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Mäkäraäinen-Suni, I. (2017). Eventful journey from idea to business: Opportunity development and exploitation process of a digital technology start-up. British Academy of Management BAM2017 Conference Proceedings.

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To cite this article:

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# **Eventful Journey from Idea to Business: Opportunity Development and Exploitation Process of a Digital Technology Start-Up**

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## **Summary**

Start-ups are in the focus and important to the society, unfortunately many new ventures fail. Digital economy has given new potential for firms to create new business models and value creation mechanisms. The opportunity creation, development and exploitation process of digital start-up ventures, is a complex and dynamic process that is seldom linear following different stages of venture creation process in a nice and predetermined manner. Instead the journey developing the opportunity from the core idea is often happening through trial and error, and with several developmental cycles that are triggered from critical events and can lead to the creation of a business venture or abortion. Considering the challenges start-up entrepreneurs face, it is vital to find ways for the entrepreneurs to be able to develop their ideas faster with better results and with less wasted effort. This paper suggests a theory based conceptual framework for future empirical research.

## **Track**

5. Entrepreneurship

## **Word count**

5703 words excluding tables and references

## Introduction

Start-ups are in the focus for different reasons around the world: in the U.S ‘start-ups aren’t everything when it comes to job growth, they’re the only thing’ (Kane 2010), in 2015 Britain hits record number of start-ups (Anderson 2015), in India start-ups are creating the world’s fastest growing start-up ecosystem (Sikka 2015), and in the EU small and medium-sized enterprises (SMEs) are the backbone of Europe's economy as the European Commission considers SMEs and entrepreneurship as the key to ensuring economic growth, innovation, job creation, and social integration in the EU (EU 2013).

Digital economy has given a potential for firms to experiment with new business models and value creation mechanisms (Zott, Amit & Massa 2011), and the level of connectivity between actors and ideas has increased dramatically (Carlsson 2004). Even though the number of start-ups is rising, new ventures face many challenges, including the always present risk and uncertainty (Knight 2012). Research shows that 3 out of 4 start-ups fail (Gage 2012) and ‘three quarters of venture backed firms in the U.S. do not return investor’s capital’. So just the formation of new companies is not enough to help with job creation and positive economic outlook, these new start-ups should also survive the “valley of death” or the liability of newness (Stinchcombe, March 1965). We need more knowledge of how these start-ups could do better, how their solutions for customer needs could be developed faster and with less wasted effort.

From the new product development and innovation point of view, start-ups may have an advantage on their side compared to the big already established companies, since they don’t have processes, partners and business models created to support the status quo (Christensen et al. 2006). New technology start-ups of the digital era are coming up with disrupting innovations by changing industries, and have the capacity to scale their operations worldwide (Huang et al. 2017).

The aim of this research is to explore and recognize possible patterns of the opportunity development and exploitation phase of a new start-up venture of digital entrepreneurship. By looking at critical events of the entrepreneurial journey, and how the start-ups have reacted to these events, this research is aiming to find out ways how the development process can be made faster, possibly with lower cost than in a traditional new product development process, and thus have a better chance of success. This research is studying digital technology ventures, which can either be the creation and development of entrepreneurial opportunities as digital innovations, new business models, digital objects or services, or a combination of these features.

There is a lack of digital economy specific research on entrepreneurship (Sussan, Acs 2017) and digital technology entrepreneurship research (Nambisan 2016). The existing research has studied entrepreneurship from the technology point of view treating technology as a context for empirical work (refs), and limited effort on the role of specific aspect of digital technologies shaping entrepreneurial opportunities, decisions, actions and outcomes (Nambisan 2016).

‘Digital technologies herald a new era in entrepreneurship, one in which the traditional ways and forms of pursuing entrepreneurial opportunities are increasingly questioned and refashioned. Gaining a deeper understanding of the underlying issues calls for integrating digital-technology-related concepts and constructs with those in existing entrepreneurship theories.’ (Nambisan 2016)

The digital economy and digital technology are bringing new elements to entrepreneurship research, such as digital artefacts or objects, which are ‘intentionally incomplete and perpetually in the making’ (Kallinikos, Aaltonen & Marton 2013) as in examples of Wikipedia and Linux (Garud, Jain & Tuertscher 2008), as they are not finished objects, instead they are edible and re-constructable.

Digital artifacts have a “dubious ontology”—they do not easily lend themselves to the kinds of criteria that we normally apply to perceive and identify physical objects. (Ekbja 2009, Allison et al. 2005)

The shift of research in entrepreneurship has turned towards the processes used to form opportunities instead of focusing on the role of entrepreneur (Alvarez, Barney & Anderson 2013, Snihur, Reiche & Quintane 2014). As ‘there is no unified theoretical entrepreneurial process model’ (Moroz, Hindle 2012), entrepreneurship researchers call for more event-driven process research (Aldrich 2001) to study entrepreneurial dynamics, express the need for process studies with the view of entrepreneurial journey circumstantial to time and space (McMullen, Dimov 2013, Mason, Harvey 2013), and need for empirical research on what entrepreneurs do in practice, how they cope with coincidence, uncertainty and risk (Steyaert 2007, Johannisson 2011, Moroz, Hindle 2012). There is also a lack research of opportunity development and exploitation process of digital entrepreneurship (Standing, Mattsson 2016, Nambisan 2016). This conceptual research is contributing to this gap by studying the opportunity creation, development and exploiting process of digital technology entrepreneurship.

Research questions are:

1. What kind of events happen during the entrepreneurial opportunity development and exploitation process which force the entrepreneur to change, reconfigure or innovate the venture idea?
  - a. How the entrepreneurial narratives are describing/explaining the process of what entrepreneurs do during opportunity development and exploitation (venture creation)?
  - b. What are the critical events which have changed the way entrepreneurs have proceeded with their processes?
2. What kind of changes have these events triggered?
  - a. Can any patterns be found how entrepreneurs are dealing with the opportunity development process after a critical incident?

## **Literature review**

The literature review is divided in four parts in the following way: 1) entrepreneurship and opportunity development process, 2) entrepreneurial journey, narrative approach and artifacts, 3) entrepreneurial failure and survival, and 4) event-based process research and critical events.

### **1. Entrepreneurship and opportunity development process**

Entrepreneurship research is shifting from studying the entrepreneur towards the process view of the entrepreneurship (Gartner 1985, Bygrave, Hofer 1991). The process view of entrepreneurship is more suitable compared to the variance theory approach, when explaining ‘what entrepreneurs do under genuine uncertainty’ and ‘a process approach to entrepreneurship research may reveal predictable patterns and events that variance-oriented studies would otherwise miss’ (McMullen, Dimov 2013). The process view of entrepreneurship has been suggested by several researchers from different eras, as early as in 1980s (Gartner 1985) and again after 30 years (Steyaert 2007, Hjorth, Holt & Steyaert 2015, Alvarez, Barney & Anderson 2013, McMullen, Dimov 2013, Selden, Fletcher 2015b). The focus in process studies is on how and why things emerge, develop, or terminate over time (Langley et al. 2013).

In the process view of entrepreneurship the research is shifting ‘towards the processes used to form opportunities’ (Alvarez, Barney & Anderson 2013). The concept of opportunity has become central for entrepreneurship researchers (Short et al. 2009, Shane, Venkataraman 2000, Eckhardt, Shane

2003), ever since the vast discussion on opportunities started with the Shane, Venkataraman (2000) article. The discussion on entrepreneurial opportunities is having at least three research problems at present, which all are interesting to this research. The first one is how to define an opportunity (Davidsson 2015, Venkataraman et al. 2012), the second is how the opportunities come to exist, whether they are recognized, discovered or created (Shane, Venkataraman 2000, Alvarez, Barney 2007, Suddaby, Bruton & Si 2015, Ramoglou, Zyglidopoulos 2015), and the third is “how” opportunities are developed, the processes and the mechanisms of opportunity development (Moroz, Hindle 2012, Venkataraman et al. 2013).

The first question, what is an opportunity, is relevant because the digital technology is bringing up new ways to identify, conceptualize and develop opportunities (Standing, Mattsson 2016, Nambisan 2016). The definition of opportunity has changed from the era before the internet 1991, towards more abstract and interactive in nature. The later definitions do not talk about the cost of production or raw materials (Casson 1982), instead after 2009 when mobile applications became technically possible, the definition describes interaction between markets and environments, and claims an opportunity itself to be a process rather than a thing:

‘we characterized *opportunities* as the discovery or creation of new means–ends relationships that can evolve from interactions between markets and environments’. (Busenitz et al. 2014).

‘Entrepreneurial experiences begin within already organized organization of systems and knowledge configured around largely pragmatic interests with sustaining human life. Opportunity arises in a holding open of these systems through decisions that mark new ways. It is in this historically located way that the entrepreneur acts into the open, not towards a recognized opportunity. It is the acting itself that constitutes the opportunity, which is a process, not a thing.’ (Hjorth, Holt & Steyaert 2015)

The processes used to form opportunities are ‘iterative and of trial and error, that fail and succeed to produce novel products and services’ (Alvarez, Barney & Anderson 2013, Mason, Harvey 2013). A process used to form opportunities, or opportunity development process are described as:

‘the process of opportunity development involves proactive efforts much like that of new product development, but the development process here gives rise to an entire business not just a product and that ‘we regard opportunity development as a continuous, proactive process essential to the formation of a business’ (Ardichvili, Cardozo & Ray 2003)

‘a dynamic and iterative process, during which opportunity is repetitively translated and transformed vis-à-vis a set of actors’ (Snihur, Reiche & Quintane 2014).

The processes used to form opportunities is studied by looking at the concepts of entrepreneurial process, venture creation process and the opportunity creation processes. Because of the vast amount of literature in this field, the starting point was the review articles covering entrepreneurial process, new venture creation process, entrepreneurial growth and stages, and opportunity in relevant ways (Table 1). In addition to the review articles, one article was included because of the high number of citations (Ardichvili, Cardozo & Ray 2003).

Table 1. Articles of entrepreneurial process studies and opportunity development

Author(s)	Concept studied	Nature of the article	Conclusions of study/ concepts used for framework
(Ardichvili, Cardozo et al. 2003)	entrepreneurial opportunity identification and development	theoretical, largely quoted	recognition, development and evaluation of opportunity, abortion, venture formation, type of opportunity

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Author(s)	Concept studied	Nature of the article	Conclusions of study/ concepts used for framework
(Gilbert, McDougall et al. 2006)	new venture growth	review of 48 empirical articles published in foremost management and entrepreneurship journals	rich array of factors, ranging from characteristics of the entrepreneur, to access to resources such as human capital and finance that have now consistently emerged as explaining why some ventures grow more than their counterparts, how to grow (internally or externally) and where to grow (domestically or internationally)
(Steyaert 2007)	entrepreneurial process	review of process theories, 20 years of entrepreneurship studies	emergence (complex & chaos theories), creative process view, entrepreneurship as sense making process (interpretive and phenomenological attempts), social constructionist approaches (narrative approach), the pragmatist and practice-based perspectives (effectuation)
(Short, Ketchen et al. 2009)	opportunity concept and the processes surrounding it	review article, 40 conceptual and 28 empirical articles	dynamic process, more complex theory building, empirical modeling
(Levie, Lichtenstein 2010, Lichtenstein 2016)	entrepreneurial growth and stages theory	review article, 104 articles of new venture growth stages process model, critics of stages model, suggestion for a framework	dynamic states, most efficiently/ effectively match internal organizing capacity with the external market/ customer demand, any number of states, adaptive process, retaining the sustainability of a business model, emergent outcomes
(Hansen, Shrader et al. 2011)	definitions of entrepreneurial opportunity and opportunity-related processes.	review article, 56 articles, 49 conceptual definitions and 32 operational definitions	composite conceptual definitions and labels of opportunity-related processes, composite conceptual definitions of opportunity
(Moroz, Hindle 2012)	entrepreneurship as a process	review article, 32 models and researchers studied	no unified theoretical approach, need for collective effort toward clearer understanding of what means to study and practice entrepreneurship, context <i>really</i> matters: entrepreneurial process cannot be abstracted from its contextual setting, “how” of entrepreneurship in entrepreneurial process
(Davidsson 2015, Davidsson, Gordon 2012)	‘opportunity in relevant ways’, new venture creation process	review article, 210 articles, suggestion for framework 83 journal articles, PSED data	opportunity: external enables, new venture ideas and opportunity confidence, outcomes
(Alvarez, Barney et al. 2013)	opportunity creation and discovery	theoretical, largely quoted	
(Vogel 2016)	from venture idea to venture opportunity	review of 12 most influential typologies on opportunities, suggestion for a framework	venture opportunity development and exploitation, external and individual factors, shape, refine customer need, resources and capabilities, customer segment, venture idea, venture concept and venture opportunity, pivoting, trigger

In the table below (Table 2) are the figural presentations of the models from literature review (Table 1), which have served as basis for the framework of this study.

Table 2. Models used for the suggested framework of this study (in chronological order)

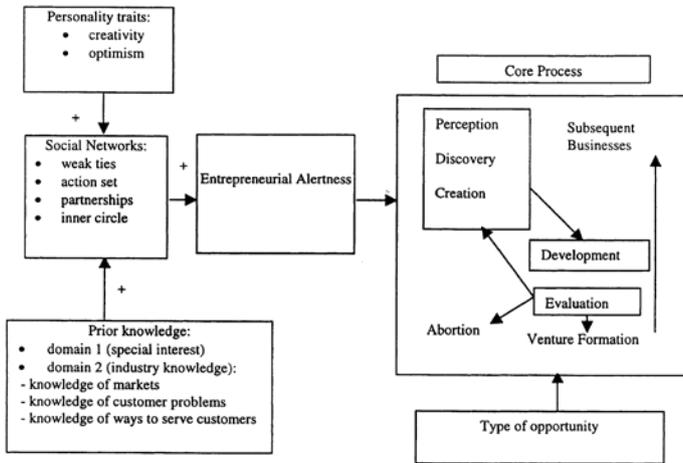


Figure 1. The model and units for the opportunity identification and development theory (Ardichvili, Cardozo & Ray 2003)

Basis for framework, except the opportunity recognition phase, which is not in the scope of this study

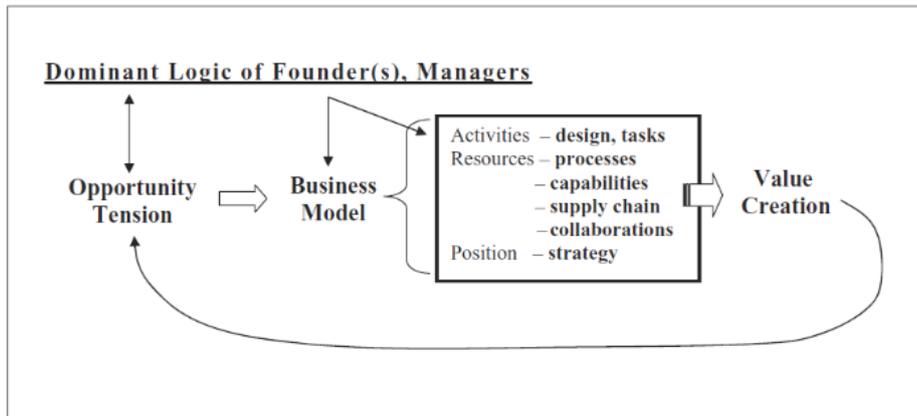


Figure 2. Elements of a Dynamic State (Levie, Lichtenstein 2010)

Included in the framework

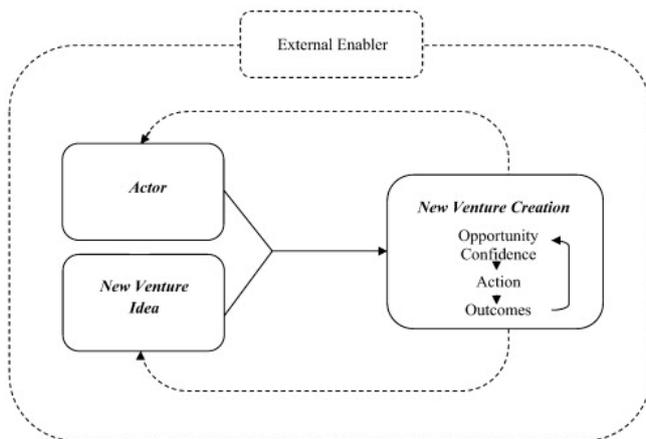


Figure 3. The Actor — New Venture Idea Nexus (Davidsson 2015)

Included in the framework

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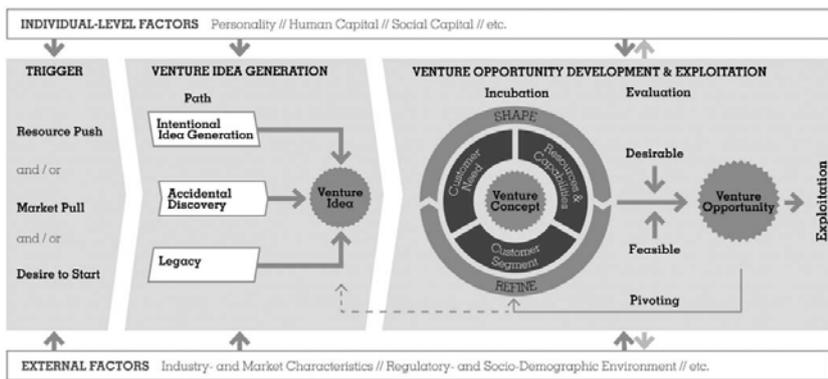


Figure 4. Dynamic and iterative framework of early-stage entrepreneurial process from venture idea to venture opportunity (Vogel 2016)

Included in the framework, except the venture idea generation phase, which is not in the scope of this study

Ardichvili, Cardozo & Ray (2003) argue the development process of opportunity is ‘cyclical and iterative’ and during the process entrepreneur is conducting evaluations of the venture several times and in different stages of development (Figure 1). The evaluations can lead to ‘recognition of additional opportunities of adjustments to the initial vision’ (Ardichvili, Cardozo & Ray 2003).

In the review of 20 years of entrepreneurial studies (Steyaert 2007) the vast amount of studies are discussed and grouped under the following themes: emergence in order creation of complex and chaos theories, creative process view entrepreneurship as sense making process in interpretive and phenomenological studies, narrative approach in social constructionist approaches, effectuation in the pragmatist and practice-based perspectives, actor-network theory, radical process philosophy and social ontology of becoming.

Levie, Lichtenstein (2010) claim that the stages models, life-cycle theories and entrepreneurial growth do not present the actual development of firms, instead they are ‘clear but misleading roadmaps that create an illusion of certainty about the path ahead’. Because opportunity development and exploitation process of startup ventures is a complex and dynamic process that is seldom linear following different stages of venture creation process in a nice and predetermined manner, they propose the dynamic state model (Figure 2), which looks at business organizations as ‘open, complex adaptive systems, that operate in disequilibrium conditions’ (Levie, Lichtenstein 2010). In later study Lichtenstein (2016) builds on the emergence claiming the emergence is a process that generates an emergent as an outcome and that emergence in entrepreneurship follows a process/pattern which he says is more predictive of start-up success than behavioral content and that most instances have no influence in the dynamic system but a few instances have a substantial leverage.

The review of venture creation process studies (Moroz, Hindle 2012) conclude there is no unified theoretical entrepreneurial process model which is both generic and distinct, and states that the study of “how” of practical implications are in minority in entrepreneurship process studies and that there are plenty of studies with theoretical perspective. Moroz, Hindle (2012) also put an emphasis on the importance of context in the entrepreneurial process research stating, ‘entrepreneurial process cannot be abstracted from its contextual setting’.

The two literature reviews (Short et al. 2009, Davidsson 2015) together include 278 studies of opportunity in relevant ways (Table 1). In the conclusions Short et al. (2009) are calling for analytical techniques that allow testing of dynamic process, more complex theory building and empirical modeling. Davidsson (2015) is building on the actor - new venture idea nexus and is suggesting an alternative conceptualization of entrepreneurial opportunity by breaking it down into three parts as external enabler, new venture idea and opportunity confidence (Figure 3).

The model of (Vogel 2016) (Figure 4) is looking at the evolution of a venture from first insight to exploitation, and includes insights from creativity and innovation management. The first phase of the model is looking at the trigger of the venture idea, next phase is the venture idea generation, and the third phase is describing the venture opportunity development and exploitation phase. In the incubation phase the venture concept is shaped and refined by customer need, resources and capabilities and customer segment. After the incubation phase an evaluation phase takes place and finally the exploitation of the venture opportunity (Vogel 2016).

The notion of the cyclical way of entrepreneurial process is suggested by several researchers (Snihur, Reiche & Quintane 2014, Lichtenstein 2016, Ardichvili, Cardozo & Ray 2003), the emergence is also explained to occur in cycles (Lichtenstein 2016). Temporal sequencing of the development cycles (Snihur, Reiche & Quintane 2014) is said to 'likely affect the speed of opportunity development'.

### **Entrepreneurial journey, narrative approach and artifacts**

The second question concerning opportunities was whether they are recognized, discovered or created, has relevance to this research and is discussed using the narrative approach (Steyaert 1997, Garud, Giuliani 2013, Hjorth, Steyaert 2004).

The narrative approach is suggesting that both discovery and creation are a part of entrepreneurial opportunities, and that opportunities are created through a continuous interaction with involved actors of the development process (Garud, Giuliani 2013, Venkataraman et al. 2013, Venkataraman et al. 2012, Garud, Gehman & Giuliani 2014). Mason, Harvey (2013) argue that 'only by looking at opportunity backwards from the vantage point of the unfolded – and already known – future that it is possible to speak of discovery, recognition and identification of opportunities'. This continuous interaction with different actors is 'critical because it enables continued feedback and access to actors' resources' (Snihur, Reiche & Quintane 2016), and is claimed to be sustained through translation and transformation.

Snihur et al. (2016) explain the term translation mean how 'the entrepreneur presents and adapts an opportunity to external actors' and transformation is described as

'the process through which entrepreneurs combine (positive or negative) actor feedback with the existing features of an opportunity, developing it further'. (Snihur, Reiche & Quintane 2016)

Entrepreneurial journeys are described as 'dynamic processes requiring continual adjustments by actors' (Garud, Giuliani 2013) and from narrative approach 'narratives take us into the ways of tactics as we follow the wit in everyday practices rather than the theoretical rationality of the strategic' (Hjorth 2007). Also when entrepreneurship is seen as a process of 'emergence' (Lichtenstein, Dooley & Lumpkin 2006) the daily activities are probably not routine, but instead entrepreneurs must act fast and find creative ways to solve problems according to the situation (Mueller, Volery & Von Siemens 2012).

As Moroz, Hindle (2012) emphasized the entrepreneurial process must be studied in its contextual setting, and Dimov (2011) is adding to the contextual need also the need to view entrepreneurship as a journey, circumstantial to time and space. This means the time and the circumstances that exists at a certain time and space are never the same again, and the vitality to study the entrepreneur's actions as they emerge, since the journey looking forward is a process of trial and error (Mason, Harvey 2013).

The third question of 'how' opportunities are developed brings the concept of artifacts (Venkataraman et al. 2012, Sarasvathy 2003, Venkataraman et al. 2013) into discussion. Venkataraman (2012) has identified mechanisms of developing entrepreneurial artifacts such as bricolage (Baker, Nelson 2005), effectuation (Sarasvathy 2001), pattern recognition (Baron, Ensley 2006), and transformation as in creating new markets (Dew et al. 2011). What is an artifact, or in the context of this research an entrepreneurial artifact? The science of artificial theory (Simon 1996) is used for looking at entrepreneurship as a science of the artificial (Sarasvathy 2003, Venkataraman et al. 2012). Artifact is described as 'objects and phenomena in which human purpose as well as natural law are embodied' (Simon 1996). Another more practical description of human artifacts is:

'Human artefacts are emergent outcomes of practical activities, such as engineering, medicine, business, architecture and painting, which are purposefully designed for an uncertain future in the context of uncertain contingencies'. (Selden, Fletcher 2015b)

Since this research is interested in the digital technology opportunities, this brings new elements to the opportunity development process because the opportunities and the artifacts must be defined in a way that the nature of digital technology is considered. The study of the digital technology perspective of entrepreneurship (Nambisan 2016) describes the opportunity, digital artifacts and their relationship with each other:

'drawing on (Davidsson 2015) entrepreneurial opportunity framework, digital artifacts and digital platforms serve as part of the new venture idea (outcome) while digital infrastructure serves as an external enabler (supporting the process)' (Nambisan 2016).

What are digital artefacts? Kallinikos et al. (2013) are studying the properties of digital artifacts and are listing examples as iPad, the internet, digital videos, computer files, software bugs, PC, Wikipedia, blogs, webpages, databases and cinema of digital artifacts. Digital artifacts have special characteristics as they are editable, meaning they can be edited, modified, deleted or added with new elements (Kallinikos, Aaltonen & Marton 2013), they also lack the stability and adequacy of traditional objects and could be seen as quasi-objects (as in open source software development) (Ekbia 2009). Other characteristics of digital artifacts include that they are interactive, are possible to access and to modify by means of other digital objects and are distributed, meaning they are borderless and that borders must be maintained technologically (Kallinikos, Aaltonen & Marton 2013).

The model based on complexity science of the emergence of the entrepreneurial artifacts (Selden, Fletcher 2015b, Selden, Fletcher 2015a) is suggesting what kind of artifacts are created in different levels during entrepreneurial journey (Figure 5). The model of Selden, Fletcher (2015b) has some similarities with the model of Levie, Lichtenstein (2010) (Figure 2) since both models include the similar concepts as following: business model, resources as capabilities, entrepreneurial practices or also called activities, new supply-demand relationships or also called supply chain and collaborations or inter-firm collaboration strategies. Levie, Lichtenstein (2010) are not using the term artefact in their model and have not included the business idea as a means-end framework.

The emergent artifact-creating process (Selden, Fletcher 2015b, Selden, Fletcher 2015a) suggests that the artifact interaction and emergent system is hierarchical in six different levels according to different subsystems as 1. entrepreneur sense-making, 2. entrepreneur-stakeholder, 3. entrepreneurial firm, 4. entrepreneurial market system, 5. firm cluster/network system, and 6. socio-cultural system. The study uses the story of the Republic of Tea (Ziegler, Rosenzweig & Ziegler 1994) as an example to test their model, so this framework suggested needs more validation.

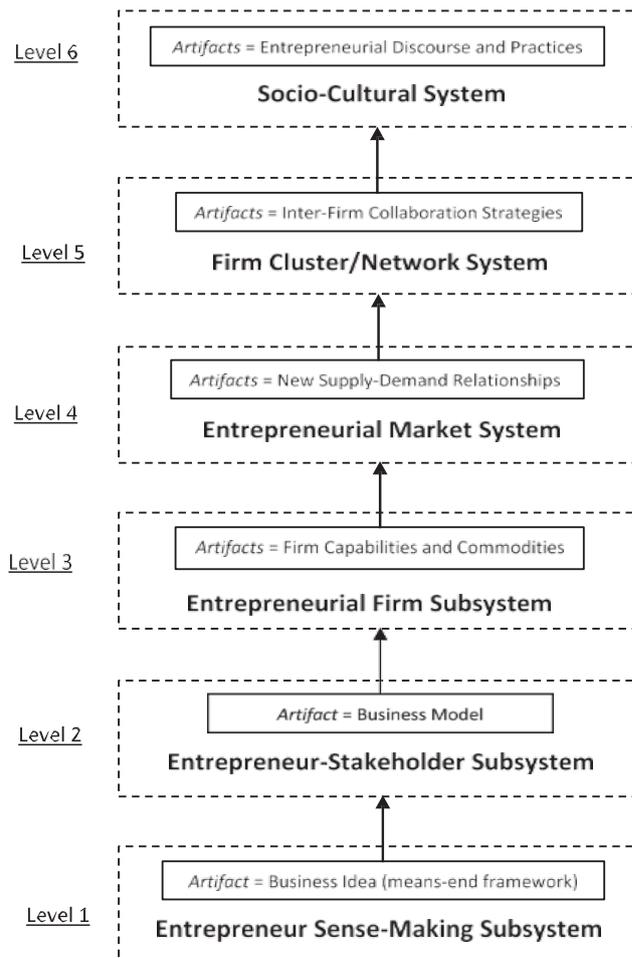


Figure 5. Entrepreneurial emergent system hierarchy (Selden, Fletcher 2015b)

## 2. New venture failure and survival

Because majority of the new ventures fail, it is relevant to take a brief look at venture failure and survival. Failure is a fundamental part of entrepreneurship (Aldrich, Martinez 2001, McGrath 1999) and is experienced in different ways (Ucbasaran et al. 2013, Jenkins, Wiklund & Brundin 2014, Bruno, Leidecker 1988) as a devastating loss or an experience of learning. What is considered a failure in entrepreneurship varies greatly:

‘the termination of a venture that has fallen short of its owner's goals’ (McGrath 1999)

‘Some conclude that failure only occurs when a firm files for some form of bankruptcy. Others contend that there are numerous forms of organizational death, including bankruptcy, merger, or acquisition. Still others argue that failure occurs if the firm fails to meet its responsibilities to the stakeholders of the organization, including employees, suppliers, the community, and customers, as well as the owners.’ (Bruno, Leidecker 1988)

‘New ventures of all kinds are attempting to improve their chances of success by following its (Lean start-up) principles of failing fast and continually learning.’ (Blank 2013)

The following literature review (Table 2) of reasons for new venture failure and survival, is not meant to be all inclusive, only informative. The basis for selection of the articles were the sample size and the geographical location of studied ventures, in trying to alternate the geographical location.

### Table 2. Articles of new ventures failure and survival

Eventful Journey from Idea to Business: Opportunity Development and Exploitation Process of a Digital Technology Start-Up

Author(s)	Concept studied	Nature of article, number and location of studied ventures	Conclusions, findings	Reasons for failure and/or survival
(Bruno, Leidecker 1988)	causes of new venture failure	1960-1980, 20 years' study of business failures, 250 companies Silicon Valley, US	big number of product/market-oriented problems, over 30 % of all major and minor causes of failure (product timing, product design), managerial problems 30 % (ineffective team, one-track thinking), financial dimension has diminished in importance	product/ market-oriented problems and managerial problems major cause of failure, financial dimension has diminished in importance
(Cooper, Gimeno-Gascon & Woo 1994)	prediction model of start-up based upon the initial human and financial capital of the venture	longitudinal study of 1053 new ventures, all industry sectors and geographical regions, quantitative, US	general human capital (education, life experience, networks) influenced both survival and growth, management know-how with limited impact (parents who owned business contributed to marginal survival, but not to growth), number of partners contributed to growth not survival, industry-specific know-how contributed to both survival and growth, amount of initial financial capital contributed to both	prior industry-specific know-how, general human and financial capital contribute to firm survival, initial financial capital
(Shepherd 1999)	VC look venture survival, entrepreneurial failures	quantitative, 66 VCs representing 47 VC firms in Australia	stability of key success factors (of the industry), timing of entry, lead time, competitive rivalry, industry related competence, educational capability,	industry related competence being most important criteria predicting survival, second educational capability, pioneer having more success than follower
(Delmar, Shane 2004)	legitimizing first: organizing activities and survival of new ventures	life histories of 223 new ventures started between January and September 1998, Sweden, quantitative	initial survival fitness of new ventures depends heavily on undertaking legitimating actions	building legitimacy contributes to survival
(Gimmon, Levie 2010)	effect of founder characteristics in attracting external investment and enhancing survival of new high technology ventures	longitudinal database of 193 new high technology ventures, quantitative, Israel	positive correlation: funding & founder has business management experience, funding & founder has PhD or professorial title, survival & founder has business management experience, survival & founder is technologist	earlier experience favorable to getting funding and survival

Author(s)	Concept studied	Nature of article, number and location of studied ventures	Conclusions, findings	Reasons for failure and/or survival
(Cassar 2014)	role of industry and startup experience	Kauffman Firm Survey, 2304 entrepreneurs, quantitative, US	benefit of industry experience on entrepreneurial forecast performance greater in high-technology	industry experience contributes to survival in high technology
(Yamakawa, Peng & Deeds 2015)	Venture growth after entrepreneurial failure	203 new venture-founders, quantitative, Japan	under certain conditions, previous failures indeed stimulate future entrepreneurial growth, avoid blaming all on external environment or luck, find intrinsic factors that can help learning from failure; pursuing intrinsic outcomes will facilitate performance of next start-up; try not to fail too many times	learning from intrinsic mistakes that lead to failure of venture, not failing too many times will contribute to survival
(Zhao, Libaers & Song 2015)	first product success	909 new products developed by 909 new ventures, China	technical resources & prior startup experience isolation mechanism, prevents product copycats, unique, highly differentiated first product is winning positioning strategy in dynamic, fast growing Chinese market	prior start-up experience, (technical resources), highly differentiated, unique product contributes to survival
(Bau et al. 2016)	failed entrepreneurs re-enter entrepreneurship	quantitative, 4761 entrepreneurs failed between 2000 and 2004, Sweden	business failure not final destination entrepreneur, re-entry after failure is common phenomenon, link of multiple-owner experience to the likelihood of re-entry	multiple-owner experience has positive link to re-entry after venture failure

From this small sample of literature of new venture failure and survival, five reasons come up. First, prior experience of the entrepreneur is giving a better chance of survival is supported by all studies. Entrepreneurs with several attempts on venture creation and having prior business ownership experience (PBOE) (Baron, Ensley 2006, Townsend, Busenitz & Arthurs 2010) have the advantage of gaining knowledge, learning and experience from the serial start-up creation to cope with newness and organizing in complex situations (managerial knowledge) and thus have more chance of survival (Townsend, Busenitz & Arthurs 2010, Sarasvathy, Menon & Kuechle 2013).

Second reason, which is also linked to the first one as entrepreneurial experience, is the life after venture failure (Bau et al. 2016, Ucbasaran et al. 2013, Yamakawa, Peng & Deeds 2015). Multiple-owner experience is having a positive link to re-entry in entrepreneurship after venture failure (Stokes, Blackburn 2002).

Third, product related issues as a cause of failure (Bruno, Leidecker 1988) or a course of success or survival (Zhao, Libaers & Song 2015). Product related issues covered over 30 % of all major and minor causes of failure (Bruno, Leidecker 1988) in the Silicon Valley based ventures studied during 1960-1980. Interestingly enough, the lean start-up model (Blank 2013, Ries 2011) created in Silicon Valley around 2010 among digital business ventures is emphasizing the need to go out and test business model and product hypothesis through customer development very early on to get the

feedback of ‘potential users, purchasers, and partners for all elements of the business model, including product features, pricing, distribution channels, and affordable customer acquisition strategies’ (Blank 2013). The Chinese study of new ventures and new products (Zhao, Libaers & Song 2015) calls for highly differentiated and unique products to survive in the dynamic Chinese market.

Fourth is the question of legitimacy, how a new venture is gaining the legitimacy from the industry and other actors (Zimmerman, Zeitz 2002, Delmar, Shane 2004, Aldrich, Fiol 1994). With new markets being created as is often the case with digital technology ventures, the legitimacy issue is essential.

‘Among the many problems facing innovating entrepreneurs, their relative lack of legitimacy is especially critical, as both entrepreneurs and crucial stakeholders may not fully understand the nature of the new ventures, and their conformity to established institutional rules may still be in question.’ (Aldrich, Fiol 1994)

Last as the fifth, are the reasons for failure or survival linked to resources (or the lack of them). These studies list different kind of resources, human (Cooper, Gimeno-Gascon & Woo 1994), technological (Zhao, Libaers & Song 2015) and financial (Bruno, Leidecker 1988, Cooper, Gimeno-Gascon & Woo 1994). The question of what kind of role does resources have on the failure or survival is a multifaceted discussion as the following quotations are reporting:

Belgium: ‘Contrary to common wisdom, venture capital backed companies do not have a higher probability of surviving than comparable non-VC backed companies.’ (Manigart, Baeyens & Van Hyfte 2002)

‘Legitimacy is an important resource for new ventures at least as important as capital, technology, personnel, customer goodwill and networks.’ (Zimmerman, Zeitz 2002)

Taiwan: ‘In an unstable environment, start-up resources, including both internal and external, do not directly influence start-up performance. Instead start-up resources influence performance via dynamic capabilities.’ (Wu 2007)

In addition to this small sample of studies of venture failure and survival, there is an aspect of digital technology that is not included in the above list, the virtual embeddedness (Fowler, Lawrence & Morse 2004, Morse, Fowler & Lawrence 2007). Morse et al. (2007) argue that virtual embeddedness ‘positively affects new venture survival by decreasing the liabilities of newness associated with a new venture’s need to create and manage new roles and systems, lack of extant trust relationships, lack of social capital, and lack of economic capital’.

### **Event-based process research and critical events**

The definition of process as ‘a sequence of individual or collective events, actions and activities unfolding over time in context’ (Van de Ven, Andrew H 1992) is chosen for this study, because the variance theory does not suit explaining dynamic, complex and emerging processes. From that definition the concepts of event, actions and activities, time and context (Van de Ven, Andrew H 1992) are relevant (Pettigrew 1997).

Process studies can be conducted in many ways, such as event-driven or outcome-driven (Van de Ven, Andrew H, Engleman 2004, Aldrich 2001), time based or event-based pacing methods (Gersick 1994), or stages and cumulative evolution models (Van de Ven, Andrew H, Poole 1995). Gersick (1994) discovered two different pacing types when studying change in new ventures, the time-based and event-based pacing, she describes further ‘the event-based (pacing) triggers for action: actions were initiated only when the right event had occurred’ (Gersick 1994). Events and outcomes are interrelated, and in an entrepreneurial journey each event is needed and has an importance:

‘Each event on the path to the eventual outcome is necessary to explain that outcome ... This is consistent with the entire chain of events being the explanatory unit’ (McMullen, Dimov 2013).

Critical event or also referred to as problematic experience (Selden, Fletcher 2015b) do not trigger itself a ‘transformational’ action or a ‘new pattern of emergence’, the problematic experience needs to be solved by transforming the business idea or start the ‘transformational event’ before the new pattern of emergence can start. In other words, the entrepreneur needs to realize that there is a need for adaption of the venture idea, before the development cycle initiates. Lichtenstein (2016) refers to Pareto principle (20/80) and states that ‘the vast majority of instances have no influence in the dynamic system, but a few instances have tremendous leverage’.

### **Theoretical framework of the research**

The theoretical framework of this research is created from the following choices:

1. dynamic view of entrepreneurship process (Levie, Lichtenstein 2010, Chiles et al. 2010), “entrepreneurship viewed as a dynamic, complex, subjective process of creative organizing” and the process is “driven by market change and opportunity creation”
2. narrative approach (Hjorth 2007, Garud, Giuliani 2013, Venkataraman et al. 2013), entrepreneurial and digital artifacts are created in continuous interaction with actors involved in the process (Snihur, Reiche & Quintane 2016)
3. emphasis on how the opportunity and the venture creation process is done in practice (Moroz, Hindle 2012, Nicolini 2009) and looked at in context (Zahra, Wright & Abdelgawad 2014, Chalmers, Shaw 2015)
4. event-driven research (Steyaert 2007, Van de Ven, Andrew H, Engleman 2004, McMullen, Dimov 2013), event-based pacing (Gersick 1994)
5. entrepreneurship viewed as a journey circumstantial to time and space (McMullen, Dimov 2013, Mason, Harvey 2013)

The suggested framework (Figure 6) is showing how the venture creation process is going through development cycles which are triggered by critical events happening during the entrepreneurial journey. The development cycles can be triggered to occur in any stage in a new venture creation process. The venture idea will be either reinforced, adapted, recontextualized or replaced during this process of ongoing development cycles.

When facing the uncertainty, risk and demands of legitimacy, there lies the choice of venture formation or abortion as an outcome. The value creation process is embedded in the process. The actor (the entrepreneur or the team) is faced with the opportunity confidence issue during this whole process, how confident they are in the opportunity in various stages of the development.

During an ongoing development cycle the following artifacts are either emerging or being reconfigured depending on the need which is triggered from the critical event: business idea, business model, resources as firm capabilities, commodities and processes, new supply-demand relationships, or supply chain, inter-firm collaborations, firm cluster or network system, or new positioning strategy, entrepreneurial discourse and practices, activities as design and tasks. How the development is done, is through trial and error and as an iterative process (for example developing with customers).

Critical events can happen at any stage of the entrepreneurial life cycle, as the new rounds of the creation and development processes are following each other over chronological time and the space (as a given situation what is happening as advances in technology, actions of competitors, new regulations, etc.). The trigger of the critical event can put the venture creation process back to the

initial venture idea development stage, or it can trigger a launch, the stage of the venture idea depends on the external enabler, time and other factors such as competition.

Opportunity development process includes the continuous interaction with the actors (stakeholders) involved in various ways. The process never ends, new events happen throughout the process of the venture, and in that sense the development of the opportunity is never finished (unless aborted).

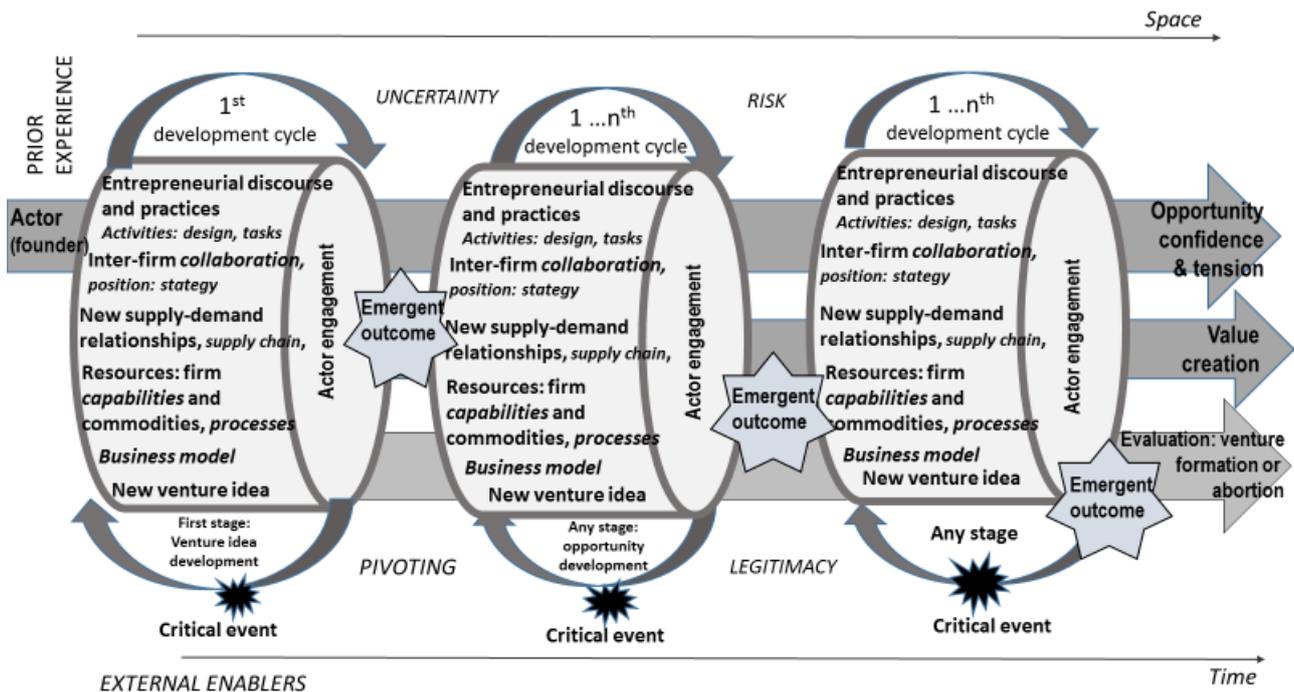


Figure 6. Suggested framework of the opportunity development and exploitation process of start-up venture creation

## Conclusions

The main contribution of this research paper is a theory-based conceptual framework. The limitations of a theory-based framework are obviously, that it needs to be tested to find out whether it is valid.

The next step of the research, that this paper is a part of, is the qualitative empirical research. Narrative approach was chosen, because this research is looking at opportunity development as an ongoing interactive and iterative process. The narratives of start-up entrepreneurs can give the insight on how this development is done, and of the events that have occurred during this journey and how the events have shaped the opportunity development process.

Narratives are being recognized as a valid method in interpretative study (Hjorth 2007, Hjorth, Steyaert 2004), and narrative method (Riessman 2008) is an event-driven tool of research (Webster, Mertova 2007). Because the opportunity development process is an interactive process, and the opportunity is being developed through this interaction, research philosophy is social constructionist (Fletcher 2006) and interpretivist (Leitch, Hill et al. 2010). Social constructionist view comes from looking at opportunity development as socially created in interaction with actors involved, and is not a linear process and can also be created in different contexts (Fletcher 2006). The interpretivist entrepreneurship research is 'capable of producing rich data through which

respondents' experiences, perceptions, and beliefs may be accessed' (Leitch, Hill et al. 2010), and in this case the experience of the critical events and the actions taken.

The narrative approach is described in a simple manner as analyzing the stories that people tell (Gartner 2007). A more distinctive and detailed explanation is from (Hjorth, Steyaert 2004) as following:

- Story construction is a process of creating reality in which self/story teller is clearly part of the story.
- Narratives are relational realities, socially constructed, not individual subjective realities.
- Narratives are situated—they are con-textualized in relation to multiple local-cultural-historical acts/text.

As mentioned earlier the narrative approach to entrepreneurship sees the process of opportunity development happening in continuous interaction with the actors of this process. The research method of a narrative inquiry (Webster, Mertova 2007) can provide the entrepreneurial stories of the journeys in the context they are experiencing them and analysing the critical event narratives.

The data gathering will be conducted through interviews of start-up entrepreneurs (amount circa 40 - 50). The geographically chosen, innovative, digital technology start-ups will be interviewed face-to-face or via Skype. Interviews will be conducted in Helsinki and in Stockholm, and additional interviews in the best ranking start-up ecosystems (Herrmann et al. 2015) in Silicon Valley, New York, LA, Boston, Tel Aviv, London, Singapore and Bangalore.

This empirical research will look for patterns of different kind of events and what kind of actions these events have triggered in the venture creation process. Another contribution will be to find patterns of the nature of the entrepreneurial journeys studied. The narrative approach of empirical part includes looking the development cycles, how the critical events occurred during the journey has changed the basic idea radically and has anything stayed the same during the entrepreneurial journeys studied.

The findings of the empirical research will be used to look for ways how the start-up ventures could develop their opportunities in a faster and more economical way of using their resources.

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