaviours in the relationship. From other perspective, cooperation and coordination problems, as they have been considered in the IOR literature, form part of the governance problem of the interorganisational relationship (van der Meer-Kooistra and Scapens, 2008). However, the same authors propose that the control problem is included in the governance problem.

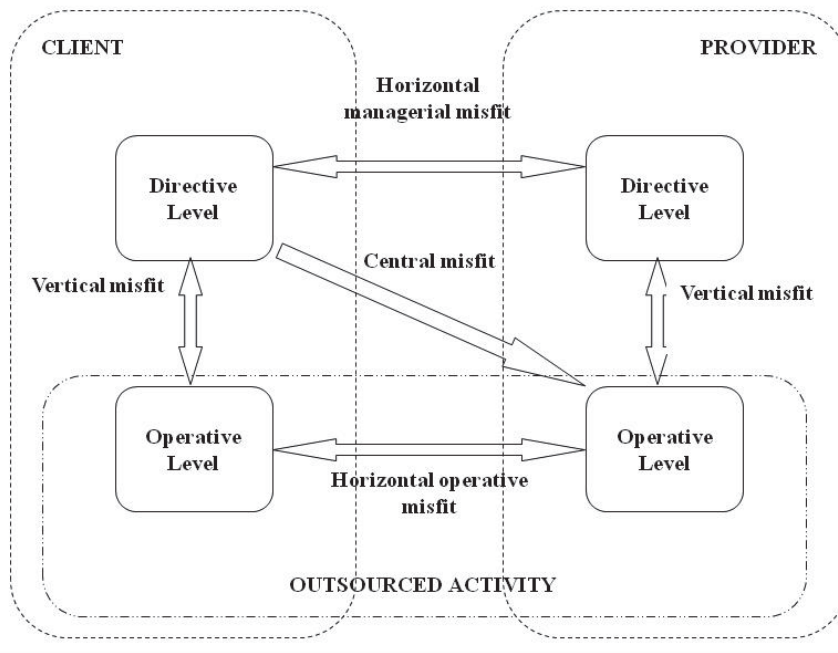
When we analyse the problem not only from an internal perspective but in an interorganisational context, we realize that the behavioural problem turns into a key factor, as it affects people performing the task and not only top managers. Consequently, the customer should take into account both, the relationship between the top management teams of both organisations and the relationships between the workers that will have an influence on the performance of the outsourced activity (Tomkins 2001; Mahama, 2006).

This proposal supports ideas of different empirical works that suggest that workers of both organisations should collaborate and work together (Van der Meer-Kooistra and Vosselman, 2000: 52) or that advocate the use “social control” among the operative teams of both organisations (Cäker, 2008). Having said that, the reality of the IOR differs greatly from that of the intraorganisational setting.

The problem is that in the interorganisational relationships the individual is outside of the boundaries of the customer organisation. The dilemma of aligning goals among individuals and organisation in the intra-organisational relationships acquires here a new perspective and represents a higher challenge for organisations. Following Silva-Domingo and Canet-Giner (2010) we defend that these concepts are still valid for the individual who perform activities for the client organisation but is outside the organisational border in an outsourcing relationship.

Whatever in intraorganisational relations is limited to the possible misfit of individual and organisational objectives, acquires here a whole new dimension. Firstly, because we have two organisations with their internal problems. And secondly, we have the possibility of misfit between the objectives of the client organisation and those of the individuals who perform the activity. These multiple misfits are graphically represented in *Figure 1*.

**Figure 1. Misfit of objectives in interorganisational relationships**



Source: Silva-Domingo and Canet-Giner (2010)

In order to clarify concepts we consider that the Directive level is limited to managers that spend most of their time on duties not directly linked to the specific tasks of the outsourced activity. Managers that spend most of their time on the daily issues of the outsourced activity belong to the Operative level; also, we will find blue collar personnel with any degree of responsibility on the outsourced activity.

### **Management control paths: an integrative model of control of IOR**

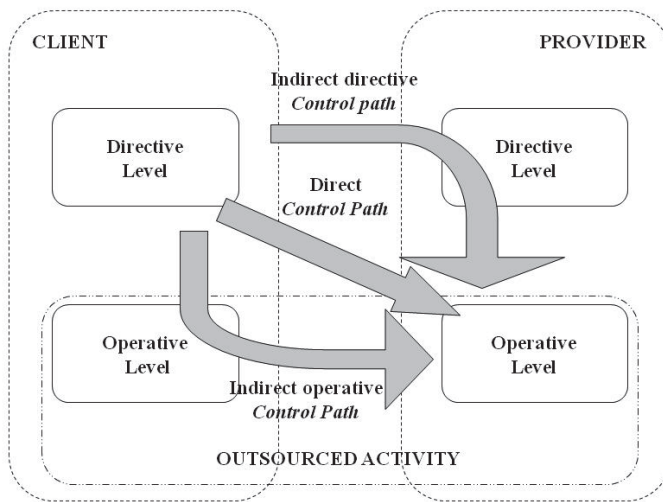
The model proposed by Silva-Domingo and Canet-Giner (2010) seeks to solve the performance problem of the outsourced activity. This means solving the managerial problems (knowledge of goals and indicators), motivation problems (commitment to the goals and targets), and personal limitation problems (development of specific abilities) of the individuals performing the outsourced activities (Merchant, 1985). The most relevant management control models proposed to date (Van der Meer-Kooistra and Vosselman, 2000; Speklé, 2001) focus on solutions where the client company only influences the management team of the supplier company in order to solve the appropriation problem. As we have already discussed, these governance approach neglects the management control point of view.

The concept of **management control paths** (MCP) of IOR was defined as the options the client' managerial level has to put in practice LOC in order to influence the behaviour of the supplier' operative level - the people who actually perform the outsourced activity (Silva-Domingo and Canet-Giner, 2010).

Figure 2 shows the existence of three different complementary control mechanisms or paths for the client company in order to control the efficient development of the activity: the direct, the indirect managerial and the indirect operative. The *direct* one would show the management's direct action over the workers of the supplier organisation. The *indirect managerial* path means using the links between the managers of the supplier organization; finally, the *indirect operational* path implies the use of horizontal coordination mechanisms between the workers of both organizations. They are not exclusive but complementary control mechanisms to align client and supplier objectives and to obtain a good performance of the outsourced activity.

The design of the management control systems for IOR should rely on contingent factors based on transaction costs economics (TCE), resource based view of the firm (RBV), trust, and management control theories. All these theories have a relevant role in the design of the management control paths.

**Figure 2. Management control paths**



Source: Silva-Domingo and Canet-Giner (2010)

## Operationalisation

The concept of management control paths, together with the concept of levers of control, has been derived from practice; it is then necessary to develop an effort to specify the concept (Bisbe et al, 2007). Levers of control are poorly specified (Bisbe et al, 2007) so we take them here (based on Dávila, 1997) as the degree of formalization and the intensity of use of the specific control mechanisms, that will be variables of the model: belief systems as formal statements of Mission and Vision; limits systems as formal procedures and norms (including contracts); diagnostic systems as formal mechanisms based on strategic objectives, indicators and goals; and interactive systems as formal mechanisms of lateral coordination..

As we previously pointed the design of the Management Control Systems for IOR is based on contingent factors that we have to consider in our model. Consequently, we include a set of contingent variables that may have an influence in the design of the management control paths following the traditional literature of transaction costs economics, and for the most recent literature on Management Control Systems.

In order to determine the relevant variables so as to evaluate the outsourced activity's performance we considered as a basis the works by Mahama (2006), which takes into consideration the variables of: costs, compliance with timetables and terms, matching of quality standards and the degree of contribution to the strategic learning of the client.

A summary of each variable is shown in *Table 1*.



**Table 1– Summary of the variables from the initial proposed model**

<b>Variable</b>	<b>References</b>
<b>Contingent Variables</b>	
Uncertainty	Williamson (1985), Koopmans (1957), Noordewier, John y Nevin (1990), Kamminga y Van der Meer-Kooistra, 2007)
Market risk	Van der Meer-Kooistra y Vosselman (2000)
Institution	Van der Meer-Kooistra y Vosselman (2000)
Asset Idiosyncrasy	Williamson (1981, 1985), Redondo (2001), Brickley <i>et al</i> (1997)
Frequency	Williamson (1985), Van der Meer-Kooistra y Vosselman (2000)
Capabilities for measuring performance	Ouchi (1977), Merchant (1982), Simons (1995)
Similarity of cultures	Leibenstein (1982), Ouchi (1980), Anderson (1988), Van der Meer-Kooistra y Vosselman (2000)
Risk attitude	Chiles y McMackin (1996)
Asymmetry of information	Ventura (1995)
Negotiation power	Redondo (2001), Walker y Weber (1987)
Reputation	Hill (1990), Klein, Cradword y Alchian (1978)
Contract trust	Sako (1992), Ring y Van de Ven (1992), Williamson (1993), Das y Teng (1998, 2001a, 2001b)
Competences trust	
Goodwill trust	
Experience in IOR	Williamson (1985), Gulati y Singh (1998)
<b>Control paths</b> (for each control path, <b>development and formalization</b> degree of:)	
Mision and Vision	Simons (1995), Dávila (1997)
Procedures and rules	Simons (1995), Dávila (1997)
Goals and indicators	Simons (1995), Dávila (1997)
Lateral coordination	Simons (1995), Dávila (1997)
<b>Behaviour</b>	
Direction	Barnard (1938), Merchant (1982), Simons (1995)
Motivation	Barnard (1938), Merchant (1982), Simons (1995)
<b>Performance</b>	
Cost	Lorange y Roos (1990), Poppo y Zenger (1998), Mahama (2006), Handley y Benton (2009)
Quality	Poppo y Zenger (1998), Mahama (2006), Handley y Benton (2009)
Time	Poppo y Zenger (1998), Mahama (2006), Handley y Benton (2009)
Strategic contribution/learning	Lorange y Roos (1990), Mahama (2006), Handley y Benton (2009)

## **Research design and methodology**

We have chosen an exploratory case study research strategy, in order to get a refined and simplified model (Eisenhardt, 1989; Yin, 1994). We have conducted four exploratory case studies with the objective of finding out whether our model let us understand how the client organisation can design its management control systems in order to improve the performance of outsourced activities. We also expected the research to reveal new issues or perspectives to enrich the proposed model.

The criteria to choose the cases were the following: first, we needed to have access to both viewpoints (client and supplier). This way we could triangulate information about the outsourcing relationship analysed. We also wanted to analyse cases where we could have access to information of different areas and hierarchical levels, and also some documentation related with the agreement. Finally, we selected cases from different countries and sectors in order to get a more complete approach to the object of study.

We used semi structured interviews as the main source of information. We interviewed managers from the both firms involved in the agreement. 23 interviews were developed, of 2 hours average. In order to assure the reliability of the analysis, we developed the interview protocol including questions directly from the variables of the theoretical model. Consequently, we obtained direct answers on the different issues analysed and, at the same time, explore and elaborate on new ones. All interviews were digitally-recorded except one, where notes were taken. We had access to different written documentation such as organisational structures, strategy and purpose documents, contracts and performance folders with different sources: websites handed out by company members, or reviews. It provided additional information and also made possible to triangulate the information from interviews.

The methodology to cope with the evidence analysis was the following. After the collection of the information it was analysed in depth and a case report was elaborated. The case reports were sent to the client organisation in order to triangulate the information. We wrote the final case reports including: a table where contingent variables in each case were analysed, a table with a brief description of the control path variables, and an illustration with the relationships found between variables. We tried to apply the models mentioned earlier on this paper (Van der Meer-Kooistra and Vosselman, 2000; and Speklé, 2001) concluding that was not possible to find a clear cut control pattern or archetype for any of the four cases, although some general recommendations were supported from the evidence. We used an explanatory technique in order to refine the initial model.

### **Description and analysis of each case study**

*Table 2* shows briefly the four case studies analysed. The situations found on each case study are briefly described through two tables. On *Table 3* we describe how the contingent variables considered on the initial model, plus the contingent variables we found along the research work in the different cases. A few interesting insights or considerations have been added

to the table. Then, on *Table 4*, we describe the use of management control path for each case, and again we have made some additions in order to get a better understanding of the situation.

**Table 2 – Description of outsourced activities for each case study**

Case study	Description
PA-VVV	<p>Sector: Logistics and transport in Spain</p> <p>Ports offer the cargo transfer service from a maritime to a ground transport and viceversa. It is possible to open up this service in seven steps (Compes-López and Poole, 1998): 1. the passage of the ship along the approach channel onto the docks 2.- unloading the ship onto the docks 3- Transportation of cargo from docks to the in-transit storage 4-In-transit storage 5- Transportation from the in-transit storage to the ground cargo terminal 6- Loading cargo onto ground transportation, and 7- ground transportation departure. The integrated container terminals, such as the one we are studying, are prepared to perform all the activities from unloading the ship cargo onto the docks (2) up to loading the cargo onto the ground transportation (6). In order to do so, VVV takes care, in general, of providing dockage with enough draught and all the mechanic means for the loading and unloading the containers, as well as their proper handling.</p>
PA-IP	<p>Sector: Logistics and transport (PA) and Information Technologies (IP) in Spain</p> <p>The activity outsourced is the design and operation of the Port Community System (PCS): it allows an efficient information exchange between the companies of the community because, on the one hand, the speed of communications is dramatically improved and, on the other hand, the amount of mistakes is reduced to a minimum. Thus, providing the correct information and with the sufficient time to plan the different operative activities, it is possible to reduce enormously the operative cost of the whole system. We should not forget that the profitability of the port activities, in general terms, is based in mobilizing the biggest quantity of goods for the existing fixed costs. Today IP is a company in which its clients are companies of the port community, which are also, in turn their owners.</p>
IC-IM	<p>Sector: Software development in Uruguay</p> <p>Infocorp (IC) is a Uruguayan company dedicated to IT solutions, focused on customized software packages. Their most important product lines are: application integration, e-banking, Microsoft Accelerator for Sarbanes-Oxley, workflow, corporate portals, and business intelligence. IC outsource part of the programming keeping inhouse part of it, the solution design and architecture, the project management, and the client relationships. Today, IC works with ten suppliers. InMind (IM) was born in 2007 as an undergraduate final project at Universidad ORT Uruguay, supported by IC.</p>
FOSA-BETA	<p>Sector: Forestry in Uruguay</p> <p>BOTNIA, considered as a group, is a fully integrated company although they keep a large, specific, complementary outsourced activities all along the paper production value chain. FOSA performs its activities in the very first steps of the chain. They keep inhouse the research and development activities, and a supervision structure, but outsource the operation in the field with several suppliers. BETA is one of its suppliers inside the "nursery garden". FOSA is the owner of all assets involved, including any biological asset.</p>

**Table 3 – Description of the contingent variables for each case study**

---

**Case PA – VVV**

In the first case analysed, the level of asset specificity is high, with safeguards. With respect to the length of the contracts, they have a long term perspective. They measure with simple but costly measures, with periodic cross-data. The level of Uncertainty is medium and the Market Risk is medium to low.

We observed a medium degree of information asymmetries and a low level of bargaining power asymmetries.

The reputation of both, provider and customer is very high. Both have high reputation. Also both parts have extensive experience on managing outsourcing relationships and show a positive attitude towards shared risk. With respect to their organizational culture, it is similar in the managerial level, where interrelation occurs. The level of trust between parts is high in the three trust dimensions (contractual, competence and goodwill). Operative interrelation and task uncertainty show a low level.

With respect to the Control problem, direction show clear objectives, motivation of the teams is medium to high and their competences are adequate. Finally, both parts showed a high satisfaction with the level of performance obtained in the development of the outsourced activity.

---

**Case PA-IP**

The level of asset specificity in the relationship between PA and IP is high in intangibles applied in the activity. Safeguards are generated through property rights. With respect to the length of the contracts, they have a long term perspective. They measurability of the activity is very high. The level of Uncertainty is medium and the Market Risk is medium to low. The degree of information asymmetries and the level of bargaining power asymmetries is low.

The reputation of both, provider and customer is very high. They have extensive experience on managing outsourcing relationships and show a positive attitude towards shared risk. With respect to their organizational culture, it is similar in the operational and managerial levels. Trust between parts is high in the three trust dimensions (contractual, competence and goodwill). Operative interrelation shows a low level. Task uncertainty observed is medium to high, due to external uncertainty. With respect to the Control problem, direction is clear, motivation is high and their competences are adequate. And again, both parts showed a high satisfaction with the level of performance obtained in the development of the outsourced activity.

---

**Case FOSA-BETA**

Asset specificity in the third case analysed is medium to high. The duration of the contracts is annual. The level of measurability of the activity is medium to high. Uncertainty and Market Risk are perceived to be low. The degree of information asymmetries is low and the level of bargaining power asymmetries is high, favouring FOSA. Both companies have high reputation. FOSA has a medium level of outsourcing experience while BETA shows a low level. The attitude towards risk is medium in FOSA and low in BETA. They have clear different cultures. High contractual and goodwill trust. FOSA has some doubts on NAZCA's supervision competence. A Medium level in operative interrelations is perceived. Task uncertainty observed is medium to high, due to external uncertainty. Direction is clear (high level), motivation is low to medium and their competences are adequate. The satisfaction with the level of performance obtained is high to medium.

---

**Case IC-IM**

The fourth case analysed shows a medium level of asset specificity. With respect to duration, contracts are generic, long term contracts with specific short term contract for each project. The level of measurability of the activity is high. Uncertainty and Market Risk are perceived to be low to medium. The degree of information asymmetries is theoretically high, but the organisational arrangement delivers low information asymmetry Bargaining power asymmetries is high, favouring IC. With respect to reputation, is high for IC and low for IM. Outsourcing experience is high for IC and low for IM. Risk attitude for both is medium to high. They have very similar cultures, as it was a selection criterion. Trust can be considered as high; however IC has some doubts on IM managerial competences. High level of operative interrelations. Task uncertainty is high. With respect to the control problem, Direction is clear (high level), motivation is high and their competences are adequate. The satisfaction with the level of performance obtained is high to medium.

---

**Table 4 - Description of LOC through each management control path**

Case:	LOC through Indirect Directive MCP			
	Beliefs	Limits	Diagnostic	Interactive
APV – MARVALSA	Low	Very high. Long term contracts and Quality certifications.	High. Included in contracts and certifications.	Medium to high. Open channels, not abused. Strategic issues and general operative adjustment.
APV – IPV	Low	Very high. Contracts with service level agreements. Detailed project management.	Very high. Includes quality and milestones.	High. Weekly, interactive meetings between CML and SML. Goals revision.
BOTNIA - NAZCA	Low	Very high: contracts, procedures, and HR practices.	Very high: objectives, measures, goals, pay by results (productivity and quality).	Medium to low development: aperiodic meetings for conflict resolution and general evaluation (eventually renegotiation).
IC – IM	Low	Very high. Long term and short term contracts and procedures. Detailed project management.	Very high. Included in contracts: prices, hours, and milestones. Competence evaluations (technical and managerial).	High. Interactive use of measures every three months with CML, SML and COL.

Case:	LOC through Direct MCP			
	Beliefs	Limits	Diagnostic	Interactive
APV – MARVALSA	Low	Low	Low	Low
APV – IPV	Low	Medium to low. Projects as a reference for diagnostic and interactive.	Medium. Supplier goal setting, influence directly individual SOL goals.	High. Weekly, interactive meetings between CML, SML and SOL. Goals revision.
BOTNIA - NAZCA	Low	Low	Low	Low
IC – IM	Low	Low	Medium development. CML suggest individual objectives, measures and goals.	Low

Case:	LOC through Indirect Operative MCP			
	Beliefs	Limits	Diagnostic	Interactive
APV – MARVALSA	Low	Low	Low	Low
APV – IPV	Low	Low	Low	Low
BOTNIA - NAZCA	Low	Medium. Through direct supervision and attention to procedures by supervisors.	Medium. <i>In situ</i> checking of productivity measurement and quality assessment.	Medium. Minor operative interrelation and communication. Daily operative instructions with medium to low interaction.
IC – IM	Low	Medium. Contracts and projects used as a reference.	Very high. Quality assessed every 7 to 10 days. Milestones monitored daily.	High. Adjustments to workloads permanent to achieve results. Operative joint decisions daily.

## Discussion and induced model

From the detailed analysis from the explanatory technique the result turned to be a quite simple model since several partial conclusions from individual case studies were rejected or conditioned during the process. A general and important issue to address here is that the aim of the model is to get the best performance from our suppliers with the most efficient use of LOC through the management control path design. And, as a general rule, the most efficient path will be the Indirect managerial, followed by the Indirect operative, and lastly the Direct path. The less the time of high ranked managers needs to be dedicated to the task, the better.

On this section, we will discuss the most important conclusions and by the end we will present the induced model of management control paths for outsourced activities. The following discussion is structured describing the impact of each variable on the development of the management control paths.

**Similar organisational cultures.** We found strong evidence to state that, when both organisations present similar organisational cultures, managers of the client organisation may decide not to involve themselves on the direct control of the activity. That is, they prefer to rely on more time-efficient designs. Beliefs and limits systems through the direct and operative path may be loosened. The relationship through the directive path follows the same logic but seems to be more complex since other two variables get involved at the same time: power asymmetry and goodwill trust.

**Goodwill trust.** Where goodwill trust is high, the client may want to loosen some control mechanisms to improve efficiency. Limits and diagnostic levers through directive path and diagnostic and interactive through the direct path seem to be particularly and negatively influenced by goodwill trust. A subtle consideration must be stated, though. Even in situations with high goodwill trust, client's managers may want to use the direct path to cope efficiently with the potential high operational risk due to environmental uncertainty or tasks uncertainty. That is, trust is not the only determinant of the direct path, but there are different forces in play.

**Power asymmetry.** This contingent factor does not seem to have a significant impact on the use of LOC through MCP. However, it does influence the belief system through the directive path in a complex function with culture similarity and goodwill trust.

**Asset specificity.** From previous research, we could say that the more idiosyncratic the assets, the more the need of a contractual agreement, and then, the more the need of the indirect managerial path. However, from the evidence we could propose that the relationship has at least two different sides. From one side, with high asset specificity the client should use the limits and belief systems through the directive path (contracts). From the other side, it could imply a high use of interactive mechanisms through the direct path in order to protect intangible assets (harder to protect through contracts).

**Environment uncertainty.** The higher the environment uncertainty the lower the possibility of including specific procedures and goals in the limits and diagnostic systems through the directive path. At the same time, it boosts the need for interactive systems through the directive path in order to react to the new situation and define the new terms of the

relationship. We believe that there is a subtle consideration to make here. The uncertainty also influences the direct management control path design when it impacts, transiently, on the task uncertainty. The evidence supports the hypothesis of a more developed direct path when environmental changes modify the operations, projects or tasks, since there is a need of a quick response in order to redesign the procedures and/or processes. Usually, this involves the participation of managerial and operational levels at the same time.

**Measurability.** It seems to be an important variable since the access to complete, objective, responsive (Simons, 1995) and cost-efficient measures will let managers to rely on this measures as an efficient management control mechanism. At the same time, the intensive use of diagnostic systems may lead to a lower use of interactive systems (through all three MCP), although it strongly depends on other contingent variables.

**Contractual trust.** This type of trust influences the development of limits and diagnostic systems through the directive path. That is, given that the client trust the supplier will fulfil the contract, it will include more control mechanisms looking for a more complete agreement.

**Competence trust.** If the client trusts the supplier's operative and managerial competences, then it may loosen some control mechanisms. This seems to be true with all the LOC through the direct and the operative control paths.

In addition to the initial proposal, we have found two new, very important contingent variables to take into account in our model: the operative interrelation and the task uncertainty.

**Task uncertainty.** Task uncertainty turned out to be a key issue in our model. Task uncertainty can be defined as the information deficits for performing that task, meaning that greater level of uncertainty requires more information for a given level of performance (Galbraith, 1973, 1974). This uncertainty is caused by the complexity and diversity of tasks (Thompson, 1967). We have already stated that environmental uncertainty could play an important role if it has any impact on the task; that would be the case if the environment needs the task to be redefined, so increasing its complexity at least for a short period of time. But the, let us call it this way, task *intrinsic* uncertainty is a strong determinant of the indirect operative path. When minor but constant operative joint decisions must be made in order to get the jobs done in an efficient manner, there is a strong need to be in permanent contact between client and supplier operative teams. As a consequence, the interactive systems may be developed through all the management control paths. In addition the diagnostic systems through the indirect paths may be underdeveloped since goals may not be defined, and the limits systems through the directive path should be kept in a minimum since it could be costly to update constantly the contracts.

**Operative interdependence.** The operative interrelation between both organisations seems to be a key variable, especially for the indirect operative path. The operative interdependence can be described following Thompson (1967) as whether or not the operation of one party can be undertaken without the dependence of any contingency posed by the other party's operation. Thompson (1967) identifies three types of increasing dependency (pooled, sequential and reciprocal) which we use to determine the level of operative interdependence. Since the interdependence usually needs more coordination and mutual adjustments, it follows that the design of formal mechanisms could bring a better system, that is, better

performance. This could be seen as an obvious conclusion, nevertheless is an important one. As a final conclusion, in situations of high operative interdependence, it seems to be important to have strong interactive systems in all three management control paths in order to quickly solve operative problems and differences that the same interdependence will boost.

The other contingent variables did not show any relevance in our model, or could not resist the detailed analysis. From this research we are confident to conclude that this induced model presents high explanatory potential of the complex phenomena analyzed and, at the same time, is a practical tool for the design of management control systems in interorganisational relationships.



Table 5 – Relationships between contingent and design variables

	Indirect Managerial Control Path				Direct Control Path				Indirect Operational Control Path			
	Beliefs System	Limits System	Diagnosis System	Interactive System	Beliefs System	Limits System	Diagnosis System	Interactive System	Beliefs System	Limits System	Diagnosis System	Interactive System
Culture similarity	f				-	-			-	-		
Power asymmetry	f											
Goodwill trust	f	-	-				-	-				
Asset Specificity	+	+						+				
Environment Uncertainty		-	-	+				+				
Measurability			+	-			+	-			+	-
Contractual Trust		+	+									
Task Uncertainty		-	-	+				+			-	+
Operative interdependence				+				+	+	+	+	+
Competence Trust					-	-	-	-	-	-	-	

-

## **Conclusions and managerial implications**

The present work aims to make a contribution to the understanding of the complex phenomenon of management control of interorganisational relationships applying the well-known model of the Levers of control through the use of the innovative model of management control paths. First, it should be remarked that we have found empirical evidence of managers dedicating time and effort to the design of control mechanisms in IOR. Second, the evidence supports the innovative proposition of the concept of management control paths. Third, the empirical evidence also supports the idea of the practical power of a contingent model free of pattern or archetype restrictions. Follows that the model being proposed here provides clear guidelines for the designing of control systems, and these are focused on solving the performance problem linked to the individual's behaviour, both aspects having been quite neglected by previous models.

Another interesting issue is related to the new contingent factors. Since our model is focused on a behavioural perspective, variables related to the task and technology grow in relative importance against those from economic theories traditionally related to the make or buy decision.

A central limitation of this work must be stated. The relationship between two organisations is a dynamic phenomenon that changes over time due to deliberate rational design and accidental incremental adjustments. We had to simplify this reality taking a static view. Future research should focus on the relationships between the three steps of the extended make or buy decision, studying - for instance - the impact of each management control paths on trust.

Future quantitative research based on the hypothesis stated in the final table presented in this paper, will - possibly - give us stronger evidence about the relationships between the contingent variables and each of the management control paths.

As it was expressed before, this work presents for the first time empirical evidence for the practical relevance of the concept of management control paths. We may conclude saying that when the time comes for an organisation to face the dilemma of designing the control system of an interorganisational relationship, the concept of control paths may be of help.

## References

- Anderson, E.** 1988. Transaction costs as determinants of opportunism in integrated and independent sales forces, *Journal of Economic Behavior & Organisation*, **9**: 247-264.
- Barnard, Ch.** 1938. *The Functions of the executive*, Cambridge, Mass, USA.
- Bisbe, J., Batista-Foguet, J-M and Chenhall, R.** 2007. Defining management accounting constructs: a methodological note on the risks on conceptual misspecification, *Accounting, Organizations and Society*, **32**:789-820.
- Brickley, J., Smith, C. and Zimmerman, J.** 1997. Vertical integration and outsourcing. En Irwin, R.D. (Ed.), *Managerial economic and organisational architecture*, cap. 15: 351-381, Times Mirror Higher Education Group, Inc. Company.
- Caglio, A. and A. Ditillo.** 2008. A review and discussion of management control in inter-firm relationships: achievements and future directions, *Accounting, Organisations and Society*, **33**: 865-898.
- Cäker, M.** 2008. Intertwined coordination mechanisms in interorganizational relationships with dominated suppliers, *Management Accounting Research*, **19**: 231-251.
- Chiles, T. and J. McMackin.** 1996. Integrating variable risk preferences, trust, and transaction cost economics, *Academy of Management Review*, **21**(1): 73-99.
- Compés López, R. and N. Poole.** 1998. Quality assurance in the maritime port logistics chain: the case of Valencia, Spain, *Supply Chain Management*, **3**: 33 – 44.
- Das, T.K. and B. Teng.** 1998. Between trust and control: developing confidence in partner cooperation in alliances, *The Academy of Management Review*, **23** (3): 491-512.
- Das, T.K. and B. Teng.** 2001a. A risk perception model of alliance structuring, *Journal of International Management*, **7**(1): 1-29.
- Das, T.K. and B. Teng.** 2001b. Trust, control, and risk in strategic alliances: an integrated framework, *Organisation Studies*, **22**(2): 251-283.
- Dávila, A.** 1997. *The information and control functions of management control systems in product development: empirical and analytical perspectives*, Doctoral dissertation, Graduate School of Business, Harvard University.
- Dekker, H. C.** 2004. Control of inter-organisational relationship: evidence on appropriation concerns and coordination requirements, *Accounting, Organisations and Society*, **29**: 27-49.
- Dyer, J.** 1996b. Does governance matter? Keiretsu alliances and asset specificity as sources of Japanese competitive advantage, *Organisation Science*, **7**(6): 649-666.
- Eisenhardt, K. M.** 1989. Building theories from case study research, *The Academy of Management Review*, **14**(4): 532-550.
- Flamholtz, E.** 1979. Organisational control systems as a managerial tool, *California Management Review*, **22**(2): 50-59.
- Galbraith, J. R.** 1973. *Designing complex organisation*. Reading, MA.: Addison-Wesley Publishing Co.
- Galbraith, J. R.** 1974. Organisation design-an information processing view. *Interfaces*, **4**(3), 28-36.
- Ghoshal, S.** 2005. Bad management theories are destroying good management practices, *Academy of Management Learning and Education*, **4**(1): 75-91.
- Gietzman, M. B.** 1996. Incomplete contracts and the make or buy decision: governance design and attainable flexibility, *Accounting, Organisations and Society*, **21**(6): 611-626.
- Gulati, R., and H. Singh.** 1998. The architecture of cooperation: managing coordination costs and appropriation concerns in strategic alliances. *Administrative Science Quarterly*, **43**(4): 781-814.
- Handley, S. M. and W.C. Benton Jr.** 2009. Unlocking the business outsourcing process model, *Journal of Operations Management*, **27**:344-361.

- Hill, C. W.** 1990. Cooperation, opportunism, and the invisible hand: implications for transaction cost theory, *Academy of Management Review*, **15**(3): 500-516.
- Hopwood, A. G.** 1996. Looking across rather than up and down: on the need to explore the lateral processing of information, *Accounting, Organisations and Society*, **21**(6): 589-590.
- Jensen, M. C. and W. H. Meckling.** 1994. The nature of man, *Journal of Applied Corporate Finance*, **7**(2): 4-19.
- Jensen, M. C. and W. H. Meckling.** 1976. Theory of the firm: managerial behavior, agency costs and ownership structure, *The Journal Of Financial Economics*, 1976 (also in Michael C. Jensen, A theory of the firm: governance, residual claims and organisational forms, Harvard University Press, Dec. 2000).
- Kamminga, P. E. and J. Van der Meer-Kooistra** 2007. Management control patterns in joint venture relationships: A model and an exploratory study, *Accounting, Organisations and Society*, **32**: 131-154.
- Klein, B.; Crawford, R. and Alchian, A.** 1978. Vertical, integration, appropriable rents, and the competitive contracting process, *Journal of Law & Economics*, **21**(2) (October), 375.
- Koopmans, T.** 1957. *Three essays on the state of economic science*, New York: McGraw-Hill.
- Langfield-Smith, K.** 1997. Management control systems and strategy: a critical review, *Accounting, Organizations and Society*, **22** (2): 207-232.
- Leibenstein, H.** 1982. The prisoner's dilemma in the invisible hand: an analysis of intrafirm productivity, *American Economic Review*, **72**: 92-97.
- Lorange, P. and J. Roos.** 1990. Formation of cooperative ventures: competence mix of the management teams, *Management International Review*, **30**: 69-86.
- Mahama, H.** 2006. Management control systems, cooperation and performance in strategic supply relationships: a survey in the mines, *Management Accounting Research*, **17**: 315-339.
- Merchant, K. A.** 1998. *Modern management control systems*. Upper Saddle River: Prentice-Hall.
- Merchant, K. A.** 1985. *Control in business organisations*, Cambridge, Massachusetts: Ballinger Publishing Company,.
- Merchant, K. A.** 1982. The control function of management, *Sloan Management Review*, **23**(4): 43-55.
- Mouritsen, J. and S. Thrane.** 2006. Accounting, network complementarities and the development of inter-organisational relations, *Accounting, Organisations and Society*, **31**: 241-275.
- Mouritsen, J., A. Hansen and Hansen, C. Ø.** 2001. Inter-organisational controls and organisational competencies: episodes around target cost management/functional analysis and open book accounting, *Management Accounting Research*, **12** :221-244.
- Mundy, J.** 2009. Creating dynamic tensions through a balanced use of management control systems, *Accounting, Organizations and Society*, in press, doi:10.1016/j.aos.2009.10.005.
- Noordewier, Th., G. John and Nevin, J.** 1990. Performance outcomes of purchasing arrangements in industrial buyer-vendor relationships, *Journal of Marketing*, **54**: 80-93.
- Otley, D., J. Broadbent, and A. Berry.** 1995. Research in management control: an overview of its development, *British Journal of Management*, **6**, Special Issue, S31-S44.
- Otley, D.** 1994. Management control in contemporary organisations: towards a wider framework, *Management Accounting Research*, **5**(3-4): 289-299.
- Ouchi, W. G.** 1980. Markets, bureaucracies, and clans, *Administrative Science Quarterly*, **25** (March),: 129-141.
- Ouchi, W. G.** 1979. A conceptual framework for the design of organisational control mechanisms, *Management Science*, **25**(9): 833-848.

- Ouchi, W. G.** 1977. The relationship between organizational structure and organizational control, *Administrative Science Quarterly*, **22** (1): 95-113.
- Poppo, L. and T. Zenger.** 1998. Testing alternative theories of the firm: transaction cost, knowledge-based, and measurements explanations for make-or-buy decisions in information services, *Strategic Management Journal*, **19**: 853-877.
- Redondo-Cano, A.M.** 2001. *Integración y desintegración de actividades en la empresa: análisis de sus causas. El caso de las empresas del sector fitosanitario español*, Doctoral dissertation, Facultat de Economía, Universidad de Valencia, España.
- Ring, P. S. and A. H. van de Ven.** 1992. Structuring cooperative relationships between organisations, *Strategic Management Journal*, **13**:483-498.
- Ring, P. S. and A. H. van de Ven.** 1994. Developmental processes of cooperative interorganizational relationships, *Academy of Management Review*, **19**(1): 90-118.
- Sako, M.** 1992. *Prices, quality and trust: inter-firm relations in Britain and Japan*, Cambridge, GB: Cambridge University Press,.
- Silva-Domingo and Canet-Giner,** 2010. Achieving client-supplier alignment through management control paths, *Strategic Outsourcing*, **3**(1): 33-45.
- Simons, R.** 1995. *Levers of control: how managers use innovative control systems to drive strategic renewal*, Boston: Harvard Business School Press.
- Simons, R.** 2000. *Performance measurement and control systems for implementing strategy*, Upper Sadle River, NJ: Prentice-Hall.
- Smith, K. G., S. J. Carroll and Ashford, S. J.** 1995. Intra and interorganisational cooperation: toward a research agenda. *Academy of Management Journal*, **38**: 7-23.
- Speklé, R. F.** 2001. Explaining management control structure variety: a transaction cost economics perspective, *Accounting, Organizations and Society*, **26**: 419-441.
- Stuckey, J. and White, D.** 1993. When and when not to vertically integrate, *Sloan Management Review*, **spring**: 71-83.
- Taylor, F.W.** 1911. *The principles of scientific management*, New York, USA. (Fayol, H. and Taylor, F.W. 1987. *Administración industrial y general, principios de la administración científica*. 10a.ed. Buenos Aires: El Ateneo).
- Thompson, J.D.** 1967. *Organisations in action*. New York: McGraw-Hill.
- Tomkins, C.** 2001. Interdependencies, trust and information in relationships, alliances and networks, *Accounting, Organizations and Society*, **26**:161-191
- Van der Meer-Kooistra, J.** 1994. The coordination of internal transactions: the functioning of transfer pricing systems in the organisational context. *Management Accounting Research*, **5**:123-152.
- Van der Meer-Kooistra, J. and R. W. Scapens.** 2008. The governance of lateral relations between and within organisations, *Management Accounting Research*, **19**:.365-384.
- Van der Meer-Kooistra, J. and G. J. Vosselman (Ed).** 2000. Management control of interfirm transactional relationships: the case of industrial renovation and maintenance, *Accounting, Organizations and Society*, **25**: 51-77.
- Van der Meer-Kooistra, J. and G. J. Vosselman (Ed).** 2006. Research on management control of interfirm transactional relationships: whence and whither, *Management Accounting Research*, **17**: 227-237.
- Ventura, J.** 1995. Análisis estratégico de los límites de la empresa: grado de integración vertical, *Revista Europea de Dirección y Economía de la Empresa*, **4**(1): 79-87.
- Vosselman, E. G. J. and J. van der Meer-Kooistra.** 2009. Accounting for control and trust building in interfirm transactional relationships, *Accounting, Organizations and Society*, **34**(2): 267-283
- Walker, G. and Weber, D.** 1987. Supplier competition, uncertainty, and make-or-buy decisions, *Academy of Management Journal*, **30**(3): 589-596.

- Widener, S. K.** 2007. An empirical analysis of the levers of control framework, *Accounting, Organizations and Society*, **32**: 757-788.
- Williamson, O. E.** 1981. The economics of organisation: The transaction costs approach, *American Journal of Sociology*, **87**: 548-577.
- Williamson, O. E.** 1985. *The economic institutions of capitalism*. New York: The Free Press.
- Williamson, O. E.** 1991. Comparative economic organisation, *Administrative Science Quarterly*, **36**: 269-296.
- Williamson, O. E.** 1993. Opportunism and its critics, *Managerial and decision economics*, **14**(2): 97-107.
- Yin, R.** 1994. *Case study research*, 2n.ed. Thousand Oaks: Sage.