



Timing and drivers of management control systems in joint ventures

The effect on JV survival

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Abstract

Purpose – The purpose of this paper is to describe the timing of management control systems (MCS) implementations, their drivers and effect on joint venture (JV) survival.

Design/methodology/approach – This paper draws on case study data (archival data, interviews, and site visits) collected at three JVs in the automotive industry. Contingency theory is used to define Cartesian relationships.

Findings – A description of the timing and reasons for MCS implementation in JVs is provided. Initially, environment, strategy, and partner culture are considered to implement governance mechanisms and transfer prices/cost allocations for long-term transfers of technology and corporate services. Later, structural and technological factors are considered to implement operative MCS such as budgeting, transfer prices/cost allocations of manufactured parts and performance measurement.

Research limitations/implications – All three JVs studied: belong to the automotive industry (SIC 3174); have balanced ownership (50/50); and have one partner in common (a European family-owned business with professional management). Data are obtained mainly through site visits, five interviews, five mailed questionnaires, and public and private archival data.

Originality/value – The paper is the first to offer a descriptive model of the timing of MCS implementation in 50/50 JVs explained by the effect of contingent factors in each stage of the JV life and in JV survival.

Keywords Control, Control systems, Joint ventures

Paper type Case study

Introduction

In the last two decades interfirm collaborations, such as joint ventures (JVs), have become popular for companies seeking to achieve international growth. In spite of the wave of strategic alliances and JVs (Sherman, 1992; Contractor and Lorange, 2002), there are indications that such operations are not always successful (Marshall and Heffes, 2004; Gary, 2004). Roughly one-third of 49 alliances tracked by a consulting firm and reported by Sherman (1992) were failures. The success rate has slightly improved in the last ten years from 51 to 55 percent (Bamford *et al.*, 2004) however 55 percent of them fall apart within three years and only 23 percent recover the costs (Segil, 1999, 2004). A comprehensive survey of JVs reported that problems related to the management accounting information systems were the second most common cause of dissatisfaction, with 22 percent of the cases mentioning them (Watson Wyatt, 2000).

The topic of control in JVs has been intensively considered by the academic community, but there is still no conclusive model depicting the timing of management control systems (MCS)[1] implementation. This research is motivated by the high



failure rate of JVs and by the varied results reported in the literature, but most importantly by the fact that the academic literature in accounting has produced only limited exploratory studies that have not looked at the timing of MCS implementation as a way to reduce uncertainty and to improve JV survival (Groot and Merchant, 2000; van der Meer-Kooistra and Vosselman, 2000; Dekker, 2004). The timing of MCS implementation is critical because more than half of JVs fall apart in the first three years (Segil, 1999, 2004) and this paper is aimed at addressing that gap in the literature. The main purpose of this study is to describe the sequence in which MCS are initially implemented in JVs and reflect on whether a certain sequence improves the chance of surviving beyond the first years. Findings of this study indicate that JVs that only agree on governance mechanisms and transfer prices of corporate services and technology at the time of signing the initial agreement do not survive long, while those that also agree on more operative MCS can survive without ownership changes for more than a decade. JV survival without ownership changes allows partner firms to save costs and maximize profits (Segil, 1999, 2004), which is a desirable characteristic of any internationalization strategy.

In the last few years, there have been attempts to build a clear framework in the management accounting literature, most notably the work of Groot and Merchant (2000) that calls for a contingency theory of JV control. This research paper aims to answer that call, but focused mainly on the timing of MCS. Special attention has to be paid to the hypothesized form of fit between external and internal contingent factors, MCS implementation timing and JV ownership structure survival in the first years. As demonstrated by Gerdin and Greve (2004), a Cartesian approach is quite different from a configuration approach, and contingency fit differs from congruence fit. In the contingent form of fit within a Cartesian approach the task of the researcher is, as for this study, to "show that a higher degree of fit is associated with higher performance" (Gerdin and Greve, 2004, p. 305). In this study, fit is defined as the relationship between contingent factors and MCS implementation timing, while performance refers to survival of the 50/50 ownership structure.

Several characteristics distinguish this study. Since JVs are very heterogeneous, focusing on one type of industry increases the power of the research design but sacrifices external validity. The focus of the analysis is in the timing of MCS implementation in JVs. This study, following a line of research in management accounting (Tushman and Nadler, 1978; Davila, 2000), conceives that MCS are used in JVs to supply information required to reduce uncertainty as defined by Galbraith (1973)[2], rather than to protect assets committed. This study considers both financial information and formal but non-financial information as part of MCS (Davila, 2000). The concept of MCS used in this study goes beyond formal management accounting data (cost, profitability, and budgets) so that it includes a broader information set (Gordon and Narayanan, 1984; Chalos and O'Connor, 2004) capturing market, customer, production process, and time-related measures because all of them can be used to manage 50/50 JVs (Lu and Hebert, 2005).

The research design of this paper is aimed at finding a relationship between the contingent factors considered by managers at each stage of JV development and the implementation of MCS. This study is designed as a multi-case study focused in MCS implementation in each JV and its long-term effect on survival without ownership changes. The rest of the paper is structured in six sections; next, prior research is

reviewed and the conceptual framework presented together with a set of propositions. Then there is an explanation and justification of the research design choices and data sources. The following section presents the cases analyzed and the findings. The last section discusses the case findings and analyzes their implications; while a conclusion summarizes the key points of the paper.

Literature review

Joint ventures and uncertainty

Narrowly defined, a JV occurs when two or more firms pool a portion of their resources within a common legal organization (Kogut, 1988). In other terms, partners are paid for some or all of their contribution from the profits earned by the entity (Geringer and Hebert, 1989), therefore partners mutually commit equity and assets, and agree on how costs and profits are shared between them. An evolutionary perspective allows Ariño and de la Torre (1998) to identify four phases in the JV life through the development of a model that focuses on the on-going assessment by the alliance partners of the efficiency and equity conditions prevalent in the JV at any point in time, mediated by their relationship quality.

The specific characteristics of strategic alliances, such as multiple decision-making centres, constant bargaining and clashes of interest, make them an unstable form of organization (Ariño and de la Torre, 1998). Partner differences lead to great uncertainty (Pangarkar and Klein, 2004) and MCS provide information to reduce it. Balanced JVs (50/50) where a priori there is no legally dominant partner, are a challenging case to study from the perspective of MCS. The interesting nature of 50/50 JVs lies in the fact that no partner has enough property rights to impose MCS that provide the information needed to reduce uncertainty or “the difference between the amount of information required to perform a task and the amount of information already possessed by the organization” (Galbraith, 1973, p. 5).

Management control systems in JVs

Few articles have been published in accounting journals about MCS in JVs, however the field of JV controls is very well developed in the management literature. The first study that mentioned MCS when studying controls in JVs was Geringer and Hebert (1989). They concluded that control of JVs is complex and multidimensional, suggesting that there are three primary dimensions that capture a substantial amount of the total variance in JV MCS: mechanisms, focus and tightness. Groot and Merchant (2000) considered that JV partners can use any of a long list of mechanisms to protect their interests in a JV and classified MCS according to the object of control: actions, results, or personnel/culture. Chalos and O'Connor (2004) found that partner characteristics influenced MCS such as expatriate staffing, socialization practices, delegated decision-making responsibilities, parent company communications, and manager performance incentives.

Following van der Meer-Kooistra and Vosselman (2006), one important line of research is within a transaction costs perspective which started with studies done in inter-organizational relationships (van der Meer-Kooistra and Vosselman, 2000; Dekker, 2004). The consensus from these studies reveals that: “management accounting can be an essential element of governance in inter-organizational relationships” (Dekker, 2004, p. 47), but such a consistent suggestion does not exist

yet regarding MCS in JVs. Kamminga and van der Meer-Kooistra (2006) suggest that based on a set of cases studies, the control structure of JVs is dictated by the characteristics of partners' contributions and the three dimensions of JV control: mechanisms, tightness, and focus; later Kamminga and van der Meer-Kooistra (2007) identified three management control patterns based on content, consultation, and context. The authors elaborated a model depicting a configuration form of fit in Gerdin and Greve's (2004) terms, however Cartesian models remain unexplored.

Transaction costs can explain both the hierarchical relationship between the partners and the JV management and the interfirm relationship between the JV partners but do not provide a clear link between JV performance and MCS. Lu and Hebert (2005) used transaction costs to demonstrate a significant relationship between equity control and JV performance moderated by asset specificity, internal, and external uncertainty. One of their conclusions (Lu and Hebert, 2005, p. 743) – "with accumulated experience, a firm is more likely to know how to monitor foreign subsidiaries, as internal uncertainty is lower" coincides with Kamminga and van der Meer-Kooistra's (2007) idea that internal and external learning of JV partners and managers increases over time. However, due to transaction cost limitations none of these ideas has been extended to a contingent approach within a Cartesian form of fit between MCS implemented in JVs and their impact on JV survival.

Sources of uncertainty and JV stages

JVs are an unstable form of organization with several organizational variables that are in a complex interrelationship with one another. Contingency theory studies find several relationships that explain how appropriate MCS can be designed to match the organization structure, technology, strategy, culture, and environment (Chenhall, 2003). MCS design is deliberate as well as emergent[3], therefore the use of contingency theory to build the framework of this study is adequate.

The design and configuration of MCS are shaped by external and internal factors as identified in the contingency theory literature (Chenhall, 2003). External factors are those sources of uncertainty that can be managed through organizational interfaces with the environment (Thompson, 1967) and previous studies identified them with environmental uncertainty and culture (Gordon and Narayanan, 1984; Davila, 2000). Internal factors are sources of uncertainty inherent to the task performed, and previous studies identified them with technology, structure and project scope (Davila, 2000). Strategy cannot be paired with either external or internal factors, because it is somewhat different as recognized by Chenhall (2003, p. 150):

In a sense it is not an element of context, rather it is the means whereby managers can influence the nature of the external environment, the technologies of the organization, the structural arrangements and the control culture and the MCS.

Strategy can be considered as the nexus between external and internal factors or sources of uncertainty.

Four stages in the evolution of a JV can be related with the impact of internal and external factors (Ariño and de la Torre, 1998). The first stage involves agreeing on initial conditions and is referred to as the pre-forming discussion or negotiation, which includes the preparation of a memorandum of understanding that is done by considering all strategic choices given the environment and partners' characteristics.

The second, called initial agreement, includes the signing of the shareholder agreement, licensing agreement and bylaws corresponding to the “commitment” period, which are normally identified as JV governance mechanisms; the commitment is made on the basis of a restricted set of strategic choices available. The third stage is the lapse of time between signing the initial documents and beginning of operations, called set-up, and is related to initial execution and learning that requires the definition of rules and procedures such as planning and budgeting; the initial execution is bounded by the strategic choices made, and learning allows the JV to change some choices but not to radically change all of them. The fourth stage is that of normal operations of ordinary administrative and productive tasks, routines and reports, and implies further execution, learning, re-evaluation, re-adjustment, and re-negotiation leading to a new equilibrium based on an integral use of MCS.

To draw a time line of MCS implementation, the differentiation between external and internal contingent factors is critical. External factors are larger sources of uncertainty than internal factors. Environmental uncertainty and culture are first considered when planning to enter into a JV because they represent the major differences between teaming up with one partner or with another partner. Strategy is also considered early because the managers’ “strategic choices” position the JV in particular environments (Chenhall, 2003). On the other hand, structure and technology are partially defined by the previous decisions, because once the JV location has been determined and the partner has been selected several alternatives for structure and technology have been ruled out.

Management control systems and JV ownership structure survival

The effect of MCS on JV performance is difficult to predict, particularly in the first years when most of the JVs fail. If MCS supply information relevant for reducing uncertainty, then a positive relationship between performance and MCS implementation is expected (Davila, 2000). Although a large number of studies covered the impact of control on JV performance, the results are not convergent. Some evidence points to a positive relationship (Killing, 1983; Lecraw, 1984), whereas other evidence suggests that such a relationship is negative (Boateng and Glaister, 2002), has quadratic behavior (Ramaswamy *et al.*, 1998) or finds no relationship (Kogut, 1988). Part of the problem is that there are many ways to define and measure JV performance and control. For instance, performance measures include a variety of financial indicators typically employed in business research, such as profitability, growth, and cost positions (Lecraw, 1984); objective measures are also used, such as survival (Killing, 1983), duration (Kogut, 1988) and instability of ownership (Lu and Hebert, 2005).

Ownership control is one of the several organizational variables reflecting that JVs are an unstable form of organization. Lu and Hebert (2005) linked the initial JV conditions, foreign equity control and JV survival and found that JV performance improves with the right fit between the JV initial conditions and the level of equity control. The relationship between ownership control and JV initial conditions is interesting *per se*, but other variables need to be related with the JV initial conditions and survival, ideally the full array of MCS.

Theoretical propositions

Not all parts of MCS are designed and implemented at the same time; the differences can be explained by the influence of contingent factors and those differences may affect JV survival. Owing to the long-term implications of governance mechanisms (Merchant, 1981), they are expected to be the first MCS to be discussed in JV formation to provide the basis for mutual monitoring as a way of safeguarding the assets invested as suggested by transaction costs studies. Groot and Merchant (2000) found that the three JVs analyzed had all signed detailed JV agreements and had clear rules regarding the board of directors and appointments; no other MCS is addressed at that moment. The design and agreement on governance mechanisms is directly influenced by external contingent factors and strategy. Based on the existing literature, the *PI* is as follows and is shown in Panel A of Figure 1:

- PI.* JV survival improves if governance mechanisms are addressed in the pre-forming stage and implemented in the initial agreement stage after assessing the external contingent factors such as environment, culture, and strategy.

In contrast, the more operations-oriented parts of MCS will be designed and implemented once the JV has been agreed to provide the information needed by JV managers to run the JV on a daily basis (Doz, 1996) and consequently reduce uncertainty. Following the management accounting literature, it is expected that budgeting, cost allocations, transfer prices and performance measurement will be defined and set in place once the JV has been agreed[4]; this is similar to Groot and Merchant's (2000) findings regarding cost accounting. The reason is that once the JV has been agreed, the partners and JV managers will address less-uncertain factors such as structure and technology, which are partially determined when a JV business is

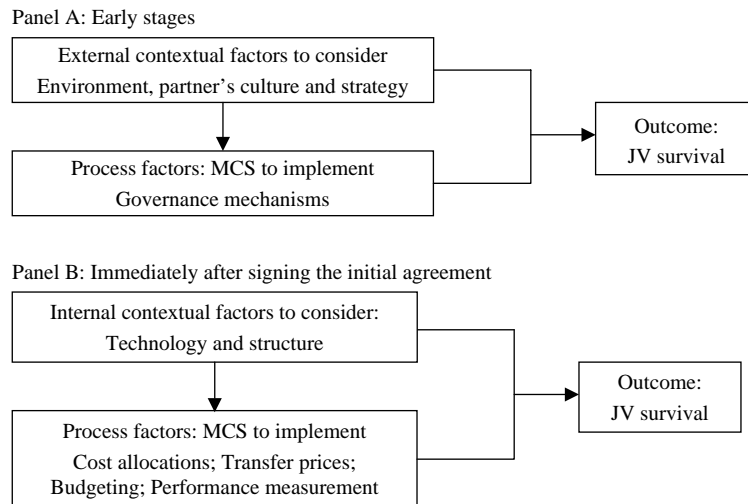


Figure 1.
Proposed impact of
contingent factors and
MCS on JV survival

Source: Graphical representation adapted from Pettigrew (1985)

defined and its agreement is signed. Therefore, based on the existing literature, the *P2* is as follows and is shown in Panel B of Figure 1:

- P2.* JV survival improves if cost allocations, transfer prices, budgeting and performance measurement are considered for the initial agreement and implemented immediately after signing it when considering internal contingent factors such as structure and technology.

Methodology

This paper adopts an exploratory approach to cases of JVs involving several site visits, consultation of public data, access to private documents, interviews of key players and mailed questionnaires to those managers who are geographically distant (Yin, 1994). To reduce the variability of results this study made two choices:

- (1) consider only JVs in one industry; and
- (2) consider JVs with one common partner.

The decision to limit the cases to a particular subgroup of manufacturing industries is because JVs in service industries or even in another type of manufacturing industries may significantly differ in the complexity of technology, structures, processes, and procedures of management (Wang *et al.*, 1998). The motor and auto parts industry (SIC 3174) has been selected due to its configuration, with multiple international JVs and because many studies on JVs have selected this industry to arrive at sound conclusions. For instance, Burgers *et al.* (1993) develop a model that studies the motives for alliance formation and networks conformance. Nohria and Garcia-Pont (1991) discovered that there are two types of strategic blocks: complementary (mainly European and from different strategic groups) and pooling (mainly USA-Japan and of the same strategic group). Dyer (1996) shows that different configurations in the automotive industry regarding asset specificity have a direct effect on performance; the findings indicate a positive relationship between supplier-automaker specialization and performance. Dyer and Nobekoa (2000) show how a company uses and develops its network's knowledge capabilities to achieve higher performance by examining the "black box" of knowledge sharing within Toyota.

The second decision is the use of one company that has entered into several JVs in the auto and motor parts. The common partner is a European firm with multiple JVs which provides comparability with the work of Groot and Merchant (2000). The first step to select the JVs object of this study was to identify a European company, Ficosa International SA, that was a partner in several JVs in the industry (seven by the year 2002) with some JVs being mature and others having failed, that has a concentration of business in the automotive industry (+95 percent), and that is an important industry player (top supplier in several products).

Data collection methods

The study drew on several site visits, archival data, interviews, and questionnaires to the persons most related with MCS. In a first stage, public data were collected from the internet, newspapers, industry magazines, and journals as well as some archival data (including interview transcripts done in 1996) which were obtained, with permission, from existing confidential records held by other researchers not participating in this

study (*Instituto de Estudios Superiores de la Empresa (IESE)*, 1993, 1996, 2002[5]). The second stage started when access was granted to the company for site visits and interviews were done. Private documents of the JVs were studied, such as annual reports for the last five years, budgets and budgeting procedures, initial shareholders agreements, bylaws, pricing rules for technology, and services provided to the JVs, etc. A grasp of the culture and management style was obtained during site visits to Ficosa's headquarters in Barcelona (Spain).

Interviews were designed to assess and identify the time of MCS implementation in JVs. This study relied on focused interviews in which the respondent was interviewed for more than an hour, following a semi-structured questionnaire adapted to JVs from Davila (2000). Five interviews were done in a period of three months during 2002. The selection of subjects followed a snowball sampling technique (Oakes *et al.*, 1998), leading the researcher to interview the Chief Financial Officer (CFO) and Controller of Ficosa International SA, and one member of the Board of Directors of each one of the JVs who also sit in Ficosa's Board. Whenever relevant, this study also uses two interviews made in the year 1996 by another researcher (IESE, 1996). The 1996 interviewees were Ficosa's President and one member of the Board of Directors of the oldest JV (the same person was also interviewed for this study providing a good source to triangulate data). This study also relied on the data collected for two teaching cases of Ficosa (IESE, 1993, 2002).

The third stage consisted in mailing questionnaires to the JV managers and controllers of the three JVs due to the distant geographical locations of two JVs; this was done to confirm the results obtained from private documents and the interviews. The questionnaire was structured as a survey with open questions requiring the respondent to write an answer, it was also adapted to JVs from Davila (2000). The questionnaire had 11 pages each one addressing the following: strategy, business environment, organizational structure, manufacturing technology, culture and management style, governance mechanisms, planning and budgeting, performance measurement (incentives and compensation), transfer prices, cost allocation rules and procedures, and an overall assessment of the JV performance. When the answers were incomplete or ambiguous, the respondents were contacted by phone, a total of seven phone calls were made to complete five questionnaires.

All interviews and phone calls were taped (with permission) and transcribed. To ensure reliability of transcripts, all of them were reviewed and analyzed by the researcher. Following the approach recommended by Smith (1995), each transcript was read twice, the first time to develop an overall understanding of the implementation timing of MCS. The transcript was read again to identify the relationships between MCS, contingent factors, JV life stages and JV survival that the participants considered relevant. After all the private documents, interviews and questionnaire answers, including phone calls, were reviewed and independently judged, the researcher did a cross data analysis to review the categorizations throughout the three JVs.

Although special attention was paid to the tests commonly used to establish the quality of empirical social research, a good portion of the data was obtained through interviews, and as such is subject to poor recall and bias. In order to increase the internal validity and reliability of the findings, multiple sources of information such as public data, private documents, current and past interviews, and site visits involving informal talks with employees and managers, were used to provide for a complete

triangulation of data (Yin, 1994). All documents were used to corroborate and augment evidence from the interviews and questionnaires, and through this a process of data triangulation, or cross-checking across various sources to enhance validity, occurred (Denzin, 1978). Although the case study was designed and carried out rigorously, the vulnerability of this methodology cannot be ignored.

Variables definition

This section provides a detailed explanation of the attributes considered in each variable used in the study. The variables are defined here in the same way they were explored in the JVs. The descriptions avoid confusion over inclusions or exclusions. However, their dimensions cannot be interpreted. Finally, it is worth noting that this study seeks to explain a Cartesian type of fit between the MCS implemented, the timing of their implementations, the factors that were considered before implementation, and their impact on JV ownership structure survival. This study does not analyze the fit between the dimensions of the various variables; instead, it analyzes the fit between the existence (or not) of such variables at a particular moment in time.

Contingent factors: external and internal. To avoid using variables inconsistent with previous studies, the contingent factors explored in this study are identified following the existing literature:

- The external environment encompasses everything that is outside the boundaries of the organization. Following Porter (1985) and Khandwalla (1972), this study asked about intensity of competition, volatility, political and economic constraints, and market experience and exposure.
- Culture and management style are the social patterns that guide workers' behavior, policies and practices. Empirical studies address management style and culture as marginal explanations (Govindarajan, 1988). This study, following Harrison and McKinnon (1999), asked about partners norms and values; culture and nationality diversity; formality of structures, controls and communications; codes of conduct; and experience with diverse cultural environments.
- Organizational structure consists of firm and unit variables, such as firm size, business unit size, business unit products or services, firm diversification, and firm structure (M- or U-form). Following Gordon and Narayanan (1984), this study asked about degree of centralization, formalization of authority, participation in decision making, decentralization type, firm size, and firm complexity.
- The dimensions of technology are characterized as small/large batches, process/mass production (Woodward, 1965), product and process experience (Perrow, 1967), and pooled, sequential, and reciprocal interdependencies (Thompson, 1967).
- This study asked about strategy in terms of low-cost, differentiation and focus (Porter, 1985); defenders, prospectors, and analyzers (Miles and Snow, 1978); and build, hold, harvest, and divest strategies (Porter, 1985), as well as through the identification of the strategic business units and the industry strategic profile (Govindarajan, 1988).

Control mechanisms. Studies of controls in JVs vary significantly; most of the papers focus on governance mechanisms such as ownership, key personnel appointments, and board issues (Bamford *et al.*, 2004; Chalos and O'Connor, 2004). Few authors look at other mechanisms such as reporting and auditing (Wang *et al.*, 1998). The fact that the literature is focused more on control mechanisms for the top management team reflects that JV partners are more concerned with contractual issues than with operational realities (Doz, 1996). This study identifies the set of MCS more frequently reported in the accounting literature. In the next paragraphs, each MCS mechanism is briefly introduced as it is understood in this study.

Governance mechanisms are institutional mechanisms by which inter-organizational relationships are initiated, negotiated, designed, coordinated, monitored, adapted, and terminated. JV private documents allow this study to explore: ownership structure; objectives, obligations and purposes of the JV partners; decision making and conflict resolution processes; composition of the board of directors and top management team; and appointments of the external auditor, in line with Groot and Merchant (2000) and Chalos and O'Connor (2004).

Cost allocation is the term used to describe the procedures by which product costs are constructed. This study treats cost allocation rules as an independent topic, although normally it is considered to be the basis of the three topics discussed below. Cost allocation and pricing decisions are usually tied together under the concepts of responsibility centres and transfer prices (Kaplan, 1982), while other authors choose to relate them to performance evaluation (Demski, 1994). Dimensions of this variable are hard to isolate when analyzing JV's private documents, consequently this study asked about the identification of direct and indirect costs; allocation of period and product costs; identification of service areas, joint costs, by- and sub-products; assignment of costs; and procedures for product cost calculation (Shields and Shields, 1998).

A transfer price is an internally set transaction price to account for the transfer of goods or services between divisions of the same firm. This study, following the dimensions used by Ronen and McKinney (1970) and Kaplan (1982), investigated JV private documents and asked about: the type of decentralization; type of responsibility centre; unit autonomy; mechanisms of transfer pricing systems; link with performance measures; object of the transfer price; and decision making bias in case of conflicts.

Budgeting and planning is a system of authorization, a channel of communication and coordination, a motivational device, and a means of performance evaluation as well as providing a basis for decision making, but the multiple functions of the budget may trigger numerous dysfunctional consequences such as distrust, resistance, and internal conflict (Shields and Shields, 1998). This study, following the dimensions of Brownell (1985), investigated JV private documents and asked interviewees about the purpose, timeliness and appropriateness of budgets; the budget's unit of measure; periodicity of preparation and procedures; flexibility and employee participation; difference between planning and budgeting; effort and stress to fulfill the budget; and budget preparation.

Performance evaluation occurs when a provision is made at the time of making a choice to evaluate that choice at a later date (Demski, 1994). The primary purpose of performance evaluation is to motivate employees to attain organizational goals and comply with predetermined behavior standards to produce desired actions and outcomes. This study, following the dimensions identified by Kren and Liao (1988),

used JV private documents and interviews to explore: the segments and activities to be controlled; map of duties, responsibilities and powers; type and nature of the objectives set; patterns and rules of performance measurement; evaluation of results and analysis of variances; sanctions and rewards; and compensation and incentive schemes.

JV performance. To address the effect of MCS on JV performance, both variables have to be properly defined. Performance can be rated as high (leading to success) or low (leading to failure) based on the JV managers' opinions. The drawback of using a self-reported measure is that it may be affected by perceptual biases, but it has the advantage of capturing most of the relevant dimensions and also takes into account the expectations. Objective measures of performance have been also used: survival (Killing, 1983), duration (Kogut, 1988) and instability of ownership (Lu and Hebert, 2005). This study treats performance as instability of JV ownership – a binary variable with the following values: 1 the JV continues to operate with the same ownership structure, and 0 the JV ownership structure has changed since inception.

Findings of case analyses

This section describes each JV, allowing their unique patterns to emerge before proceeding to identify patterns across cases. The focus of this section is a careful study of each individual case, particularly on evolutionary data of MCS. To better understand the process of MCS implementation, the three JVs are described but first the common partner is introduced.

Common partner: Ficosa International SA

The company selected as the axis of this study, Ficosa International SA, has undergone an internationalization process in three very different stages which led this research to select three JVs to study, one from each stage. The first stage goes from its foundation until 1986 and shows a company whose only market is Spain, where it produces to meet the requirements of local auto-makers, forming some alliances with non-Spanish companies that needed a local partner due to legal restrictions. The second stage begins when Spain joined the European Community (now European Union) and goes from 1987 to 1995. In this decade the market extended beyond Spain to other western European countries, and so the alliances were mostly with other European partners and were located in other western European countries. The third stage coincides with the globalization of the automotive industry during the 1990s. In 1996, Ficosa started to expand its activities beyond Europe, forming alliances in Latin America and Asia, effectively changing Ficosa's role because in these new alliances Ficosa provided technology, know-how and clients, while the local partners provided local knowledge. Figure 2 shows Ficosa's evolution.

The research started by getting an idea of Ficosa, its history, business and JVs. After two month of studying public and private data, the first two interviews were arranged with the CFO and the controller of this privately held company. Asked about Ficosa's perspective on MCS implementation in JVs, the following comments arose:

- The CFO-mentioned governance mechanisms as efficient and critical mechanisms that affect the ownership structure and decision-making structures such as composition of the board of directors, appointment of managers, and external and internal auditors. Nowadays, they are the first MCS to be negotiated and must be detailed in the JV initial agreement.

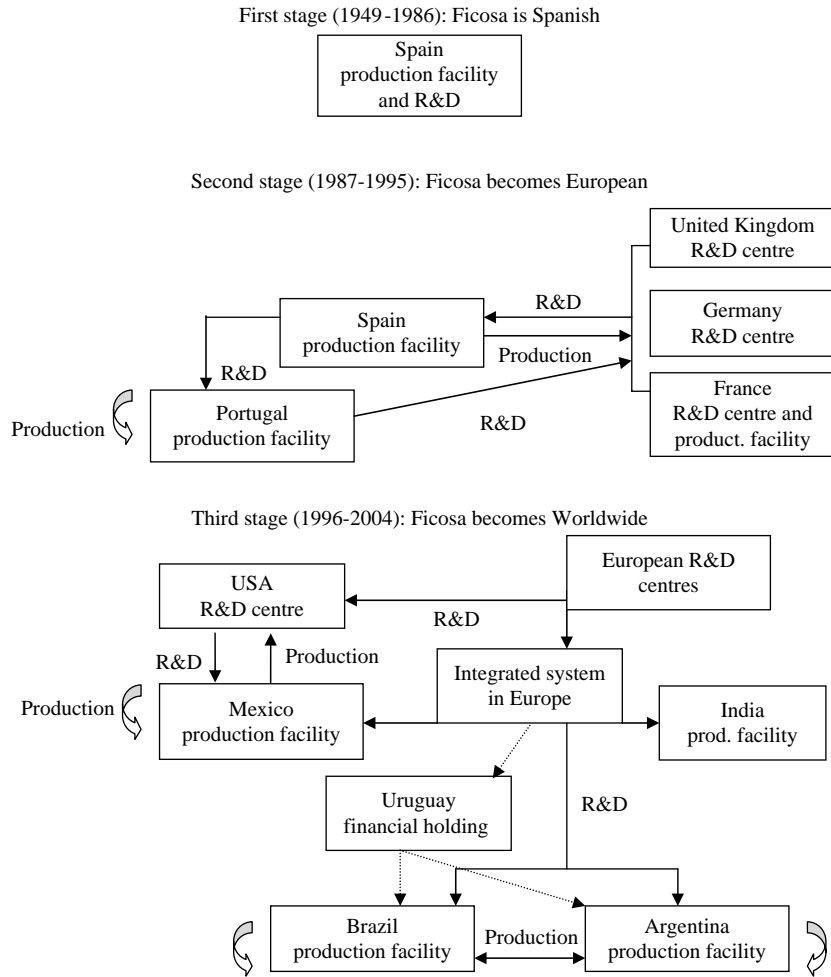


Figure 2.
Stages in the
internationalization of
Ficosa International SA

Source: Translated and adapted from Duran Herrera, (1999)

- Both interviewees explained that each JV is a profit centre with five-year budgets and investment plans. Budgeting is a very clear process that is used to coordinate, with a procedures manual shared by all firms. Budgeting starts with planning and ends with reporting; the whole process is driven by customer demand which is determined by long-term contracts. This is the most complex and time-consuming MCS once the JV is functioning.
- Performance measurement as a formalized mechanism integrated in its enterprise resource planning (ERP) system was still at an early phase in 2002. On an informal basis, every six months in an individual meeting the degree of

goal achievement is evaluated as a basis for salary reviews. All employees participate in objective setting, following a top-down process of mission, goals and policies. The evaluation is individual and takes account of financial, operative, and human development objectives. Even nowadays, the formalization of this MCS is perceived as non-essential; in their opinion, JVs can operate without a formal performance measurement system.

- Transfer prices were seen by both interviewees as critical together with cost allocation rules. They must be clear and transparent in JVs, otherwise the numbers will not be useful for decision making. There are two sets of costs and prices in JVs. Ficosa's top managers are not heavily involved with written rules for setting and negotiating product cost, where fixed cost charges and profit margin of product manufactured are periodically revised to reflect all sort of changes. It was recognized that since the earliest JVs they were aware of the importance of these systems. On the other hand, prices and costs of corporate services and technology transfers to the JV (determined as a variable percentage of sales volume) require a great deal of involvement of Ficosa's top management team because they are negotiated and detailed in the initial and licensing agreements. Ficosa's top managers recognize that they started to pay special attention to this second set of transfer prices/cost allocations after some failures in JVs done in the late 1980s and early 1990s.

HUF España SA

Huf España is a 50/50 JV signed in 1982 between Huf International GmbH, a German-based company, and Ficosa International and continues to operate with the same ownership structure. Huf International GmbH is one of the worldwide leaders in locking and security systems in the automotive industry. The German partner contributed technology and clients, while Ficosa provided the local knowledge. The main activity of Huf España is locking systems and although its products are sold Europe-wide, its production facilities are located in Spain and Portugal. In negotiating this JV, which did not involve a written memorandum of understanding, they agreed that Ficosa would provide the management, establishing a clear definition of each partner's markets and those of the JV. The organizational structure is determined by operations (manufacturing), with responsibility concentrated in cost centres. Locking systems are manufactured in two plants with flexible production lines (lean production), big batches for mass production and smaller ones for the aftermarket.

The data obtained from the interview with a director were triangulated with three other interviews (the same person in 1996, Ficosa's President in 1996 and Ficosa's Controller) and private data (initial agreement and other documents related with the initial negotiation and renegotiations). Information obtained from questionnaires sent to Huf España's Controller and one of its general managers was used to build the profile of MCS implementation in this JV. No discrepancies were found between the sources; the following results were obtained:

- Governance mechanisms used to monitor the JV are the board's composition, with four members, two from each partner; and the composition of the management team, with two general managers, one from each partner, with clear, non-overlapping competencies. According to the President in 1996:

[...] this JV was set up as a gentlemen's agreement between the two presidents worried about things such as trends in the automotive industry, European Union regulations, unions' bargaining power and car assembler requirements.

Although governance mechanisms were not explicitly addressed in the initial documents, they were formally defined and agreed within the first year of operations as reflected in JV private documents.

- Budgeting and planning follow Ficosas's guidelines, because Ficosa is in charge of the JV management due to geographical proximity and structural similarities such as centralization, authority style, size, participative decision making, and technology complexity. The budget can be changed during preparation (a bottom-up process) but once it has been approved it becomes mandatory. Ficosa's controller added that "the budget is a transparent document that cannot hide much slack." The budgeting process, which takes at least three months starting in July, converges in an income statement and balance sheet, follows Ficosa's guidelines and is integrated into Ficosa's ERP system. Budgeting was formalized in the first year of operations, while strategic planning was introduced in the early 1990s.
- Ficosa's CFO and Controller agreed that: "JV performance measures are introduced when the JV starts operations or right after they start." The board member of this JV mentioned that the "performance measurement system was taken from Huf in the late 1980s and since 1999 is integrated into a balanced scorecard." The JV manager noted that they are "evaluated on earnings before income taxes (EBIT), while the rest of the employees are evaluated based on the degree of goal achievement." The most relevant measures mentioned by the JV controller are: profitability, free cash flow, value added per employee, quality, ISO certification, defective parts per million, delivery and claims, and client satisfaction. Very little about performance measures is mentioned in JV private documents.
- Ficosa's controller explained that in other JVs long-term transfer prices/cost allocations are written in the JV initial agreement and cannot be easily changed, commenting that "the rules for long-term transfer prices/cost allocations are taken as given because they come from the initial documents of the JV" while short-term transfer prices/cost allocations can be renegotiated every time they are needed. In this, JV long-term transfer prices and cost allocations took managers some trials until both partners agree on a formal rule by 1988. The JV manager commented that transfer prices and cost allocations change every time a new product is added, changed or dropped, but royalties for corporate services or technology are seldom changed. The director of this JV commented that:

[...] transfer prices are transparent and agreed in JVs documents for technology transfers and corporate services. Huf España is a profit centre for both partners and both try to avoid any kind of subsidy to any other partner's activity. Cost allocations are critical coordination mechanisms useful for setting the transfer prices as well as for budgeting, and they are regularly revised under the planning and budgeting procedures.

Fico Cipa SA

Fico Cipa was a 50/50 JV signed in 1991 between Cipa Industries SA, a French-based company, and Ficoso International. Cipa Industries is a diversified company whose only business in the automotive sector was Fico Cipa. Ficoso provided the technology and clients, while the French partner contributed the management and local knowledge. Its management was not satisfactory, so Ficoso bought 100 percent of the JV in July 2000. The main activity of Fico Cipa was to produce internal and external mirrors in a facility located in France. This JV belongs to the second stage of Ficoso's internationalization process and is part of a more ambitious growth plan. In 1988, Ficoso set up an R&D centre in France and went a step further by buying a company and setting up a JV with Cipa Industries. The initial negotiation was reflected in a brief memorandum of understanding, with each partner contributing 50 percent of the capital and the French partner managing the JV; market boundaries for the JV and the partners were also included. Fico Cipa's single plant's organization depended heavily on the operations structure, with large and small batches for car manufacturers and the aftermarket, respectively.

To obtain an evaluation of the first MCS implemented, JV private documents were revised and one member of its board of directors was interviewed – he was also the Controller from inception until the end of the JV. The data obtained from the interview was triangulated with the interviews of Ficoso's Controller and Ficoso's CFO and public and private data. Information obtained from questionnaires sent to the current plant controller and manager help to build the profile of MCS in use at the time of this study and how they evolved from the JV because both managers were with Ficoso long before the JV termination and participated actively in the transition in the year 2000. No discrepancies were found between the sources, obtaining the following results:

- The main governance mechanisms was to have two managers (now it has only one), but the French one was the operating manager. The director explained that “this was intended to reduce the possibility of the partner taking advantage of our technical and industrial knowledge.” It was perceived that the JV did not pose any cultural uncertainty due to geographical vicinity of both partners. According to the director:

[...] strategic issues were not addressed in the initial agreement which allowed each partner to have a different plan that lately could not be solved by short-term decisions.

- The director said that:

Ficoso's guidelines were used for budgeting because they were specially developed for the automotive industry while the French partner lacked the specific knowledge of the industry.

An important element whose variation has an impact on planning and budgeting is cost-allocation rules, which were also taken from Ficoso and implemented in the first year of operations. Fico Cipa's accounting system was not integrated into Ficoso's ERP system while it was a JV; after it ceased to be a JV, its accounts were fully integrated with Ficoso's ERP system.

- The director mentioned that:

[...] nothing could be identified as a performance measurement system, despite the informal monitoring system that the French manager used to have. Ficoso required

reports of some key measures such as the income statement and related accounting ratios.

A lack of strategic definitions in the initial agreement made it very difficult for him, as the then controller of the JV, to implement a formal performance measurement system because each partner company was interested in different measures.

- The director explained that:

[...] transfer prices for corporate services and technology transfers were determined in the initial agreement and were mostly based on Ficosa's technical and industrial experience.

The JV private documents show a good level of detail if compared with Huf España. During the JV operations both transfer prices and cost allocation rules of manufactured products were modified every time a product or process was added, changed or discontinued.

Tata Ficosa Automotive Systems Ltd

Tata Ficosa is a 50/50 JV established in 1997 and still functioning as such between Tata Group, an Indian-based company, and Ficosa International. This is one of the very few alliances entered into by Ficosa where they do not have effective control over operations, relying totally on the partner. Ficosa contributes with production and design technology, while the Indian partner provides the local know-how, management and clients. The facilities of Tata Ficosa are a multi-product plant located in India where mirrors, cables, and plastic components are manufactured (after the study was completed, Tata Ficosa opened a second plant in India). Tata Ficosa is a JV belonging to the third stage in Ficosa's internationalization and represents an adaptation to current trends in the industry that require suppliers to be global, perfectly adapted to local practices, and capable of satisfying the car assemblers' requirements in terms of timeliness, technology, and global network.

To obtain an evaluation of MCS, several private documents were revised and one member of its board of directors was interviewed. The data obtained from the interview were triangulated with the comments Ficosa's CFO made in his interview and with public and private data. Information obtained from a questionnaire sent to the plant manager help to build the profile of MCS implementation in this JV. No discrepancies were found between the sources, providing the following results:

- The director explained that:

[...] governance mechanisms emerged clearly mostly because the Indian partner had a manager dedicated to JV negotiation who was personally involved during the first three years of the JV from a strategic perspective.

The mechanisms include the definition of the board, selection of managers and external auditor, setting of procedures for generating and using information, and enforcing the code of conduct to solve conflicts. The CFO commented that:

[...] the initial negotiation is reflected in a long, comprehensive and complex memorandum of understanding, which stipulates that although each partner had 50 percent of the capital, the Indian partner would control the JV's daily operations; it also defined the markets very clearly and the type of technology to be provided by Ficosa.

- The President explained in the 1996 interview that “to select the Indian partner, we are paying attention to market access, corporate culture and strategic perspective.”
- The director mentioned that “budgeting followed the Indian partner’s guidelines.” Private documents show that there is a five-year plan with a one-year detailed budget, the reporting at period-end is very close to plans; however, budget slack is present and tolerated at a certain level. The manufacturing process, which relies heavily in direct labour, impacts decisions regarding the degree of decentralization and plant size. Tata Ficosa’s accounting system is not integrated with any partner’s ERP, it is a stand alone system.
 - According to the director, “performance measurement is provided by the Indian partner and it perfectly captures the differences in structure and technology used by this JV.” Performance measures are of a different nature – financial (EBIT/capital employed), operative (quality, defective parts per million, and supplies’ prices), and subjective process indicators (capacity, learning, and personal development) – but their reporting and assessment is not formally done or integrated into their systems as in the case of Huf España.
 - Transfer prices are regulated in a license agreement framework, with license agreements being developed for each product in which cost allocation rules play a role. The payment of royalties is by product development and not for technology advances that are not applied to production. The remuneration rules for corporate services provided by the Indian partner were also determined in the initial agreement. The JV manager reports that transfer prices and cost-allocation rules for manufactured products are revisited every time there is a change in product specifications or processes.

The three JVs analyzed differ in history, style, and size although all three are based on 50/50 ownership. Comparative relevant data for the three JVs are shown in Tables I and II.

Financial indicators	Huf España		Fico Cipa		Tata Ficosa	
	December 1999	December 2000	December 1999	December 2000	March 1999	March 2000
Assets(\$) ^a	51.00	54.00	10.41	12.44	1.69	2.73
Liabilities(\$) ^a	23.00	24.00	5.44	6.23	0.90	1.43
Revenues(\$) ^a	88.90	101.70	21.73	20.69	0.28	1.19
Operative income(\$) ^a	5.87	6.21	4.56	2.06	0.42	1.51
Net income(\$) ^a	16.80	3.90	2.45	1.31	(0.13)	(0.45)
Owner’s equity(\$) ^a	28.00	30.00	4.98	6.21	0.87	1.41
Employees	NA	458	NA	163	NA	96
Sales per employee	NA	\$ 222,052	NA	\$ 126,944	NA	\$ 12,353
Return on investment (%)	60	13	49	21	-15	-32
Return on assets (%)	33	7	24	11	-8	-16
Profit margin (%)	7	6	21	10	150	127
Residual income(\$) ^a (discount rate = 5%)	15.40	2.40	2.20	0.99	(0.17)	(0.52)

Note: ^aMillions of euros

Table I.
Comparative financial
data of Ficosa’s JVs

Table II.
Comparative
non-financial data of
Ficosa's JVs

Dimensions	Huf España	Fico Cipa	Tata Ficosa
Partner's cultural diversity	Low	Low	High
Ficosa's contribution	Management and market knowledge	Management, clients, and technology	Technology, know-how and international clients
Partners' contribution	Technology and first clients	Market knowledge and facilities	Management and market knowledge
Ficosa's specialization	Administrative/commercial	Technical/commercial	Technology support
Partner's specialization	Technical	Legal/administrative	All areas/functions
Ficosa's purpose	Access to technology	Obtain market access	Obtain market access
Partners' purpose	Obtain market access	Access to technology	Access to technology
External auditor	Cortes, Perez, and Cia	SA Batt Audit and	S.B. Billimoria and Co.
Local partner of JV initial agreement	Ernst and Young 1982	Assoc. Ernst and Young 1991	Ernst and Young 1997
Changes since inception	Internationalization	Ficosa bought 100 percent	None
Same ownership structure	Yes	No. JV ended in July 2000	Yes

Cross-cases comparison

In all three cases, five major MCS were described, but they are somewhat different to those documented in the contingency theory literature in management accounting. Two of the MCS were more long term and strategically oriented:

- (1) governance mechanisms; and
- (2) transfer prices/cost-allocation rules of technology transfers and corporate services, with the CFO and members of the board of directors better informed about them.

Governance mechanisms are common to all JVs, with the CFO and the directors more clearly involved with them. The cases reveal that there are two types of transfer prices/cost allocations. One has to do with the prices of permanent transfers between partners and the JV (such as corporate services and technology transfers) and is usually part of the initial agreement and negotiated by top managers. The other deals with the prices of manufactured parts by the JV, it is usually agreed during normal operations and managed by JV personnel. This finding indicates a particularity of MCS in JV not yet properly captured in the management accounting literature.

The other three MCS (budgeting, performance measurement, and transfer prices/cost allocation rules of manufactured products) were more of an operational nature and were better described by JV managers and Ficosa's Controller. Regarding operational-oriented MCS, in all three cases budgeting and planning were mentioned as the most important to daily operations, recognizing it as by far the most complex MCS due to the negotiation process that is repeated every year. Performance measurement and incentives were also perceived as independent mechanisms that can be managed at

the JV level, but in two of the cases their formalization was not reported as critical *per se*. In all three cases, cost allocations were not seen as an independent mechanism, but rather as the starting point for transfer prices. A comparison of MCS reported in each JV is in Table III.

Not all control mechanisms are considered, discussed and agreed at the same time in all JVs. The cases analyzed show that there are two JVs still operating with the initial ownership structure. The successful JVs of Huf España and Tata Ficosa, did consider and discuss each of the five contingent factors at different times, but in Fico Cipa the partners did not discuss their strategic intents when shaping the JV. The factors first considered and discussed between partners are related with the external environment, the potential partner's cultural values and the strategic intent for the JV. The discussion of these factors leads to establishing the basis for governance mechanisms (either informal and limited as in the case of Huf España, or formal and comprehensive as in the case of Tata Ficosa). These external factors were essential when preparing the basis for the royalties formula. Once the external factors were considered and discussed, the partners had a clear picture of the type of JV they were forming, therefore the discussion regarding structure (plant location and size, degree of centralization, etc.) and manufacturing technology (process, products, and mix) were limited to certain options only. The summarized data are presented in Table IV.

Discussion

As suggested in the propositions of this study, there is a relationship between MCS implementation and JV stages in successful JVs that is explained by the effect of

MCS	Huf España	Fico Cipa	Tata Ficosa
Governance mechanisms	Board conformation Management team	Management team	Dedicated individual Code of conduct Management team and board conformation
Long-term transfer prices/cost allocations	Corporate services Technological developments	Corporate services Technology transfers	Corporate services Technology transfers
Short-term transfer prices/cost allocations	Profit centre Cost allocation rules Components prices	Profit centre	Profit centre Cost allocation rules
Planning and budgeting	Ficosa's rules Five-year budget Balance sheet and profit and loss account (P&L)	Ficosa's rules Five-year budget Balance sheet and P&L Cost allocation rules	Tata's rules Five-year plan One-year budget Balance sheet and P&L
Performance measurement	Huf's rules EBIT and goal achievement Integrated into a balanced scorecard	No clear rules (informal)	Tata's rules (informal) Financial, operational, and subjective measures

Table III.
Summary of MCS identified in the JVs analyzed

	Huf España	Fico Cipa	Tata Ficosá
Not considered	Nothing	Management style and cultural factors were perceived as similar	Nothing
Considered but not discussed	Both presidents are “gentlemen”, so there is no need to discuss culture divergences and incorporate them in contracts	The strategic intent of partners was not discussed because it looked like a good investment opportunity for both	Nothing revealed for this study
Considered, discussed, and informally agreed	Detailed discussion of the industry environment and the strategy to lock in the customers located in Spain is reflected in the power allocation and market differentiation	Size, localization, degree of centralization, and maintenance of existing practices of Cipa Industries are reflected in the JV routines	Dissimilar set of values and expectations in terms of market accessibility, customer service, and perceived uncertainty of the region lead to lengthy negotiations regarding the position in the industry value chain and relationships with all stakeholders
Considered, discussed, and formally agreed	JV size, localization, degree of centralization, authority, technology, and products. Details regulated in agreements and contracts as well as in procedures manuals that describe planning, budgeting, performance measures, compensation, incentives, cost, and revenue allocations	Detailed discussion of product mix and manufacturing technology which is reflected in the operative and capital budgets	Detailed set of agreements prepared at two levels: (1) power allocation, governance structure, and partners' contributions and royalties; (2) plant size, degree of centralization, manufacturing process, procedures manuals for budgets, cost and revenue allocations, and performance measures

Table IV.
Factors considered for
MCS implementation

incorporating (or not) the discussion of certain contingent factors into the written agreements and routines in JVs. The discussion of MCS in the pre-formation stage is reflected in the memorandum of understanding, where governance mechanisms and transfer prices/cost allocation mechanisms for technology transfers and corporate services are expressly addressed, especially in the case of Tata Ficosá due to the high cultural divergence, environmental uncertainty and strategic fit. Similar to Groot and Merchant (2000), in the three cases the initial agreements included to a certain extent the discussion of governance mechanisms, therefore Merchant's (1981) idea that governance mechanisms have long-term implications is also applicable to JVs. During the JV set-up phase, budgeting procedures and performance measurement with incentive schemes, either formal or informal, were agreed in all three cases because both mechanisms are heavily related with operations which are in turn influenced by contingent factors such as technology and structure. These findings coincide with

Groot and Merchant (2000) and support Doz's (1996) assertion that JV partners are more concerned with contractual issues than with operational realities. Finally, during normal operations partners deal with transfer prices and cost allocations rules for the various components they are manufacturing. A summary of the initial MCS implementation in each JV is presented in Table V; it can be observed that the failed JV, FicoCipa, considered few contingent factors and delayed MCS implementation compared with the other two JVs analyzed.

Ficosa's CFO offered a comprehensive perspective, indicating that:

[...] the first element to discuss is the allocation of decision rights and power distribution due to environmental uncertainties, strategic intent and cultural particularities of the partners.

These mechanisms are similar to those identified by Ariño and de la Torre (1998) and Chalos and O'Connor (2004) as critical in JVs' early stages. An original finding of this study is that transfer prices relating to technology transfers and corporate services are considered a key issue that must be negotiated at the beginning, while transfer prices of components manufactured by the JV and sold to the partners (or vice versa) are of an operational nature and can wait until the JV is functioning. This difference between two types of transfer prices and cost allocations rules has not been identified in previous accounting related studies. The controller explains that budgeting and performance measurement are implemented in the JV when it starts to operate, following the guidelines and manuals of the more developed partner or the one that takes care of the management. Budgeting and performance measurement are addressed once the JV has started because of their operational nature; they are not included in the JV negotiation unless the potential partner is not trusted. If this is the case, due to higher uncertainty in Galbraith (1973) terms, the initial negotiations are longer because they include not only strategic and cultural negotiations but also operational ones such as JV structure and technology.

The accumulated experience since the early 1980s allowed Ficosa to learn some lessons about when, what and why MCS should be implemented. The findings of this study support the ideas of Lu and Hebert (2005) and Kamminga and van der Meer-Kooistra (2007) that JV partners' learning is driven by internal and external contingent factors and increases over time. There are key issues that must be covered in the initial negotiation of a JV and must be reflected in the shareholders' agreement, bylaws and license agreements in order to improve the chances of JV success. Huf España and Tata Ficosa addressed those key issues and captured in common decision rules elements that changed during the life of the JV and seriously affected the position of each partner and the profitability of the JV, such as: intensity of competition in the industry, volatility of prices, market segmentation, strategic perspective of the partners and strategic focus of the JV, management style of the partners (whether public or private companies), norms and values hidden in the cultural background of each company, and succession rules. First, there must be an agreement on key issues that shape the corporate governance structure and long-term prices and costs rules for technology transfers and corporate services. Those agreements have to be formally recorded in the initial agreement, by laws and licensing documents. Second, once negotiations are advanced the other MCS are considered and implemented, particularly those of a more operational nature that are heavily influenced by technological and structural contingent factors.

Table V.
First implementation of
control mechanisms in
the JVs analyzed

JV stage	Dimension	Huf España	Fico Cipa	Tata Ficoa
Pre-formation	Control mechanism	Some governance mechanisms: ownership and managers	General guidelines of governance mechanisms: managers	Full set of governance mechanisms: ownership, directors, managers, auditors, conflict resolution mechanisms, etc.
	Contingent factors	Environment: industry and regulatory environment Culture: partner's values	Environment: industry uncertainty	Environment: economic and political uncertainties in India and industrial-related factors Culture: differences in social aspects but agreement in business values Strategy: market access and customer service to be global supplier
Initial agreement	Control mechanism	Regulation of governance mechanisms: ownership, directors, managers, auditors	Transfer prices/cost: allocations of technology and services of the partners to the JV: royalties formulae	Transfer prices/cost allocations of technology and services of the partners to the JV: royalties formulae for several scenarios
	Contingent factors	Add strategy: lock-in the Spanish customers	Add strategy: maximize the return on the investment	Environment, culture, and strategy were discussed in the pre-formation stage
Set-up activities	Control mechanism added	Transfer prices/cost allocation of technology and services: royalties Performance measurement: key performance measures Budgeting and planning procedures	Budgeting procedures	Budgeting and planning rules and procedures (manual) Performance measurement: key factors, formula for the bonus pool, and allocation to employees
	Contingent factors	Add structure: size, localization, and centralization Add technology: process and product complexity Transfer prices and cost allocations of manufactured components	Add structure: maintain routines and practices already in place Add technology: manufacturing process and product mix Performance measurement Transfer prices and costs of manufactured components	Add structure: decentralization, plant size, and location Add technology: manufacturing process Transfer prices and costs of manufactured components
Normal operation	Control mechanism added	Periodic review of technology and structure Exceptional review of strategy and environment	Periodic review of structure, technology and strategy	Periodic review of structure and technology Exceptional review of strategy, culture, and environment

Based on Ficosa's experience, it is concluded that there is a dissimilar degree of support for the original propositions based on existing literature. Figure 3 updates the proposed relationships shown in Figure 1, while Figure 4 shows a descriptive model of MCS evolution in successful JVs, where four relationships are established that reshape the original propositions of this study and provide a comprehensive descriptive model of the timing of MCS implementation in successful JVs:

- (1) In successful JVs, governance mechanisms and long-term transfer prices/cost allocations of corporate services and technology transfers are negotiated in the pre-formation or initial agreement stage due to uncertainties from the environment (intensity of competition, political and economic constraints, partner market experience, and exposure), culture (norms and values, cultural diversity, formality in relationships, experience with various cultural environments) and strategy, (strategic profile, goals, and alignment with other business units).

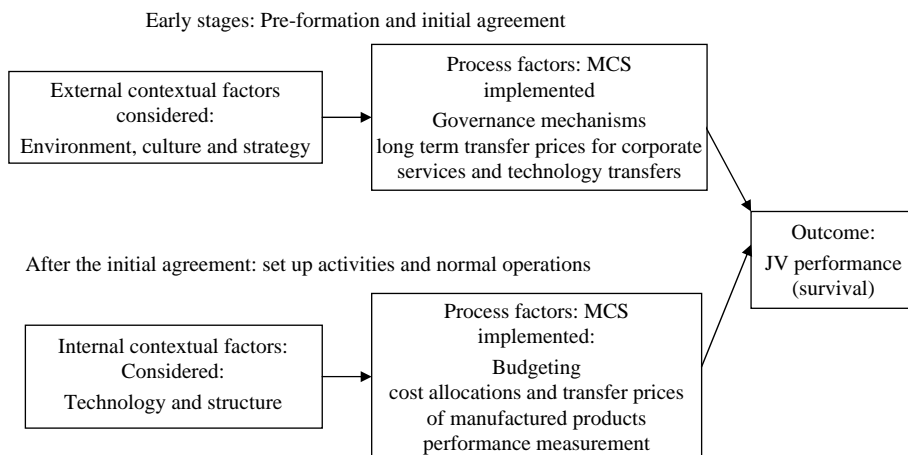


Figure 3.
Impact of contingent factors and MCS on JV performance

Timing:	Early stages			After the initial agreement	
JV stage	Pre-formation	Initial agreement	Set-up activities	Normal operations	
Main focus of the negotiation	Strategic, long term oriented discussion of JV partners' top management team		Operational, regular discussions within the JV and with JV partners' managers		
Sources of uncertainty:	External contextual factors			Internal contextual factors	
Contingent factors	Environmental uncertainty	Culture	Strategy	Structure	Technology
Management control systems: Mechanisms	Governance mechanisms	Long-term transfer prices/cost allocations of corporate services and technology provided by the JV partners		Budgeting and performance measurement	Short-term transfer prices/cost allocations of manufactured parts by the JV or its partners

Figure 4.
Model of the timing of MCS first implementation in 50/50 JVs

- (2) In successful JVs, budgeting is discussed during the JV set-up phase due to structural (decentralization, authority, participative decision making, plant size, and complexity) and technical uncertainties (type of production, technological experience with the products, processes, suppliers, and customers).
- (3) Successful JVs do not necessarily consider formal performance measurement and compensation schemes essential to starting operations; the assessment of structural (participative decision making, authority, and plant size) and technical uncertainties (perceived complexity, and experience) can be postponed until normal operations start.
- (4) Successful JVs discuss short-term transfer prices and cost allocations of components manufactured during normal operations due mainly to technology concerns (products and processes added, modified, or dropped) and subsidiary to structural considerations (des/centralization, size, responsibility, etc.).

Conclusion

This study provides a description and empirical examination of the timing of MCS implementation in JVs, its drivers and consequences on JV ownership structure survival. The purpose of this paper and case studies of JVs in the motor and auto parts industry is to describe and explain the sequence of MCS implementation in JVs. A contingent model of MCS implementation (contingent fit of a Cartesian form) anchored in a JV process perspective is the framework used in this study. Although some facts reported here are based on archival data of public and private nature, a limitation of this study is its reliance on interviews of key players that are normally subject to poor recall bias. To overcome this inherent limitation, public and private documents were carefully considered in several site visits and data triangulated. Regardless of the limitations, there is a need for more research to be done on this topic, especially through longitudinal studies covering several years and cross-sectional studies with industry surveys.

The cases analyzed provide a reasonable answer to the research question that motivated this study. The findings of this study complement the line of research initiated by Groot and Merchant (2000), contributing to the identification of different JV phases and factors impacting on the sequence of MCS first implementation in successful JVs. Five different MCS are identified; three of them are of a more operational nature and are the responsibility of the Controllers and JV managers (budgeting, performance measurement, and short-term transfer prices/cost allocations), while two of them (governance mechanisms and long-term transfer prices/cost allocations) are beyond the reach of the controllers and JV managers because they are usually negotiated by the JV partners' top management teams.

The design and implementation of each MCS in successful JVs is found in one particular stage of the JV evolution, and it is the result of considering a defined set of contingent factors. Governance mechanisms are discussed at the pre-formation stage and the initial agreement stage includes also long-term transfer pricing/cost allocations between the partners and the JV. In both phases, the JV partners negotiate in order to reduce the uncertainty brought by the external contingent factors of environment, partner's culture and strategy. In the set-up of operations budgeting is always included, while in some cases formal performance measures are also discussed; in this phase, internal contingent factors are addressed, such as structure and technology.

Finally, during normal operations JV managers continuously agree on short-term transfer prices/cost allocations of components or products manufactured where the consideration of structural and technological factors continue to play a key role.

The main contributions of this research relate to the model of fit employed, the particularities of MCS in JVs, and the sequence of MCS implementation in JVs. A clear theoretical framework has been developed within contingency theory – it is a contingency model of fit following a Cartesian approach in Gerdin and Greve's (2004) terms. The study reports two major findings that are novel in the existing literature:

- (1) In successful JVs, MCS are implemented in two major steps, MCS in the first step are driven by external contingent factors while MCS in the second step are driven by internal contingent factors.
- (2) There are two completely different set of transfer prices and cost-allocations rules in JVs (long term oriented useful for technology transfers and corporate services and short-term or operative oriented).

Future research into MCS in JVs needs to advance this process perspective. The way forward has two avenues, one is through qualitative research that allows researchers to make sense of the events under analysis because this topic is in its infancy, and the other is through industry surveys that test the propositions from qualitative studies in a larger sample with significant external validity.

Notes

1. "MAS are formal, information-based routines and processes managers use to maintain or alter patterns in organizational activities" (Simons, 1995, p. 5). This paper understands MCS in JVs as the set of formal and informal mechanisms (structure and processes) that provide information for decision making and authority to check the appropriateness of the decision taken.
2. This study is based on Galbraith's (1973, p. 5) concept of uncertainty: "the difference between the amount of information required to perform a task and the amount of information already possessed by the organization." This paper assumes that the main role of MCS in JVs is to provide information to reduce uncertainty.
3. These terms are used following Mintzberg and Waters (1985) who distinguish deliberate strategies, realized as intended, from emergent strategies, patterns, or consistencies realized despite or in the absence of intentions.
4. Besides Wang *et al.* (1998) effort, here is no previous study to the knowledge of the author that had identified any portion of these four MCS as implemented in JVs.
5. IESE refers to IESE Business School located in Barcelona (Spain). IESE is an acronym of the Institution's name in Spanish: *Instituto de Estudios Superiores de la Empresa*.

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