The Governance Structure of International Joint Ventures

Property Rights and Transaction Cost Explanations

Sonja Horvath (Remetic)
Doctorate candidate
Center for Business Studies
University of Vienna
Brünner Str. 72
A-1210 Vienna, Austria
Sonja.Remetic@gmail.com

November, 2011

Abstract
This paper explores the determinants of ownership and residual decision rights in international joint ventures (IJVs) by developing a theoretical framework based on the property right and transaction cost theory. According to the transaction cost theory, environmental uncertainty (consisting of market, legal and political as well as cultural uncertainty) impacts the allocation of decision and ownership rights between the joint venture partners. Using the property rights theory we operationalize control by differentiating between residual decision and ownership rights (e.g. Grossmann, Hart 1986; Baker et al. 2008). The thesis of the paper is: The more important the JV-partner’s intangible knowledge assets relative to the other partner for the generation of residual income and the higher the environmental uncertainty, the more residual decision and ownership rights should be assigned to her. Specifically, we focus on three environmental determinants under the transaction cost perspective: cultural distance, political and legal uncertainty and market uncertainty. Empirical results from joint ventures in the CEE provide some support of the hypotheses.

KEY Words:
Joint ventures, intangible knowledge assets, residual decision rights, ownership rights
1. Problem

This paper explores the relationship between ownership and the allocation of residual decision rights in international joint ventures by applying the theoretical framework of property rights and transaction cost theories. The balance of ownership that leads to improved performance is likely to depend on the resources each partner contributes into the joint venture and the resources of the nation in which the venture is established. In other words, the criticality of the resources committed to a JV affords a parent some control independent of its equity share. In addition, equity ownership levels may actually be related to the bargaining power secured to partners by the resources they possess. The question of ownership and residual decision rights is extremely important for the organization, operation and performance of international joint ventures.

Neither the property rights theory, nor the transaction cost theory can explain this problem alone. The theoretical grounds of transaction cost theory view the allocation of decision rights as firm’s attempt to reduce the risk-associated transaction costs. By using the property rights theory we operationalize control by residual decision and ownership rights (e.g. Grossmann, Hart 1986; Baker et al. 2008). The thesis of the paper is: The more important the JV-partner’s intangible knowledge assets relative to the other for the generation of residual income, the more residual decision rights should be assigned to her. We focus on three determinants of the transaction cost perspective: cultural distance, political and legal uncertainty and market uncertainty.

Globalization, increasing challenges in inter-firm competition and technology advancements require more flexible organization forms, which give rise to partnerships between firms (Webster 1992).
It has become difficult to stay competitive without joining forces with other companies (Ohmae 1989, Webster 1992). Firms in a weaker position may leverage themselves against dominant players through alliances (Child & Faulkner, 1998).

In last couple of decades, International Joint Ventures (IJVs) have become a favourite component of corporate strategy to support firm’s appetite for growth in international markets (Ding, 1997; Duan, 2007; Dunning, 1995; Li, 2003; Meschi & Riccio, 2008; Luo & Park, 2004). However, despite their popularity IJVs often experience managerial difficulties and often fail to achieve the goals their founding members aimed for (Park & Ungson, 2001). As a direct outcome, it is said that joint ventures in particular undergo high failure rates (Harrigan, 1988; Kogut, 1989; Inkpen & Beamish, 1997; Reuer, Zollo, & Singh, 2002; Luo & Park, 2004; Mohr & Spekman, 1994). IJVs eventually break up at a rate of between 30% and 70% of their total formation (Geringer & Hebert, 1991; Yeheskel, Newburry & Zeira, 2004; Hennart et al., 1998). This effect is especially seen when IJV managing partners follow different objectives for their newly started endeavour (Pearce, 1997; Shenkar, 1990). Official reasons for IJV failure are manifold. The available literature is abundant with firm grounds why failure rates may be high (e.g. Franko 1971; Gomes-Casserres 1987; Pearce 1997), one of these reasons being the control problems between IJV management, and the grounding partners (Groot & Merchant 2000; Sherman 1992; Groot and Merchant 2000; Chalos and O’Connor 2004; Porporato 2006). Besides the new operating environment in a foreign market, carrying high degrees of uncertainty and risk the parent firms in IJV may well have differing interests when it comes to their goal realization and management. Lacking the possibility to exercise sufficient control over the IJV can limit the capacity of the parent to effectively coordinate his activities, make the most of their resources and effectively implement its strategy. Control is an effective way to tackle the risk of opportunism, IJV foreign parent firms are faced with (Zhang & Li, 2001).
Such considerations and other governance decisions become particularly relevant as the terms of a joint venture are negotiated. Decisions made during this period are critical for the future and success of the entity, as it is usually more difficult to make major governance changes after the JV has been established. Partners have a number of issues to consider, including the level of equity ownership of each and the division of management responsibility. What takes place in the stage of IJV governance structure negotiation is not a final governance structure we will see all throughout the lifetime of the IJV – it is more a dynamic process which will keep occurring throughout the IJV activity. Or as Kogut (2002) puts it so well: “no matter what the initial agreement on control and ownership may have been at the start of a venture, environmental change over time may shift the relative bargaining power among partners”. These changes, which may result in a shift of partners’ bargaining power, have their root in inter-partner learning, changes in resource allocations, industry structure, and volatility in host government’s regulations on foreign investments. Organizations will continuously keep changing their structure (Nielsen, 2007). On the one front IJVs will embrace these dynamics and on the other they will strive towards (especially inner) stability. Environmental factors are crucial for the stability of IJV’s (Harrigan, 1985) and therefore it is of no surprise, that IJVs will reconfigure their control designs in order to keep apace with these changes. In more detail, Yan and Zeng (1999) and Zhang and Li (2001) argue that evolution of control design is dependent on extraneous variables such as changes in government policies and competitive environment.

Luckily, the advantages still overcome the disadvantages for IJV formation and the reasons foreign parent firms enter joint ventures take many shapes and forms. Kogut (1988) summarizes three main motives for IJV formation to be cost reduction, strategic behaviour, and learning. Makino suggests the following classification of motives for entering IJVs (Makino 1995): accessing the partners’ proprietary resources, and achieving economies of scale and scope. However, the most comprehensive motive behind IJV formations of foreign
parent firms is to gain access to local firm’s proprietary resources such as firm-specific knowledge and most of all country specific knowledge. In that sense, local firms may not have the state of art management know-how and technology (Luo et al., 2001), but they can often contribute their country specific knowledge, land, and manufacturing facilities (Killing, 1983) to the newly formed legal entity. Motives behind IJV formation are especially important, as previous literature concludes when the strategic motives of parent firms determine their control in IJVs (e.g. Calantone & Zhao, 2001). Could it be that the primary problem in managing IJVs stem from this one single nuisance: There is more than one parent in IJVs (Killing 1982)? Thus, the ability of the owners to exercise control over the joint venture is a function not only of its influence over its joint venture managers, but also of the influence over the other parent (Child et al. 1997). Lorange et al. (1986) maintain that through exercising a proper IJV control structure, foreign parent firms can make sure that their strategies are effectively implemented, and their resources are efficiently utilized in order to maximize IJV’s performance.

In order to add some colour to the governance structure considerations we will apply two different perspectives, which help explain the choice for IJV ownership and decision rights structures: transaction cost and property rights perspective.

With the property rights perspective, we look at the IJV governance structure as a product of parent’s resources utilization in the alliance. These resources may be implicit (contractible) such as equity, machinery etc. and tacit (or non-contractible) in form of know-how such as production skills, efficient management, knowledge of local markets etc. The property rights perspective will help to understand this relationship between the equity (ownership) and decisions the parent is entitled to make based not only on his stake in equity but also on know-how which cannot be contracted for in the joint venture contract. The application of the property rights theory allows us to argue that the arrangement of residual decision rights and ownership stake in joint ventures will depend on the allocation of intangible knowledge assets
between the joint venture partners. Based on that notion we can go ahead and argue that the more significant the joint venture partner's knowledge assets are for the generation of residual surplus, the more residual decision rights will be assigned to her. But the property rights theory cannot explain the structure of decision rights and ownership stake alone, and in addition we apply the transaction cost theory. The transaction cost theory (TCT) is one of the driving perspectives in the theory of the firm, and the main idea behind this view is that firms are created in order to reduce the costs which accrue when performing transactions in the market such as the costs of mal-adaptation, haggling, setup and running and bonding (Coase, 1937). The TCT rests of a few assumptions, namely that all contracts are considered incomplete, and under the assumption of bounded rationality (individuals are not able to see all of the possible outcomes before they take place) and uncertainty influences the optimal institutional arrangement. Following this logic, the relationship between residual decision rights and ownership rights in joint ventures can be summarized as follows: The institutional arrangement will be effected by host country uncertainty (market uncertainty, cultural uncertainty, and political and legal uncertainty) in such a way that the foreign parent will forego a certain portion of ownership and residual decision rights for the benefit of the local parent. As Campbell and Reuer (2001) put it so nicely: it may even be in the partners' best interest to leave contracts incomplete. If the contracts are too detailed on the account of the partners' responsibilities, this may limit the joint venture's operational flexibility and could be interpreted as too meticulous in court, nevertheless complicating management and conflict resolution. Instead, the joint venture partners will often remain on general terms of agreement, installing less detailed areas of influence in order to remain flexible and uncomplicated. And as praxis has it, many firms enter joint ventures as an in-between stage towards acquisitions (Balakrishnan and Koza, 1993). Kogut (1991) sees joint ventures as call options, or options to buy (outright acquisitions) at some future point in time.
In general, many other theories have been applied in the research of joint ventures. These theories can broadly be classified into economic theories and managerial or organizational theories, and the aspects being investigated can be divided into organization, operation and performance of JVs (Child et al. 2005; Robson et al. 2002). The most reoccurring topics have been studied in great depths and so for example, Taco and William (2004) conduct a major study on international joint ventures by reviewing ten major journals for the period of 15 years between 1988 and 2003, and identify 388 different studies dealing with IJVs among which control in international joint ventures was subject of 15 studies, while most IJV studies focused on the entry mode strategy (57/388), the partner learning (39/388), and the partner selection (28/388). However, research on uncertainties facing IJV remains scant.

In addition, what remains unexplored is the application of the property rights theory to the research of IJV. There are many empirical and theoretical study focusing on the distribution of residual decision rights in organizational economics (Aghion, Tirole 1997; Christie et al. 2003; Baiman, Larcker, Rajan 1995; Nagar 2002; Arrunada et al. 2001; Lerner, Merger 1998; Desai, Foley, Hines 2004; Kaplan, Stromberg 2003; Elfenbein, Lerner 2003; Gil 2005; Hendrikse 2005; Vázquez 2005), but due to the complexity of data extraction methods, particularly when it comes down to gathering information on intangible knowledge assets and decision rights between partners, the property rights perspective applied to IJVs has diligently been avoided in the past. Control considerations have also been a subject in the international management literature (Killing 1983; Schaan 1988; Geringer, Hebert 1989; Mjoen, Tallmann 1997; Chalos, O’Connor 1998; Calantone, Zhao 2000; Pangarka, Klein 2004; Choi, Beamish 2004). Unfortunately, control is still a very heterogeneous concept in the international management literature and only partly related to decision rights. In a number of studies control has been modelled by relative degree of ownership and/or a high level of management control and/or a high level of control of specific activities (Blodgetts 1991a,
In order to overcome these issues we consider the necessity of a standardized measure of control in IJVs and define it as the allocation of residual decision rights (Hansmann 1996; Nagar 2002; Elfenbein, Lerner 2003; Windsperger 2004) along the lines of contribution of critical resources. This approach rests on Rajan and Zingales’ concept of access to critical resources (Rajan, Zingales 1998; 2001) under which they show that power in an organization is a direct product of control over critical assets that generate the residual income stream. In other words, the partner who has the best access to assets critical for network surplus generation will have a higher degree of control.

Our main contribution to the joint venture literature is the following: First, we present a property rights and transaction cost view on the allocation of residual decision and ownership rights in joint ventures, and second we empirically investigate the structure of decision and ownership rights in Austrian joint ventures with Central and Eastern European partners. As a result of our study the available data confirms the hypothesis that the joint venture partner’s intangible assets positively influence the proportion of residual decision rights which will be allocated to that partner.

2. Theory Development

For the purposes of this paper we analyse the following situation: An Austrian-based Company (JVP-1), on pursuit of international experience decides to enter into an IJV with a local partner (JVP-2) in one of the countries in Central and Eastern European economic area. The Austrian partner dedicates a certain volume of financial assets in order to formally purchase a stake in the new entity. International Joint venture means that the parent companies simply originate from different countries and a certain degree of cross-border transaction is necessary. The newly formed, separate legal entity, strives towards maximizing
financial returns both utilizing tacit and implicit factors of production and partner’s investments in these assets. Now, two possible scenarios arise:

![Diagram of an international joint venture]

Figure 1. Structure of an international joint venture

The partner companies creating a joint venture firm face the problem of maximizing the returns to the intangible knowledge assets committed to the new venture, while both being dependent on individual contributions of each parent.

We assume in this case that the intangible knowledge assets of the Austrian parent company comprise of, in the first line knowledge and skills (organizational capabilities) in product development, procurement, production and branding. The local partner exhibits significant non-contractible knowledge on the local market, cultural and institutional know-how and human resource capabilities (Lecraw 1984; Fagre, Wells 1982; Hennart 1988; Nakamura 2005).

In our first scenario, the Austrian parent company has a large volume of intangible knowledge assets in managerial and product know-how, whereas the local partner is better equipped with knowledge on local market movements and has a better approach to local human resource management. This know-how is less intangible and can be better integrated into a contract. Austrian parent’s know-how assets are determinant for network surplus and more difficult to make a subject of a contract. Due to this disparity a large fraction of residual
decision rights should be allocated to him in order to maximize the joint venture’s residual income stream. In a different scenario, it is the local partner who is in possession of surplus determinant intangible knowledge assets such as local market knowledge and cultural know-how. The foreign joint venture partner is entering the alliances by bringing in assets which are easier to contract in for. During the governance structure considerations the allocation of residual decision and ownership rights should take place based on the assessment of both partners’ know-how assets. This scenario shows that the local partner is in a stronger bargaining position and as a general rule of thumb more residual decision rights should be transferred to him.

There are several implications to be drawn from these two different scenarios. Inefficiencies arise when the conditions are not fulfilled with the following effects for both partners and the joint venture: in the first case inefficiencies will arise because residual decision rights are allocated to JVP-2, although the JVP-1 is in possession of intangible knowledge assets critical for generating a large portion of the total residual income stream of the operation. In the second case inefficiencies arise because a small portion of residual decision rights is transferred to JVP-2, even though it is the JVP-2 who possess a large portion of intangible knowledge assets. An unsatisfactory condition is created because the joint venture decisions are made and influenced by the partner, who even though he does not have the residual income generation-relevant knowledge assets to do so. The more important problem arising out of this scenario is that the residual surplus of a joint venture cannot be maximized if there is a disparity between the distribution of intangible knowledge assets and the allocation of decision rights.
2.1. Property Rights Theory

The property rights theory explains the allocation of residual decision rights in organizations by using the notion that the allocation of ownership and residual decision rights depends on the distribution of intangible knowledge assets that generate the firm’s residual surplus (Baker et al. 2004; Baker, Hubbard 2003, 2004; Windsperger, Yurdakul 2007). One of the most significant contributions to the property rights view is the well known GHM Model (Grossman, Hart 1986; Hart, Moore 1990). The literature distinguishes between the “classical” and the “modern” GHM Model. The ‘classical’ form of property rights theory gives more consideration to the historical and institutional context that shapes and changes property rights (and therefore led to ‘getting the incentives right’). The ‘modern’ version of property rights theory, uses advanced mathematical tools and stylized modelling of ownership and incentive structures. We conduct this study using the additions from the latter model.

The initial streams of property rights research highlight the view of shared ownership and provide multi-dimensional definitions of property rights and ownership that can help us in our intention to explain business trends that are neither market nor hierarchy, such as joint ventures (Hennart, 1993). We draw on this assumptions and suggest that the more important the joint venture partner’s intangible assets relative to the other partner for the creation of residual income of the joint venture, the more residual rights of control (decision and ownership rights) are transferred to her/him. But which intangible assets do partners invest in and bring into the joint venture? International business literature identifies knowledge assets (know-how) and distinguishes between (organizational capabilities) in product development, procurement, production and branding, and on the other hand the know-how on local market access, cultural and institutional know-how and human resource capabilities (Lecraw 1984; Fagre, Wells 1982; Hennart 1988; Nakamura 2005). Following Baruch Lev there are three
main “nexuses” of sources of intangibles (often a particular intangible asset is created by a combination of these sources): discovery (innovation), organizational practices, and human resources.

In our study, and based on the views presented here we distinguish between two types of intangible knowledge assets: strategic and operative intangible knowledge assets. Strategic intangible knowledge assets (see appendix) include know-how on corporate planning, controlling, financing, organization, and strategy formation and fall under organizational practices. Operative intangible knowledge assets include know-how on all activities requiring human contact such as marketing, human resources, sales, services. We state the following hypothesis:

**H1a:** *The higher the strategic intangible knowledge assets of JVP-1, the higher is JVP-1’s portion of residual decision rights.*

The more know-how the Austrian partner has on corporate activities such as strategy formation and other organizational practices which establish a degree of efficiency in the organization the more residual decision rights should be allocated to him. On the other hand the more know-how the foreign partner has in the host-country on activities such as marketing to potential customers, hiring and firing, sale and post-sale services the more impact he will have on the generation of network income, and the more residual decision rights should be allocated to him.

**H1b:** *The higher the operational intangible knowledge assets of JVP-1, the higher is JVP-1’s portion of residual decision rights.*

According to the property rights view the allocation of ownership rights depends on the distribution of intangible (non-contractible) assets: The more important a person’s intangible
knowledge assets for the generation of the residual income relative to another person, the more ownership rights should be assigned to that person. Starting with this assumption we draw the following hypothesis:

**H2a:** The higher the intangible strategic knowledge assets of JVP-1, the higher is JVP-1’s portion of ownership rights.

Analogous hypothesis are to be drawn for the relationship between intangible operational knowledge assets and ownership rights:

**H2b:** The higher the intangible operational knowledge assets of JVP-1, the higher is JVP-1’s portion of ownership rights.

Empirical literature on the determinants of ownership and decision rights choice structures has often delivered inconsistent findings. We have already mentioned the lack of rigour in the use of different theoretical perspectives (and therefore different definitions of the same concept which we are not standardized and comparable) but some of the inconsistencies may be caused by the existence of unrecognized moderating effects and differences in research-design methods. The mixed findings regarding the relationship between the bargaining power and allocation of ownership and decision rights may also be due to the fact that the experience of joint ventures (time) moderates this relationship. We will offer an alternative way to deal with this issue, irrelevant of the predicted sign of this relationship:

**H2c:** The influence of intangible knowledge on decision and ownership rights allocation will vary with the time as the bargaining power shifts (Moderating Effect).
2.2. Transaction Cost Theory

In the transaction cost literature, external uncertainty is described as the degree of inability to predict the firm’s future environment. In highly uncertain situations TCT predicts firms to avoid ownership (Williamson, 1979). He recommends measures for firms to maintain their flexibility and transfer the risk to outside parties. In a fast changing environment committing resources to one operation proves inadequate for a degree of control over the operation is lost, when the firms are not able to reallocate their resources ahead of negative externalities. The uncertainty of the new, external environment is better known as “country risk”, which appears in different shapes and sizes. Herring (1983) defines “country risk” as a combination of political instability, economic fluctuations and currency changes. Kumar and Seth (1998), see host country uncertainty as the complexity and volatility of environmental factors. This uncertainty can be high due to physical and cultural distance, volatile host-government political and legal framework, and other specific factors (Pangarkar & Klein, 2004).

Firms act in response to unpredictability by making use of control in order to administer their volatile dwellings and solve disagreements (Killing 1982; Bivens and Lovell, 1966). The design of control dimensions in IJVs is highly dependent on the level of uncertainty (Johnson et al., 2002) which in turn affects management control systems. Govindarajan and Shank (1992) note that different units of the same country, based in countries of different levels of uncertainty will require systematically different management control systems. The environmental uncertainty is defined as the complexity and volatility of the environmental factors (Duncan 1972; Dess & Beard 1984), these factors being further described as unexpected changes in regulation, legislation, judicial decisions, interest rates, or changes in demand (Kumar & Seth, 1998).

Further on, the transaction cost perspective focuses on exploiting existing capabilities and dealing with external uncertainty, the property rights theory focuses on enhancement of
capabilities, in particular intangible resources and assets of the firm (Brouthers and Brouthers, 2000). What is particularly relevant for our study is the host-country uncertainty. Uncertainty refers to the difficulty or inability to predict the environment (Miller, 1992), or to the unpredictability of changes of some factors (Brouthers, Brouther, & Werner (2003). Host country uncertainty in this academic enterprise refers to the following factors: cultural uncertainty, competitive uncertainty, and environmental uncertainty (Gatignon and Anderson, 1988:315).

Speaking of flexibility, foreign markets are often plagued by the increasing amount of new competitors. In order to stay competitive, the IJVs need to react fast to changing environment. Sanchez-Peinado & Pla-Barber (2006) argue that when international joint ventures partners are faced with unexpected changes in demand, they tend to adopt looser control structures allowing the IJVs to enjoy greater flexibility in handling these changes. Therefore, as the environmental uncertainty rises, the need for flexibility increases which opposes the TCT assumptions. Williamson (1979) hypothesizes that firms should react to volatility by avoiding ownership, since it commits them to one operation that may not be appropriate when the next environmental shift occurs. Rather, firms should retain flexibility and shift risk to outsiders. Opposing this view, we expect that:

**H3a:** The higher the political/legal stability in the host country, the higher is JVP-1’s portion of residual decision rights.

Shan (1991) researched the relationship between the foreign firms’ stake in IJVs and the political risk of the host country. Brouthers and Bamossy (1997), while studying the role of key stakeholders in the IJV negotiation process, also focused on the influence of the host country government on IJVs. Pan and Tse (1996), when discussing the cooperative strategies between foreign firms in China, suggested that the foreign firms involved in IJVs tend to cooperate with one another when the level of risk in the country increases. For example
Hennart (1988) sees international joint ventures may sometimes as powerful vehicles to overcome local country hostilities towards wholly owned subsidiaries. So far scholars have either focused on single determinants, such as political risks (Clark & Tunaru 2001), cultural distance (Kogut & Singh 1988) or sovereign risks (Cantor & Packer 1996) or when applying a more sophisticated approach – a bundle of factors known as country risk (Hoti & McAleer 2004; Krayenbuehl 1985; Erb, Harvey & Viskanta 1996). Drawing on the TCT we argue that:

**H3b: The higher the political/legal stability in the host country, the higher is JVP-1’s portion of ownership rights.**

A particularly compelling form of host-country uncertainty is created by perceived cultural distance between the partners involved. Gert Hofstede pioneered research on this topic often stating that, "Culture is more often a source of conflict than of synergy. Cultural differences are a nuisance at best and often a disaster”. Naturally, may recommendations have been made on how to capture cultural distance. Kogut and Singh’s (1988) cultural index is clearly the most popular approach to measure cultural distance. The difference between home and host cultures is extremely difficult to measure, but has never the less managed to capture the attention across disciplines. So how does cultural distance impact the allocation of ownership and decision rights across joint ventures? Well, it has often been stated that the greater the cultural difference between the partners from different companies, the lesser degree of control should be demanded by the foreign partner (Buckley et al. 1999). When firms enter foreign countries, they first need to transfer their business methods to a new setting, train their agents accordingly, making sunk-investments in the new operation. These investments become transaction-specific and are of little use to other firms in that country. The literature agrees on the notion that the higher the socio-cultural distance between home and host countries, the lower the degree of control which will be demanded by foreign investors (Davidson, 1982;
Anderson and Gatignon, 1986; Kogut and Singh, 1988; Gomes-Casseres, 1989; Agarwal and Ramaswami, 1992; Larimo, 1993, 1994; Benito, 1996). Therefore the TCT states:

**H4a:** *The higher the cultural uncertainty in the host country, the higher is JVP-2's portion of residual decision rights.*

The greater the cultural distance between two countries, the greater the risk perceived by the entrant and the perceived degree of difficulty persists when transferring values, management practices and operational systems, therefore the need for host-country knowledge will increase. Firms form joint ventures as an effective way to gain access to such knowledge and accumulate market-specific know-how, as anything else such as actual operational experience would take a considerable amount of time (Hennart, 1988; Kogut, 1988).

**H4b:** *The higher the cultural uncertainty in the host country, the higher is JVP-2's portion of ownership rights.*

When IJVs are facing a higher degree of host country uncertainty, compared to the home country, the foreign parent firms may need to provide the IJVs with more self-government in decision making, and to allow them to be more flexible in order to deal with uncertainty in an appropriate and competent way. Peng and Health (1996) suggested that when operating in an unknown environment such as China, the foreign parent firms may need to rely on the local parent firms to obtain the needed resources, therefore willingly transferring a significant portion of control to the local parents. Calantone and Zhao (2001) add that for the parent firms that are unfamiliar with new markets, acquiring local knowledge about customs and processes in the new environment should be of major concern rather than the control issues. This situation arises because of the IJVs proximity with the changing environment and their first hand knowledge of these particular situations (Lewis, 1990). Furthermore, Kumar and Seth
(1998) deliver arguments that complex control is not efficient when managing the relationship between the IJV and its parents in circumstances of high environmental uncertainty.

**H5a:** The higher the market uncertainty in the host country, the higher is JVP-2’s portion of residual decision rights.

**H5b:** The higher the market uncertainty in the host country, the higher is JVP-2’s portion of ownership rights.

### 3. Empirical Analysis

#### 3.1. Data and Measurement

The empirical settings for testing these hypotheses are the parent Austrian joint ventures formed with partner companies in Central and Eastern Europe. We used a questionnaire to collect the data from a sample of 450 Austrian companies maintaining foreign direct investments in one of the Central and Eastern European countries. The questionnaire took approximately 15 minutes to complete. We received 60 responses, which brings us to a response rate of 13.3%. To trace non-response bias, we investigated whether the results obtained from analysis are driven by differences between the group of respondents and the group of non-respondents. Non-response bias was measured by comparing two groups of responders between March 2005 and October 2005 (Armstrong & Overton 1977). No significant differences emerged between the two groups of respondents.

To test the property rights and transaction cost hypothesis the following variables are included in the regression analysis: intangible knowledge assets – operational (JVP-1 and JVP-2), intangible knowledge assets – strategic (JVP-1 and JVP-2), residual decision rights (strategic and operative for both JVP-1 and JVP-2), ownership stake, uncertainty (market, culture,
political & legal), as well as firm size (JVP-1 and JVP-2) and age, as control variables (see appendix).

Intangible Knowledge Assets (KNOW): The joint venture partner’s intangible assets refer to the specific knowledge of local markets, distribution channel, procurement, human resource management, technological know how, organizational capabilities, and knowledge of cultural and the institutional environment. In the questionnaire the general managers of the CEE JV-companies were asked to rate on a seven-point scale (1- no extent; 7 – to a very large extent) their contribution to the intangible assets of the joint ventures in different functions of the value chain. The know-how contributions of each partner where asked for 12 different functions, which they bring into the joint venture (see appendix). The indicator of knowledge assets addresses the extent to which JV-partner 1 adds new knowledge in each of the twelve-items.

For each partner we ran a factor analysis on the intangible knowledge assets, which in turn extracted two distinct factors which we name strategic and operational intangible knowledge assets. We state that the intangible knowledge assets of each partner consist of both strategic management and day to day operative business activities. Thus, the joint venture partner’s intangible assets refer to the specific knowledge of strategic factors (corporate planning, controlling, financing, organization, strategy) and operational factors (marketing, human resources, sales and services). For the further regression analysis two variables are formed using the above items computed by applying means.

All variables loading on the same factors had a loading in excess of 0.7. For the total amount of variance explained by the factor solution and individual Cronbach Alpha values see Table 1.
<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>JV-Partner1</th>
<th>JV-Partner2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intangible Knowledge Assets Strategic</td>
<td>.856</td>
<td>.981</td>
</tr>
<tr>
<td>Intangible Knowledge Assets Operational</td>
<td>.823</td>
<td>.806</td>
</tr>
<tr>
<td>Total Variance Explained</td>
<td>65.431%</td>
<td>68.836%</td>
</tr>
</tbody>
</table>

Table 1. The reliability of Intangible Knowledge Assets was assessed by Cronbach’s alpha.

Residual Decision Rights (DR): The item of decision rights (DR) measures the allocation of decision making authority among the joint venture partners. The residual decision rights in our data set gather information on the influence of JV partners over the following decision making activities: strategic decisions, organizational decisions, product decisions, price decisions, hiring, wages, training, production decisions, marketing measures, advertising decisions, suppliers, investment projects, lenders, financing, accounting, and cooperation partners. The measure of decision rights addresses the degree to which residual decisions are influenced by JVP-1 compared to JVP-2. We again take the average of the items loading on the two factors, as reported by the factor analysis. The average of these rating is a measure for distribution of the decision making power in the joint venture company and was previously used in retail banking as Nagar’s measure of decision rights (Nagar, 2002;) and Windsperger’s measure of decision rights in franchising networks (Windsperger, 2004). The executive managers of the joint venture companies were asked to rate the joint venture partner's influence on these decisions on a seven-point scale.
Ownership Rights (OR): The joint venture partner’s ownership rights (OR) are measured by the percentage of asset ownership of the joint venture partners in the joint venture company (= equity ratio).

Uncertainty (UNCERT): The Austrian joint venture partners (JVP-1) were asked to rate the different sources of uncertainty in the host country market on a five-item scale (see Appendix). The factor analysis resulted in three factors which we identified as follows: cultural distance, market uncertainty, and political & legal stability (will be included in the regression equation with an opposite sign due to the wording in the questionnaire).

We further control for additional variables which may have an influence over the allocation of decision and ownership rights in joint ventures such as the size of the JVP-1 and the experience of the IJV measured in years.

Firm Size (SIZE): We include both the log value of the number of employees for the Austrian partner in his home country, and the log value of the number of employees of the JVP-2 in the host country (country of the IJV). Organization size is a powerful explanatory variable regarding organization performance (Weinar and Mahoney, 1981; Wernerfelt and Montgomery, 1988. In addition, Blau (1970) finds that organization size plays an important role in organization information processing. Larger companies simply have more resources to monitor IJV activities, whereas smaller companies may react to changes faster in pursuit of their interests, and their agility may spur issues with their partners. The amount and quality of information and knowledge being exchanged between top and middle management may also be directly influenced by firm size. Larger organizations tend to keep an entire portfolio of culturally diverse border-crossing operations, whereas smaller firms absorb cultural differences more slowly, as a result of their relatively scarce portfolio of foreign operations.
(Erramilli et al., 1997; Gomez-Mejia and Palich, 1997). In our case the parent size is modelled after the global number of parent firm employees (Hennart and Park, 1993; Hennart et al., 1996; Larimo, 1997; Hartzing, 1998). Drawing on this research we state that the larger the size of the parent firm, the larger its coordination and monitoring capacity, the more easily the parent firm can control the joint venture company, and hence the lower the propensity to transfer residual decision rights to the other partner.

Joint Venture Experience (AGE): Age is a frequently used operational measure determining stability in terms of prolonged existence of the joint venture. Age of the joint venture (tsurvey – tIJV formation) is an important determinant of the success and growth for international joint venture (Sapienza, Almeida and Autio, 2000). For example, studies report that the longevity of equity the joint venture contract has the influence over the degree of foreign ownership in Chinese joint ventures (Pan, 1996; Shan, 1991; Chadee and Qiu, 2001). Projects of longer duration give foreign firms time to familiarize themselves with the business environment without being under time pressure to conduct business. Thus, the foreign partner (in our case JVP-1) is more likely to seek a higher level of equity ownership as the duration of the JV contract becomes more mature. The older the joint venture company, the more time the foreign joint venture partner has to learn and recode the tacit (non-contractible) component of know-how to more explicit (contractible) knowledge as a natural consequence of inter-organizational learning (Inkpen 2000; Nonaka, Takeuchi 1995). In this way more control can be exercised. We use a log measure in terms of number of employees for both JVP-1 and JVP-2 separately.
3.2. Regression Results

In our sample of 60 Austrian joint ventures, most partners come from the Czech Republic and Hungary, followed by Poland, Slovenia and Slovakia. A typical equity joint venture in the sample has two partners, and the parent company has been operating internationally for more than 4.5 years, which at the same time is equivalent to the number of years the company spent in the host-country. We can assume that the entire international experience of the Austrian joint venture partner in one of the CEE countries is based on his experience in the IJV.

To test our hypothesis (H1) we carry out ordinal regression analysis with the index of decision rights (DR) as dependent variable (Chu, Anderson 1992) (see appendix): The explanatory variables refer to joint venture partner’s advantage in operative and strategic knowledge factors (operative KNOW_JVP-1; strategic KNOW_JVP-1; operative KNOW_JVP-2; strategic KNOW_JVP-2), and all three variables measuring uncertainty (market UNCERT; political and legal UNCERT (opposite sign); cultural UNCERT). Political and Legal Uncertainty as unit was measured in the questionnaire as Political & Legal Stability, hence the opposite sign from the other two sources of uncertainty. The control variables of size (SIZE) and age (AGE) were added in a separate model for decision rights and ownership rights regressions. We estimate the following regression equation:

\[
DR = \alpha + \beta_1 \text{KNOW\_JVP\_1\_Operative} + \beta_2 \text{KNOW\_JVP\_1\_Strategic} - \beta_3 \\
\text{KNOW\_JVP\_2\_Operative} - \beta_4 \text{KNOW\_JVP\_2\_Strategic} + \beta_5 \text{SIZE\_JVP\_1} + \beta_6 \\
\text{AGE} - \beta_7 \text{UNCERT (Cultural Distance; Market)} + \beta_8 \text{UNCERT (Political \& Legal)*} + \beta_9 \text{SIZE\_JVP\_2}
\]

\[1, ** \text{ Measured in the Questionnaire as Political \& Legal Stability, hence the opposite sign from the other two sources of uncertainty.}\]
Based on our property rights hypothesis, decision rights (DR) and ownership rights (OR) vary positively with the JVP-1’s know-how advantage (KNOW) in operative and strategic functions over the other IJV partner. In the model accompanying the main setting, we control for two additional variables and assume that residual decision rights will vary positively with the SIZE of JVP-1 due to economics of scale in coordination and monitoring activities, and IJV experience (AGE) due to organizational learning, and different sources of uncertainty (UNCERT) due to increased risk. Hence $\beta_1, \beta_2, \beta_5, \beta_6, \beta_8$ and $\beta_9$ have a positive sign, whereas $\beta_3, \beta_4$ and $\beta_7$ carry a negative relationship.

Results of the ordinal regressions are provided in the Appendix. The fit of the model was estimated by using the Cauchit method due to the distribution of the data.

The Chi-Square values for Models 1 and 2 of are 35,088 and 45,225; they are significant at p<0.001 level. For the Models 3 and 4 the Chi-Square values are 10,810 and 19,439, significant at p<0.5 and P<0.05 thus rejecting the null hypothesis that the estimated coefficients are zero.

The overall fit of the ordinal regression model point to the appropriateness of the set of variables in predicting the distribution of residual decision rights in joint ventures.

Testing our property rights hypothesis (H1a; H1b), examining the relationship between residual decision rights and intangible knowledge assets of JVP-1 and JVP-2 we find that the coefficients of intangible knowledge for operational and strategic assets (KNOW) for JVP-1 are highly significant and consistent with our property rights hypothesis: The more intangible knowledge assets the foreign partner has in forms of day to day operations and/or strategic direction, the more residual decision rights, in praxis, are allocated to him, whereas the impact of operative knowledge assets exceeds that of strategic assets. The more in tune the foreign
partner is with the day to day operations the more residual decision rights will be assigned to him. The portion of strategic intangible knowledge assets of the local partner had a negative impact on the allocation of residual decision rights to the foreign partner. That means the more knowledge the local partner has of the strategic management of the joint venture, the less residual decisions rights will be distributed to JVP-1 and the more will be attributed to JVP-2.

With the impact of SIZE and AGE this effect is somewhat changed. The intangible knowledge assets of the JVP-1 on both operative and strategic management dwellings remain to be significant determinants of the residual decision rights. And the more the JVP-1 knows about both operative and strategic functions the more residual decision rights will be assigned to him. However, under the influence of size of both JVP-1 and JVP-2 and the experience of the IJV, the strategic knowledge assets of JVP-2 become insignificant and the role is taken over by the operative knowledge assets preserving the negative sign in the relationship with the JVP-1 residual decision rights. That means, under the influence of partner size and experience of the IJV, the more intangible knowledge assets the JVP-2 has on operative, day to day business, the less residual decision rights will be assigned to JVP-1.

In support of our hypothesis (H4a; H4b) the effect of cultural distance is significant and negative, meaning the more socio-cultural distance the foreign partner perceives on his relationship with the local partner, the more residual decision rights will be allocated to the local partner.

As assumed, IJV experience (AGE) is a significant determinant of the distribution of residual decision rights in IJVs from the perspective of the Austrian partner JVP-1. The older and more experienced the IJV, the more residual decision rights will be assigned to the local partner JVP-2. Size also showed to have a significant and negative influence on the
distribution of residual decision rights from the Austrian perspective. The larger the JVP-1 is
the more residual decision rights will be assigned to the local country partner JVP-2. This can
be explained by the fact that larger firms seeking international experience will be more likely
to invest into IJVs in order to learn from their local partners on host country business
environment.

In order to estimate these relationships for the allocation of ownership rights between the two
IJV partners we estimate the following regression:

\[ OR = \alpha + \beta_1 \text{KNOW}_{JVP-1\_Operative} + \beta_2 \text{KNOW}_{JVP-1\_Strategic} - \beta_3 \text{KNOW}_{JVP-2\_Operative} - \beta_4 \text{KNOW}_{JVP-2\_Strategic} + \beta_5 \text{SIZE}_{JVP-1} + \beta_6 \text{AGE} - \beta_7 \text{UNCERT} \text{(Cultural Distance; Market)} + \beta_8 \text{UNCERT} \text{(Political & Legal)} + \beta_9 \text{SIZE}_{JVP-2} \]

Testing our property rights hypothesis (H2a; H2b; H2c), examining the relationship between
ownership rights and intangible knowledge assets we find that the coefficient of intangible
knowledge operational assets (KNOW) for JVP-1 as the only significant coefficients
consistent with our property rights hypothesis. The more operative intangible knowledge
assets the foreign partner has about the business daily activity the larger ownership stake he is
able to assume in the IJV.

A very significant measure influencing the size of equity ownership of the foreign
partner is the market uncertainty in the host country supporting our hypothesis (H5b),
carrying a positive effect. That means that the higher the market uncertainty in the host
country, the larger ownership stake will be assumed by the foreign partner. We may see this
result as a risk minimizing tool, foreign firms use when they are being active in the CEE
economic area. This effect may be overshadowing the other sources of uncertainties, due to the fact that some of the countries in the sample at the time of data collection were in the process of starting their European Union (EU) membership, which was a milestone for better overall business conditions and a movement of conversion with the rest of the EU members. The market uncertainty (UNCERT), having a positive and significant (however lesser) impact on the allocation of ownership rights to the JVP-1, is in contradiction with our hypothesis predicting exactly the opposite for this relationship. The higher the market uncertainty, the more ownership rights are transferred to the JVP-1. Another predictor of ownership in international joint ventures is the intangible operational knowledge assets of the foreign (JVP-1) with a positive and significant effect. And this is a good sign, because the more know-how the foreign partner has on how to handle market uncertainty, his risk-averseness will not stop him from owning a larger share in the joint venture. The more foreign partner feels comfortable with the knowledge he has in Marketing, Human Resources, Sales and Service and their application in the host country, the more ownership rights he is willing to assume. That can also be explained by the high interest of foreign companies to apply their selling and customer service solutions in these near markets, and the expansion policies to cover consumer needs in CEE.

Both AGE of IJV and SIZE of JVP-1 are significant predictors of the JVP-1 ownership stake. And while AGE carries a positive effect SIZE of JVP-1 has a negative impact on the ownership of JVP-1 of joint venture equity. Our model predicted a positive relationship for both values. Joint venture experience can be explained by the fact that the older the joint venture gets, the more comfortable the foreign partner will become of doing business in the host country and the more likely ownership will be increased by the foreign joint venture partner (JVP-1). As the initial risks are tackled and the joint venture becomes more established, the foreign partner learns more about the host country and is more willing to
assume a higher equity stake in the undertaking. The negative impact of JVP-1 size on the size of ownership can really be explained by the phenomenon that larger, international companies hold smaller stakes across a larger number of projects.

3.3. Discussion

The main goal of the paper is to present an explanation of distribution of residual decision and ownership rights in international joint ventures, by applying the property rights and transaction cost. First, we test the hypothesis that the joint venture partners’ residual decision rights go hand in hand with the significance of his intangible knowledge assets, for the generation of network surplus of the joint venture. We find that the allocation of residual decision rights of the foreign partner will depend both on strategic and operative intangible knowledge assets.

We test the hypothesis on the joint venture partner’s ownership rights stating that they will vary directly with the importance of parent intangible knowledge assets to generate residual of the joint venture. The data from 60 joint ventures between an Austrian and CEE partners confirms the hypothesis that the joint venture partner’s intangible assets, both operative and strategic will positively influence the likelihood to assign a higher share of residual decision rights to the partner having those intangible assets. Secondly, we look into the relationship between time and residual decision distributed between joint venture partners. No moderating effect could be established. The reason for this could be the small sample set. Despite this drawback, compared to previous research and building on the work of Yan and Gray (2001), we operationalize a measure for control consisting of strategic and operational residual decisions. In that way our study makes a considerable contribution to the measurement on how to measure the distribution of residual decision rights between joint venture partners.
In addition, this study also has several managerial implications. First, in conformity with Windsperger and Kocsis (2005) this study finds that the distribution of residual decision rights in joint ventures are based on the allocation of the IJV-partners’ intangible knowledge assets which are necessary for the generation of residual surplus. Drawing on this conclusion, this study encourages firms to establish their governance structures after assessing their knowledge assets and residual decision rights they wish to allow in their joint venture. A high portion of the residual surplus in a joint venture may be generated by applying highly non-contractible know-how. If this joint venture partner indeed possesses the residual decision rights to efficiently utilize her intangible knowledge assets for the creation of the total income stream then the situation will exhibit efficiency. Know-how which is less intangible and therefore more contractible does not influence the residual income stream of the joint venture even if this joint venture partner has a high proportion of residual decision rights. If joint venture partners match residual decision rights with ownership rights – they will improve the conditions for knowledge creation which is particularly important for laying out the foundation for innovation (Grandori, Furlotti 2006; 2008). When partners are motivated to efficiently use their know-how, a joint venture partner with a higher portion of residual decision and ownership rights will more likely generate a higher residual surplus. The opposite can take place too – partners with a small portion of residual decision rights are less likely to reach an increase of the residual income stream to maximum levels, due to the inability of partners to influence the use of innovation assets even when he does have a large portion of ownership rights. Such situations, where there are discrepancies between the allocation of decision rights and ownership rights (high/low) are unfavourable, and the incentive for partners is missing to efficiently apply their know-how due to inappropriate portion of ownership assets.

Our empirical study has some limitations: although the database sample used in the survey is diverse, it is still far from a large and statistically solid random sample. Second,
while the empirical results deliver support for the property rights and transaction cost hypotheses, we recommend collecting additional empirical evidence in order to increase the solidity of results. Furthermore, future research has to investigate the relationship between the allocation of decision and ownership rights; as well as how these two measures impact the performance of the joint venture. The moderating effect has to be addressed by using a larger sample.
4. Literature


Gil, R. (2005), Decision Rights and Vertical Integration in the Movie Industry, NBER IO Winter Meeting, (note: the discussant presents the paper at this conference).


Appendix A: Regression Results

Table 1. Model 1; H1

<table>
<thead>
<tr>
<th>Dependent Variable:</th>
<th>Decision Rights (DR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Variables:</td>
<td>Coefficients:</td>
</tr>
<tr>
<td>Threshold Constants.</td>
<td>9.641 (10.946)</td>
</tr>
<tr>
<td></td>
<td>-4.436 (2.689)</td>
</tr>
<tr>
<td></td>
<td>1.896 (2.782)</td>
</tr>
<tr>
<td></td>
<td>0.566 (1.043)</td>
</tr>
<tr>
<td></td>
<td>8.444* (5.394)</td>
</tr>
<tr>
<td></td>
<td>18.657* (10.444)</td>
</tr>
<tr>
<td>Cultural Distance</td>
<td>0.556 (4.111)</td>
</tr>
<tr>
<td>Uncertainty Political &amp; Legal</td>
<td>0.36 (3.07)</td>
</tr>
<tr>
<td>Market Uncertainty</td>
<td>-0.404 (3.90)</td>
</tr>
<tr>
<td>KNOW Assets Strategic JVP1</td>
<td>0.602** (3.50)</td>
</tr>
<tr>
<td>KNOW Assets Operative JVP1</td>
<td>1.097** (3.70)</td>
</tr>
<tr>
<td>KNOW Assets Strategic JVP2</td>
<td>-0.949* (3.75)</td>
</tr>
<tr>
<td>KNOW Assets Operative JVP2</td>
<td>0.303 (2.59)</td>
</tr>
</tbody>
</table>

Model Statistics:
N=56
Model Chi Square = 86.088 (p<0.001)
-2 Log likelihood = 138.096
Nagelkerke R Square = 0.402

*** p<0.01, ** p<0.05, * p<0.1. Values in parentheses are standard errors.

Table 2. Model 2; H2
### Table 2: Ordinal Regression Results

<table>
<thead>
<tr>
<th>Dependent Variable:</th>
<th>Decision Rights (DR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Variables:</td>
<td>Coefficients:</td>
</tr>
<tr>
<td>Threshold Constants.</td>
<td></td>
</tr>
<tr>
<td>B_KultDis</td>
<td>-0.055</td>
</tr>
<tr>
<td>X_JV_AGE</td>
<td>2.271</td>
</tr>
<tr>
<td>MU_KNOW_AVERAGE_Strategic</td>
<td>8.846</td>
</tr>
<tr>
<td>MU_KNOW_AVERAGE_Operative</td>
<td>13.365</td>
</tr>
<tr>
<td>JV_KNOW_AVERAGE_Strategic</td>
<td>27.604</td>
</tr>
<tr>
<td>JV_KNOW_AVERAGE_Operative</td>
<td>2.611**</td>
</tr>
<tr>
<td>X_Uncertainty_Stability</td>
<td>0.310**</td>
</tr>
<tr>
<td>X_Uncertainty_Average_Market</td>
<td>4.383***</td>
</tr>
<tr>
<td>JVP1_NullFirms</td>
<td>1.067**</td>
</tr>
<tr>
<td>JVP2_NullFirms</td>
<td>-1.079*</td>
</tr>
</tbody>
</table>

Model Statistics:
- N=60
- Modal Chi Square = 45.226 (p<0.001)
- Log likelihood = 05.200
- Nagelkerke R Square = 0.030

*** p<0.01, ** p<0.05, * p<0.1; values in parentheses are standard errors

---

### Table 3: Ordinal Regression Results

<table>
<thead>
<tr>
<th>Dependent Variable:</th>
<th>Ownership Rights (OR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Variables:</td>
<td>Coefficients:</td>
</tr>
<tr>
<td>Threshold Constants.</td>
<td></td>
</tr>
<tr>
<td>-13.079</td>
<td>(17.959)</td>
</tr>
<tr>
<td>3.608</td>
<td>(6.236)</td>
</tr>
<tr>
<td>2.303</td>
<td>(2.781)</td>
</tr>
<tr>
<td>5.696*</td>
<td>(3.036)</td>
</tr>
<tr>
<td>6.960**</td>
<td>(3.160)</td>
</tr>
<tr>
<td>Cultural Distance</td>
<td>0.020</td>
</tr>
<tr>
<td>KNOW Assets Strategic JVP1</td>
<td>0.511</td>
</tr>
<tr>
<td>KNOW Assets Operative JVP1</td>
<td>0.105</td>
</tr>
<tr>
<td>KNOW Assets Strategic JVP2</td>
<td>-0.178</td>
</tr>
<tr>
<td>KNOW Assets Operative JVP2</td>
<td>0.077</td>
</tr>
<tr>
<td>Uncertainty Political &amp; Legal</td>
<td>-0.320</td>
</tr>
<tr>
<td>Market Uncertainty</td>
<td>0.740**</td>
</tr>
</tbody>
</table>

Model Statistics:
- N=56
- Modal Chi Square = -10.810
- Log likelihood = 147.867
- Nagelkerke R Square = 0.184

*** p<0.01, ** p<0.05, * p<0.1; values in parentheses are standard errors
Table 4. Model 4; H4

<table>
<thead>
<tr>
<th>Dependent Variable:</th>
<th>Ownership Rights (OR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Variables:</td>
<td>Coefficients:</td>
</tr>
<tr>
<td>Threshold Constants:</td>
<td></td>
</tr>
<tr>
<td>-13.455</td>
<td>(24.721)</td>
</tr>
<tr>
<td>4.514</td>
<td>(4.334)</td>
</tr>
<tr>
<td>8.974</td>
<td>(4.741)</td>
</tr>
<tr>
<td>10.865</td>
<td>(5.041)</td>
</tr>
<tr>
<td>B_KultDis</td>
<td>-0.441</td>
</tr>
<tr>
<td>X_JV_AGE</td>
<td>0.272**</td>
</tr>
<tr>
<td>MU_KNOW_AVERAGE_Strategic</td>
<td>-0.285</td>
</tr>
<tr>
<td>MU_KNOW_AVERAGE_Operative</td>
<td>1.14**</td>
</tr>
<tr>
<td>JV_KNOW_AVERAGE_Strategic</td>
<td>-0.414</td>
</tr>
<tr>
<td>JV_KNOW_AVERAGE_Operative</td>
<td>0.568</td>
</tr>
<tr>
<td>X_Uncertainty Stability</td>
<td>-0.221</td>
</tr>
<tr>
<td>X_Uncertainty_Average_Market</td>
<td>1.702***</td>
</tr>
<tr>
<td>JVP1_NoEmployees</td>
<td>-4.092**</td>
</tr>
<tr>
<td>JVP2_NoEmployees</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Model Statistics:
N=60
Model Chi Square = 19.439
-2 Log likelihood = 116.741
Nagelkerke R Square = 0.345

*** p<0.01, ** p<0.05, * p<0.1, values in parentheses are standard errors

Table 5. Correlations Independent Variables

<table>
<thead>
<tr>
<th>X</th>
<th>X_Uncertainty_Age</th>
<th>X_Uncertainty_Average</th>
<th>X_Uncertainty_Average_Market</th>
<th>X_MU_Index_Strategic</th>
<th>X_MU_Index_Operative</th>
<th>JVP1_NoEmployees</th>
<th>JVP2_NoEmployees</th>
</tr>
</thead>
<tbody>
<tr>
<td>X_Uncertainty_Age</td>
<td>1</td>
<td>-0.024</td>
<td>-0.046</td>
<td>0.046</td>
<td>0.017</td>
<td>0.005</td>
<td>0.111</td>
</tr>
<tr>
<td>X_Uncertainty_Average</td>
<td>-0.024</td>
<td>1</td>
<td>-0.168</td>
<td>-0.115</td>
<td>0.189</td>
<td>0.209†</td>
<td>-0.028</td>
</tr>
<tr>
<td>X_Uncertainty_Average_Market</td>
<td>-0.046</td>
<td>-0.168</td>
<td>1</td>
<td>0.463**</td>
<td>-0.212</td>
<td>-0.195</td>
<td>-0.076</td>
</tr>
<tr>
<td>X_MU_Index_Strategic</td>
<td>0.017</td>
<td>0.046</td>
<td>0.463**</td>
<td>1</td>
<td>0.021</td>
<td>0.234*</td>
<td>0.249*</td>
</tr>
<tr>
<td>X_MU_Index_Operative</td>
<td>0.005</td>
<td>0.017</td>
<td>0.021</td>
<td>0.234*</td>
<td>1</td>
<td>0.227**</td>
<td>0.029</td>
</tr>
<tr>
<td>JVP1_NoEmployees</td>
<td>0.111</td>
<td>0.111</td>
<td>0.195</td>
<td>0.227</td>
<td>0.227**</td>
<td>1</td>
<td>0.109</td>
</tr>
<tr>
<td>JVP2_NoEmployees</td>
<td>0.111</td>
<td>0.111</td>
<td>0.195</td>
<td>0.227</td>
<td>0.227**</td>
<td>0.109</td>
<td>1</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.1 level (2-tailed).
** Correlation is significant at the 0.05 level (2-tailed).
† Correlation is significant at the 0.01 level (2-tailed).
## Appendix B: Description of Dependent and Independent Variables

| Decision Rights DR | To which extent does the JV-partner 1 (JVP1) influence the following decisions compared to JV-partner 2 (JVP2)? (1=no extent, 7=to a very large extent)  
Sixteen items, Average is used for JVP1; ordinal variable  
(Strategy, Organisational form, Product sorting, hiring, wages, training, production, product pricing, marketing measures, advertising, suppliers, investment projects, lenders, financing, accounting, cooperation partners) |
|---|---|
| Ownership | Percentage of asset ownership of JVP1  
1=0-20%  
2=21-40%  
3=41%-60%  
4=61%-80%  
5=81%-100% |
| KNOW Strategic | To which extent does JVP1/JVP2 add new knowledge in each of the following value chain activities (1=no extent, 7=to a very large extent): corporate planning, controlling, financing, organization, strategy.  
Strategic Cronbach´s Alpha JVP1=.856 and JVP2=.891 |
| KNOW Operative | To which extent does JVP1/JVP2 add new knowledge in each of the following value chain activities (1=no extent, 7=to a very large extent): marketing, human resources, sales, service  
Operative Cronbach´s Alpha JVP1=.823 and JVP2=.806 |
| Size | Log(Number of employees of JVP1) |
| Age | Joint venture (JV) companies´years of existence (Tsurvey-Tformation) |
| Uncertainty | The general manager was asked to evaluate uncertainty on a 5 point scale. Result of Factor Analysis: Cultural, Political & Legal and Market. Averages are used in further calculations. |
| Cultural Uncertainty | The perceived cultural distance between JVP1 country and JV country is high.  
(1=not at all; 5=to a very large extent) |
| Political & Legal Uncertainty | Stability of political situation in JV country is high.  
(1=not at all; 5=to a very large extent)  
Stability of legal situation in JV country is high.  
(1=not at all; 5=to a very large extent)  
(Cronbach´s Alpha=.704) |
| Market Uncertainty | Demand uncertainty is high.  
(1=not at all; 5=to a very large extent)  
New competitors enter the market often.  
(1=not at all; 5=to a very large extent)  
Market prices are highly volatile.  
(1=not at all; 5=to a very large extent)  
Competition is very fierce.  
(1=not at all; 5=to a very large extent)  
Cronbach´s Alpha=.683 |