

THE PERFORMANCE OF TEAM START-UPS
IN THE FIRST PHASES OF THE LIFE COURSE

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THE PERFORMANCE OF TEAM START-UPS IN THE FIRST PHASES OF THE LIFE COURSE

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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.

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. The centrality of entrepreneurship in the current economy, or even society, is expressed in scientific and policy discourses as *the entrepreneurial economy* (Audretsch & Thurik, 2000) and *the entrepreneurial society* (Ministerie van Economische Zaken, 1999). In contrast with the traditional, everyday depiction of the entrepreneur as a ‘lonely 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 (Birley & Stockley, 2000; Kamm et al., 1990; Weinzimmer, 1997). 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). Team start-ups are intensively discussed in the field of entrepreneurship research, although 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, we still do not know how team start-ups intrinsically differ from ‘regular’ solo start-ups during the life course. In this paper we report our empirical exploration of: (1) the characteristics of team start-ups in comparison with those of start-ups in general; (2) the differences in performance; (3) bottlenecks encountered in team start-ups in comparison with solo start-ups. We have defined 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.

We commence with a literature review on the performance and development of start-ups in general and team start-ups in particular. We then describe the cohort of start-ups on which our empirical research is based. Next, the outcomes of our empirical research are discussed. The paper finishes with our conclusions and recommendations for practitioners and for further research.

Performance and development of start-ups

In the last few decades there has been considerable research on the performance of start-ups in general. Many empirical studies have been published (see Barkham et al., 1996; Schutjens & Wever, 2000; Storey, 1997; Wiklund, 1998). These studies have shown some recurrent determinants of firm growth when this is measured in terms of number of employees. Storey (1997) has identified three main groups of factors that influence the growth of the small firm: the background/resources of the entrepreneur(s); the nature of the firm itself; and the strategic decisions taken by the owner-managers in the firm. Only when these three components are appropriately combined can growth be achieved. Important elements related to the background/resources of the entrepreneur are *motivation, education, work experience, and having a business partner*—that is to say, starting with a *team* (Schutjens & Wever, 2000; Storey, 1997). Firm-related elements are *turnover level* and the *number of employees at start* (Schutjens and Wever, 2000). Finally, strategy-related variables are: *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* (Schutjens & Wever, 2000; Storey, 1997).

Other more conceptual studies have provided frameworks that identify the mechanisms that enable or inhibit organizational growth and change (Aldrich, 1999; Alvarez & Busenitz, 2001; Garnsey, 1998). This change may be caused by growth, or may itself cause growth. Perhaps the most influential framework for the explanation of a firm’s growth is the resource-

based or competence based view (Barney, 1991; Penrose, 1995). In this framework, the entrepreneurs have to aspire to the growth of the firm, but growth is constrained by the availability and quality of resources. A firm is essentially regarded as a set of resources that are deployed in a firm-specific way that determines its competence. Managerial (team) resources are particularly critical in realizing a firm's growth. However, it is not only the firm-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 (Johannisson, 2000). 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). However, an entrepreneurial team may also offer a qualitatively different advantage: a management team. Although the established empirical and conceptual literature on small firm growth acknowledges the role of entrepreneurial teams in the growth of firms, a stream of literature on the performance of team start-ups has only recently emerged (Eisenhardt & Schoonhoven, 1990; Kamm et al. 1990; Lechler, 2001; Weinzimmer, 1997). Several team characteristics have been found to affect new venture performance and organizational growth (Weinzimmer, 1997; Ensley & Amason, 1999). 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. Another important characteristic is team size. This can be related both positively and negatively to new firm growth. A large size enables decision-makers to specialize and make decisions more quickly. As a result, the owners of new firms have to delegate responsibility. 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).

The fundamental question arising from this literature review 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 experience, financial capital 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. Early success may not be enduring, since team-specific as well as general growth problems may arise that have to be solved during the life course. To investigate this question we need longitudinal research that identifies the changing characteristics and performance of (team) start-ups during their life course.

Research sample and definitions

Recent reflections on the fields of small business and entrepreneurship research have concluded that there is an explicit need for longitudinal research on firm growth (Chandler and Lyon, 2001; Davidsson and Wiklund, 2000). In this study of the performance of team start-ups in the first phases of the life course we 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 in 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 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 our 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). We distinguished team start-ups and solo start-ups on the basis of the variables available in our database. The operational definition of a team start-up is an enterprise that is 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 could not be classified as either a team start-up or as a solo start-up. We distinguished three phases in the life course: the period before the formal start (pre-start phase); the start phase (the first three years of existence); the continued survival phase following on the start phase (the period in which the firms are four to six years old). The start phase was operationalized 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 (2000).

The dependent variable, performance of start-ups, is perhaps one of the most often studied variable 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 (see Stam et al., 2003). Perhaps the best, but also most difficult to measure, indicator of growth is growth in terms of assets (Garnsey, 1998; Davidson and Wiklund, 2000). In this study growth has been operationalized 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

Characteristics of team start-ups versus solo start-ups

Team start-ups can be distinguished from solo start-ups on the basis of their characteristics before and during the start phase. We found several important distinctive characteristics of a team start-up that differed from those 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 often start with a large start-up capital and significantly more often with personnel *and* with significantly *more* personnel than solo start-ups. The entrepreneurs of team start-ups more frequently have a significantly 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 often strive for growth of turnover, large investments, and more often 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, we found that team start-ups start 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.

Performance of team start-ups

The share of successful team start-ups is higher than that of solo start-ups on several indicators. 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: 4.5% and 2.0% respectively were sold. Third, a larger share of the team start-ups attain 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’. 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 proportionally than their share in the number of firms. 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.

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)			
<i>Resources</i>			
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
<i>Strategy</i>			
Concrete investment plans at start, execution is certain	*	23.9	15.6
- investment sum (> €11.312)	*	50.9	26.7
Export	*	20.0	7.8
<i>Competences</i>			
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
<i>Motivation</i>			
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
<i>Other</i>			
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 not significant

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 our finding that the average profit and turnover expectations at start are higher for team start-ups than solo start-ups. However, the significant differences in the employment growth of team start-ups in comparison with solo start-ups that we found disappear when the start-up capital ($> \text{€ } 11,312$) is controlled for. Only during the first three years (1994-1997) did team start-ups with a large start-up capital ($> \text{€ } 11,312$) grow faster than comparable solo start-ups. The same finding holds true for the variables aiming for growth of turnover and managerial experience. It seems 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 therefore do justice to the actual situation. Indeed, there are two 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 during the first six years of their existence. Both groups are about equal in terms of the number of firms they include. In contrast with the successful group, the less successful group of team start-ups did not write a business plan of any kind. They also declined to aim for employment growth. All 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. However, in the start phase (the first three years), both groups of team start-ups grew faster than the solo start-ups.

Bottlenecks during the life course

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

Table 2. Most important managerial bottlenecks of team (and solo) start-ups

Bottlenecks of team start-ups	
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 phase, while solo start-ups often showed 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). On top of that, team start-ups not only experienced managerial bottlenecks significantly more *often* than the solo start-ups; team start-ups also experienced significantly *more* such 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 do. The occurrence of managerial bottlenecks was statistically related to the presence of personnel. This outcome is in line with our 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. Our longitudinal analysis showed 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 or problems involving their business partner(s) as the cause of the survival-threatening bottlenecks (critical incidents; cf. Curran & Blackburn, 1994). Moreover, 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. Perhaps it takes a longer time period for large teams to develop efficient managerial processes, or to resolve conflicts.

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, we 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. Our 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 explanatory factor for their fading success may be managerial bottlenecks. We found that, after the start phase, team start-ups encounter managerial problems significantly more and significantly more often than solo start-ups do. The occurrence of managerial bottlenecks is related not only to the presence of personnel, but also to illness or problems involving business partners. Not only do these bottlenecks hamper growth; they may even threaten the 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, we 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.

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 effect on the contingent conditions of the performance of these start-ups and may for example

explain the dominance of other types of bottlenecks for team start-ups. For example in a period of economic recession, 'shortage of (qualified) personnel' would probably be a less dominant 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 makes that we have 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.

The added value of longitudinal research is that it revealed the dynamics of (in particular team) start-ups during their life course. In time these dynamics provide important elements for the explanation of the performance of team start-ups. In our view, 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 we see 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. 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, 2003). 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 towards success.

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