Performance Measurement for Startup Companies

Bachelorarbeit

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Table of contents

1 Motivation and research description

Start-up companies[1] are considered a vital part of any economy around the world. Several scientific studies have come to the conclusion that start-ups bring needed impulses for change and innovation and have a positive impact on economic growth[2] and on labor markets.[3] They are studied in courses about innovation and can even serve as role models for the biggest enterprises.[4]

In the allegedly highly dynamic environment, where decisions are fast, communication ways short[5] and risk has still kept some positive sound to it, ideas have the necessary soil to come to life an thrive. On the other hand, the same circumstances make this environment difficult for scientific research to arrive at definite and firm conclusions and for the economic players to make expectations about the success of their venture. This uncertainty is also pictured in the surviving rates of young companies, which paint a bleak picture for the future of any new business entrants across industries or countries. According to different statistics around 40% to the half of them will not live long enough to celebrate their 5th birthday.[6]

In an attempt to master the uncertainty by obtaining information around the company's past and present performance and in this way facilitating better decisions for the future, major enterprises are implementing strategic internal accounting[7] systems to get a firm grip on the numbers.[8] Small and new business ventures, on the other hand, seem to be reluctant in using such tools.[9] One of may reasons for this trend might be a lack of systems tailored to the needs of start-ups, which happens to be precisely the issue to be addressed with this paper.

As the title suggests, this work is focused around ways to assess performance of individual young enterprises. One central proposition is that characteristics of companies shown today can be used to predict their performance in the future. This is important, as a future-oriented approach to performance measurement is to be followed.

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[1] As Schefczyk, Pankotsch note, different interpretations of the term "start-ups" exist. In Anglo-American countries it is associated with all newly founded enterprises, where in Germany this term is typically associated with technological ventures. In this paper the Anglo-American interpretation without ties to particular industry branches is followed. See Schefczyk, Pankotsch (2002), p. 21.

[2] Helm, Mauroner (2007), p. 238.; Wennekers and Thurik (1999).

[3] According to the *KfW/ZEW Gründungspanel 2012* new business entrants have a net positive labor market effect of around 400 to 500 thousand in Germany (pp. 5-7).

[4] See *Fortune* magazine's article referring to *Apple Inc.* as having attributes of a startup, available online under: http://tech.fortune.cnn.com/2011/08/25/how-apple-works-inside-the-worlds-biggest-startup/

[5] Mintzberg (1980) on a company structure typical for a start-up, pp. 331, 332.

[6] For US data see Bureau of Labor Statistics web page: http://www.bls.gov/bdm/bdmage.htm; For German data see *KfW/ZEW Gründungspanel 2012*, pp. 44-47.

[7] Term "internal accounting" used in the same sense as the German term "Controlling" throughout this paper.

[8] Hebeler, Wurl (2002).

[9] Krol (2009).

The aim of this paper is first to combine several aspects of today's research on startup companies and entrepreneurial environment with practical implementations presently used by experts in this field. In the second step this research will be used to elaborate some specific propositions for the design of a system to be used effectively for the purpose of measuring performance in start-up companies and lastly an attempt to design a system according to the characteristics established is to be undertaken.

1.1 Scientific benefit

As noted in several reference books, the focus of scientific research in the field of accounting and performance measurement systems has grown historically from practical implementations of industrial companies and is following and also facilitating innovations in major businesses since then.[10] If smaller enterprises were not likely to implement the newest state-of-the-art accounting techniques before, they were also not able to present an adequate field for research. Therefore it is not unexpected that the research on accounting of small and young firms is sometimes described as being still in its early stages.[11]

In stark contrast to that there exists a long-kept desire to find specific success factors of new business ventures. Van Praag notes: "*There are few subjects in economics and business which are backed up by such a rich historical knowledge base as in the case with the current subject of venture performance and the business founder's impact on success.*"[12] But also control and management tools introduced in small and medium enterprises (SME) start to receive more interest in the light of recent legislation changes.[13] The research on internal accounting aspects in start-ups on the other hand is very limited[14] and coherences between success factors and management systems are rarely outlined.[15] Certainly, there is a gap between literature on entrepreneurial environment and critical success factors on the one side and implementation of management and controlling systems tailored to the observations on the other.

In this paper the goal is to provide a model, which tries to explain how a combination of factors can be tied to the performance of a young enterprise and in which way this knowledge may be used to steer the company in the desired direction. It is acknowledged by the author that the actual world of startup enterprises is rich and diverse and the "one model fits it all" approach has severe limitations. This paper is therefore first and foremost to be seen as a tryout and an encouragement for further research.

1.2 Practical benefit

On the practical side, two groups of people are to be addressed. First, these are the actual entrepreneurs, who should get an easy and comprehensive tool to assess the

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[10] Horvath (2011), pp. 18-60. Especially the table on pp. 49-52 shows, that scientific studies tend to focus on big corporations.

[11] Bassen, Kleinschmidt (2005), p. 551.

[12] van Praag (2003), p. 7.

[13] Bassen, Kleinschmidt (2005), p. 551.; Berens et al. (2005), p. 186.; Krol (2009), p. 1.

[14] Landberg (2008), p. 1.

[15] Out of several scientific papers this work is based upon, only Held et al. (2007) proposed a framework for decision facilitating and control based on the results of their empirical research.

performance of their company. It is widely noted, that such tools are needed in the special setting of new and opportunistic ventures.[16] The managers of small companies recognize the benefit induced by the implementation of strategic instruments, so it seems, although their companies have been reluctant to do so. As *Held et al.* show, it is believed by the majority of them that good planning is a key factor to the success of a company.[17] However, time and resource constrains are blamed for the absence of strategic planning and performance measurement in young and small enterprises.

A simple and easily implementable tool, which combines strategic and operating goals and focuses the attention of the founders and managers on important aspects of their business, can therefore not only be beneficial in organizing and directing effort, but could also reduce the workload of the person(s) in charge and free up resources to conduct the core business.

The other group of people the research is aimed at are the investors into the new venture. Their desire for a performance measuring system (PMS) may be even greater than that of the entrepreneur or the management team itself,[18] who do or at least may believe to have insight into day to day operations and the direction the company is heading in through being directly involved in the matter.

Regular investors, whether these are banks or venture capitalists and similar, often do not have this benefit and have to rely on disclosed accounting books. These may however carry limited information about the business performance and the actual location of profits or losses within the company. With a sufficient PMS in place, investor's confidence in the project can most likely be increased and therefore additional capital secured. It is noted in different scientific works that implementation of strategic management and accounting systems is considered beneficial by banks[19] and venture capitalists.[20] According to *Davila and Foster* this tendency is reinforced against the background of the possible growth and management change in the later stages.[21]

1.3   Outline of this work

"What you measure is what you get."[22] Going by this saying, an integrated performance measurement system does not only give information about the past ability of the firm to reach its goals. Instead, as a management tool, it is involved in all main functions of internal accounting.[23] By focusing attention of the management and employers on individual objectives, it organizes and directs the operation of the whole enterprise. Secondly, it emphasizes certain goals and values, which then are directly incorporated into company's plans. And lastly, it facilitates gathering of information and control by directing the view to truly important aspects and figures of the operation.[24]

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[16] Bassen & Kleinschmidt (2005), p. 554.; Bischoff (2002), p. 128.; Ortelbach (2006) p. 302.
[17] Held et al. (2007), pp. 23, 27, 28.
[18] Kollmann, Kuckertz (2003), p. 200.
[19] Schindlbeck, Diringer (2004), pp. 110-116.
[20] Achleitner, Bassen (2003b), pp. 577-580.
[21] Davila, Foster (2005).
[22] Ewert, Wagenhofer (2008), p. 522.
[23] Horvath (2008), p. 96.
[24] Wittenberg (2006), pp. 48-50.

To reach these objectives and be functional and comprehensive, a PMS tailored for start-up enterprises has to take into account their unique characteristics. It also has to factor in impacts of the environment these firms operate in. As *Globerson* suggests, focusing on critical factors of success would be a valid approach to do so. He also stresses that a consensus on the goals of a performance measurement system has to be found.[25] This view is understandable, since to know how to measure performance it is important to know how performance is defined first.

Therefore, a set of research questions is set up and followed throughout this paper. First of all, a definition of a "successful" new business venture has to be found. The management system can then be constructed to align the objectives within the whole business to a common goal, also making agreement between involved parties easier. The first research question therefore tries to find common definitions of success:

> #1: How can desired performance for a start-up venture be defined?

A founder has to be aware of the environmental threats his venture may operate in and also of the special characteristics, which could pose obstacles, but also create chances. These have to be addressed within the PMS. The second research questions tries to establish a working definition of a start-up by searching for its individual characteristics and the specific challenges it faces:

> #2: What are the environmental and individual characteristics of setting up new businesses, which differentiate these from established companies?

To be able to overcome difficulties imposed by the environment and structural factors and take advantage of the benefits, startup companies have to take the right steps. To know which measures have to be actively pursued, first critical success factors have to be established. The third question tries to research factors, which have been noted to influence the outcome of a venture in empirical studies:

> #3: Which factors are critical for the performance of a start-up company?

The results then will be compared to a selection of methods of assessing performance found in literature and applied today. The fourth research question, directed to this objective, is defined as:

> #4: Which instruments are used today to measure performance and how are they compared to the results of the previous questions?

The questions help to outline the research in the first two of the following sections of this paper. In section two an analysis of several scientific studies dedicated to start-up companies is conducted. An attempt to find answers to the research questions #1-3 is

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[25] Globerson (1985), p. 639, 640.

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made. To answer the question #4 theoretically, the view is turned to standard economic literature. The results of this review are then analyzed in the light of the previous findings.
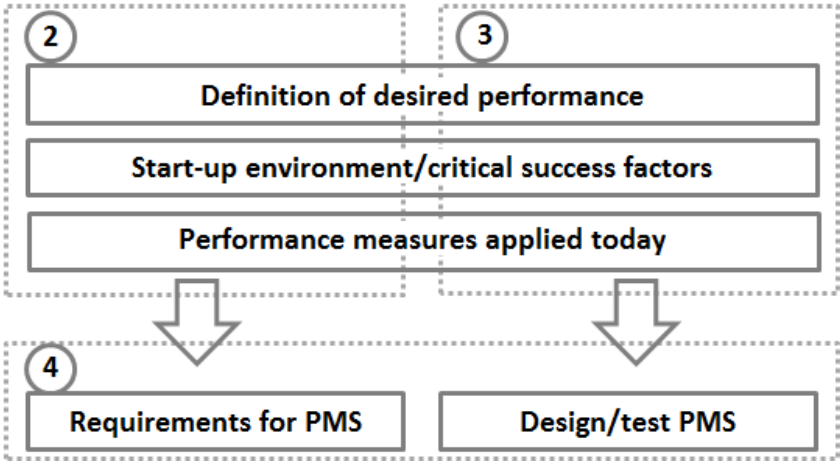
In section three it is attempted to gain insights into actual practical implementation of methods and tools of start-up performance measurement today. The information is gathered with the help of a questionnaire, which is answered by different experts in the field of enterprise valuation and consulting. The answers are also analyzed with the help of the four research questions for reasons of comparability to previous results.

On the basis of the findings in sections two and three, an attempt to construct a performance measurement system is made in section four. Therefore research questions number five and six can be defined as:

> #5: Which requirements does a comprehensive and useful PMS for start-ups need to fulfill?
> #6: How can a possible solution in the light of these requirements look like?

The objective of this system is to be able to measure the performance of a young company at any point in time after it commenced operation. Other requirements are simplicity in structure and clear coherences. It is not expected for this study to be a fully realistic and readily usable tool, but a first step in the development progress. Nonetheless plausible results are desired in an exemplary setting at the end of section four.

Figure 1: Graphic Outline of the Research.

2 Overview of scientific research

2.1 Definition of success

Before going deeper into research on performance evaluation and trying to assess the environment new business ventures are operating in, it is useful to determine a working definition of success. Since the objective behind the measurement of performance is to

need a specific setting. I think they are not relevant to start-ups at first because it was determined that they mostly focus on one product and stand and fall with one business idea. Therefore such additions would complicate a model tailored for them unnecessarily. These questions become more relevant for later stages of a company's lifecycle like expansion etc., where different paths can be actually chosen by the management.

To state what this model is: First of all it is a concept, an idea. Similar to the options theory its main purpose was to show the manager how his past actions have changed the possibilities in the future. Different economic concepts like the *balanced scorecard*, *cash-flow-at-risk* and in parts the *real options theory* found their way into the model. Others have been even discovered after the whole idea has been shaped fully, like the use of the BSC for the risk assessment. This implies that the idea has some validity in science. My personal opinion is that deliberations on the concept of outlining performance as a constant change in probabilities do have their place especially in the uncertain world of start-ups. Even if this concept may not withstand the scrutiny of officially approved methods for company valuation, it creates a "feeling" for the performance of a company and can contribute to better decisions. As have been outlined throughout this paper, subjective measures in assessing past and future performance are all but uncommon, especially in the world of venture financing.

In fact the system is not limited to identifying past performance. If elaborated further and refined with real life data, it could be used as a performance management system to assess different options a management team faces. The measurement of performance in this case becomes measurement of probabilities and factors they are attached to. It does not give definitive answers and no static break even points etc. are assumed. Just the perception how more or less likely a positive outcome has become. As a matter of personal opinion, especially in the dynamic world of startups such an approach is better suited than deterministic criteria. Also measures of cash flows and liquidity evidently are worth more in this setting than overall profits. In the same sense basic issues such as liquidity management should not be forgotten, either. Laying its focus on cash flows, this model gives the possibility not only to assess positive and negative consequences of projects, but also the basic risk of running out of money. Questions like "How much risk can a company take until it is in serious danger of running out of cash?" can at least be partially answered. An option to take additional capital may be weighted by its ability to grow cash flows against a possible higher risk of not being able to meet investor expectations.

All this could be an interesting topic for further research, especially if combined with a practical application. One last thought should be considered, though: No matter how good a management concept might be, an inherent risk will have to be a part of its system.

5 Conclusion

The entrepreneurial process of founding a company is a process full of unpredictability. It was shown, that there is no consensus in economic science on the parameters, which may influence the performance of a venture, neither is there a unified description how performance is to be valued.

This impression of heterogeneity is reinforced by the assessment of opinions and tools prevailing in practice. Different experts have their own preferred methods of assessing a business so the valuation of performance of a specific enterprise stays, although certainly founded, also a subjective interpretation.

On the basis of this heterogeneity in findings, but also some assumptions derived from the analysis and reinforced through literature, a set of criteria for a model of performance valuation suitable for use in start-up companies has been elaborated. To do so, a working definition of a start-up had to be established first. This definition may also be criticized as subjective, not being able to include the whole range of different processes of starting up a business.

In a second step, a model, which suffices the demands listed, has been computed analytically and with the help of *Microsoft Excel* software. As valuation of a company's performance believed to be a subjective process, some assumptions and beliefs of the author have been used for the creation of a model. It also remains completely theoretical, as the assumptions made could not have been tested in the scope of this work. It was noted at the beginning of this paper, that the goal would be to make rather a first step in the desired direction and not to build a comprehensive structure. Therefore, as a matter of personal opinion, even in the light of the subjective factors the model assumes, this goal has been achieved.

The next step would be to test this model against real life data and make refinements to the underlying structure, stochastic assumptions being the first priority. For now it has to remain as a goal for the future.