Discussion Papers on Entrepreneurship, Growth and Public Policy

1705

The Fragile Success of Team Start-ups

by

Erik Stam
Erasmus Research Institute of Management (ERIM), Erasmus University Rotterdam,
Urban and Regional research center Utrecht (URU), Utrecht University,
Max Planck Institute for Research into Economic Systems

Veronique Schutjens
Urban and Regional research center Utrecht (URU), Utrecht University

Number of Pages: 16

The *Papers on Entrepreneurship, Growth and Public Policy* are edited by the Group Entrepreneurship, Growth and Public Policy, MPI Jena.
For editorial correspondence, please contact: egppapers@mpiew-jena.mpg.de

ISSN 1613-8333

Max Planck Institute for Research into Economic Systems
Group Entrepreneurship, Growth and Public Policy
Kahlaische Str. 10
07745 Jena, Germany
Fax: ++49-3641-686710

The Fragile Success of Team Start-ups

Erik Stam
Erasmus Research Institute of Management (ERIM), Erasmus University Rotterdam, The Netherlands;
Urban and Regional research centre Utrecht (URU), Utrecht University, The Netherlands;
Max Planck Institute of Economics - Entrepreneurship, Growth and Public Policy Group, Jena, Germany;
e-mail: E.Stam@geo.uu.nl

Veronique Schutjens
Urban and Regional research centre Utrecht (URU), Utrecht University, The Netherlands;

ABSTRACT: This article describes the benefits and pitfalls of starting a firm with an entrepreneurial team, drawing on a longitudinal empirical analysis of the life course of 90 team start-ups and 1196 solo start-ups in the Netherlands. In the first three years of their existence, team start-ups perform better than solo start-ups on several success indicators. However, after this start phase, entrepreneurial teams face particular problems in realizing further growth. These team-specific bottlenecks can even threaten firm survival. In later life course phases we found a clear distinction between entrepreneurial teams with stagnating growth and teams that succeeded in solving these problems and went on to realize further growth.

JEL: D21, D23, D74, D92, L25, M13, M54
KEYWORDS: entrepreneurial teams, start-ups, firm growth, life course analysis

Introduction

Entrepreneurship is seen as a crucial determinant of economic development. Entrepreneurs recognize and capitalize on opportunities so that a business organization can be created and evolve. In contrast with the traditional, everyday depiction of the entrepreneur as a 'lone hero', research has shown that entrepreneurship is a collective activity (Schoonhoven & Romanelli, 2001) and that teams of entrepreneurs are critical for the growth of new ventures (Kamm et al., 1990; Weinzimmer, 1997; Birley & Stockley, 2000). Empirical studies have demonstrated that starting with a team has a strong positive effect on growth with respect to both turnover and employment (Lechler, 2001). While team start-ups are increasingly discussed in the field of entrepreneurship research, to date there has been no explicit object of comparative research (Mellewigt & Späth, 2001). Since most former studies have focused on the performance of merely surviving entrepreneurial teams in a retrospective view (Doutriaux, 1992), relatively little is known on how team start-ups intrinsically differ from 'regular' solo start-ups during the life course. Through empirical research this paper explores: (1) the characteristics of team start-ups in comparison with those of solo start-ups; (2) the differences in performance; (3) bottlenecks encountered in team start-ups in comparison with solo start-ups. The paper defines team start-ups as new enterprises started by at least two persons, in joint ownership, with both actively participating in the strategy or management of the enterprise. The paper begins with a review of the literature on the performance and development of start-ups in general and team start-ups in particular. The paper then describes the cohort of start-ups on which the empirical research is based. The outcomes of the empirical research are discussed next, before the paper finishes with conclusions and recommendations for practitioners and for further research.

Development and Performance of Solo Start-Ups and Team Start-ups: a literature overview

Performance of start-ups and its determinants

Over the past decade, many empirical studies have been published regarding the performance of start-ups in general (see Barkham et al., 1996; Dahlqvist et al.,2000; Schutjens & Wever, 2000; Storey, 1997; Wiklund, 1998). When performance has been measured in terms of number of employees, many of these studies have shown some recurrent determinants of firm growth. For example, Storey (1997) identified three main groups of factors that influence the growth of a small firm: (1) the background/resources of the entrepreneur(s); (2) the nature of the firm itself; and (3) the strategic decisions taken by the owner-managers in the firm. According to Storey, only when these three components are appropriately combined growth can be achieved. Important elements related to the background/resources of the entrepreneur include *motivation, education, work experience, and having a business partner*—that is to say, starting with a *team* (Storey, 1997; Schutjens & Wever, 2000). Firm-related elements include *turnover level* and the *number of employees at start* (Schutjens & Wever, 2000). Finally, strategy-related variables include *preparation for the start; a willingness to share ownership; the ability to identify a niche; the introduction of a new product; the ability to create a team of managers* (Storey, 1997; Schutjens & Wever, 2000). While many factors influence the growth of a firm, the concept of

entrepreneurial teams has increasingly become a central issue throughout the literature on successful firms, both in retrospective (Doutriaux, 1992, Kamm et al., 1990) and in cross-sectional studies (Timmons, 1994).

A quantitative team-effect?

Why then is it an advantage to start as a team? We can draw upon the perhaps most influential framework for the explanation of a firm's growth: the resource-based or competence based view (Barney, 1991; Penrose, 1995). In this framework, the entrepreneurs aspire to the growth of the firm, but growth is constrained by the availability and quality of resources. A firm is essentially regarded, therefore, as a set of resources that are deployed in a firm-specific way that determines its competence, and managerial (team) resources are particularly critical in realizing a firm's growth. However, according to Johannisson (2000), it is not only the firm's internal resources and competences that are decisive for the growth of a firm. External resources and competences acquired via the networks of the entrepreneurs or inter-organizational networks may also enhance growth. An entrepreneurial team can therefore be advantageous, since it provides more resources in general and external network relations than solo start-ups do (Brüderl et al., 1996; Thakur, 1999; Weinzimmer, 1999; Daily et al., 2002). However, an entrepreneurial team may also offer a qualitatively different advantage: the composition of the management team itself and how it functions.

A qualitative team-effect?

Although the established empirical and conceptual literature on small firm growth has for many years acknowledged the role of entrepreneurial teams in the growth of firms, there is hardly any empirical research on the performance of team start-ups (Eisenhardt & Schoonhoven, 1990; Weinzimmer, 1997; Lechler, 2001). Several qualitative team characteristics have been found to affect new venture performance and organizational growth (Weinzimmer, 1997; Ensley & Amason, 1999). For example, growth in new firms will be positively related to the level of a team's heterogeneity in industry and functional experience. This heterogeneity will provide a system of checks and balances in decision-making and complementary strengths that, taken together, provide more value than the sum of its parts. A large diversity of skills and good communication and cooperation among the members of teams can help to gather new information fast and to decrease risks of uncertainty in innovation processes (Matlay & Westhead, 2005). Together with a large cognitive diversity, specific entrepreneurial characteristics within teams as so called 'entrepreneurial alertness' and growth orientation can also increase innovation, which in turn may enhance firm success (Zahra & Wiklund, 2002). These authors also point towards the positive effects when team members are able to function as a unit, collectively, instead of merely individual decision makers (so called 'deftness'). Another important characteristic is team size. This can be related both positively and negatively to firm growth. A large team enables decision-makers to specialize and make decisions more quickly. However, larger teams may also generate more discussion that may slow down decision-making and may even lead to enduring (affective) conflicts (cf. Ensley et al., 2002). The relationship between team size and performance is also unclear in terms of its causality; on the one hand large start-ups require large teams to manage

them successfully, while on the other hand large teams will be attracted to high-growth ventures that have the potential to support them (Birley & Stockley, 2001).

A life course perspective on firm development and performance

In a study on the performance of firms in which the development of solo and team start-ups are compared, it is essential to take the different firm life course phases into account. It can be argued that especially in the first life course phases, team start-ups are at an advantage as they are with at least two persons. It is less clear, however, if a positive team effect will last in successive phases.

Over time entrepreneurs, entrepreneurial teams, firms and the external environment change (see Aldrich, 1999, Alvarez & Busenitz, 2001). Critical events take place, entrepreneurs react to these events, and develop strategies to reach their – sometimes even changing – goals. These firm internal and firm external changes, the critical events and the strategies chosen may have long lasting effects on the firm performance and growth. Therefore, in order to understand the development and performance of firms it is necessary to address the history of the firm and to take on a life course perspective. Especially in the first phases of the firm life course, firms are extremely vulnerable as they have to overcome specific 'liabilities' that incumbent firms lack. Starting as a team can increase the chance of success.

Studies on firm growth and development has long drawn upon the management literature about 'growth stages' or 'growth phases', the so called 'stage models' (see Greiner, 1972, Churchill & Lewis, 1983, Scott & Bruce, 1987). But although the development of firms over time is described in general terms in these models, the attention for theory about the processes behind firm development and the role of an active, strategic entrepreneur, is rather limited. Garnsey's (1998) contribution to the growth model literature is the detailed focus on critical processes and problems in each phase of the firm life course and the options entrepreneurs have. In doing so, she recognizes that in different firm life course phases (or cohort trajectories, see Figure 1), different resources are needed to guarantee firm survival and firm growth. Per phase in the life course, different growth processes and determinants are central. As a result, every life course phase asks for different strategies and competences.

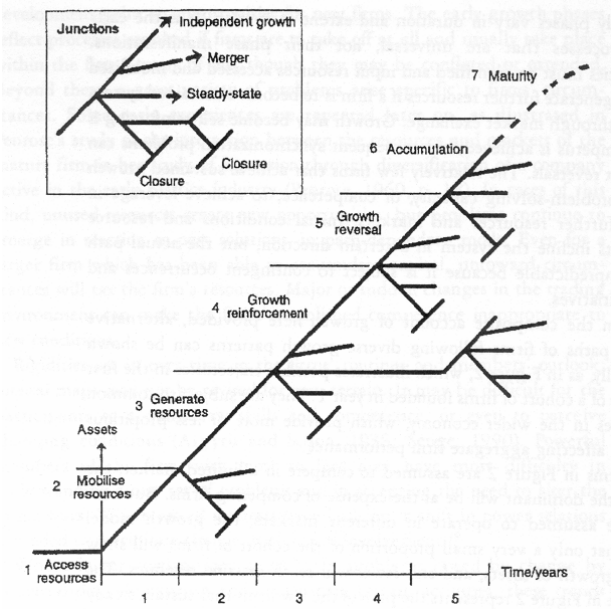

Figure 1. Diverse trajectories of a cohort of firms (source: Garnsey 1998: 548)

The fundamental question arising from the literature is whether team start-ups are qualitatively different from solo start-ups, or whether they merely differ in quantitative respects. In other words, do entrepreneurial teams develop a team competence that is more than simply the sum of the individual resources of the team members (including human, financial, and social capital) or can their success be explained just by the accumulation of the resources they bring together? It is assumed here that team start-ups do indeed perform better than solo start-ups during the early life course—an axiom that is still unproven. But early success may not be enduring, since team-specific, as well as general, growth problems may arise that have to be resolved during the life course. To investigate this question longitudinal research is needed that identifies the changing characteristics and performance of (team) start-ups during their life course (see also Vyakarnam & Handelberg, 2005, Clarkin & Rosa, 2005, Clarysse & Moray 2004).

Research Sample and Definitions

Recent reflections in the fields of small business and entrepreneurship research have concluded that there is an explicit need for longitudinal research on firm growth (Davidsson and Wiklund, 2000; Chandler and Lyon, 2001). In this study on the performance of team start-ups in the first phases of the life course, the authors have used an extensive database covering different aspects of the first years of team start-ups and solo start-ups. This database is the EIM (Economic Institute of Small and Medium-sized Enterprises) "Starters Cohort" which has followed a group of new firms that were registered with the Dutch Chambers of Commerce in the first quarter of 1994 (see EIM, 1996). This group of new firms was followed during the first six years of their life course (1994-2000). Every year, the entrepreneurs of these firms were asked to respond to a set of questions which made it possible to gather information on their behaviour, their experiences, and the development of the firms in the first six years of their existence. Such a longitudinal research enables the recording of the development of new firms and their owners over a longer period.

The sample was selected from a database of all the start-ups registered with the Chambers of Commerce. Start-ups that were registered only for administrative or technical reasons were excluded. The sample consisted of a broad range of sectors, including manufacturing, wholesale, retail, personal services, and business services. A sample was obtained of 1938 firms starting up in 1994 and these were followed in the six years after their start. However, as this study only deals with new and independent firms, those that were not really new (restarts or take-overs) or were not completely independent were not included in the research sample. This reduced the sample to 1544 new firms (in 1994), 504 of which could still be traced in 2000. It cannot be ruled out that there might have been more survivors because every year there were some firms that could not be contacted by telephone (see Dirks et al., 2002).

All firms in the sample had fewer than 100 employees, which is representative for the total population of Dutch firms, since 99% of them have fewer than 100 employees (CBS, 2003). The authors distinguished team start-ups and solo start-ups on the basis of the variables available in the database. The operational definition of a team start-up used was an enterprise that was formally started by two or more owners. A team must

consist of at least two members who function as business partners and who each work at least 10 hours a week for the enterprise. The operational definition of a solo start-up is an enterprise that is formally started by one owner. Solo start-ups do not have business partners who work for more than 10 hours a week for the enterprise.

Based on these definitions, 90 new firms set up in 1994 could be classified as team start-ups and 1196 new firms could be classified as solo start-ups. A group of 258 firms could not be classified as either a team start-up or as a solo start-up. For the purpose of the research, three phases in the life course were distinguished: (1) the period before the formal start (pre-start phase); (2) the start phase (the first three years of existence); and (3) the continued survival phase following on from the start phase (the period in which the firms are four to six years old). The start phase was operationalised as the first three years of operation, since this phase is acknowledged as the most critical for the survival of new firms: once firms have survived for three years they can be described as having passed through the "valley of death" (Gibb, 1990, in Littunen, 2000). After six years there were still 32 team start-ups and 449 solo start-ups in the research sample.

The dependent variable, performance of start-ups, is perhaps one of the most frequently studied variables in small business research. However, this does not mean that consensus has been reached on the best measure of performance, or more specific, growth. In a quantitative sense, two measures of growth dominate in academic research: sales growth and employment growth. Employment growth best represents the growth of the productive base of the firm, while sales growth is the best indicator of the commercial base of the firm. Perhaps the best, but also most difficult to measure, indicator of growth is growth in terms of assets (Garnsey, 1998; Davidson & Wiklund, 2000). In this study, performance has been operationalised in four ways: termination of the firm in general, sale of the firm, attainment of a certain threshold size in employment (20 or 10 employees in the period after the start), and the new job creation in the cohort studied. We have chosen to focus on employment growth because of the societal relevance of this indicator (job creation) and on the probable organizational bottlenecks accompanied with personnel growth.

Results

From the analysis of the longitudinal data, three areas of interest could be distinguished. These are now discussed in detail.

Characteristics of Team Start-Ups versus Solo Start-Ups

A detailed assessment of the research highlighted that team start-ups can be distinguished from solo start-ups on the basis of their characteristics before and during the start phase. Several important distinctive characteristics of a team start-up were identified that differed from those characteristics of a solo start-up. In general, team start-ups have more resources and competences at their disposal. With regard to financial and human resources, they more frequently begin with large start-up capital and considerably more often with personnel *and* with significantly *more* personnel than solo start-ups. Additionally, the entrepreneurs of team start-ups more frequently have an appreciably higher educational level, previous start-up experience (habitual

entrepreneurship; cf. Westhead & Wright, 1998), and managerial experience than the entrepreneurs of solo start-ups. The entrepreneurs of team start-ups also tend to be more ambitious than entrepreneurs of solo start-ups because they more frequently strive for growth of turnover and large investments, and have a business plan. The team start-ups are also distinctive in their output: they have a higher turnover in the first year after start-up, and they export more often from the start. Summarizing, the research found that team start-ups begin with a larger size and with more ambition and commitment than solo start-ups. The characteristics of team and solo start-ups are shown in Table 1.

Table 1. Comparison of the Characteristics of Team and Solo Start-Ups (in percentages)

		Team start-ups	**Solo start-ups**
Pre-start phase			
Delayed start:	*	26.6	20.3
- because of finance problems	[1]	47.6	28.9
- because of regulations (problems with licenses)	[1]	19.0	10.9
Business plan before start:	*	48.9	28.6
- Used network for business plan	*	58.3	41.7
- Assistance of accountant	*	71.9	51.0
Start phase (characteristics during start)			
Resources			
Start-up capital (> € 11.312)	*	52.2	24.2
Turnover at start (> € 11.312 one year after first year of existence)	*	86.1	63.3
Personnel at start	*	20.5	6.4
Educational level: higher education	*	41.6	31.4
Employed before start		55.6	65.9
Work experience (more than 5 years employed)		67.5	75.4
Industry experience^		61.4	63.7
Age entrepreneur: younger than 29 years		38.2	27.7
Strategy			
Detailed investment plans at start, execution is certain:	*	23.9	15.6
- investment sum (> € 11.312)	*	50.9	26.7
Export	*	20.0	7.8
Competences			
Habitual entrepreneurship	*	23.3	5.1
Reasonable to very much financial management experience^	*	41.9	29.1
Reasonable to very much executive experience^	*	58.4	51.0
Entrepreneurial capacities^	*	73.8	58.1
Prepared to take risks^	*	79.8	63.9
Motivation			
Aim for growth in turnover	*	73.3	50.9
Dependent on profits from the enterprises as primary income		43.8	37.9
Other sources of income	*	73	78
Other			
Sex (male)		80	72
Confidence in future (optimism)		92.1	80.0
Work load at start (> 40 hours)	*	48.8	30.0

^ own opinion respondent

* significantly different ($\alpha < 0.05$)

[1] specific category not significant

Performance of Team Start-Ups

The research also demonstrated that the share of successful team start-ups is higher than that of solo start-ups on several indicators (see Figure 2). First, during the first six years, 18.0% of the solo start-ups versus only 13.5% of the team start-ups were registered as terminated. Second, since the sale of a young enterprise can also be seen as an indicator of success, team start-ups performed better than solo start-ups: respectively 4.5% and 2.0% were sold. Third, a larger share of the team start-ups attained a large size than solo start-ups: 3.3% and 4.5% of the team start-ups reach a size of 20 or 10 employees respectively during their life course in comparison with only 0.4% and 1.3% of the solo start-ups. And fourth, despite their small number (6% of the total 1994 cohort), team start-ups were responsible for 20% and 37% of the additional employment creation in the first year (1994) and the second year (1995) respectively of the "Starters Cohort". These percentages would be even higher if the entrepreneurs of the start-ups were to be included with the firm's 'employees'.

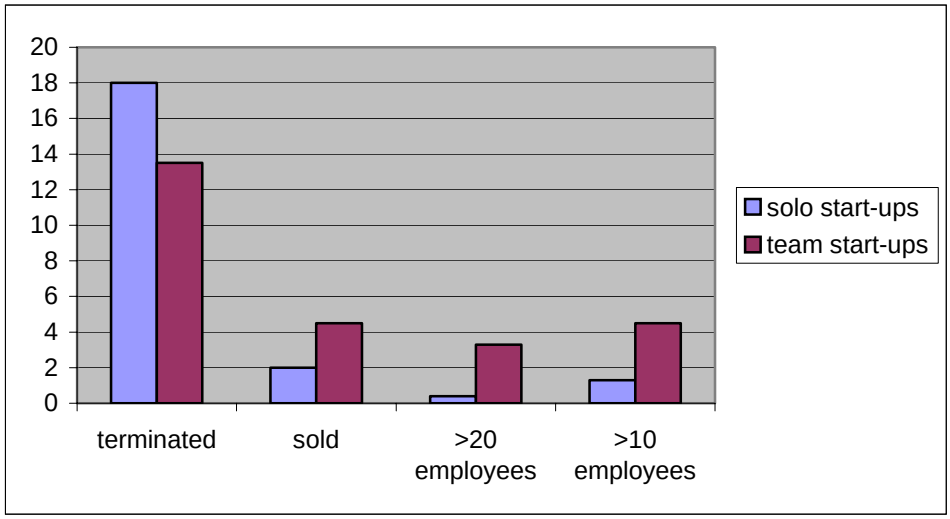

Figure 2. Performance of solo and team start-ups (after 6 years), in % of total

Team start-ups show an explosive growth during the first three years of existence, but they slow down in the subsequent phase. Despite this relative decline in the third year, team start-ups still generated 15% of the total employment creation in the 1994-1997 period and 9% in the 1994-2000 period, a far greater share than their share in the number of firms overall. In the six-year period analysed, their relative contribution to total employment creation was higher in each year than that of the solo start-ups.

The relatively fast initial growth of team start-ups can possibly be explained by the greater amount of resources and competences at the start of team start-ups in comparison with solo start-ups. This statement is in line with the finding that the average profit and turnover expectations at start-up are higher for team start-ups than for solo start-ups. However, the significant differences in the employment growth of team start-ups in comparison with solo start-ups that was found disappear when we control for start-up capital. Only during the first three years (1994-1997) did team start-ups with a relatively large start-up capital (> € 11,312) grow faster than

comparable solo start-ups. The same finding holds true for the variables aiming for growth of turnover and managerial experience. It appears that these factors no longer affect the growth of team start-ups after the start period of the first three years. A possible explanation for this finding can be that these resources and competences of team start-ups are not sufficient or suitable for the continued growth of team start-ups and that other (team) competences increase in importance. Unfortunately, the database did not provide variables measuring changing competences after the start period. Finally, it is remarkable that factors such as habitual entrepreneurship, work experience, and the age of the entrepreneur have no significant effect on the performance of team start-ups in their first six years of existence, while they do significantly affect the performance of solo start-ups. It could be hypothesised that these success factors of solo start-ups are suppressed by team-related factors in team start-ups.

Not only does the relative performance of team start-ups change during the life course; there is also a clear segmentation within the group of team start-ups. Depicting the whole group of team start-ups as an undivided success does not do justice to the actual situation. There exist two quite distinctive groups of team start-ups: a relatively successful group that had an average growth of 2.8 employees in the period 1994-2000 and a group of team start-ups that did not grow at all (an average decline of 0.1) during the first six years of their existence (see Figure 3).

Both groups are about the same size. In contrast with the successful - "focused" - group, the less successful - "unfocused" - group of team start-ups did not write a business plan of any kind. They also declined to aim for employment growth. All of the team start-ups whose start had been delayed (5%) also belonged to this less successful group. In fact, this 'unsuccessful' group of team start-ups was even less successful than the group of solo start-ups. For example, the solo start-ups without a business plan (70%) still grew by an average of 0.8 employees during the period 1994-2000 (see Figure 3). However, in the start phase (the first three years), both groups of team start-ups grew faster than the solo start-ups.

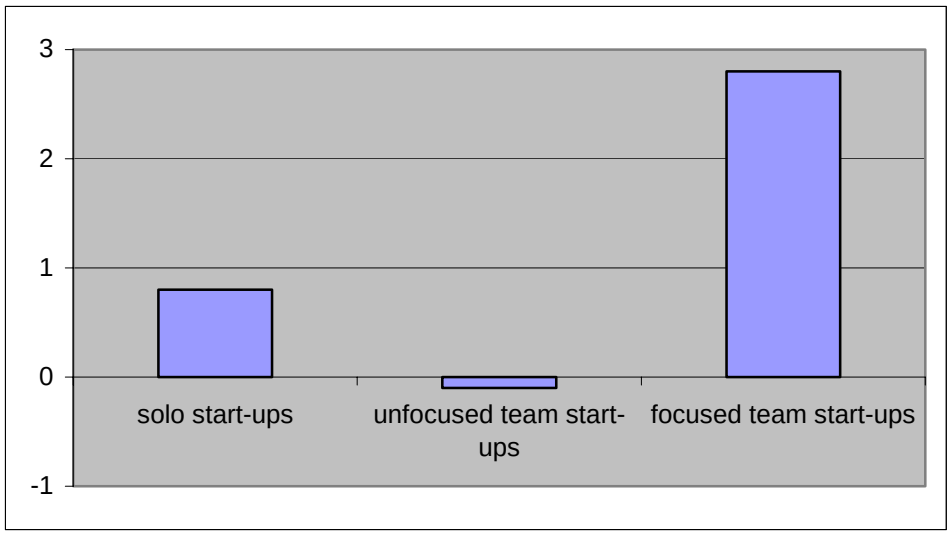

Figure 3. Growth in number of personnel (first 6 years)

Bottlenecks During the Life Course

A possible explanation for the stagnating growth of team start-ups is the extent to which team start-ups experience managerial bottlenecks. The nature of these problems during the life course is shown in Table 2.

Table 2. Most Important Managerial Bottlenecks of Team (and Solo) Start-Ups

	Bottlenecks
Pre-start phase	• Financial problems*
	• Administrative burdens*
Start phase (1995-1997)	• Timely payment by customers
	• Liquidity*
	• Attitude of bank financiers*
	• Development of market areas
Continued survival phase (1998-2000)	• Shortage of (qualified) personnel
	• (Re)organization*
	• Accommodation
	• Development of market areas

* Share of team start-ups significantly larger than solo start-ups ($\alpha < 0.05$)

Team start-ups grew relatively quickly in the start-up phase, while solo start-ups often demonstrated a slow steady growth. The slow but persistent growth of solo start-ups was accompanied by a decrease in the share of solo start-ups that experienced bottlenecks in the period after the start. In contrast, the percentage of team start-ups that experienced bottlenecks remained high (see Table 3). Additionally, team start-ups not only experienced managerial bottlenecks significantly more *often* than the solo start-ups*;* team start-ups also experienced significantly *more* kinds of managerial bottlenecks.

Table 3. Percentage of Team and Solo Start-Ups Experiencing Managerial Bottlenecks During the Life Course

Years	**1994**	**1995***	**1996**	**1997**	**1998***	**1999***	**2000***
team start-ups	90.0	97.2	86.7	87.0	100.0	87.0	96.7
solo start-ups	86.8	87.4	85.0	81.1	73.5	40.4	73.6

* Significantly different ($\alpha < 0.05$)

The relatively large share of team start-ups with personnel at the start provides a possible explanation for the fact that team start-ups experience more survival-threatening and growth-related bottlenecks than solo start-ups. The occurrence of managerial bottlenecks was statistically related to the presence of personnel. This outcome is in line with the finding that team start-ups without personnel did not experience significantly more bottlenecks than solo start-ups without personnel. In general, the percentage of firms experiencing bottlenecks remained higher among team start-ups than among solo start-ups throughout the whole period studied. There were some significant differences in the period after the start. More than 50% of the team start-ups experienced growth-related and survival-threatening problems in their sixth year of existence; these percentages were much lower for solo start-ups: 22%

and 33% respectively experienced growth-related and survival-threatening bottlenecks in their sixth year of existence (see Table 4).

Table 4. Growth-Related and Survival-Threatening Bottlenecks During the Life Course

	Share of enterprises with survival-threatening bottlenecks				Share of enterprises in 1999…	
	1996	**1997**	**1998**	**1999**	**with growth related bottlenecks**	**stating "problems are hard to solve"**
Team start-up	33 %	30 %	41 %	52 %	52 %*	50 %
Solo start-up	18 %	11 %	29 %	33 %	22 %*	42 %
					* significantly different ($\alpha < 0.05$)	

The internal dynamics of team start-ups may provide explanations for their growth stagnation and the high percentage of team start-ups experiencing bottlenecks. The longitudinal analysis highlighted that five years after start-up at least a third of the business partners no longer participated actively in the enterprise. Furthermore, at least 25% of the team start-ups reported illness of or problems with their business partner(s) as the cause of the survival-threatening bottlenecks (so-called critical incidents; cf. Curran & Blackburn, 1994). This is in line with the findings of Kor (2003), who showed that team conflicts that arise over time may endanger growth rates. Based on a case-study of team spin-off, which was followed closely over 20 months after start-up, Clarysse & Moray (2004: 77) state that "… changes in the team go hand in hand with shocks in the emerging business to a self-organizing process of punctuated equilibria…". Finally, we found that team start-ups with only two team members in the start phase (1994-1998) grew significantly faster than team start-ups with more than two team members, a finding contradicting the results of Teach et al. (1986). Perhaps it takes a longer time period for large teams to develop efficient managerial processes, or to resolve conflicts.

Discussion

One could wonder whether the results of an empirical study in one particular context (the Netherlands in 1994-2000) can be relevant for explaining the same phenomenon (performance of team start-ups) in other contexts. The mechanisms behind the differential performance of solo and team start-ups and within the group of team start-ups can probably be generalized in an analytical sense (cf. Yin, 2003). However, another context may have an effect on the contingent conditions of the performance of these start-ups and may explain issues such as the dominance of other types of bottlenecks for team start-ups. For example, in a period of economic recession, a 'shortage of (qualified) personnel' would probably be a less prominent bottleneck than in this study. Also in countries with a different financial system than the Netherlands (e.g. the USA), the 'attitude of bank financiers' might be a less obvious bottleneck. The specific context of this research means that one has to be cautious about applying the *statistical* generalisation of these findings to other contexts. However, the results, especially the resource and competence mechanisms, can be generalized in an *analytical* way.

Our finding that larger entrepreneurial teams perform less than smaller teams is in contrast with the work of Teach et al. (1986). Maybe this is due to the sector analysed

or the life course phases studied, as we concentrated on the first six years. However, we have shown that longitudinal research has an added value in our understanding of firm growth and performance. It clearly reveals the dynamics of start-ups (particularly team start-ups) during their life course and shows that beneficial effects of team start-ups may change significantly over time. In time, these dynamics provide important elements for the explanation of the performance of start-ups in general and team start-ups more specifically. A translation of the results of (retrospective) studies on top management teams to the process of new venture teams, as Vyakarnam & Handelberg (2005) propose, can therefore only succeed when the changing nature of entrepreneurship and teams over time are taken into account.

Conclusions

This study has provided an exploratory analysis of the early life course of team start-ups in comparison with solo start-ups. As other studies on team start-ups have reported, the study found relatively more successful team start-ups than solo start-ups on the basis of several performance indicators. However, a cross-sectional comparison of team start-ups and solo start-ups cannot reveal the dynamics that are particularly relevant for firms in the first critical years of their existence. The longitudinal research study has shown that promising team start-ups (with a large start-up capital, aiming for growth of turnover, and with managerial experience) are only more successful than similar promising solo start-ups in the first three years of their existence. In the phase following the initial three years, team start-ups seem to lose their initial shine. An explanation for their fading success may be managerial bottlenecks, as this study showed that team start-ups encounter managerial problems significantly more often than solo start-ups after the start phase. The occurrence of managerial bottlenecks is not only related to the presence of personnel, but also to illness of or problems with business partners. These bottlenecks do not only hamper growth, they may even threaten the very survival of an enterprise. Apart from significant differences between solo and team start-ups and the changing relative performance of team start-ups during the life course, the study also found a clear segmentation dividing the growing and the stagnating team enterprises. Just as the heterogeneity of the group of start-ups in general has long been acknowledged, the group of team start-ups cannot be considered as a homogenous collection of enterprises either. We recognized two groups with different performance which we labelled focused and unfocused team start-ups.

We have argued that the simple accumulation of resources does not explain the presumed enduring success of team start-ups. Growth and team-specific problems have to be overcome, and this process may eventually lead to the formation of new competences enabling further growth. In this respect one can visualise interesting conceptual links with the competence or resource-based perspective. More in-depth research taking a longitudinal perspective is needed if further insight into the team dynamics and the formation of new competences is to be acquired (see also Vyakarnam & Handelberg, 2005). In addition to the study of team dynamics, problem solving, and competence formation, more research is also needed to uncover the effect of teams on opportunity recognition and development (Ardichvilli et al., 2003). Especially the measurement of changing competences after the start period of a new firm needs attention. The combination of entrepreneurs with different knowledge and

networks within teams and the formation and development of competences would provide two ways in which team start-ups may not only recognize more opportunities than solo start-ups, but could also turn them more easily into a success.

Acknowledgement

The authors would like to thank Frank Dirks (formerly at the RZO, Council for Entrepreneurship) for contributions to earlier versions of this paper.

References

Aldrich, H. (1999) *Organizations Evolving*. London: Sage.

Alvarez, S.A. & Busenitz, L.W. (2001) 'The entrepreneurship of resource-based theory', *Journal of Management* 27: 755-775.

Ardichvilli, A., Cardozo, R. & Ray, S. (2003) 'A theory of entrepreneurial opportunity identification and development', *Journal of Business Venturing* 18: 105-123.

Barkham, R., Gudgin, G., Hart, M., & Hanvey, E. (1996) *The Determinants of Small Firm Growth: An Inter-Regional Study in the UK 1986-1990*. London: Jessica Kingsley Publishers.

Barney, J. (1991) 'Firm resources and sustained competitive advantage', *Journal of Management* 17: 99-120.

Birley, S. & Stockley, S. (2000) 'Entrepreneurial teams and venture growth'. in D.L. Sexton and H. Landström (eds) *The Blackwell Handbook of Entrepreneurship*, pp. 287-307. Oxford: Blackwell.

Brüderl, J., Preisendörfer, P. & Ziegler, R. (1996) *Der Erfolg neugegründeter Betriebe.* Berlin: Düncker & Humblot.

CBS (Statistics Netherlands) (2003) *Demografie van Bedrijven* http:///statline.cbs.nl

Chandler, G.N. & Lyon, D.W. (2001) 'Methodological issues in entrepreneurship research: the past decade', *Entrepreneurship Theory and Practice* 25.4: 101-113.

Churchill, N.C. and V.C. Lewis (1983) 'The five stages of small business growth', *Harvard Business Review*, may/june: 30-50.

Clarkin, J.E. & P.J. Rosa (2005) 'Entrepreneurial Teams within Franchise Firms', *International Small Business Journal* 23(3): 303-334.

Clarysse, B. & N. Moray (2004) 'A process study of entrepreneurial team formation: the case of a research-based spin-off', *Journal of Business Venturing* 19: 55-79.

Curran,J. & R. Blackburn (1994), *Small Firms and Local Economic Networks. The Death of the Local Economy?* London: Paul Chapman Publishing Ltd.

Dahlqvist, J., P. Davidsson & J. Wiklund (2000) 'Initial conditions as predictors of new venture performance: a replication and extension of the Cooper et al. study', *Enterprise & Innovation Management Studies* 1 (1): 1-17.

Daily, C.M., P.P. McDougall, J.G. Covin & D.R. Dalton (2002) 'Governance and strategic leadership in entrepreneurial firms' *Journal of Management* 28(3): 287-412.

Davidsson, P. & Wiklund, J. (2000) 'Conceptual and empirical challenges in the study of firm growth'. in D.L. Sexton and H. Landström (eds) *The Blackwell Handbook of Entrepreneurship*, pp. 26-44. Oxford: Blackwell.

Dirks, F., Hospers, P., Schutjens, V., & Stam, E. (2002) *De meerwaarde van een team start-up?* (The added value of a team start-up?). Den Haag: Raad voor het Zelfstandig Ondernemerschap.

Doutriaux, J. (1992) 'High-Tech Start-Ups, Better Off with Government Contracts than with Subsidies: New Evidence in Canada', *IEEG Transactions on Engineering Management* 38(3): 127-135.

EIM (Economic Institute for Small- and Medium-sized Enterprises) (1996) *Het starten van een bedrijf. Ervaringen van 2000 starters*. Zoetermeer: EIM.

Eisenhardt, K.M. & Schoonhoven, C.B. (1990) 'Organizational growth: linking founding team, strategy, environment, and growth among semiconductor ventures, 1978-1988', *Administrative Science Quarterly* 35(3): 504-530.

Ensley, M.D. & Amason, A.C. (1999) 'Entrepreneurial team heterogeneity and the moderating effects of environmental volatility and team tenure on new venture performance', in P.D. Reynolds, Bygrave, W.D., Manigart, S., Mason, C.M., Meyer, G.D., Sapienza, H.J. & K.G. Shaver (eds.) *Frontiers of entrepreneurship research 1999*, pp. 505-517. Babson Park, Massachusetts: Babson College.

Ensley, M.D., Pearson, A.W. & Amason, A.C. (2002) 'Understanding the dynamics of new venture top management teams. Cohesion, conflict, and new venture performance', *Journal of Business Venturing* 17: 365-386.

Garnsey, E. (1998) 'A Theory of the Early Growth of the Firm', *Industrial and Corporate Change* 7: 523-556.

Greiner, L.E. (1972) 'Evolution and revolution as organizations grow', *Harvard Business Review*, july/august: 37-46.

Johannisson, B. (2000) 'Networking and Entrepreneurial Growth', in D.L. Sexton and H. Landström, (eds) *The Blackwell Handbook of Entrepreneurship*, pp. 368-386. Oxford: Blackwell.

Kamm, J.B., Shuman, J.C., Seeger, J.A. & Nurick, A.J. (1990) 'Entrepreneurial teams in new venture creation: a research agenda', *Entrepreneurship: Theory and Practice* 14(4): 7-17.

Kor, Y.Y. (2003) 'Experience-Based Top Management Team Competence and Sustained Growth', *Organization Science* 14(6): 707-719.

Lechler, T. (2001) 'Social interaction: a determinant of entrepreneurial team venture success', *Small Business Economics* 16: 263-278.

Littunen, H. (2000) 'Networks and Local Environmental Characteristics in the Survival of New Firms', *Small Business Economics* 15: 59-71.

Matlay, H. & P. Westhead (2005) 'Virtual Teams and the Rise of *e*-Entrepreneurship in Europe', *International Small Business Journal*, forthcoming.

Mellewigt, T. & Späth, J.F. (2001) 'Entrepreneurial Teams: A Meta-Analysis of German and US Empirical Studies', *Arbeitspapiere zur empirischen Organisationsforschung* Nr. 19, Universität Mainz.

Penrose, E. (1995) *The Theory of the Growth of the Firm*. Oxford: Oxford University Press (first edition 1959).

Schoonhoven, C.B. & Romanelli, E. (2001) *The Entrepreneurship Dynamic: The Origins of Entrepreneurship and the Evolution of Industries*. Stanford: Stanford University Press.

Schutjens, V.A.J.M. & Wever, E. (2000) 'Determinants of new firm success', *Papers in Regional Science* 79: 135-159.

Scott, M. & R. Bruce (1987) 'Five stages of growth in small business', *Long Range Planning* 20(3): 43-52.

Storey, D. (1997) *Understanding the small business sector*. London: International Thomson Business Press.

Teach, R., Tarpley, F. & Schwartz, R. (1986) 'Software Venture Teams', in Ronstadt et al. (Eds.), *Frontiers in Entrepreneurial Research*, Wellesley, MA: Babson College Centre for Entrepreneurial Studies.

Thakur, P.T. (1999) 'Size of investment, opportunity choice and human resources in new venture growth: some typologies', *Journal of Business Venturing* 14(3): 283-309.

Timmons, J. (1994) *New Venture Creation. Entrepreneurship for the 21st Century*, Homewood, IL: Irwin.

Vyakarnam, S. & J. Handelberg (2005) 'Four Themes of the Impact of Management Teams on Organizational Performance: Implication for Future Research of Entrepreneurial Teams', *International Small Business Journal* 23(3): 236-256.

Weinzimmer, L.G. (1997) 'Top Management Team Correlates of Organizational Growth in a Small Business Context: A Comparative Study', *Journal of Small Business Management* 35: 1-9.

Westhead, P. & Wright, M. (1998) 'Novice, portfolio, and serial founders: Are they different?', *Journal of Business Venturing* 13: 173-204.

Wiklund, J. (1998) *Small firm growth and performance: entrepreneurship and beyond*. Jönköping: Jönköping International Business School.

Yin, R.K. (2003) *Case study research: Design and methods* (3rd edition). Thousand Oaks: Sage.

Zahra, S.A. & Wiklund, J. (2002) 'Top Management Team Characteristics and Entrepreneurial Resource Recombinations among New Ventures', Mimeo Jönköping International Business School, Sweden.