

PDF hosted at the Radboud Repository of the Radboud University Nijmegen

The following full text is an author's version which may differ from the publisher's version.

For additional information about this publication click this link.

<http://hdl.handle.net/2066/140336>

Please be advised that this information was generated on 2021-06-19 and may be subject to change.

The nature and prevalence of inter-organizational project ventures: Evidence from a large scale field study in the Netherlands 2006–2009

René M. Bakker

Joris Knobben

Nardo de Vries

Leon A.G. Oerlemans,

Abstract

There has recently been noted a rapid increase in research attention to projects that involve outside partners. Our knowledge of such interorganizational projects, however, is limited. This paper reports large scale data from a repeated trend survey amongst 2000 SMEs in 2006 and 2009 that focused on inter-organizational project ventures. Our major findings indicate that the overall prevalence of inter-organizational project ventures remained significant and stable over time, even despite the economic crisis. Moreover, we find that these ventures predominantly solve repetitive rather than unique tasks and are embedded in prior relations between the partnering organizations. These findings provide empirical support for the recent claims that project management should pay more attention to inter-organizational forms of project organization, and suggest that the archetypical view of projects as being unique in every respect should be reconsidered. Both have important implications for project management, especially in the area of project-based learning.

1. Introduction

As organizations in more and more industries look for flexible ways of production in the wake of rapidly changing market environments, inter-organizational project ventures have been claimed to be becoming an increasingly important mode of organization (e.g. [Bresnen, 2007] and [Kenis et al., 2009]). This trend would likely be a result of the fact that in today's economy project work often requires the involvement of outside project partners (Maurer, 2010), which provide organizations with flexible network solutions through limited duration partnerships ([Jones and Lichtenstein, 2008] and [Schwab and Miner, 2008]). Inter-organizational project ventures challenge a number of the existing notions that have been developed mostly on the basis of studies of in-house projects (Söderlund, 2004). For one, inter-firm projects lack a traditional hierarchical structure between the collaborating actors, which has important implications for coordination and governance ([Jones and Lichtenstein, 2008] and [Kenis et al., 2009]). In addition, needing to cooperate over the boundaries of organizations places an increasing emphasis on trust development and the management of opportunism (Maurer, 2010), and a shift in emphasis from drawing up ad hoc contracts for single projects to long-term relations that need to be “matched” in a project context (Dahlgren and Söderlund, 2001). Although inter-organizational project ventures might thus seem to raise all kinds of interesting new insights and might be one of the new frontiers in project research (Söderlund,

2004), there are a number of urgent and fundamental gaps in our knowledge of this form of organization that need to be addressed.

The first pertains to its prevalence. Although it is sometimes claimed that inter-organizational project ventures are becoming increasingly common ([Kenis et al., 2009] and [Maurer, 2010]), there is a dearth of systematic, industry-wide data on the prevalence and characteristics of inter-organizational project ventures (Lundin, 2009). The reality seems to be that we do not exactly know whether this type of project is in fact becoming increasingly prevalent, as most evidence thus far has been anecdotal. What if we are wrong? Söderlund (2004: 656) concluded on the basis of a literature review that one of the important trends in recent project research is that “we observe an increasingly large number of publications taking special interest in the relationships between firms (i.e., inter-firm projects)”. When it is in fact uncertain that we are dealing with a trend that is “real” in the sense that it exists “out there”, this increasing stream of emerging research runs the risk of being out of sync with organizational reality. This would be detrimental to any research field, but especially to that of project management, which capitalizes on its strong link to practice—one that seems to have eroded in many other research fields over the years (Rynes et al., 2001). In our view, a thorough large scale empirical analysis could help to legitimize the study of inter-organizational project ventures by checking whether it is in sync with organizational reality, and provide an empirical foundation for the studies that have recently staked an increasing interest in them (see Kenis et al., 2009).

A second important and quite fundamental gap in our knowledge of inter-organizational projects concerns their nature. It seems that over the years there have emerged at least two positions on this. Some authors, such as Goodman and Goodman (1976), but also Ibert (2004) and the PMBOK emphasize that projects are in general “almost unique” (Goodman and Goodman, 1976: 495). This is a position that is found in the literature more often, as many (e.g. [Lindkvist et al., 1998] , [Gann and Salter, 2000] and [Meyerson et al., 1996]) have also referred to the one-off and exceptional qualities of projects. Others (e.g. [Engwall, 2003] and [Lundin and Söderholm, 1995]) have started to question this notion as in the words by Brady and Davies (2004: 1605) “it equates project-based activities with non-routine behaviour”, whereas often “firms undertake ‘similar’ categories of projects [...] involving repeatable and predictable patterns of activities”. This debate on the nature of projects is yet to be resolved. A large scale analysis of inter-organizational project ventures could contribute to this issue by shedding new light on their characteristics with regard to, amongst others, the types of tasks they execute and their degree of social embeddedness.

In relation to these two concerns, the present paper attempts to draw inferences on the prevalence of inter-organizational project ventures over time, and their main characteristics. These inferences are based on two waves (2006 and 2009) of a repeated large scale survey among 2000 SMEs in the Netherlands. The research question we aim to answer is: what is the prevalence of the inter-organizational project ventures in which Dutch SMEs participate, and what are the main characteristics of these ventures?

To foreshadow our most important findings in relation to the above, the present article makes two contributions to the literature on inter-organizational projects. First, we empirically demonstrate that inter-organizational project ventures are in fact a substantial economic activity: despite the economic crisis, its prevalence remained stable and significant between 2006 and 2009. Furthermore, our results indicate that trends in prevalence were influenced by two types of dynamics: the number of organizations that engages in inter-organizational project ventures, and the number of inter-organizational project ventures per organization for the ones that do. The stability in prevalence that we find is the outcome of two opposing trends on these metrics: a decrease in the number of organizations that engages in inter-organizational project ventures, but an increase in the number of inter-organizational projects per firm that does engage in them. In our view, this finding goes some way in legitimizing the rapidly emerging body of research studying this organizational form by demonstrating that such ventures are in fact “real”, and grants a quite unique peek at the dynamics involved in their prevalence. Moreover, they point to an important managerial implication: when fewer firms engage in inter-organizational projects, but the ones who do engage in more of them at a time, many organizations are faced with the necessity of managing larger portfolios of simultaneous projects involving different external partners. This brings an increased complexity to project portfolio management, with regard to, for instance, resource allocations and alliance management (Engwall and Jerbrant, 2003).

A second contribution of the present paper concerns that we can empirically demonstrate that although there is considerable variation on their most important dimensions, most inter-organizational project ventures are in fact quite routine in their nature: they solve routine tasks, and are embedded in prior relations between the collaborating project partners. This finding implies that the view of inter-organizational projects as being unique entities in all aspects can be questioned. In turn, it provides empirical support for some of the emerging theories of project-based learning (e.g. [Brady and Davies, 2004] , [Grabher, 2004] and [Cacciatori, 2008]) which have staked the claim that routine tasks and embeddedness in latent networks between the partnering organizations provide a suitable pretext for knowledge transfer from projects to subsequent other projects (project-to-project learning), and from projects to the organizations involved (project-to-organization learning). Although some have drawn explicit interest to the presupposed inabilities of projects to sediment information and preserve knowledge because of their transient and unique nature, there would on the basis of these findings actually seem to be more opportunities for learning than originally thought.

We will elaborate these and other claims in more detail in the remainder of this article.

2. Theoretical background

2.1. The prevalence of project ventures

In 1965, Warren Bennis predicted that “organizations of the future will have some unique characteristics. The key word will be “temporary”; there will be adaptive, rapidly changing temporary systems” (p. 34). Such claims, heralding a new, more temporary and ad hoc logic of functioning of organizations have been repeated on numerous occasions since then ([Söderlund, 2004] , [Söderlund and Tell, 2009] and [Winter et al., 2006]). Midler (1995) referred to this as “projectification”, i.e. the process by which the organization of work is increasingly manifested in temporary organizational ventures, in which people work together on a project basis. Whereas some industries have already had a long history of such project-based organization, like film (Sorenson and Waguespack, 2006), theatre (Goodman and Goodman, 1976) and construction (Edum-Fotwe and Price, 2009), it has been proposed to exist in growing numbers in many other industries as well, including software development, advertising, biotechnology, consulting, emergency response, fashion, television and complex products and systems (DeFillippi, 2002; [Hobday, 2000] , [Sydow and Staber, 2002] and [Weick, 1993]). Reasons why such industries would increasingly switch to projects as a preferred form of organization concern that there is an increasing need for flexible ways of production, a tendency to try to avoid long-term resource commitments, and a need for innovative products and services that are developed in the context of their application ([Duysters and de Man, 2003] and [Grabher, 2004]).

Given the amount of references to such an increasing prevalence of temporary, project-based modes of organization, it is quite surprising that there are so few systematic, large scale empirical studies undertaken to assert the veracity of this claim. We know of only one that can be characterised as such, which concerns the study by Whittington et al. (1999). Based on a large scale European panel study into organizational innovation, Whittington and colleagues found that project-based structures had become more pervasive in 1996 compared to 1992. This was essentially their only finding directly in the realm of projects, as the study by Whittington and colleagues was not primarily geared toward project-based organization. Nevertheless, it is an excellent starting point to build on. More specifically, we argue that our study complements Whittington et al.'s study in the following ways. First, the study by Whittington et al. was solely geared toward intra-organizational project structures whereas our focus is inter-organizational, reflecting the concern that projects increasingly necessitate the involvement of outside parties ([Jones and Lichtenstein, 2008] and [Maurer, 2010]). Inter-organizational project ventures are often defined as temporary inter-organizational systems of legally autonomous but functionally interdependent firms that interact to coordinate their efforts for the accomplishment of a joint service or product in a limited amount of time (Jones et al., 1998: 398; Sydow and Staber, 2002: 216). Second, whereas the study by Whittington et al. (1999) was focused on large organizations, ours, for reasons explained later, is on small and medium sized firms. Third and finally, much has happened since Whittington and colleagues collected their data in 1996, which raises the possibility that their findings do not accurately describe the current situation, especially given the current environmental turbulence and the many options for organizations to be adaptive.

2.2. Dimensions of inter-organizational project ventures

In line with this study's research question, we aim to not only touch upon the prevalence of inter-organizational project ventures, but on their main characteristics as well. This begs for a number of theoretically informed dimensions that empirically describe inter-organizational project ventures, which help us to fill the gap identified in the introduction of this paper. We draw in this regard on the broader literature on temporary and project-based organization. Lundin and Söderholm (1995) proposed temporary organizations (such as projects) to relate to four basic dimensions: time, team, task, and transition. This four-fold taxonomy was recently updated and slightly modified in a literature review of temporary organizational forms (Bakker, 2010). More specifically, Bakker (2010) found transition to play only a minor role in the body of literature, and proposed instead to include embeddedness (or "context") as a dimension, given the rapidly growing research attention to how projects are embedded in wider organizational and institutional contexts (e.g. [Engwall, 2003] and [Grabher, 2004]). We decided to include the latter classification (see below), as it is up to date and firmly grounded in the current body of literature, and grants explicit attention to the theme of embeddedness, which, as mentioned, is an important indicator of the nature of projects (Sydow and Staber, 2002). In addition, embeddedness has important implications for project-based learning, an issue that we will revisit in the later sections of this paper. Following Bakker (2010), we will briefly discuss each of the four identified dimensions (time, team, task and embeddedness), together with why they are important for inter-organizational project ventures.

The first, time, relates to the fact that projects are temporary. In project ventures, extant literature has variously proposed time to be limited (Grabher, 2004), and/or short (Lanzara, 1983), but at the very least different (Miles, 1964) from how it is conceived of in other organizational forms. One dimension of time that has been proposed to be especially relevant is duration. Duration is an important variable in projects, because when project ventures are of (extremely) short duration, there is not enough time to develop features such as personal relations within the project, a shared task-relevant knowledge base, or regular trust (Meyerson et al., 1996). In contrast, when project ventures are of relatively longer duration, they are often thought of as developing processes and characteristics more similar to those found in enduring organizations (Sydow et al., 2004).

The second important dimension of project ventures developed in the literature concerns team. By team, many studies refer to the groups of people that work together in projects (e.g. Goodman and Goodman, 1976). In our inter-organizational project venture context, which takes the organization rather than the individual as the unit of analysis, team might best be thought of as the set of different organizations involved in the project venture. As such, one of the crucial variables herein concerns the size of this set. Shenhar (2001) proposed size to be an important source of variety between different project ventures, as it pertains to many processes going on within them, like, for instance, the kind of coordination mechanisms likely to be encountered and the complexity of the project venture.

A third important dimension of project ventures concerns task, because a task definition is often the *raison d'être* for initiating a project (Lundin and Söderholm, 1995). One of the most important issues

with regard to the task of project ventures concerns whether it is repetitive or unique (Brady and Davies, 2004). The traditional view of the ideal type temporary venture has stressed project ventures to be highly unique, solving a one-off type of tasks (Goodman and Goodman, 1976), which leaves little room to develop routines and trust or harvest knowledge (Meyerson et al., 1996). As mentioned, Lundin and Söderholm (1995) and Brady and Davies (2004) proposed, on the other hand, that the tasks of a project might in some instances be rather repetitive. According to Brady and Davies (2004) a consequence of such repetitive rather than unique tasks might be that firms have a better opportunity of developing “project capabilities”, meaning that through experience, firms can develop explicit knowledge and routines in how to most optimally execute project tasks.

The fourth dimension mentioned by Bakker (2010), which was not proposed by Lundin and Söderholm (1995), concerns embeddedness. Whereas project ventures were traditionally often regarded as stand-alone (Engwall, 2003), it has increasingly been recognized that project ventures are to some extent embedded in an enduring environment that impacts their functioning (Grabher, 2004). A crucial kind of embeddedness of projects concerns whether there are prior ties between the organizations engaged in the venture (i.e. a kind of relational recurrence, in contrast to the aforementioned task recurrence). The reason why this is an important dimension concerns that despite the fact that project collaborations themselves are temporary, project partners coordinate their activities with reference to practices and experiences emerged from collaboration in previous ventures (Sydow and Staber, 2002). In other words, it might be the case that project ventures are part of larger, enduring latent collaboration networks, in which the project venture is a continuation of prior ties between the parties involved (see Bechky, 2006). This is relevant, as it relates to issues like experience, trust-building, governance, and the likelihood of the emergence of shared understandings between and among the organizations, because “when exchanges evolve from one-off, single interactions to repeated and durable long-term relationships [...], understandings become widely shared in a market or field and a rich project ecology emerges that facilitates coordination and guides collaborative activities among organizational actors” (Jones and Lichtenstein, 2008: 233).

In sum, then, following the direction of the available literature on temporary and project-based organization, we will in our empirical analyses describe the characteristics of inter-organizational project ventures by time (duration), team (number of organizations involved), task (unique/repeated), and embeddedness (prior ties). We assume every inter-organizational project venture to fall somewhere on these dimensions. This is visually captured in Fig. 1.

3. Methodology

3.1. Research setting

The primary means of data gathering underlying the present study was a repeated survey amongst small and medium sized enterprises (SMEs; meaning 1–99 employees¹) in the Netherlands. This was

executed by a joint effort by the professional research institute EIM Business and Policy Research and the university with which three of the authors of the present article are affiliated. There are several reasons why we specifically targeted this research setting.

Our choice to target SMEs was inspired by the fact that particularly for SMEs temporary project ventures are very important, perhaps even necessary, vehicles to achieve tasks too big or complex for them to complete alone because of a lack of expertise or diseconomies of small scale. At the same time, it helps SMEs to stay adaptive and competitive by avoiding rigid, long-term resource commitments (Nooteboom, 1994). In fact, it has been recently found that on average one third of the total turnover of SMEs is project-based (Turner et al., 2009).

A second, more general reason concerns that SMEs are an under-represented category in large N quantitative research and sampling techniques (Schilling, 2009). This is the case despite the fact that most economic activity takes place not in large firms, but in SMEs. SMEs comprise 99.1% of the approximately 850,000 firms in the Netherlands, and they contain the majority (52.6%) of the total number of jobs (Statistics Netherlands). Moreover, SMEs account for a major part of the economy not only in the Netherlands, but in the rest of Europe (and the world) as well (Mulhern, 1995).

There are also several reasons why we targeted the Dutch economy specifically. The Dutch economy is very open, which means that it is highly dynamic and outside influences quickly reverberate throughout the economy (Hessels, 2007). Therefore, economies like the Netherlands are usually frontrunners in economic developments, which makes the Netherlands a very suitable research setting to be able to pick up on the kind of trends we wish to capture. Moreover, the most recent Community Innovation Survey (CIS) found that in terms of inter-organizational collaboration activity by innovative firms more generally, the Netherlands is highly representative of the European average.² Therefore, by studying the prevalence and characteristics of inter-organizational project ventures in the Netherlands, we hoped to obtain an up-to-date and to some extent generalizable view of the trends that form the main focus of the present article.

3.2. Sample

For purposes of this study, a panel of 2000 Dutch SMEs was approached in two separate waves of data collection, one in 2006 (from here on referred to as T1) and one in 2009 (T2). The choice for this time lag was a function of the duration of inter-firm projects. As we expected that the majority of projects would have an existence of less than 3 years (something that was validated by the results presented later) this time lag would allow making independent observations (i.e. there exists little overlap with still existing projects between the two measurement points).

The panel of 2000 SMEs is contacted yearly by EIM Business and Policy Research. Panel attrition (panellists leaving the panel in between waves of data collection, for example because of organizations going bankrupt) is handled by filing up the sample to 2000 every year, mostly by contacting new firms. As this panel maintenance is one of EIM's primary concerns, and the majority of the sample comprises a stable core of firms, response rates largely exceed those usually reached when surveys are sent out to organizations at random. A breakdown of the response per sector and size class for both waves, along with population data and relative weight factors are presented in Table 1. It will be discussed in more detail below.

At T1, a total of 819 firms out of the total 2000 participated in the survey, which constitutes a response of 41%. The means of data gathering in this survey was an internet survey. Table 1 presents an overview of the amounts of firms that responded at T1, and the relative proportions of firms in the total population (based on the total number of SMEs in the Netherlands in 2006 per sector and size class). As is custom in large scale survey designs, we calculated relative weights for each cell, based on the proportion between the sample size per cell, and the total number of firms in the population per cell (see Table 1). By assigning all of the 819 responding firms at T1 their relative weight, our sample is representative of the population from which the sample was drawn (i.e. the total number of SMEs in the Netherlands in 2006).

In order to increase the response rate in the second wave, the 2009 survey was undertaken by means of a telephone survey, which was conducted by trained interviewers of EIM. This modification was effective, as in this second wave a total of 1987 organizations participated. This constitutes a response rate of 99%. This extremely high response is mainly a consequence of the telephone survey method, and the fact that many of the firms in the approached panel have a long history of working with EIM in this panel. The telephone survey at T2 included the exact same items that were posed in the internet survey at T1 (in order to make comparisons over time possible) plus some additional items on the characteristics of the project ventures these SMEs engaged in. Referring to Table 1, we again assigned relative weights to all 1987 firms that participated in the survey at T2, based on the total number of firms in the population in 2009. As was the case for T1, the sample at T2 is representative for the population from which the sample was drawn (i.e. the total number of SMEs in the Netherlands in 2009).

Before proceeding, two important issues need to be addressed regarding the extent to which these two samples at T1 and T2 can be compared. First, as one wave was executed by an internet survey, and the other by a telephone survey, one might raise concerns about the extent to which the items at T1 measure the same constructs as what their corresponding items measure at T2 (validity). With regard to this issue it has been established that the validity of internet surveys vis-à-vis telephone surveys generally does not differ radically (Simsek and Veiga, 2000). This is the case especially when the items solicit relatively non-sensitive information. In other words, only studies that solicit sensitive information about respondents (e.g. sexual preference) generally find differences in the way identical items are answered in a telephone vis-à-vis an internet survey. As our survey solicited

no such sensitive information, there seems little reason to assume that the validity of the items in (one of) the two waves would be in jeopardy.

A second issue regarding the extent to which the samples can be compared concerns the difference in response rate for the two samples. As mentioned, the internet survey at T1 yielded a response rate of 41%, whereas the telephone survey at T2 yielded a response of 99%. To tackle this concern, we ran an additional analysis to check whether there was any indication of organizational self-selection between the two samples. More specifically, we took the following approach. First, we took as a baseline the key item that was present in both surveys, namely, whether the firm in question at the time participated in at least one inter-organizational project venture. At T2, 1979 firms answered this particular question, of which 1765 already existed at T1 (214 firms were founded in the meantime). Of this group, 506 had participated in the internet survey at T1 as well, and 1259 had not, due to the aforementioned differences in the composition of the panel over time. We then compared the two groups (the one which had and the one which had not also participated in the wave at T1) to determine whether there were differences in the extent to which they engaged in inter-organizational project ventures. Specifically, we ran a logistic regression analysis in which the dependent variable concerned whether a focal firm participated in an inter-organizational project venture at T2 (yes/no), and as independent variable whether it had participated in the survey at T1 (yes/no). We also included a number of firm characteristics as controls, namely the logged size and logged age of the firms, and the industry in which it operates. Essentially, this is a test of non-response bias (see Rogelberg and Stanton, 2007), i.e. whether the sample of firms that participated at T2 is equivalent to those firms that participated at T1. Table 2 demonstrates that no statistically significant differences were found. In other words, controlling for firm characteristics, variance in the score of a given SME on this crucial item at T2 is not significantly influenced by its participation at T1. This presents evidence that there is no response bias between the two waves at T1 and T2, and that we can therefore meaningfully compare the two samples.

3.3. Operationalizations

In line with our research question, we wished to enquire both into the prevalence and the main characteristics of the inter-organizational project ventures in which SMEs engage. Specifically, we operationalized these variables in our study as follows.

With regard to prevalence, our study employed three measures. First, every participating firm was asked the general question of whether it currently engaged in one or more collaborative relations with other firms, defined as inter-organizational relations between organizations that involve a joint execution of tasks toward the accomplishment of a common goal (what we deem inter-organizational relations, or IORs, which also include non-temporary, non-project alliances). Those who did, were subsequently asked whether any of these collaborative agreements concerned temporary project collaborations, defined as temporary inter-organizational project ventures in

which the participating firms had agreed ex ante that the duration of the collaboration would be limited (either by a date or the fulfilment of the project) and which was characterised by a joint execution of tasks (i.e. what we defined as an inter-organizational project venture before). Those that did, we subsequently asked about the number of temporary inter-organizational project collaborations they currently engaged in. These three variables (prevalence of inter-organizational relations per sé, prevalence of inter-organizational project ventures, and number of inter-organizational project ventures per firm) were measured with exactly corresponding items in both waves at T1 and T2. Moreover, we asked every firm that indicated that it was at the time engaged in one or more temporary project ventures for the main motivation why this project venture had been set up (for those firms which were at the time engaged in more than one project venture, we asked the respondent to concentrate on the most important one). This question was also posed at both T1 and T2.

With regard to the characteristics of the inter-organizational project ventures, we measured the dimensions discerned in Fig. 1 (time/team/task/embeddedness) in the following way. First, the duration of the inter-organizational project (time) we measured by the start and expected end date of the venture; the size (team) of the project venture we operationalized in terms of the number of participating organizations; the task we operationalized as being unique or repetitive in nature; and embeddedness we operationalized by enquiring whether there existed prior ties between the partnering organizations, measured by enquiring whether the focal organization had worked together before with the other partnering organizations within the last 3 years.

4. Results

We present our main findings with regard to the prevalence and characteristics of temporary project ventures among SMEs in the Netherlands below, describing the situation in 2006 (T1) and 2009 (T2) separately first, and then analyse the trend between the two.

4.1. Prevalence of inter-organizational project ventures

With regard to prevalence, Table 3 and Table 4 demonstrate the percentages of SMEs that engage in inter-organizational project ventures per industry at T1 and T2, the percentage of firms that engages in inter-organizational relations of any kind, the relative proportion of project ventures on overall inter-organizational relations, and for those organizations that do engage in inter-organizational project ventures, the amount of project ventures that they engage in, again per industry, at T1 (2006) and T2 (2009). Since we sampled SMEs, our focus in the present paper is on the inter-industry differences rather than on size class differences amongst this group.

Table 3 presents the weighted findings pertaining to the prevalence of inter-organizational project ventures in 2006. It indicates, amongst others, that in 2006, on average 16% of SMEs in the Netherlands engaged in inter-organizational project ventures. (In order to interpret this number, the average percentage of SMEs which engaged in any type of inter-organizational collaboration, including non-temporary non-project alliances, was 44%). The highest concentration of inter-organizational project ventures was found in the Business Services sector (28%), and lowest in Trade and Repair (7%). As a proportion of the total number of inter-organizational relations (including other, more permanent alliances as well), in 2006 project ventures accounted for 36% on average. On an industry level, Business Services again scores the highest percentage: in 2006 over half (52%) of all inter-organizational relations in this sector concerned inter-organizational projects. Also the Construction sector scored high in this regard, with 46% of the total number of inter-organizational relations being inter-organizational projects. The lowest percentage was found in Trade and Repair, where the far majority of firms prefer open-ended collaborations over temporary project ventures; only 18% of the inter-organizational relations are temporary in this industry (see Table 3). Table 3 further indicates that amongst the group of SMEs that does engage in inter-organizational project ventures, the average amount of projects they engage in simultaneously in 2006 is 2.63. Here we see that firms in the Transport and Communication industry hold the highest amount of inter-organizational project ventures, engaging in almost 4 of them on average (3.81).

Table 4 presents a similar overview of the weighted prevalence of inter-organizational project ventures, but for T2 (2009). It indicates, amongst others, that in 2009, on average 11% of SMEs in the Netherlands engaged in inter-organizational project ventures. Similar as to 2006, the highest percentage is found in the Business Services industry (18%). The lowest concentration of inter-organizational project ventures is found in Hotels and Catering (2%). When compared to the total number of all inter-organizational relations, project ventures on average account for 28% in 2009. Similar to 2006, the highest relative proportions are found in Construction (where 44% of all inter-organizational relations concern project ventures) and Business Services (36%). The lowest relative proportion is found in Hotels and Catering (10%). Amongst the group of SMEs that does engage in inter-organizational project ventures, firms on average engage in 3.69 of them concurrently. time. As in 2006, Transport and Communication scores among the highest in the amount of inter-organizational project ventures in which firms engage (6.09), surpassed only, somewhat surprisingly, by those in Trade and Repair, where those few firms that do engage in inter-organizational projects, seem to do so in many (namely 7.03: see Table 4). Overall, it is clear from the findings there is considerable industry variation concerning the prevalence of inter-organizational project ventures.

Besides these static descriptions, the trend that these findings describe, i.e. the relative differences between 2006 and 2009, is quite intriguing as well. Table 5 presents the weighted relative differences between the two waves of data collection, by subtracting the percentages at T1 (2006) from those at T2 (2009). For clarification, the shaded cells refer to the cells in which we see an increase in 2009 relative to 2006.

One of the irrefutable findings from Table 5 concerns the drop in the percentage of SMEs that engage in inter-organizational project ventures. More specifically, Table 5 demonstrates that the

total percentage of SMEs that engaged in one or more inter-organizational project venture decreased with 5%-points. With the exception of Transport and Communication, this decrease is witnessed in all industries, with Business Services (– 10%-points) and Hotels and Catering (– 15%-points) noting decreases in the double digits. A similar trend is witnessed in the percentage of firms that engages in any form of inter-organizational collaboration, which for all SMEs comes to an average decrease of 5%-points. Controlling for this reduction in the number of firms that engages in any form of collaboration, still the number of organizations that participated in project ventures dropped: the relative proportion of project ventures among all inter-organizational collaborations diminished by 8%-points from 2006 to 2009. Again, Hotels and Catering (– 22%-points) and Business Services (– 16%-points) demonstrate the sharpest decreases.

Countering this overall trend, however, Table 5 at the same time indicates that those firms that do engage in inter-organizational project ventures, do so in many more at a time. In fact, on average, SMEs that engaged in inter-organizational project ventures held on average 40% more of them. With the exception of Hotels and Catering (– 5%) and Construction (– 6%), SMEs that do engage in such project ventures report increases in the number of inter-organizational projects they engage in per firm. The above seems to indicate that between 2006 and 2009, the percentage of SMEs that engaged in inter-organizational project ventures decreased, both absolute, and relative to the overall decreasing trend in inter-organizational collaborations, whereas, on the other hand, the average number of project ventures per SME that engaged in them increased.

When we combine these two dynamics in one number by looking at the total number of inter-organizational project ventures in our population (by multiplying the number of firms who have them by the average amount of project venture per firm for both 2006 and 2009), the somewhat startling finding is that this number stayed almost exactly the same in 2006 and 2009 (if all project ventures in the economy were to be equally distributed over all SMEs, a given firm had 0.42 project ventures in 2006, compared to 0.41 in 2009).³ In other words, the drop in the amount of firms that engages in inter-organizational projects is almost fully off-set by the increase in the number of ventures per firm, whereby their total prevalence stayed practically identical.

One possible argument that might be helpful in explaining why the above trend occurs lies in the main motivation that firms have to engage in inter-organizational project ventures. Table 6 demonstrates these main motivations for 2006 and 2009. On the basis of this table, it seems that between 2006 and 2009 firms increasingly engaged in inter-organizational project ventures in order to make a specific service (an increase of 8.7%-points), deliver a specific service (+ 4.9%-points) or to enhance the production process (+ 0.5%-point). This goes at the expense of engaging in inter-organizational projects in order to do new or innovative things, like exploring a new market (– 11.5%-points) or developing a new production technology (– 2.9%-points). It thus seems that these project ventures are increasingly motivated by relatively safe exploitation of existing options, at the expense of more risky exploration of new ones. We will return to this finding later.

4.2. Characteristics of inter-organizational project ventures

As mentioned, besides the prevalence of inter-organizational project ventures, the other main focus of the present paper concerns their main characteristics. We will present these in line with the theoretical dimensions and operationalisation described earlier as pertaining to time (duration), team (size), task (unique/repetitive) and embeddedness (prior ties). As these items were only posed in the second wave of data collection, we only report these data for T2 (2009).

The first dimension that we distinguished concerns the duration of inter-organizational project ventures. As Table 7 demonstrates, more than half of all inter-organizational projects have a duration of less than one year: in fact, the most prevalent duration categories are 1–6 months (19.6%) and 7–12 months (33.5%). Whereas most inter-organizational project ventures thus seem to be of (extremely) short duration, we also note a relatively large group (12.4%) that takes over 49 months. It thus seems to be the case that there is a quite large group of inter-organizational project ventures of short duration, and a somewhat less big group of long duration, with relatively little in between (see Table 7).⁴

With regard to the size of the inter-organizational project ventures SMEs engage in, Table 8 demonstrates the following. First, it indicates that about half of them include more than two firms. In other words, half of all inter-organizational project ventures are multi-party systems, a feature which clearly distinguishes them from regular inter-firm alliances that almost exclusively concern dyadic relations between two organizations ([Das and Teng, 2002] , [Jones et al., 1998] and [Priestly and Samaddar, 2007]). Second, Table 8 indicates that most industries have a more or less similar size build-up of the inter-organizational project ventures that are found. One exception to this is Transport and Communication, which seems to include an exceptional number of quite large project ventures, 23.5% of all inter-organizational project ventures in this industry comprise 15 organizations or more.

With regard to the task repetitiveness of inter-organizational project ventures, Table 9 strongly indicates the prevalence of repetitive tasks over unique ones. On average, the nature of the tasks the project ventures in our sample execute is in 82.5% of cases characterised as repetitive. Perhaps surprisingly, this finding seems to apply to all industries. Only Business Services (in which 17.7% of tasks are unique) may be said to be slightly different from the overall average, but even here over 80% of the inter-organizational project ventures reports to work on a repetitive task (see Table 9).

The final characteristic of the inter-organizational project ventures that we studied, their embeddedness, was, as mentioned, operationalized as the degree to which the partners in the venture had worked together before (i.e. the existence of prior ties). Table 10 presents our findings in this regard. It demonstrates that, on average, a majority (slightly over 60%) of the ventures are characterised as having prior ties between the partners. With regard to industry differences, it seems that one-off, non-repeated project ventures are mostly found in the Financial Services (53.3%) and Other Services (50%) industries, whereas the highest degree of embeddedness of

project ventures in prior ties is found in the Business Services industry and Construction, in which 67% of the inter-organizational project ventures are embedded in prior ties between the partnering firms (see Table 10).

5. Discussion and implications

On the basis of our findings, we can draw a number of conclusions with regard to the prevalence and nature of inter-organizational project ventures.

A first conclusion pertains to their prevalence. Our major finding is that the total number of inter-organizational project ventures among SMEs in the Netherlands was relatively high and stayed remarkably stable between 2006 and 2009. Below this stable surface, however, we see that this stability is actually the result of two contrasting dynamics. Specifically, our results indicate that we should distinguish between two forms of prevalence: the number of firms that engages in inter-organizational projects, and for those who do, the number of project ventures they engage in. With regard to the former, we find that fewer organizations engaged in inter-organizational project ventures in 2009 than in 2006. Countering much contemporary writing, inter-organizational project ventures thus seem to be undertaken by fewer organizations, not more. This trend was witnessed along almost all industries, and held when we controlled for the negative trend in inter-organizational collaborations of all kinds. Although it is hard to exactly pinpoint what causes this trend, one possible reason that might account for this might be found in our findings concerning the main motivation to engage in inter-firm projects. As mentioned, between 2006 and 2009 firms increasingly engaged in inter-organizational project ventures with a focus on stable economic activities, at the expense of engaging in them for reasons of innovation (Table 6). Given that for so many industries innovation is becoming increasingly important, this might partly account for why fewer organizations engage in them.

With regard to the latter kind of prevalence (the amount of project ventures), we see among the group of organizations that does engage in inter-organizational project ventures an increase in the number of project ventures per firm in 2009 relative to 2006. As a result, inter-organizational project ventures seem to be becoming increasingly densely concentrated: fewer organizations engage in them, but those who do, do so more. Our main conclusion with regard to the prevalence of inter-organizational project ventures is that when the dynamics are combined, their overall prevalence is stable, and that they account for a significant portion of economic activity. This finding, regarding the importance of inter-organizational projects, ties into the more broadly witnessed trend that we are moving into a networked economy, in which the boundaries between organizations are increasingly being blurred (Sinha and Van de Ven, 2005), and projects are undertaken by multiple organizations (Maurer, 2010). Moreover, this finding, in our view, goes some way in legitimizing the recent research attention to inter-organizational project ventures (Söderlund, 2004) by demonstrating that they are in fact an empirically “real” phenomenon. This is important, as it

establishes a link between our recent theorizing and the current developments in project organization practice. Given the fact that the research attention to inter-organizational project ventures might be increasing, but is still markedly small in an absolute sense, we would on the basis of our findings call for future research to grant more explicit attention to inter-organizational forms of project organization.

Moreover, our findings point to an important managerial implication; because a clear finding of our study is that among the group of organizations that engages in inter-firm project ventures the amount of concurrent inter-firm projects is rapidly increasing, this by default means that these kinds of organizations need to balance project portfolios that are increasing in size and complexity. Whereas the successful execution of one project can already be a challenge, the challenge of successfully managing and executing multiple simultaneous projects with different partners can be even more of an ordeal (Wassmer, 2010). There is, in other words, an increasing need for these organizations to engage in project portfolio management (e.g. [Cooper et al., 1999] and [Gerwin and Barrowman, 2002]). Although research on project portfolios goes back to seminal works as early as [Gareis, 1989] and [Engwall and Jerbrant, 2003] recently mentioned that our knowledge of the complexities of multi project portfolio management is still scarce. Moreover, our predominant knowledge of project portfolios pertains to managing a bundle of in-house projects, rather than inter-organizational ones. Our empirical results thus give a strong impetus for future research to more closely study the added complexity involved in managing a portfolio of simultaneous projects with different partners, and for organizations that are confronted with growing project portfolios to resolve this complexity, by actively creating overlap and interaction in their project portfolio and manage these by formal tools (see Gerwin and Barrowman, 2002).

The second major conclusion that we draw concerns the nature of inter-organizational project ventures. Our results imply, amongst others, that their main characteristics concern the fact that they have a relatively short longevity, as the majority of project ventures have a duration of less than one year, and that most of them concern multi-party systems, including three or more partnering organizations. These findings are well in line with what is generally written in the field of temporary and project-based organization ([Janowicz-Panjaitan et al., 2009] and [Sydow et al., 2004]). Somewhat less in line with conventional wisdom, however, are our findings with regard to the task uniqueness and social embeddedness of inter-organizational project ventures. More specifically, we found that far most inter-organizational project ventures are routine, i.e. they solve repetitive tasks, and they are embedded in prior ties between the partnering firms. This deviates strongly from how some have framed the ideal type temporary organizational venture as in most senses unique, solving one-off tasks between relative strangers ([Goodman and Goodman, 1976] and [Meyerson et al., 1996]). In addition, it indicates that whereas the flexibility to frequently change partners has been forwarded as one of the main advantages of inter-organizational projects over more stable forms of collaboration (Schwab and Miner, 2008), firms seem to only make use of this opportunity to a limited extent. Rather, the repetitiveness of inter-organizational project ventures we find (both with regard to their task and their partner choice) underlines the importance of Brady and Davies' call to take seriously the possibility that many organizations undertake similar project ventures over time,

in which tasks and partner choice stay constant over multiple projects. As such, our findings draw attention to the possibility that many inter-organizational project ventures are in fact embedded in what Sydow and Staber (2002) have deemed “latent networks”, in which inter-organizational ties between firms are dormant for some of the time, but are then routinely activated in order to accomplish a specific project or task. This implies quite a different nature of project-based organization than the aforementioned work which has tended to stress the unique, one-of-a-kind nature of projects as given. Moreover, it has implications for project portfolio management as well, since conducting tasks with known partners enables the choice for informal governance (e.g. trust) over formal governance mechanisms (e.g. extensive contracting) (Das and Teng, 1998).

This finding also has important implications for current theory development, especially in the rapidly growing terrain of project-based learning. Project-based learning is generally referred to as encompassing the creation and acquisition of knowledge within temporary project ventures, and the codification and transfer of this knowledge to an enduring environment ([Prencipe and Tell, 2001] and [Scarborough et al., 2004]). Extant research has suggested that whereas project ventures are very suitable for creating knowledge in the context of its application ([Gann and Salter, 2000] , [Hobday, 2000] and [Grabher, 2004]), their ephemeral nature and singularity inhibit the sedimentation of knowledge, because when the project dissolves and participants move on, the created knowledge is likely to disperse ([Cacciatori, 2008] , [Grabher, 2004] and [Ibert, 2004]). Our results imply that this latter point might be reconsidered. In fact, given the degree of social embeddedness of inter-organizational project ventures in prior ties with the project partners, and the predominantly routine tasks they appear to solve, it seems likely that most inter-organizational projects do grant opportunities for longer-term knowledge sedimentation. Through their project task stability, most inter-organizational project ventures seem to require roughly the same set of capabilities and routines for their repeated execution (Brady and Davies, 2004), and through the prior ties between partners, they provide the ability to develop partner-specific knowledge in the form of transactive memory systems (Schwab and Miner, 2008). Therefore, it is likely that many organizations engaging in inter-organizational project ventures should have an opportunity to develop “economies of repetition” and “project capabilities” (Brady and Davies, 2004). Both are fostered by the undertaking of multiple similar projects with the same partners over time, as appears to be the case in most inter-organizational project ventures. In principle, it is likely that as the actors in such inter-organizational project ventures develop project capabilities and partner-specific knowledge, lessons are more easily transferred from project to project and from project to organization.

The changing perspective on the nature of inter-organizational project ventures that comes from our empirical findings also has important implications for the practice of project management. For one, since most inter-organizational project ventures appear to be routinely executed by organizations that have a history of working together on prior projects, project management in such ventures should shift emphasis to the management of long-term relations between the partnering organizations, from a pre-eminent focus on ad hoc contracts specific to one project (Dahlgren and Söderlund, 2001). Moreover, taking into account the remarks above about the nature of project-

based learning, there are important implications with regard to project knowledge management. Knowledge management has been recognized as being becoming increasingly important for the success of project ventures ([Sense and Antoni, 2003] and [Sense, 2007]). With the apparent opportunities for project-based learning from inter-organizational project ventures mentioned above, the management of such ventures should place a strong emphasis on seizing these opportunities by facilitating knowledge transfer by putting in place procedures and codification mechanisms for capturing developed knowledge (Prencipe and Tell, 2001), and the ongoing lowering of learning boundaries (Scarborough et al., 2004).

6. Limitations and future research directions

Even though we stand by the above conclusions, there are also a number of limitations to the present study. First and foremost, although our data is extensive in some respects and strongly indicative of trends in the prevalence of inter-organizational project ventures, our results do not allow to statistically isolate what causes this trend. One explanation that readily comes to mind is the global economic downturn that set in between 2006 and 2009. Although we cannot on the basis of our current data statistically verify whether the crisis is a main cause for our findings with regard to prevalence, we do have some indications that point that way. Fig. 2 demonstrates the impact of the economic crisis on the Dutch economy per sector, based on data available from Statistics Netherlands.

When comparing the sectors most affected by the crisis to those sectors in which we found the largest decrease in the number of organizations that engaged in inter-organizational project ventures between 2006 and 2009, we see a rather large overlap. More specifically, we see that those sectors which noted the largest decrease in the prevalence of firms with inter-organizational projects, namely Hotels and Catering (– 15%-points), Business Services (– 10%-points), and Manufacturing (– 4%-points), are also among those sectors that were affected most by the economic crisis (respectively rank scores 4, 1, and 2 of sectors most affected by the crisis, see Fig. 2). The upshot of this is that even despite the economic downturn, the prevalence of inter-organizational project ventures remained stable between 2006 and 2009. We would recommend future research to explicitly study the effects of economic uncertainty and crisis on inter-organizational project ventures. In addition, by measuring again the prevalence of inter-organizational project venturing in, say 2012, future research could give more insight in the longer-term trend in prevalence of inter-organizational project ventures, and see how the economic crisis might have influenced this trend. Nevertheless, our results already give a strong impetus for future research in project management to more elaborately study inter-organizational (rather than in-house) projects, especially with regard to the dynamics involved in managing portfolios consisting of simultaneous projects with diverse partners.

A second limitation concerns the fact that we only have data on the characteristics of inter-organizational project ventures for 2009. As a consequence, whereas we could track a trend in the

prevalence of inter-organizational project ventures over time, our description of their main characteristics was solely static. Although the empirical description of inter-organizational project ventures at one point in time is valuable in itself, additional information over time would be even more informative.

A third limitation is our sample. With access to Dutch SMEs in the period 2006–2009, we cannot statistically verify that our findings are generalizable to all inter-organizational project ventures everywhere. Nevertheless, we would maintain that there are strong merits in this sample, as it is, for one, sufficiently large to be representative of the population that we studied across all major industries in the Dutch economy.

7. Conclusion

The present paper is the first to present large scale data from a repeated trend survey on the prevalence and characteristics of inter-organizational project ventures. The overall picture indicates that inter-organizational project ventures as a whole concern a substantial part of inter-organizational relations between organizations and the economy more broadly, and that their overall prevalence is stable, even despite the economic crisis. This finding offers, in our view, a legitimization of the emerging field of research that studies this particular type of project organization, and calls to step up current research efforts toward inter-organizational projects. Our findings offer the possibility to also look beneath the surface at the dynamics at play, and demonstrate two opposing trends: the number of firms that engages in inter-organizational project ventures seems to be decreasing, whereas the number of projects among the group who do is increasing. Thereby, inter-organizational project ventures are becoming increasingly densely concentrated amongst smaller numbers of organizations. By implication, those organizations that engage in inter-organizational projects manage larger and more complex portfolios of inter-organizational project ventures. This gives a strong empirical impetus for the intensified study of the management of multiple simultaneous projects with diverse external project partners.

Moreover, our data indicates that the majority of inter-organizational project ventures solve repetitive tasks, executed in socially embedded collaborations. This opens up possibilities to reconsider the nature of project-based learning, which thus far has predominantly been premised on the conventional notion that projects are necessarily unique, stand-alone entities.

References

Bakker, R.M., 2010. Taking stock of temporary organizational forms: a systematic review and research agenda. *International Journal of Management Reviews* 12, 466–486.

- Bechky, B.A., 2006. Gaffers, gofers, and grips: role-based coordination in temporary organizations. *Organization Science* 17, 3–21.
- Bennis, W.G., 1965. *Beyond bureaucracy: will organization men fit the new organization?* Trans-Action, Philadelphia, Pa.
- Brady, T., Davies, A., 2004. Building project capabilities: from exploratory to exploitative learning. *Organization Studies* 25, 1601–1621.
- Bresnen, M., 2007. Deconstructing partnering in project-based organization: seven pillars, seven paradoxes and seven deadly sins. *International Journal of Project Management* 25, 365.
- Cacciatori, E., 2008. Memory objects in project environments: storing, retrieving and adapting learning in project-based firms. *Research Policy* 37, 1591–1601.
- Cooper, R.G., Edgett, S.J., Kleinschmidt, E.J., 1999. New product portfolio management: practices and performance. *Journal Of Product Innovation Management* 16, 333–351.
- Dahlgren, J., Söderlund, J., 2001. Managing inter-firm industrial projects—on pacing and matching hierarchies. *International Business Review* 10, 305.
- Das, T.K., Teng, B., 1998. Between trust and control: developing confidence in partner cooperation alliances. *Academy Of Management Review* 23, 491–512.
- Das, T.K., Teng, B.S., 2002. Alliance constellations: a social exchange perspective. *Academy of Management Review* 27, 445–456.
- DeFillippi, R.J., 2002. Organizational models for collaboration in the new economy. *Human Resource Planning* 25 (4), 7–18.
- Duysters, G., de Man, A.P., 2002. Organizational models for collaboration in the new economy. *Human Resource Planning* 25 (4), 7–18.
- Edum-Fotwe, F.T., Price, A.D.F., 2009. A social ontology for appraising

sustainability of construction projects and developments. *International Journal of Project Management* 27, 313.

Engwall, M., 2003. No project is an island: linking projects to history and context. *Research Policy* 32, 789–808.

Engwall, M., Jerbrant, A., 2003. The resource allocation syndrome: the prime challenge of multi-project management? *International Journal of Project Management* 403–409.

Gann, D.M., Salter, A.J., 2000. Innovation in project-based, service-enhanced firms: the construction of complex products and systems. *Research Policy* 29, 955–972.

Gareis, R., 1989. 'Management by projects': the management approach for the future. *International Journal of Project Management* 7, 243–249.

Gerwin, D., Barrowman, N.J., 2002. An evaluation of research on Integrated Product Development. *Management Science* 48, 938–953.

Goodman, R.A., Goodman, L.P., 1976. Some management issues in temporary systems: a study of professional development and manpower—the theater case. *Administrative Science Quarterly* 21, 494–501.

Grabher, G., 2004. Temporary architectures of learning: knowledge governance in project ecologies. *Organization Studies* 25, 1491–1514.

Hessels, S.J.A., 2007. Innovation and international involvement of Dutch SMEs. *International Journal of Entrepreneurship and Small Business* 4, 234–255.

Hobday, M., 2000. The project-based organization: an ideal form for managing complex products and systems? *Research Policy* 29, 871–893.

Ibert, O., 2004. Projects and firms as discordant complements: organizational learning in the Munich software ecology. *Research Policy* 33, 1529–1546.

Janowicz-Panjaitan, M.K., Bakker, R.M., Kenis, P., 2009. Temporary organizations: the state of the art and distinct approaches toward “temporariness”. In: Kenis, P., Janowicz-Panjaitan, M.K., Cambré, B. (Eds.), *Temporary Organizations: Prevalence, Logic and Effectiveness*. Edward Elgar, Cheltenham, pp. 56–85.

Jones, C., Lichtenstein, B., 2008. Temporary inter-organizational projects: how temporal and social embeddedness enhance coordination and manage uncertainty. In: Cropper, S., Ebers, M., Huxham, C., Smith Ring, P. (Eds.), *The Oxford Handbook of Inter-Organizational Relations*. Oxford University Press, Oxford, UK, pp. 231–255.

Jones, C., Hesterly, W.S., Fladmoe-Lindquist, K., Borgatti, S.P., 1998. Professional service constellations: how strategies and capabilities influence collaborative stability and change. *Organization Science* 9, 396–410.

Kenis, P., Janowicz-Panjaitan, M.K., Cambré, B., 2009. *Temporary organizations: prevalence, logic and effectiveness*. Edward Elgar, Cheltenham.

Lanzara, G.F., 1983. Ephemeral organizations in extreme environments: emergence, strategy, extinction. *Journal of Management Studies* 20, 71–95.

Lindkvist, L., Soderlund, J., Tell, F., 1998. Managing product development projects: on the significance of fountains and deadlines. *Organization Studies* 19, 931–951.

Lundin, R.A., 2009. IRNOP IX Keynote Address. IRNOP, Berlin.

Lundin, R.A., Söderholm, A., 1995. A theory of the temporary organization. *Scandinavian Journal of Management* 11, 437–455.

Maurer, I., 2010. How to build trust in inter-organizational projects: the impact of project staffing and project rewards on the formation of trust, knowledge acquisition and product innovation. *International Journal of Project Management* 28, 629–637.

Meyerson, D., Weick, K.E., Kramer, R.M., 1996. Swift trust and temporary groups. In: Kramer, R.M., Tyler, T.R. (Eds.), *Trust in Organizations: Frontiers of Theory and Research*. Sage, Thousand Oaks, pp. 166–195.

Midler, C., 1995. “Projectification” of the firm: the Renault case. *Scandinavian Journal of Management* 11, 363–375.

Miles, M.B., 1964. On temporary systems. In: Miles, M.B. (Ed.), *Innovation in Education*. Teachers College, Columbia University, New York, pp. 437–490.

Mulhern, A., 1995. The SME sector in Europe: a broad perspective. *Journal of Small Business Management* 33, 83–87.

Nooteboom, B., 1994. Innovation and diffusion in small firms: theory and evidence. *Small Business Economics* 6, 327–347.

Prencipe, A., Tell, F., 2001. Inter-project learning: processes and outcomes of knowledge codification in project-based firms. *Research Policy* 30, 1373–1394.

Priestly, J.F., Samaddar, S., 2007. Multi-organizational networks: three antecedents of knowledge transfer. *International Journal of Knowledge Management* 3, 86–99.

Rogelberg, S.G., Stanton, J.M., 2007. Introduction: understanding and dealing with organizational survey nonresponse. *Organizational Research Methods* 10, 195–209.

Rynes, S.L., Bartunek, J.M., Daft, R.L., 2001. Across the great divide: knowledge creation and transfer between practitioners and academics. *Academy of Management Journal* 44, 340.

Scarbrough, H., Swan, J., Laurent, S., Bresnen, M., Edelman, L., Newell, S., 2004. Project-based learning and the role of learning boundaries. *Organization Studies* 25, 1579–1600.

Schilling, M.A., 2009. Understanding the alliance data. *Strategic Management Journal* 30, 233–260.

Schwab, A., Miner, A.S., 2008. Learning in hybrid-project systems: the effect of project performance on repeated collaboration. *Academy of Management Journal* 51, 1117–1149.

Sense, A.J., 2007. Structuring the project environment for learning. *International Journal of Project Management* 25, 405–412.

Sense, A.J., Antoni, M., 2003. Exploring the politics of project learning. *International Journal of Project Management* 21, 487–494.

Shenhar, A.J., 2001. One size does not fit all projects: exploring classical contingency domains. *Management Science* 47, 394–414.

Simsek, Z., Veiga, J.F., 2000. The electronic survey technique: an integration and assessment. *Organizational Research Methods* 3, 93–115.

Sinha, K.K., Van de Ven, A.H., 2005. Designing work within and between organizations. *Organization Science* 16, 389–408.

Söderlund, J., 2004. On the broadening scope of the research on projects: a review and a model for analysis. *International Journal of Project Management* 22, 655.

Söderlund, J., Tell, F., 2009. The P-form organization and the dynamics of project competence: project epochs in Asea/ABB, 1950–2000. *International Journal of Project Management* 27, 101.

Sorenson, O., Waguespack, D.M., 2006. Social structure and exchange: selfconfirming dynamics in Hollywood. *Administrative Science Quarterly* 51, 560–589.

Sydow, J., Staber, U., 2002. The institutional embeddedness of project networks: the case of content production in German television. *Regional Studies* 36, 215–227.

Sydow, J., Lindkvist, L., DeFillippi, R., 2004. Project-based organizations, embeddedness and repositories of knowledge: editorial. *Organization Studies* 25, 1475–1489.

Turner, J.R., Ledwith, A., Kelly, J., 2009. Project management in small to medium-sized enterprises. *International Journal of Managing Projects in Business* 2, 282–296.

Wassmer, U., 2010. Alliance portfolios: a review and research agenda. *Journal of Management* 36, 141–171.

Weick, K.E., 1993. The collapse of sensemaking in organizations—the Mann Gulch disaster. *Administrative Science Quarterly* 38, 628–652.

Whittington, R., Pettigrew, A., Peck, S., Fenton, E., Conyon, M., 1999. Change and complementarities in the new competitive landscape: a European panel study, 1992–1996. *Organization Science* 10, 583–600.

Winter, M., Smith, C., Morris, P., Cicmil, S., 2006. Directions for future research in project management: the main findings of a UK governmentfunded research network. *International Journal of Project Management* 24, 638.

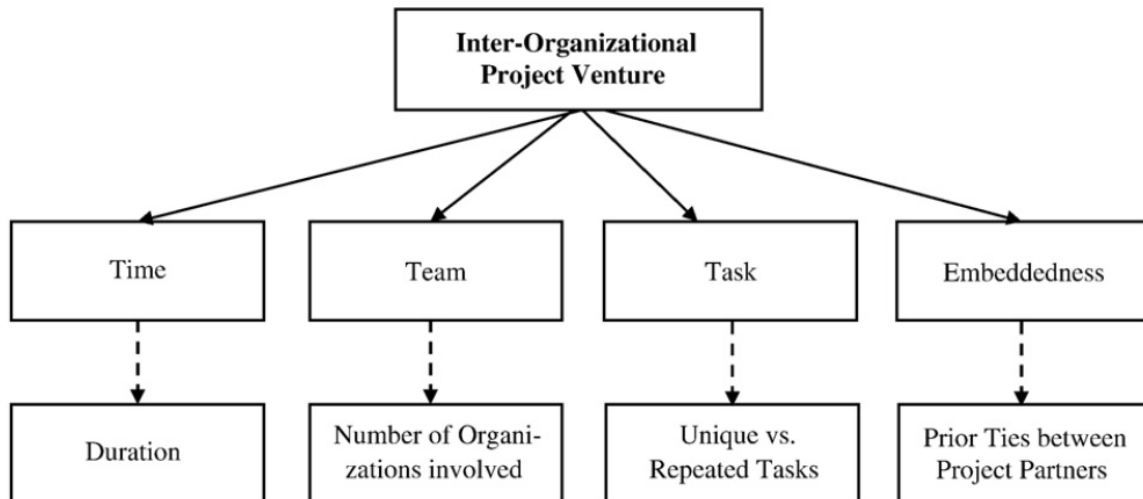


Fig. 1. Dimensions of inter-organizational project ventures and their measurement.

Table 1
Breakdown of samples 2006 (T1) and 2009 (T2), population statistics, and weight factors.

Sector	Size class	<i>N</i> sample 2006	Relative proportions in sample 2006	Relative proportions in population 2006 ^a	Weight factor 2006	<i>N</i> sample 2009	Relative proportions in sample 2009	Relative proportions in population 2009 ¹	Weight factors 2009
Manufacturing		131	16.0%	8.6%	0.535	296	14.9%	7.5%	0.502
	Of which: 0–9 employees	64	7.8%	7.0%	0.896	144	7.2%	6.1%	0.835
	10–99 employees	67	8.2%	1.6%	0.190	152	7.6%	1.4%	0.186
Construction		79	9.6%	13.9%	1.445	284	14.3%	15.5%	1.087
	0–9 employees	43	5.3%	12.8%	2.430	157	7.9%	14.3%	1.815
	10–99 employees	36	4.4%	1.2%	0.269	127	6.4%	1.2%	0.187
Trade and Repair		150	18.3%	30.0%	1.640	353	17.8%	26.3%	1.482
	0–9 employees	114	13.9%	27.6%	1.982	268	13.5%	24.0%	1.78
	10–99 employees	36	4.4%	2.5%	0.558	85	4.3%	2.3%	0.54
Hotels and Catering		61	7.4%	6.9%	0.921	179	9.0%	5.8%	0.648
	0–9 employees	29	3.5%	6.4%	1.794	84	4.2%	5.3%	1.252
	10–99 employees	32	3.9%	0.5%	0.131	95	4.8%	0.5%	0.115
Transport and Communication		63	7.7%	5.1%	0.658	171	8.6%	4.6%	0.538
	0–9 employees	25	3.1%	4.4%	1.428	89	4.5%	4.0%	0.888
	10–99 employees	38	4.6%	0.7%	0.151	82	4.1%	0.7%	0.158
Financial services		82	10.0%	2.7%	0.268	156	7.9%	2.7%	0.343
	0–9 employees	43	5.3%	2.5%	0.477	110	5.5%	2.5%	0.454
	10–99 employees	39	4.8%	0.2%	0.038	46	2.3%	0.2%	0.078
Business services		184	22.5%	27.0%	1.200	349	17.6%	28.3%	1.609
	0–9 employees	136	16.6%	25.3%	1.525	256	12.9%	26.4%	2.047
	10–99 employees	48	5.9%	1.6%	0.280	93	4.7%	1.9%	0.404
Other services		69	8.4%	5.9%	0.698	199	10.0%	9.2%	0.922
	0–9 employees	59	7.2%	5.7%	0.789	138	6.9%	8.9%	1.282
	10–99 employees	10	1.2%	0.2%	0.158	61	3.1%	0.3%	0.107
Total		819	100%	100%	1	1987	100.0%	100%	1

^a Based on BLISS data for the total number of SMEs in the Netherlands for 2006 and 2009.

Table 2
Test of response bias between waves at T1 and T2^a.

	<i>B</i>	S.E.	Sig.
Participation at T1	.236	.157	.133
Ln size 2009	.372	.057	.000
Ln age	-.165	.100	.100
Industry dummies			
Construction	.510	.247	.039
Trade and repair	-.636	.292	.029
Hotels and Catering	-.790	.364	.030
Transport and Communication	-.387	.330	.240
Financial Services	.012	.299	.968
Business Services	.712	.236	.003
Other services	-.364	.329	.268
Constant	-2.264	.359	.000
Number of observations	1765		
Nagelkerke <i>R</i> -square	.096		

^a Dependent variable: Likelihood of a focal firm engaging in inter-organizational project venture at T2.

Table 3
Prevalence of inter-organizational project ventures among SMEs in 2006.

Sector	% of SMEs that engages in inter-org. project ventures	% of SMEs that engages in any form of inter-org. relations	Proportion of project ventures among inter-org. relations general	Av. number of project ventures per SME
Manufacturing	14%	38%	36%	2.07
Construction	18%	39%	46%	2.40
Trade and repair	7%	40%	18%	2.17
Hotels and Catering	17%	53%	32%	1.97
Transport and Communication	8%	43%	19%	3.81
Financial services	10%	41%	25%	3.05
Business services	28%	54%	52%	3.02
Other services	9%	32%	27%	1.52
Total	16%	44%	36%	2.63

Table 4
Prevalence of inter-organizational project ventures among SMEs in 2009.

Sector	% of SMEs that engages in inter-org. project ventures	% of SMEs that engages in any form of inter-org. relations	Proportion of project ventures among inter-org. relations general	Av. number of project ventures per SME
Manufacturing	10%	44%	23%	2.39
Construction	15%	33%	44%	2.25
Trade and repair	6%	35%	17%	7.03
Hotels and Catering	2%	25%	10%	1.88
Transport and Communication	9%	36%	25%	6.09
Financial services	10%	48%	21%	4.74
Business services	18%	51%	36%	3.06
Other services	6%	29%	20%	5.82
Total	11%	39%	28%	3.69

Table 5
Trend in prevalence of inter-organizational project ventures among SMEs 2006 → 2009^a.

Sector	% of SMEs that engages in inter-org. project ventures	% of SMEs that engages in any form of inter-org. relations	Proportion of project ventures among inter-org. relations general	Av. number of project ventures per SME
Manufacturing	-4%	6%	-13%	15%
Construction	-3%	-6%	-2%	-6%
Trade and repair	-1%	-5%	-1%	224%
Hotels and Catering	-15%	-28%	-22%	-5%
Transport and Communication	1%	-7%	6%	60%
Financial services	0%	7%	-4%	55%
Business services	-10%	-3%	-16%	1%
Other services	-3%	-3%	-7%	283%
Total	-5%	-5%	-8%	40%

^a All values in the first three columns present percentage-points, i.e. the arithmetic difference between the percentages per cell between the two time points.

Table 6
Main motivation to engage in an inter-organizational project venture 2006 → 2009.

	2006	2009
Making a specific product	16.7%	25.4%
Providing a specific service	44.3%	49.2%
Enhancing the production process	3.9%	4.6%
Developing new production technology	4.0%	1.1%
Exploring or entering a new market	18.9%	7.4%
Organizing an event	3.4%	1.3%
Other, namely	8.7%	3.6%
Unknown	0%	7.3%

Table 7
Duration of inter-organizational project ventures (2009).

Duration	Absolute %	Cumulative %
1–6 months	19.6%	19.6%
7–12 months	33.5%	53.1%
13–18 months	10.8%	64.0%
19–24 months	7.8%	71.8%
25–30 months	5.6%	77.3%
33–36 months	8.2%	85.5%
37–42 months	1.6%	87.1%
37–48 months	0.4%	87.6%
>49 months	12.4%	100%
Total	100%	

Table 8
Size of inter-organizational project ventures (2009).

Sector	Number of participating organizations					
	2	3	4	5–8	9–15	>15
Manufacturing	42.2%	25.0%	6.3%	15.6%	7.8%	3.1%
Construction	48.5%	27.3%	9.1%	7.1%	2.0%	6.1%
Trade and Repair	61.2%	9.7%	5.5%	6.7%	2.4%	14.5%
Hotels and Catering	37.9%	10.3%	10.3%	6.9%	20.7%	13.8%
Transport and Communication	38.2%	20.6%	5.9%	5.9%	5.9%	23.5%
Financial services	50.0%	10.7%	10.7%	14.3%	3.6%	10.7%
Business services	50.9%	23.5%	8.9%	8.9%	5.0%	2.8%
Other services	51.0%	11.8%	11.8%	13.7%	3.9%	7.8%
Total	51.3%	19.1%	8.1%	9.0%	4.8%	7.8%

Table 9
Task repetitiveness of inter-organizational project ventures (2009).

Sector	Nature of the primary task of the inter-organizational project venture		
	Unique	Repetitive	Unknown
Manufacturing	13.4%	85.1%	1.5%
Construction	7.9%	90.1%	2.0%
Trade and Repair	10.2%	87.6%	2.3%
Hotels and Catering	10.3%	89.7%	0%
Transport and Communication	9.4%	87.5%	3.1%
Financial services	13.8%	86.2%	.0%
Business services	17.7%	80.9%	1.4%
Other services	7.4%	92.6%	0%
Total	13.3%	85.2%	1.5%

Table 10

Embeddedness of Inter-organizational project ventures (2009).

Sector	Prior ties between the organizations collaborating in project venture		
	Present	Absent	Unknown
Manufacturing	55.2%	43.3%	1.5%
Construction	67.0%	33.0%	0%
Trade and Repair	55.4%	43.5%	1.1%
Hotels and Catering	51.7%	48.3%	0%
Transport and Communication	57.6%	42.4%	0%
Financial services	46.7%	53.3%	0%
Business services	67.1%	32.9%	0%
Other services	50.0%	50.0%	0%
Total	60.1%	39.5%	0.4%

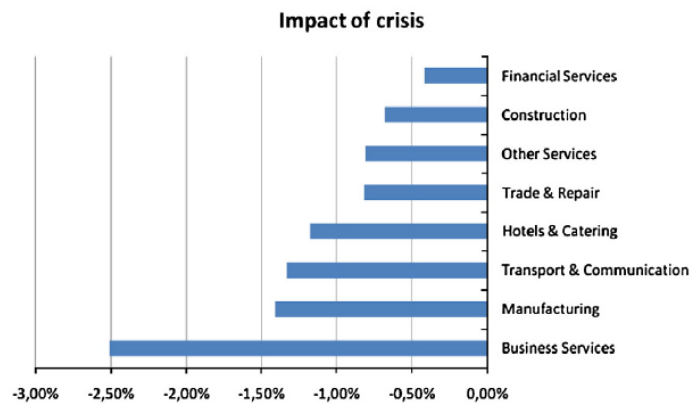


Fig. 2. Drop in employment between September 2008 and June 2009 in the Netherlands ^{ab}. ^aBased on data from Statistics Netherlands, <http://statline.cbs.nl/statweb/>. ^bThe negative impact of the credit crunch on the real economy in the Netherlands set in the second half of 2008. To calculate the impact of the crisis, we therefore calculated the drop in employment (in percentages) for each sector between September 2008 (3rd quarter) and June 2009 (2nd quarter). The latter time point roughly corresponds to the period in which we collected our data. Regardless of the current economic crisis, there have been large differences between sectors in terms of employment growth over the last couple of years. Not controlling for such trends would lead to an underestimation of the impact of the crisis in some sectors and overestimation in others. Therefore, we calculated the employment growth for all sectors in the three quarters preceding the economic crisis as well. The impact of the crisis is calculated as the difference between the employment growth before and during the crisis.