A KNOWLEDGE-BASED VIEW OF THE CONTROL STRATEGY IN ALLIANCES

AUTHORS:
Dr. Rita D. Medina-Muñoz and Dr. Diego R. Medina-Muñoz
Professors of Management
University of Las Palmas de Gran Canaria
Departament of Economics and Management

ADDRESS:
Diego Medina Muñoz
Universidad de Las Palmas de G.C.
Campus de Tafira
Edif. Departamental de Empresariales, Módulo C-3.04
35017, Las Palmas de G.C., Canarias, Spain
drmedina@empresariales.ulpgc.es

ABSTRACT
The establishment of cooperative relationships with other organizations is becoming something crucial to businesses, in a way that strategic alliances or interorganizational relationships (IR) constitute an important topic for research in management literature. This study analyzes interorganizational control (IC), which represents one of the processes within IR that is receiving greater attention in the literature, from a knowledge-based perspective. Besides describing its concept and dimensions, the effect of the knowledge to be transferred in the context of IR on IC is also assessed. To be specific, there is an analysis of the influence of the characteristics of the knowledge and the extent of assimilation of knowledge by the other partners on the extent of control and control types and mechanisms. Empirical evidence is provided by our study of the relationship between tour operators from Germany and the United Kingdom and the accommodation companies, which revolves around the control exercised by the tour operators over the accommodation companies.
CONTROL IN STRATEGIC ALLIANCES

Among the alliances’s internal processes of greater interest to the participant organizations, there is interorganizational control (IC), which permits one partner to exercise influence over the others and over the very evolution of the interorganizational relationships (IR) in such a way that it is oriented toward that partner’s individual objectives and interests (e.g., Schaan, 1983; Child and Faulkner, 1998). Moreover, by means of IC, a partner can also contribute to the achievement of collective objectives that may already have been agreed by the participants, thus reinforcing, for example, suitable coordination, communication and settlement of conflicts (Davidson, 1982). Consequently, IC is considered a determining factor in the success of collaborative interorganizational relationships (e.g., Child and Faulkner, 1998), which increases its relevance as a subject for research.

With the aim of making the concept of IC effective, particularly in empirical works, Geringer and Hébert (1989) were the first to suggest the existence of four basic dimensions: the extent of IC, the focus of IC, the types of IC, and the IC mechanisms. At least one of these aspects has been used in the studies of IC (e.g., Hébert, 1994; Glaister, 1995; Bello and Guilliland, 1997; Kumar and Seth, 1998). We now proceed to comment on those four dimensions of IC, which will be dealt with in our empirical study of the control exercised by German and British tour operators over the accommodation companies.

Extent and focus of IC. Generically, the concepts of extent of control and focus of control have been treated in a parallel fashion in the studies of IC. While the first refers to the degree to which an organization influences the IR, the second deals with the aspects over which control is exercised (e.g., Hébert 1994). Regarding the focus of control, there are many works that have developed a catalogue of aspects with a view to establishing a description of it (e.g., Geringer and Hébert, 1989; Child et al., 1997). However, this may vary according to the very characteristics of the IR (in particular the form that this takes: joint venture, long-term contractual relationship, etc.), the activities involved and the sector in which the IR functions. So, for example, Killing (1982) studied the division of control in joint ventures, examining the influence of the partners on nine types of decision: (a) pricing policy, (b) product design, (c) production planning, (d) manufacturing processes, (e) quality control, (f) substitution of managers, (g) sales targets, (h) expense budgets, and (i) capital outlay.

Types of IC. There is a wide variety of classifications that have adopted some of the characteristics of IC, although the two most used are: the focus of control and formalization. Regarding focus, there are three different types of control (e.g., Cardinal, 1990): (a) behavioral - that which actually occurs during the task -, (b) result - which is seen after the completion of the task -, and (c) social - which centers on the norms,
values and beliefs shared by the partners in the IR. On the other hand, control may also be (e.g., Makhija and Ganesh, 1997): (a) formal - exercised by written control mechanisms or based on documents -; and (b) informal - exercised by means of non-written behavioral determinants -.

**IC mechanisms.** An integrative analysis of classifications that have been proposed by the most important authors in the field led us to group them into four basic categories: (a) influence strategies (e.g., Frazier and Rody, 1991), (b) integrative mechanisms (e.g., Provan and Skinner, 1989; Kumar and Seth, 1998), (c) supervision (e.g., Noordewier et al., 1990) and (d) the transfer of culture (e.g., Kumar and Seth, 1998). The most widely used classification of influence strategies is that developed by Frazier and Rody (1991), who suggest the existence of seven distinct strategies: (a) information exchange, (b) discussion, (c) recommendation, (d) request, (e) promise, (f) threat, (g) legalistic plea. The typology of parameters of organizational design as proposed by Mintzberg (1979) for lateral or horizontal coordination in an intraorganizational context, called integrative mechanisms, has been widely used in the IR literature (e.g., Kumar and Seth, 1998); those mechanisms are the following: (a) mutual adaptation, (b) liaison personnel, (c) temporary task force, (d) permanent work committee, and (e) integrative managers. The other two types of control mechanisms refer to the mechanisms of supervision (e.g., the requirement of regular reports, observation and direct supervision, etc.), and the transfer of culture, by means of mechanisms such as the allocation of staff to the IR, training and socialization courses, and meetings.

**KNOWLEDGE AS A DETERMINANT OF CONTROL**

According to the literature about knowledge, perhaps it is sufficient to define knowledge as “what you know or can do” (Grant, 1996:110). However, in the field of organizations and IR, it appears necessary to also identify the differences between knowledge and other partial terms such as data and information (e.g., Liebeskind, 1996; Davenport and Prusak, 1998).

- Data includes a set of objective, discreet facts about events. Therefore it provides neither an interpretation nor a solid basis on which to decide how to act.
- Information can be associated with the message in a determined communication process. So, information has both a sender and a recipient, and, depending on the perception of the latter, the information may vary. As opposed to data, it has meaning - it is important and intentional -, and it is to do with influencing the judgement and behavior of the recipient.
- Although we are aware of the difficulty involved in outlining the limits of the notion of knowledge, we agree with Davenport and Prusak (1998) that it is a wider, deeper, richer concept, whose features include
the following: (a) it is a combination of various elements; (b) it is fluid and formally structured; (c) it is intuitive, and as such, is difficult to be captured in words or to be entirely understood in logical terms, and (d) it exists inside the individuals, and so reflects the unforeseeable and complex nature of human beings. To be more specific, Liebeskind (1996) stresses that knowledge is based on true information, and may be of two types: (a) explicit, it can be expressed in words and figures, and can easily be shared by means of data, formulae, specifications or manuals; thereby being simple its formal and systematic transfer between individuals, and (b) tacit, which is very personal and therefore not easily visible or expressable, being based on the actions, experience, ideals, values and emotions of an individual; and, moreover, it is difficult to formalize. Because of all that, its communication to, and diffusion among other individuals or organizations are complex.

Understood in that way, knowledge represents a possible determinant of control in IR, although there have been no previous empirical studies in this respect, making this study a pioneer work. More specifically, there are two factors of knowledge that could influence IC: (a) the possibility of codifying knowledge, and (b) the necessity for adequate transfer of knowledge that guarantees its assimilation.

Considering on the one hand, from the knowledge perspective, that IR base their existence on the need of two or more organizations to integrate their knowledge with the aim of achieving competitive advantage based on that integrated knowledge (e.g. Grant, 1996), the partners in an IR could be interested in exercising control over or influence on the other participants and the IR itself, and so promoting an adequate transfer and assimilation of knowledge, as well as protecting their key knowledge from non-cooperative use by the other partners (e.g., Liebeskind, 1996; Holtshouse, 1998; Miles, Miles, Perrone and Edvinsson, 1998).

On the other hand, according to Makhija and Ganesh (1997), the transfer of knowledge within IR requires types of control and control mechanisms adapted to the characteristics of the knowledge relevant to each partner, since the effectiveness of those types and mechanisms in the transfer of the same knowledge may vary. The possibility of codifying knowledge is of special importance; Makhija and Ganesh (1997) suggest that, in general, the more foreseeable, regular and explicit the knowledge to be transferred, the more formal the control mechanisms must be. Similarly, the more uncertain, ambiguous and tacit the knowledge, the more informal the control mechanisms will be.

In line with the above, regarding the possibility of codifying knowledge, Makhija and Ganesh (1997) suggest that the transfer of knowledge within IR requires control mechanisms adapted to the characteristics of the
particular type of knowledge to be transferred, created or protected, since the efficiency of the control mechanisms may vary depending on the characteristics of the knowledge. To be specific, those authors suggested that, the more explicit the knowledge, the more formal the control mechanisms must be, while tacit knowledge requires more informal control mechanisms. Following that line of argument, we set out the following hypothesis.

**H1. The IR with more possibility of codifying the tour operators’ knowledge, compared with those with less possibility, show greater degrees of control on the part of the tour operators, as well as certain characteristics of the focus of control, types of control and control mechanisms.**

Regarding the transfer of knowledge, from theoretical perspective based on learning and knowledge, the objectives of the partners in an IR concerning knowledge management, including the adequate transfer and assimilation of the knowledge to be shared, could also influence the control strategy of the partners (e.g., Makhija and Ganesh, 1997; Nonaka and Konno, 1998). In that sense, it is suggested that control mechanisms facilitate the assimilation of knowledge in line with the objectives of the partner transferring it, since control systems take in a large proportion of the flow of information within the IR. Therefore, we propose the following hypothesis.

**H2. The IR with more assimilation of knowledge by the accommodation company, compared with those with less assimilation of knowledge, show greater degrees of control by the tour operators, as well as certain characteristics of the focus of control, types of control and control mechanisms.**

**DESIGN OF THE RESEARCH**

**Unit of analysis and the setting of the research**

The IR that is the subject of this study comprises the tour operators operating in Germany and the United Kingdom, and the accommodation companies with whom they contract beds. The organized travels or tourist packages organized by tour operators are the most popular form of international vacation for Europeans. Of the 1,285 tour operators, 136 (47 British, 89 German) collaborated and returned the completed questionnaires, although 16 (7 British, 9 German) were rejected, giving a real response rate of 9.3% (9.3% in the British case, and 9.4% in the German). So, of the 120 returned questionnaires used in the research, 80 were from German tour operators (66.7%), while 40 were British (33.3%). To determine the sample error, that is, the difference between our estimations and the assumed real values, the formula for sample size determination for a reliability level of 2 sigmas was applied. The result was, that for a population of 1,285, a final sample of 120 individuals and a reliability level of 95.5, the differences between our estimations and the assumed real values were below 8.69%, which is the sample error.
Measurement method and organization of the fieldwork

A self-administered, mail survey questionnaire was used. A first part of the questionnaire focused on the dimensions of control exercised by the tour operator over the respective accommodation company. Regarding the extent of control and following authors such as Heide and John (1992), the participants were asked to indicate by means of a 5-point Likert scale “the overall degree of influence exercised by your tour operator on the behavior and/or results of your chosen accommodation company in order to achieve the objectives of that commercial relationship”. In order to measure the types of control (behavioral, result, social, formal and informal), subjective numerical scales, with a 5-point Likert scale, were also used, which permitted the measurement of the tour operators’ degree of use of each type in their attempts to influence the behavior and/or results of the accommodation company.

- The scale used to measure behavioral control was based on that of Krish (1995) and comprised four items. The factorial analysis resulted in a single factor made up of all the items on the scale, had an eigen value of 3.04 and explained a high percentage of the total variance (76.1%). This factor is quite reliable, having a Cronbach’s alpha of 0.89.
- Also using Krish’s (1995) scale, four items were identified to measure result control. One single factor emerged from the factorial analysis, with an eigen value of 2.41, and explained 60.2% of the total variance. This factor comprised all the items of the scale and is reliable, with a Cronbach’s alpha of 0.76.
- To measure social control, a shortened version of the scale developed by Aulakh (1995) was used, using three items. The factorial analysis of the scale produced a single factor that explained 54% of the total variance. This factor, with an eigen value of 1.62, had a Cronbach’s alpha of 0.56, which brings its reliability into question. However, because of its importance in checking the hypotheses, this factor was retained for later analyses.
- Following Das and Teng (1998), it was decided to ask directly about the degree of use of formal and informal control; more specifically, the items included in the questionnaire were: “formally influencing (by means of written documents) the behavior and/or results of the accommodation company with the aim of achieving the objectives of the relationship”, and “informally influencing the behavior and/or results of the accommodation company with the aim of achieving the objectives of the relationship”.

Regarding the control mechanisms used by the tour operators, we decided to group the mechanisms into the following categories: influence strategies, supervision, integrative mechanisms and transfer of organizational culture. For each of the control mechanisms included in the questionnaire, those surveyed were asked to
indicate on a 5-point Likert scale the degree to which their tour operator used it in its attempt to influence the behavior and/or results of the relevant accommodation company.

- We distinguished seven different types of influence strategy (e.g., Kim, 1997). An analysis of the principal components, using varimax rotation to reduce the dimension of the scale, resulted in two factors that together explained 63.7% of the total variance. The first factor, explaining 46.2%, included severe influence strategies (referring to legal agreements, reward and penalization, promising a reward, and using threats), and had an eigen value of 3.23. The second factor, with an eigen value of 1.22, dealt with soft influence strategies (requesting, recommending, and providing information) and explained 17.5% of the total variance. Both factors will be used in later statistical analyses, having been found reliable, with a Cronbach’s alpha of 0.75 for the first and 0.67 for the second.

- In order to measure supervision, we followed Sachdev, Bello and Pilling (1994), by selecting three items. The factorial analysis gave a factor with an eigen value of 1.88 and comprised all the items on the scale. The factor is reliable, with a Cronbach’s alpha of 0.70 and explained 62.7% of the total variance.

- The five integrative mechanisms were selected from Kumar and Seth (1998). The factorial analysis gave two factors that jointly explained 70% of the total variance. The first factor (indirect integrative mechanisms), with an eigen value of 2.50, grouped together the following mechanisms: temporary task forces, permanent work committees and tour operator’s liaison personnel; this factor, with a Cronbach’s alpha of 0.74, explained 50% of the total variance. The second factor (direct integrative mechanisms), had an eigen value of 1.00, explained 20% of the total variance, and comprised two items: direct contact with the accommodation company management and formal written rules, policies and procedures to be complied with by the accommodation company; Cronbach’s alpha for the items in this factor was 0.61.

- Lastly, following Kumar and Seth (1988) and Sohn (1994), the following item was included in order to measure the transfer of culture as a control mechanism: “the transfer of our organizational culture and values to the accommodation company”.

In line with Makhija and Ganesh (1997), the possibility of codifying the tour operator’s knowledge to be transferred was measured with the following item “Our tour operator’s knowledge of how this company ought to operate is easy to codify (in reports, instructions...)”. Similarly, the extent of assimilation of that knowledge by the accommodation company was measured with the item “This company has assimilated our tour operator’s knowledge of how it ought to operate”. To be specific, those surveyed were asked to indicate their degree of agreement or disagreement with these two items.
RESULTS
With the aim of checking the hypotheses stating that the control exercised by the tour operator is influenced by the characteristics of the knowledge and the transference of the knowledge, simple regression analyses were carried out in which the dependence variables were the summarized variables of the dimensions of control (extent of control, the four aspects of the focus of control - internal operations and conditions, marketing and growth oriented activities, economic and financial aspects, establishments and facilities -, the five types of control - behavioral, result, social, formal and informal -, and the six control mechanisms - severe influence strategies, soft influence strategies, supervision, direct integrative mechanisms, indirect integrative mechanisms, and the transfer of culture -). The independent variables were the two measures referred to knowledge.

As seen in Table 1, the results are similar for the two measurements of knowledge, insofar as they indicate a significant positive relationship between these two measurements and the following aspects of control: extent of control, three types of control (behavior control, formal control, informal control), and two control mechanisms (soft influence strategies, transfer of culture). Moreover, knowledge assimilation also show a significant positive association with the other two types of control (result control, social control).

| Table 1. Beta coefficients of the simple regression analyses for hypotheses |
|---------------------------------|---------------------------------|
| **Dependent variables**         | **Independent variables**       |
|                                 | Knowledge explicitness | Knowledge assimilation |
| Extent of control               | 0.93***                     | 0.94***                 |
| Behavior control                | 0.15*                       | 0.16*                   |
| Result control                  | NS                          | 0.16*                   |
| Social control                  | NS                          | 0.16*                   |
| Formal control                  | 0.91***                     | 0.91***                 |
| Informal control                | 0.90***                     | 0.88***                 |
| IS1: Severe influence strategies | NS                          | NS                      |
| IS2: Soft influence strategies  | 0.17*                       | 0.17*                   |
| Supervision                     | NS                          | NS                      |
| IM1: Indirect integrative       | NS                          | NS                      |
| IM2: Direct influence           | NS                          | NS                      |
| Transfer of culture             | 0.91***                     | 0.92***                 |

*Note. NS = Not significant.
*p < 0.10. **p < 0.05. ***p < 0.001.

Therefore, we can state that the greater the knowledge explicitness and the assimilation of knowledge, the
higher the extent of control exercised by the tour operator, which also shows more use of the different types of control, particularly formal and informal control, and more use of the transfer of culture as control mechanism, in its efforts to influence the accommodation company.

This empirical work attempts to establish a starting point for the development of a line of research whose profile is the study of control in IR, making special reference to the literature about knowledge. Therefore, we recommend that further studies be carried out in order to establish an explanatory model of IC from a knowledge-based perspective. This could include determinants such as knowledge management, environment and the relevance of the knowledge assigned to the alliance.

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