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Fostering and hindering factors — Success of early stage internet- enabled startups

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ABSTRACT

New market entrants like startups are important for producing radical and disruptive innovation. Radical innovation is needed to compete in markets that may be highly disrupted by the internet, mobile computing, social media and other new technology platforms. In our research we have identified the main enabling and hindering factors for internet-enabled startups in Berlin via an assessment methodology. Deriving from interviews with 197 startup teams we were able to find 112 assessments directly dealing with fostering and hindering factors and a total of 39 factors, twelve of which seem to play an important fostering and hindering role. The data enables policy makers to guide their decisions and to improve the overall startup community in Berlin and Germany.

KEYWORDS

Internet startups, success, Berlin, assessment methodology

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1. Introduction

According to a recent global innovation report out of 143 countries Germany holds position 8 in innovation outputs like goods or services and 19 in innovation efficiency — the translation of innovation inputs like education and financing into innovation outputs. Surprisingly, the rate of new business foundation is constantly low. With position 52 in “rate of new businesses” and position 76 in “ease of starting a business” the country underperforms in entrepreneurship (INSEAD 2014).

The German government has already established multiple programs to encourage entrepreneurial behaviour. However, the rate of new business formation is still low. Only Berlin the German capital has grown to be one of the most important startup hubs in Germany and Europe (McKinsey 2013). This is signified by an increasing number of venture capital and the rate of new businesses especially in areas of digital tech and internet. Having been structurally weak for decades, startups have been an integral part of the recent boom in digital, creative and media industries in Berlin’s economy. Thus, Berlin has the potential for becoming a role model for a new entrepreneurial community in Germany. It is therefore crucial to understand the barriers and enablers that are responsible for the success of internet and technology startups in Berlin.

Our research question therefore is: What are the fostering and hindering factors of early stage internet-enabled startups and what are their effects on startup’s decision making in Berlin? These factors vary from region to region and the instruments and schemes that governments implement to encourage and support such behaviour vary accordingly. Therefore, knowledge about the local needs and processes of startups is crucial. Our research focus is on startups with business models based on internet technologies and helps to early on identify startup’s needs and directs the energy of the policy maker towards critical issues of startup teams.

We conducted a literature review and applied an assessment methodology to identify the main fostering and hindering factors for internet-enabled business models — from startups’ perspective and complemented by expert knowledge. Our model is neither a general model for the success of internet-enabled

startup nor designed to provide a causal analysis of entrepreneurial success factors, nor do we rely on a large set of quantitative data. However, our qualitative approach adds to an understanding of the current needs and challenges for internet-enabled startups and provides impulses for policy makers who want to improve the situation for startups in Berlin and thereby the overall innovation efficiency in Germany.

2. Early stage internet-enabled startups — Contribution to economic growth in Berlin/ Germany

2.1 Methodology

Firstly, we examined entrepreneurship literature (175 journal publications between 2000 and 2015) for main topics and factors influencing technology and internet startups. Secondly, we conducted research by applying an assessment methodology in our five Startup Clinics: HR and Culture, Law, Financing, Marketing and Sales and Business Model. Our research team offers PhD-led sessions to discuss challenges with founders and guide them to a network of high-level experts. The Startup Clinics do not only observe but help startups develop innovative business models in internet and technology-driven domains. Building on the data generated by the clinics (interviews with 200 startups in 2 years), the research group assesses and evaluates the specific challenges founders face and how they overcome them throughout each startup phase. On a macro level, the relevance of a startup's environment is analysed, including networks, regulations and the business environment. The HIIG's clinics do not only observe but help startups develop innovative business models in more internet and technology-driven domains. The Startup Clinics are led by internet and startup experts in the field, e.g. a lawyer whose focus is on data protection law.

Our assessment methodology is inspired by learning sciences applying different assessment techniques: the startup's learning process is monitored by written reports or interviews. The derived information is used to identify topics where startups have problems or aspects that work well. So far we have conducted interviews with 197 startups within our Startup Clinics. Our Startup

Clinics experts asked startup founders to review their startup activities and to determine what their main fostering and hindering factors were. These self-assessment interviews lasted for about 30 minutes to 1 hour to give startups the time necessary to consider and evaluate their progress thoughtfully. The self-assessment of the data was enriched by an external assessment of the Startup Clinics experts to ensure the reliability of the startups self-assessment. To analyse the 197 records written by the Startup Clinic experts in a standardised record pattern we conducted qualitative content analysis to explore and structure contents and to extract hindering and fostering factors.

2.2 Literature review

Having reviewed the databases *Science Direct*, *Ebsco* and *JStore* for success factors and ecosystems for high tech and digital entrepreneurship we identified 175 papers between 2000 and 2015. Only some of them are directly dealing with our question of success factors for digital or high tech startups. We identified success factors on different levels including personal (e.g. Human Resources), processual (business model) and contextual factors (e.g. finance, law).

Authors	Method and research question	Critical Factors	Important factors	Less/least important factors
Chorev & Anderson (2006)	Multi-stage methodology, expert interviews, survey, delphi method	Idea, strategy, core team's commitment, expertise, marketing	Management, customer relationships, R&D	Networking, funding type, economy, complete product/organization <i>least important</i> : general environment & political situation
Song et al. (2008)	Meta-analysis of 31 empirical studies: Identification of 24 most widely researched success factors (Pearson correlations)	Supply chain integration, market scope, firm age, size founding team, financial resources, founders' marketing and industry experience, existence of patent protection		Founders' R&D experience and experience with startups, environmental dynamism and heterogeneity, competition intensity
Kakati (2003)	Identification of 38 criteria; 27 experienced VCs were asked to rate one of their most successful ventures & one of the least successful/failed ventures	Entrepreneur quality, resource-based capability, competitive strategy, ability to develop multiple resource-based capabilities to backup multiple-strategies, ability to meet the unique requirements of customers		

Jain & Ali (2013)	Facilitators to entrepreneurial success (all are reviewed in the literature)	Environmental determination; dependency on personal characteristics; "opportunity recognition sensitivity"; marketing/entrepreneurial/achievement orientation; innovativeness; internal locus of control; risk taking propensity; pro-activeness; reasonable tolerance for ambiguity; self-efficacy; entrepreneurial parents; education & training; work experience; social networking	
Block, J; Brockmann, H; Klandt, H (2008)	Hindering factors for new business creation in Germany	Difficulties in: Provision of financial resources, qualified employees, customer relationship/sales, bureaucratic barriers & legal aspects, individual risk tolerance, trust in entrepreneurial competences	
Aspelund et al. 2005	Based on longitudinal data from 80 Norwegian and Swedish technology-based startups	Small & heterogenous teams have an increased probability of survival and overcome counterparts; team competence density; higher degree of technological radicalness increases the probability of survival; early strategic decisions determine the path for new ventures and limit the strategic options at later stages; initial internal resources are antecedents of a technology-based firm's survival	Presence of entrepreneurial experience not have a positive effect on the likelihood of new venture survival
Hyytinen et al. (2015)		Startup's survival probability engaged in innovativeness is lower; interaction of innovativeness & entrepreneurs' higher appetite for risk reduces survival prospects of their startups	Negative association between innovativeness and subsequent firm survival
Aaboen et al. (2013)	Focus on new ventures development, identification of patterns in the network development; method: longitudinal case study of three new ventures , total of 18 interviews; findings: 3 patterns	Exploration & exploitation of similarities can benefit further relationship development, may impact on ventures' perception of businesses scope; knowledge sharing among customers can be an effective way of expanding the resource base & strengthening the position in the network without developing specific 'user knowledge'; developing relationships with mediating partners expands the customer base and builds a position in the network	
Nowak & Grantham (2000)	Study of the California software industry, main barriers	Lack of access to low cost infrastructure resources, adequate management skills/ knowledge & business networking resources for marketing; prime reason: under-capitalization (lack of experienced management & adequate understanding of seed investing by local investors); lack of a coherent, stable & widely accepted format for structuring early-stage deals	
Inderst et al. (2009)		Active investors, such as venture capitalists, can affect the speed at which new ventures grow	

Collinson (2000)	Small indigenous software companies in Scotland, focusing on the strengths and weaknesses of the region's socio-economic infrastructure as a foundation for innovative new business ventures	Two kinds of knowledge particularly important: strategic knowledge (strategic decision-making) & knowledge of knowledge (knowledge of finding specific expertise); growth of local clusters of new high-tech businesses linked to local agglomerations of specialist knowledge/expertise; provided knowledge & experience strongly influenced by supporting social, cultural and economic environment of a particular region	
Branz, R.; Gleizal, A. (2014)	Investigation on how contextual factors impact the entrepreneur's decision of starting a new business; focusing on Sweden and Brazil; interviews & literature review	<i>literature review</i> : economic wealth, government policies & procedures, legal & administrative, society's culture, network and knowledge, financial/non-financial assistance; <i>empirical findings</i> : seven contextual factors do not have the same level of influence in Sweden and Brazil, depend on the environment; most important: network and financial assistance.	
Stijn, N.v.; Rijnsoever F. (2014)	Case study, focus on the role of universities in supporting start-ups; 42 interviews in the Boston startup ecosystem	culture of "paying it forward" & supportive organizations is a fundamental support; balanced & inspirational startup ecosystem; universities and start-ups naturally have the incentives to sustainably collaborate; universities can promote entrepreneurship as a career path; teaching entrepreneurship demands an "action-based" approach; ownership, leadership & engagement lead to successful collaboration; universities as excellent piloting sites for new technologies and products	

Table 1: Fostering and hindering factors for success in software startups (general aspects)

The literature review mainly shows different results for different regions e.g. Israel, Scotland, Boston (van Stijn, van Rijnsoever 2014; Collinson 2000; Chorev, Anderson 2006). Context factors are more often valued as less important than factors internal to the team. Researchers point to the difficulty of identifying overarching success factors and discover methodological weaknesses and the necessity of oversimplification as well as an amount of scientific decisions difficult to validate (Kieser, Nikolai 2002). However, we found a couple of aspects in the literature that seem to have an effect on new tech and software businesses that were mentioned.

Personal aspects related to the core team and founders were mentioned as important or critical like expertise, commitment, the entrepreneurial orientation and qualification, internal locus of control, risk taking propensity, pro-activeness, size and complementarity of team, tolerance for ambiguity, self efficacy, personal experience and background, working and industry experience (e.g. Jain, Ali 2013; Block, Brockmann, Klandt 2008). Thus, Human Resources like attitudes, skills and behaviour are critical to the success of an internet-enabled startup. In the scholarly discourse, there is a consensus that one of the key factors for the successful development of a startup are the skills, attitudes and competencies of its founders (e.g. Chandler & Hanks 1994).

Another important factor is marketing and customer relationship which was mentioned in the literature (e.g. Chorev & Anderson 2006; Jain & Ali 2013). Most internet-enabled startups face major challenges when it comes to finding a suitable sales and marketing strategy and acquiring new users and customers for their products or services. The vast majority of them have very limited financial resources and little, if any, brand recognition. A further aspect is financial knowledge and access to finance (e.g. Branz, Gleizal 2014; Song et al. 2008). Startups make strategic decisions regarding their financing and future funding options early on — often without knowing it. Choosing one type of financier over another can have decisive implications regarding follow-up funding and venture success in general.

For startups, the laws and regulations are important enabling factors for coping with the uncertainty they face in their daily business. However, laws do not always fit entrepreneurial processes which are characterised by the openness of their outcome. The challenge for the legislator therefore is to shape a law which not only protects individuals' fundamental rights but is also open to innovation driven by the (startup) economy while providing legal certainty for both (e.g. Branz, Gleizal 2014; Block, Brockmann, Klandt 2008; Lessig 2004; Dopfer et.al. 2015).

2.3 Findings

During the past two years, we conducted qualitative interviews with 197 startups in our Startup Clinics. In interviews of 112 startups fostering and hindering aspects for startup success were discussed. Startups were asked to

actively name these factors during the interview. Additionally, the Startup Clinic experts recorded factors that were apparent during the interviews but might not occur to entrepreneurs as hindering or fostering. In this set up, the factors can be understood as top of mind factors of high significance to the participating startups. Using content analysis, we found 391 relevant topics which we were able to summarize into 39 factors — as Table 1 illustrates. The twelve factors mentioned the most, are respectively the most important ones and are closely explored below.

Factor		Mentions ¹	Share of startups ²
Core team	Entrepreneurial spirit/commitment	29	25,9%
	Complementary skills	28	25,0%
	Network	10	8,9%
Team skills	Business	7	6,3%
	Entrepreneurial experience	17	15,2%
	Industry/market knowledge	28	25,0%
	Marketing/sales	8	7,1%
	Tech	11	9,8%
External support		23	20,5%
General environment/ecosystem		5	4,5%
Finance		18	16,1%
Setup of business model	Definition of business model	21	18,8%
	Definition of USP	6	5,4%
Potential of growth	Market potential	16	14,3%
	Proof of concept	15	13,4%
Product	Development/launch costs	8	7,1%
	Innovativeness	10	8,9%
	Scalability	6	5,4%
Marketing	Cooperations	16	14,3%

¹ Factors with less than five mentions are not shown.

² Based on 112 startups interviews which addressed fostering/hindering factors from a total of 197 startups.

	Definition of target group(s)	5	4,5%
	Need of explanation	9	8,0%
Law & regulations	Company registration	5	4,5%
	Legal issues	25	22,3%
Internal setup/processes		7	6,3%

Table 2: Relevant factors based on the Startup Clinics

2.3.1 Core factors

Analysing all factors we found that some of them were exclusively mentioned as enabling while others were seen as mostly hindering. Only few were mentioned as equally enabling and hindering. These factors that were put in a negative and a positive context mostly equally are amongst the factors that were recorded in a high number of interviews. They include the entrepreneurial spirit, motivation and commitment of the core team, the network of the core team, tech resources and entrepreneurial experience within the team as well as marketing cooperations. Four out of these five factors that we consider to be very important are linked to the persons within a startup. The only factor linked to processes in marketing/sales is the topic of marketing cooperations i.e. with established companies and corporations (B2B) or popular consumer platforms (B2C) that often help startups in early stages to enhance growth in customers/users. As these factors have the potential to drive success of startups in both ways, we call them core factors.

2.3.2 Hindering factors

A small number of factors was mentioned in a lot of interviews as practically exclusively hindering and can therefore be seen as prerequisites for setting up a startup: Legal issues like problems with data privacy or intellectual property issues as well as special problems concerning business models in certain fields — for example the sector of digital health was mentioned as concern that might constrain business. Most startups mentioned the topic of finance/funding in their interviews when they were concerned about a lack of funding for their business. In three cases was a positive note of secured funding seen as a fostering factor. As soon as these external issues are resolved, however, they hardly get mentioned at all. Therefore, a stable frame of laws and regulations as

well as sufficient sources of funding can be seen as preconditions for fostering startups. Another factor, that was purely mentioned as hindering was the ability of startups to define their business model and to convey the way they were going to generate revenues — which is part of the setup of a success strategy.

2.3.3 Fostering factors

On the other hand we could identify a number of factors that were mentioned to be enabling by the majority of interviewed startups i.e. 80 percent or more of the mentions were positive. These factors can be seen as the factors that — once necessary preconditions are fulfilled — really can boost a business. Two of the factors were linked to the persons running the startup and their respective skills: First of all, a core (founding) team with complementary skills was seen to be very favourable and an asset for startups. Furthermore, the knowledge of market and industry within this team was seen as a big facilitating asset. Another important factor was external support i.e. from accelerator programs, mentors, consultants or institutions like our Startup Clinics. In very few cases, this sort of support was seen as a hindering or delaying factor as it cost time or led to decisions that turned out to be wrong — for the most part however external support was seen as a big help for starting and growing a business. Last but not least the product and in particular its market potential was seen as a crucial factor to enable entrepreneurial success. Telling from the records, market potential was described by participating startups in many ways e.g. by having found a market niche or by presenting an entirely new product or technology.

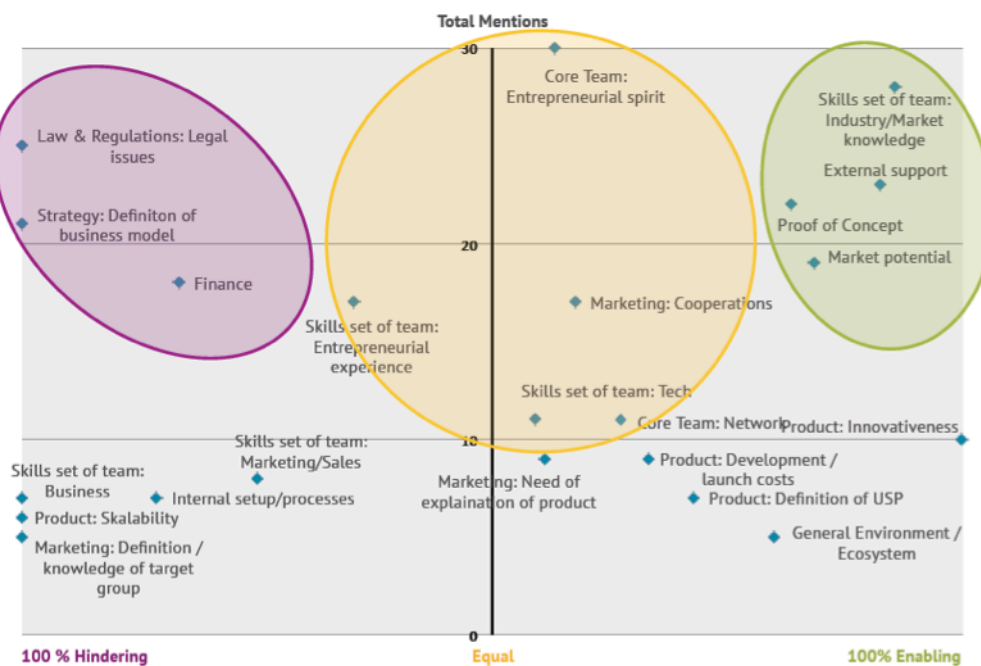


Fig. 1: Model fostering and hindering factors.

3. Conclusions

Deriving from 197 interviews with startup teams we were able to identify 112 directly dealing with fostering and hindering factors and a total of 39 factors, twelve of which seem to play an important fostering and hindering role. What stands out to be the most important parameter in startup success — in the literature review and in our own research — is the characteristic of the startups' team.

Whilst policy makers will never be able to change a founding team and their entrepreneurial motivation or their idea and respective product which stood out as important factors in startup success. However, they can create an environment that fosters startup teams' efforts. On a national level, policy makers can create favorable preconditions by considering startups' needs when it comes to law making, regulations and bureaucracy. Locally, Berlin's policy makers can foster startup development by attracting more financial resources i.e. in the field of venture capital. Also, governments should develop local networks and ecosystems: The core team's network, external support and marketing cooperations (especially with large corporations) are named as

important factors that enhance startup success. Policy makers should therefore create and support opportunities for different players to meet.

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