

RISK IN INTERORGANIZATIONAL NETWORKS AND STRATEGIC ALLIANCES

Ben Alders¹, Matjo van Liere¹, Gerard Berendsen¹, Ineke Pieters¹

¹HAN University, Netherlands

ben.alders@chello.nl

ABSTRACT

Setting up strategic alliances and trying to attain the intended goals is a high-risk venture. Most research into this topic is confined to already established alliances. This research will focus on perceived performance risks by organizations considering a possible strategic venture. Following other scholars, we focus on performance risks. But unlike previous research we have made an effort to uncover the underlying dimensions of these risks. We will show that the risk perception influences the readiness towards the possible set-up of a strategic alliance. Organizations with a high risk perception are less inclined to set-up a strategic alliance. Although we expected that organizations with a higher risk perception would also opt for more risk mitigation, our findings shows the opposite. The research shows that the ability to improve processes is an intermediate explaining variable. Organizations accustomed to continuous improvement and integral quality management have a lower risk perception towards the set up of strategic alliances and also show more readiness to take risk mitigation measures.

Keywords: performance risks, strategic alliances, continuous improvement, risk perception, risk management.

1. INTRODUCTION

Risk taking is a ubiquitous phenomenon in the domain of strategic cooperation between organizations. Therefore it is essential that the participants are able to determine the relevant risks and can subsequently control these risks.

Several scholars (Das and Teng, 1999, 2001; Cravens et al., 2000; Hoffman and Schlosser, 2001) have done research on risk management in operational strategic alliances. Risk perception by organizations considering a possible strategic venture however is a mere unreclaimed territory.

The aim of this article is to demonstrate how organizations which are considering a strategic cooperation perceive risks associated with such ventures. We will investigate the nature of the involved risks and the perceived control or mitigation measures. Those perceived risks can all be considered as risks which might hamper the attainment of the goals of the cooperation. This involves the so-called performance related risks, which are risks correlated to the competences of the concerned organizations and the way those organizations manage their business processes.

Performance related risk have been addressed in scientific articles but the underlying dimensions of specific risks did not yet derive any attention. As explained, research to date covers risks experienced in ongoing strategic cooperations. Perceived risks with respect to future cooperation requires a different approach. In the end we would like to determine whether various perceived risk levels result in distinctive behaviour demonstrated by organizations. Is it likely that organizations with higher perceived risk

levels become more hesitant towards future strategic cooperation? Especially those risks which can hardly be controlled or mitigated pose severe barriers to future cooperation.

2. RISK IN INTERORGANIZATIONAL NETWORKS AND ALLIANCES

An ever increasing number of organizations is entering strategic cooperation of some sort. Since 1985 the number of new alliances has yearly increased by 25% (Harbison and Pekar, 1998; Mol, 2000). In specific economic sectors like the high-tech industry strategic alliances have become an inextricable element of competitive strategy (Duysters e.a., 1999).

One of the mainsprings to engage in alliances, consists of the prospect of spreading risks among two or more participants (Alter and Hage, 1993). Joining corporate forces and subsequently sharing the costs of product development and marketing is another thriving force for alliances. This enables organizations to take up product development more frequent and to a certain extent also concurrently. This has become more important since a large number of product innovations tends to fail (Dwyer and Sivadas, 2000). Despite the increasing importance of strategic alliances many of these alliances fail to accomplish the intended goals. Failure rates ranging from 60 to 80% percent are registered in studies (Spekman e.a., 1996; Dacin e.a., 1997; Das and Teng, 1999; Duysters e.a., 1999; Dyer e.a., 2001; De Man, 2006). Therefore it is evident that many alliances from the outset are inherently more risky than the activities of individual organizations.

This article however will not deal with risks arising from operational alliances, like loss of knowledge (Doz en Hamel, 1998) or core competences (Kale et al., 2000). Instead we will focus on risks perceived by organizations considering a possible future alliance. Considering the risks originating from alliances the intent to establish an alliance is also considered to be a high-risk strategy (Das and Teng, 1999). Taking this into consideration it is remarkable that risk management, although it has been a major theme in social sciences, has received only moderate attention in the scientific arena of strategic alliances.

On the whole there has always been considerable attention for enablers and barriers to successful strategic alliances (for instance Hoffmann and Schlosser, 2001; Olsen et al., 2008; Ingirige and Sexton, 2006), but this has not resulted in a systematic decomposition of risks and its compiling dimensions.

Few scholars like Pan and Tse (2000) have made a distinction between external or contextual risks and transactional risks. The contextual risks refer to influences of the market (like competition and demand), technology and regulatory influences. The internal or transactional risks refer to the cooperation between partner organizations. But this distinction between external and internal risks seems to have less explanatory power than the distinction between relational and performance risks. There is growing support among scholars in the domain of strategic alliances for this distinction (Das and Teng, 1996, 1998, 1999, 2001; Nooteboom e.a., 1997; Cravens e.a., 2000; Delerue, 2005).

Das and Teng define the relational risk (1996) as the probability and consequences of not having satisfactory cooperation. The source of this risk can be found in the possibility of opportunistic behaviour of one or more of the involved partners (Cravens e.a., 2000; Nooteboom e.a., 1997). Therefore it is a risk that originates from the relation between partners (Delerue, 2005, Ring and Van de Ven, 1992; Nooteboom e.a., 1997). Relational risks can not only arise from abuse of a situation. It is also possible that

partners have different perceptions or interpretations of situations which are inextricably related to the fact that partners not only have common interests, but also their own private interests (Das and Teng, 2001).

On the other hand performance risk can be defined as the probability and consequences that alliance objectives are not achieved, despite satisfactory cooperation among partner firms (Das and Teng, 1996). This definition incorporates the external factors (demand, market forces, regulation) which we mentioned earlier (Pan and Tse, 2000), as well as the internal factors of organizations (competences of partners, alignment with strategy of participating organizations). Therefore, performance risk is the risk that the alliance will not produce the intended results. Of course this can be attributed to external factors but also to internal factors. The internal factors can, apart from the performance of the own organization, be attributed to the performance of the partner organization. Performance is primarily a result of competences and commitment. Commitment or intentions of the partner organization is able to influence the extent of the relational risk. Competence on the other hand is a multidimensional construct in its own right. It consists of skills, the right kind of tools, a set of methods and operating procedures, a well designed organizational structure and process control, etc.

None of the sources we encountered, did try to uncover which dimensions are enclosed in the construct of performance risk.

3. DEFINING THE UNDERLYING DIMENSIONS OF PERFORMANCE RISK

In the relevant literature on integral quality management and supply chain operations, there is increasing support for the dimensions we used (Olhager and Selldin, 2004).

We have drawn a distinction between five underlying dimensions:

- control mechanisms (operational control)
- operations management
- quality management
- decision making.
- information management

In this paragraph we will elaborate on the relevance of the dimensions we used to lay out performance risk.

3.1 OPERATIONAL CONTROL

This type of control takes place at shopfloor level. It involves rules, procedures, policies to support working methods, monitor and evaluate them. Control is acknowledged to be important for the performance of alliances (Geringer and Hebert, 1989). Control facilitates coordination (Kumar and Seth, 1998; Makhija and Ganesh, 1997).

3.2 MANAGEMENT OF OPERATIONS (GOVERNANCE)

The formation of alliances offers the opportunity to establish highly effective supply chains, wiping out sub-optimisation between the participating organizations. To a large extent this effect can be attributed to the abolishment of competitive barriers which persist between traditional supply chain members.

The present literature (Muckstadt e.a., 2001) shows that in many cases alliances fail to realize the anticipated benefits of collaborative operating relationships. Obviously

organizations have difficulty to respond adequately to changing situations like demand uncertainty..

While improvement of the quality performance of the supply chain is an important driver to enter collaborative partnerships (Olhager and Eldin, 2004), it is also established that organizations are not yet able to use state of the art knowledge in order to design well integrated processes, planning and control, as well as the necessary communication tools to operate the alliance.

3.3 QUALITY MANAGEMENT

It is our experience that alliance organizations tend to have some sort of quality management system for their individual organizations. Implementing a joint quality management system for the alliance or organizational network however is much more difficult. It requires consensus on the interfaces between business processes, processes which likely have different organizational and control mechanisms. Therefore quality management in a chain of processes requires dovetailing processes. This is a fundamental approach of process integration.

World class suppliers in the engineering industry have been applying these principles of supply chain integration for quite some time. Therefore the current practice towards the current supply base, especially the so-called preferred suppliers, might provide valuable information regarding the capability to introduce quality management in alliances.

3.4 DECISION MAKING

A design for an alliance depends on the kind of value creation. In co-option alliances in which the participating organizations are joining forces to build critical mass in the marketplace, the degree of task integration is usually quite low (Doz and Hamel, 1989). Stated otherwise, the organizations can carry out their respective tasks quite autonomous or independent from each other. When low levels of coordination are required, the alliance has no need to respond quickly to new demands or changing conditions. This kind of cooperation can be dealt with fairly static decision making using the decision structures which are already in place within the individual organizations.

Co-specialisation on the other hand, where two or more organizations intend to develop, produce and market new products, very often requires a far reaching integration of processes. This means that events can emerge on a daily basis which require immediate response. This in turn implies that the communication and decision lines should be short and involving few decision makers. The best way to accomplish this is by means of a small independent entity. Ideally such an entity would operate with an autonomous management team.

3.5 INFORMATION SYSTEM

To a certain extent, the requirements with respect to the information system are quite similar to the ones we discussed with respect to decision making.

The attributes of the information system also vary with the degree of task or business process integration. In co-option alliances the information exchange can take place with distinct time intervals. The exchange can to a large extent be standardized and codified and proceed through a few channels which were previously designed. Integrated business processes using resources and production facilities at different locations, each

with their respective supply chains, using external sub-contractors and suppliers require a vast and highly flexible information exchange system.

4. SURVEY SAMPLE AND DATA COLLECTION

The research was executed in 2007. The population consisted of Dutch private companies as well as non-profit organizations and organizations not-for-profit. We used databases originating from HAN University, the Dutch organizations for Quality management (INK and NNK). The persons registered by these organizations received requests by mail, email and news notifications to participate in the survey. The potential respondents also received information regarding purpose, context and survey topics. This letter enabled the potential respondents to determine which persons in their organizations would be versed best, with respect to affinity, knowledge and experience.

The survey-design consisted of a two-stage design. In a preliminary survey we established whether the organization already has one or more strategic cooperation, which might consist of a bilateral nature (diade) or a multilateral shape (interorganizational network). We also charted a number of key data regarding the respondent organization. In the main survey we used separate surveys for organizations with and without strategic cooperation. This paper will focus on the survey outcomes for organizations without strategic cooperation. The survey population consisted of 33 organizations. The sectoral distribution shows that almost 80 percent of the participating organizations can be classified as private commercial organizations. The remaining 20 percent consists of non-profit or not-for-profit organizations. The commercial population consist of industrial organizations (24 %), construction (21 %) and service organizations (30%).

Considering the size distribution the organizations with 20 up to 100 employees account for 75% of the sample population. Larger organizations (100 or more employees) account for 9% of the sample population.

The respondents hold a varied range of positions. It shows that directors (24%, project managers (24%) and other managerial staff (29%) account for the large majority.

The respondent organizations did not have operational strategic cooperative arrangements with other organizations. That does not imply that organizations are not accustomed to far-reaching agreements with suppliers. No less than 83% of the respondent organizations use so-called preferred suppliers. And with 72% of the organizations preferred suppliers account for 30% or more of the supply base.

Therefore we asked whether the respondent organizations consider to set up strategic cooperation with other organizations in the near future (upcoming 3 years). Only a relatively small percentage of the organizations (18%) is considering a strategic cooperation in the near future. A far greater number (41%) is uncertain regarding their plans and an equal percentage of the population is definitely not entering an alliance.

5. RESEARCH RESULTS

As described in paragraph 3 we have defined performance risk in five separate dimensions.

The dimensions we defined are:

- operational control;
- management control;

- quality management;
- decision making;
- information management.

We had no well-defined expectations regarding the loadings of these dimensions in terms of risk perception. Table 1 presents the observed loadings of the five dimensions.

	perceived risk	no risk	indecisive	total %
operational control	16%	78%	6%	100%
management control	72%	28%	-	100%
quality management	22%	75%	3%	100%
decision making	63%	34%	3%	100%
information management	44%	50%	6%	100%

Table 1 Perceived risks in setting up strategic alliances

The results show that three dimensions predominate.

The highest risk perception is aimed at management control. No less than 72% of the respondent organizations consider this to be a risk when entering a strategic alliance.

The two other dimensions with a relatively high risk perception are sluggish decision processes (63%) and setting up adequate information management (44%).

Apparently operational control and adequate quality management are not considered serious risks. Probably the respondent organizations do not intend far reaching integration of business processes in future alliances. Avoiding integration implies that the intended partners can maintain their respective operational activities. As far as quality management is concerned they can easily refer to current practice with regard to (preferred) suppliers and subcontractors.

Against this background it is understandable that, to organizations without strategic alliances, the other dimensions can be considered as serious threats or essential risks.

Operational control -within this framework- is inextricably connected to variables as speed and effectiveness which are used to respond to environmental developments in order to transform them into powerful control signals. Stating it differently, the day-to-day management of the individual organizations does not seem to pose large problems to the executives, but adapting the specifications of products and services as well as the planning of business processes to the inter-firm requirements is quite a different issue. This domain of inter-firm steering and control within the supply chain which is related to the corporate governance of the alliance, is of serious concern to the management of the intended alliance partners. This is why sluggish decision processes are considered to be serious risks to forging successful alliances.

Recall that no less than 63% of the organizations participating in the survey consider a sluggish decision making process a serious treat to a new strategic collaboration effort.

After all corporate governance is about designing appropriate coordination mechanisms for the alliance. As explained earlier, the essential choice is whether the alliance is governed by means of a set of contracts or that alliance uses a separate institution for the daily management. Usually this last option is preferred when the alliance has to respond to quick changes in the business environment.

Obviously the respondent organizations expect that future alliances are not subject to such sudden changes and that control and governance can be effectively generated through the management structures which are already in place within the individual organizations.

Conversely the third risk factor, a deteriorated or ill-suited information management, relates more to the information requirements of the individual business processes. Although this risk dimension does not rank as high as the other risk factors, still the percentage of 44% can not be easily swept away.

We also tried to examine whether these risk factors are subject to clustering.

Half of the sample population (50%), which considers management control as a serious risk, also recognizes sluggish decision processes as a crucial risk factor. On the other hand only 25% of the respondent organizations considers all three risk factors as a serious risk.

The research results clearly show that, in view of the magnitude of the perceived risks, risk perception directly influences the readiness of organizations to enter possible strategic alliances. We have asked organizations whether they have marked out intentions to enter strategic collaboration within a time-span of three years.

Only 18% of the organizations in the sample population have such marked out intentions. No less than 41% of the organizations has no plans at all with respect to strategic cooperation.

The most interesting element, of course, is how the magnitude of risk perception influences the readiness to embark into future strategic cooperation. This is the subject of the next paragraph.

6. RISK MANAGEMENT

In paragraph 3 we made the distinction between relational and performance risks. We have elaborated on the underlying dimensions of performance risk and the notion of perceived risks.

In this paragraph we will extend this scope of relevant risk concepts into the domain of risk management. Risk management can be represented as a cycle of four consecutive phases (Well-Stam, D., 2003). The first is concerned with identifying relevant risks. It uses an array of methods to distinguish risks which are relevant to a project or work at hand. This can be fine-tuned to the respective phase of a project. The second phase is aimed at filtering the so-called core risks which need subsequent risk management from other -smaller and often recurrent- risks. The third phase addresses the quantification of the risks. It is essential in determining what kind of effort can be allocated to control the risks. In the last phase the control or mitigation measures will be determined and deployed.

We have offered respondent organizations several potential action scenario's with respect to risk mitigation in view of the depicted risks. These mitigation measures are described in figure 1, together with the identified risks.

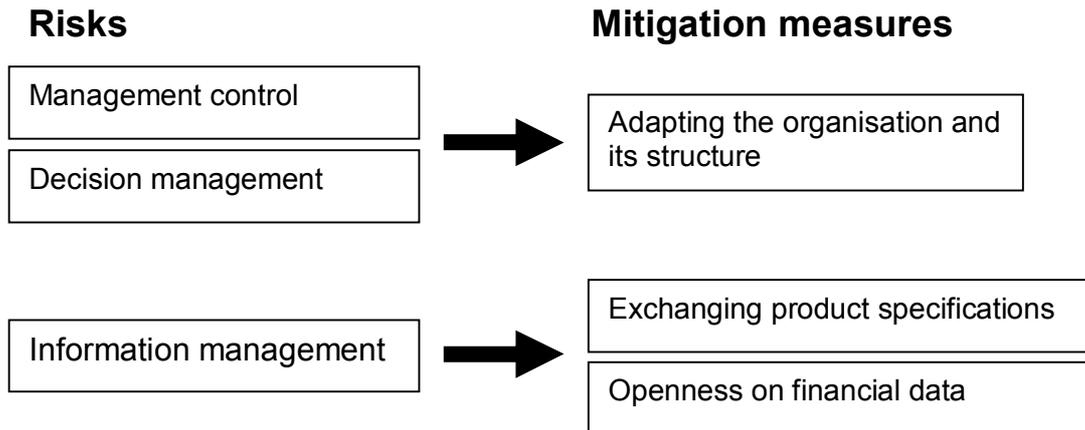


Figure 1 Identified risks and potential mitigation

Based on the notions of risk management we expect that organizations, who anticipate risks in setting up successful strategic alliances, are also determined (or at least show a certain readiness) to reduce the possibility that risks do occur or to reduce the negative outcomes of these occurrences. Therefore we were surprised to find that the opposite turns out to be the case. Organizations which do not perceive substantial risks, show a greater readiness to use the above mentioned measures than organizations with a high level of risk perception.

		Prepared to adapt the organisation and its structure			
		substantial adaptation	minor or no adaptation		
Inadequate mgt. control	Perceived risk	18 %	82 %	100 %	N = 2
	No perceived risk	60 %	40 %	100 %	N = 10
					N = 32
		Prepared to adapt the organisation and its structure			
		substantial adaptation	minor or no adaptation		
Sluggish decision mgt.	Perceived risk	21 %	79%	100 %	N = 19
	No perceived risk	42 %	58%	100%	N = 12
					N = 31

		Prepared to exchange product specifications			
		substantial adaptation	minor or no adaptation		
Information mgt. will deteriorate	Perceived risk	0 %	100 %	100 %	N = 2
	No perceived risk	25 %	75 %	100 %	N = 12
					N = 14

Table 2 Risk perception and mitigation measures

These outcomes are shown in table 2. Not all mitigation measures show a comparable outcome. The most significant outcome was found with respect to inadequate mgt. control and its mitigation measure. Organizations with no risk perception are prepared to take far reaching adaptations with their organization, whereas organizations with a high risk perception are hardly prepared to do so. The other risk factors show less significant outcomes but the greater readiness to take measures among organizations with a low risk perception is still evident.

7. RISK MANAGEMENT UNRAVELED

The very small readiness of organizations, anticipating one or more substantial risks related to the set up of strategic alliances, to take appropriate risk control measures has surprised us.

The most logical explanation deriving from the frameworks of risk management, is that organizations anticipating risks, have to be capable to determine the likelihood and magnitude of these risks as well as the measures to control or mitigate the risks. When these organizations do not have the knowledge of adequate control measures nor the expertise to apply them, it is also not possible to determine what efforts are required in risk management.

Our research data does not contain information with detailed implementation data, but we do have basic data regarding the use of continuous improvement and quality assurance measures. We have determined to what extent they are used. We distinguish between: incidental or no improvement practice and improvement which takes place on a regular basis or is an integral part of daily practice.

The results (table 3) show that, organizations having a systematic or even wholly integrated practice of process improvement, tend to have a significantly lower risk perception. Apparently a well integrated practice of continuous improvement provides organizations with such a thorough knowledge of process management that these organizations are more confident to set up a strategic alliance. Obviously their level of expertise in process management and improvement enables them to transfer this expertise to the domain of aligning inter-firm processes. This is most clearly demonstrated with respect to the domains of decision making and information management. The level of risk perception of organizations with a well integrated improvement practice in these fields is significantly smaller (even absent in the domain

of information management), than to organizations with a rather infrequent improvement practice.

	Inadequate management control			
	perceived risk	no perceived risk		
systematic or integral improvement	63 %	31 %	100%	N = 13
occasional or no improvement	89 %	11 %	100%	N = 9
				N = 22
	Sluggish decision mgt.			
	perceived risk	no perceived risk		
systematic or integral improvement	54 %	46 %	100%	N = 13
occasional or no improvement	89 %	11 %	100%	N = 9
				N = 22
	Information mgt. will deteriorate			
	perceived risk	no perceived risk		
systematic or integral improvement	23 %	77 %	100%	N = 13
occasional or no improvement	56 %	44 %	100%	N = 9
				N = 22

Table 3 Process improvement practice and risk perception

8. CONCLUSIONS AND SUGGESTIONS FOR FURTHER RESEARCH

In current alliance research related to risk perception, only those organizations have been investigated that already have engaged into one or more strategic alliances. But the experience of these organizations influence their knowledge base and competencies. This in turn will influence their perception of performance risks associated with strategic alliances. This present research shows it is most relevant to look into the risk

perception of organizations which not yet have a strategic cooperation. Their risk perception influences their readiness towards the possible set-up of a strategic cooperation.

The research shows that the level of risk perception is unevenly distributed among the sample population. Organizations who have a well integrated practice of process improvement, have a significantly lower level of risk perception than organizations with a rather ad hoc or infrequent practice of process improvement. This influences the way organizations are dealing with risk management. Organizations with a high level of risk perception are much less inclined to take appropriate measures to control or mitigate alliance risks, than organizations with a low level of risk perception.

At first sight this finding seems contradictory as organizations with a higher risk perception are in need of an adequate approach towards risk management, if they want to successfully embark into a strategic alliance. The key to this apparent contradiction is to be found in the knowledge base and competences to control or mitigate risks. Organizations which are accustomed to high level of management and improvement of their own business processes, assume that they are also able to transfer these competences to inter-firm cooperation and the business processes involved. Organizations which are quite confident of their own expertise in this domain, also have a significant lower level of risk perception with respect to the set-up of a strategic alliance.

In our research the practice with respect to the development and implementation of process improvement is used as an indicator for the capability of organizations to transfer their process management skills to inter-firm cooperation. In future research we will look more closely to the competences of organizations with respect to process management en total quality management and the methods and tools to be used in this domain.

Research into alliance risks also requires an assessment of changes over time, most notably by using longitudinal research concepts. A large number of organizations which do not have strategic cooperation to date, have a high level of risk perception associated with the set-up of possible future strategic alliances. It is crucial to determine how this level of risk perception changes over time. What kind of measures do these organizations deploy and how will the level of expertise and competencies develop over time.

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