


New Venture Survival: A Review and Extension

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This paper provides an evaluative overview of the new venture survival literature. Since Stinchcombe's primary attempt to explain the mortality rates of new ventures, different research fields, including entrepreneurship, management and sociology, have devoted considerable attention to the antecedents of new venture survival. Despite this lively research commitment, a comprehensive review of the literature on new venture survival – as one of the most essential performance measures for new ventures – is missing. Covering 54 years of research, this paper provides an overview of the factors affecting new venture survival and highlights important methodological aspects in this research field. The review concludes by discussing opportunities for future research.

Introduction

It is well known that many new ventures do not survive the first few years of their existence and thus overburden themselves, their investors and the economy (Headd 2003; Wiklund *et al.* 2010). Given the high failure rates of new ventures,¹ it is essential to understand why some new ventures survive and others do not (Stenholm and Renko 2016).

In understanding survival, one of the key concepts to consider is the liability of newness (Stinchcombe 1965). The liability of newness exists because new ventures lack specific resources and capabilities that more established organizations have already accrued (e.g. Freeman *et al.* 1983; Morse *et al.* 2007). In his seminal work on the liability of newness, Stinchcombe (1965) proposed antecedents to explain new ventures' chances of survival; consequently, the foundations of our current understanding of new venture survival were developed long before recent technological advancements, such as the internet,

rose to disrupt a variety of industries (Bettis and Hitt 1995; Shapiro and Varian 1998) and many established venture creation processes (von Briel *et al.* 2018). Not surprisingly, research has dedicated considerable attention to identifying additional antecedents of new venture survival (e.g. Delmar and Shane 2006; Hyytinen *et al.* 2015; Stenholm and Renko 2016). Despite this lively research commitment, our knowledge about why some new ventures survive and others fail remains largely fragmented. Although this fragmentation has led to increased interest in synthesizing knowledge on firm survival and failure (e.g. Cafferata *et al.* 2009; Josefy *et al.* 2017), there have been no systematic reviews looking exclusively at the antecedents of survival for new ventures.

To fill this void, this paper provides a systematic literature review of 205 studies on new venture survival factors found in the top journals on entrepreneurship, management and sociology in the past 54 years. We refer to new ventures as firms that have not reached the point of stability proposed in Kazanjian's (1988) four-stage model (cf., Stages 2–3 in Hanks *et al.* 1994). Thus, the aim of this review is to provide a comprehensive and up-to-date picture of what factors influence survival—one of the most essential

¹For example, Shane (2009, 2012) found that more than half of US start-ups launched between 1977 and 2005 failed within the first 5 years and that failure rates rose after 2000.

measures of entrepreneurial success (Josefy *et al.* 2017; Mudambi and Zahra 2007). To identify mutual themes and potential research gaps in a fragmented field of study, we build on Brüderl *et al.* (1992) and categorize the antecedents of new ventures survival into three categories: (1) conditions characterizing new ventures' environment; (2) attributes, structural characteristics, and strategies of new ventures themselves; and (3) individual characteristics of founders and founding teams. In addition, we build on Fichman and Levinthal's (1991) interpretation of Stinchcombe's liability of newness concept as the development of social relationships and consider inter-organizational and intra-organizational relationships as intermediaries between the different levels of our analysis.

Overall, our review makes several contributions to the new venture survival literature. First and most importantly, it provides an up-to-date systematization of the literature on new venture survival factors published in the top entrepreneurship, management, and sociology journals since Stinchcombe's seminal work in 1965. As we trace the evolution and refinements of the new venture survival research, both conceptual and empirical, this review develops an updated understanding of the liabilities of newness framework. Second, it discusses the primary definitions of new venture survival and provides a clear taxonomy of the extant operationalizations of the survival construct that future studies can utilize. Third, this review provides a comprehensive overview of methodologies used to empirically study new venture survival and establishes a springboard to further discussions on methodological choices in this field. Finally, this review articulates some challenges still to be explored and sets out an agenda for future research.

A brief history of new ventures' liabilities

The concept of the liability of newness (Stinchcombe 1965) has played a vital role in the debate on new ventures' emergence and survival prospects during the past 50 years. In the following section, we provide a short discussion of the historical development of the liabilities that new ventures face. A summary of the most discussed liabilities is shown in Table 1. Figure 1 illustrates the distribution of articles by research field over time. We divide our discussion into three themes: (1) the emergence of the liability of newness and its first developments; (2) the liabilities of adolescence

and obsolescence as alternative perspectives; and (3) the liabilities related to resources/capabilities.

Stinchcombe (1965, p. 148) proposed the *liability of newness* concept 'as a general rule [underlying why a] higher proportion of new organizations fail than old [organizations]'. The liability of newness predicts that venture failure rates decline monotonically with age independent of historical time, place and type of organization. Based on this notion, Stinchcombe (1965, p. 148) raised two important questions: 'what sorts of things, then make up the liability of newness?' and 'how do social conditions affect the degree of liability?'

Regarding the first question, Stinchcombe (1965) discussed four central social factors that limit new ventures' viability. First, new ventures depend on new roles and tasks that have to be learned at some cost. Second, the amount of time and effort required to learn and coordinate organizational roles is likely to be significant. Third, new ventures must rely heavily on social relationships with strangers and may lack a common normative basis or informal information structure for doing so. Fourth, new ventures lack stable links to stakeholders when they begin operations. To answer the second question, Stinchcombe (1965, p. 150) firmly believed that social and economic macro-structures play a pivotal role in enhancing new ventures' chances of survival. He thus proposed that five basic variables influence ventures' mortality rates in the early stages of the firm lifecycle: (1) general literacy and specialized advanced schooling; (2) urbanization; (3) a money economy; (4) political revolution; and (5) density of social life. Stinchcombe (1965, p. 150) emphasized that his discussion of the initial factors is not exhaustive but represents some basic variables that affect survival.

After Stinchcombe (1965) introduced the liability of newness concept, it took a relatively long time before researchers started to actively build on it. It was not until the late 1970s that the liability of newness concept gained new traction in the organizational ecology literature (e.g. Hannan and Freeman 1977), greatly influencing this new research stream's theoretical and empirical development. In particular, organizational ecologists were interested in understanding what macro-economic factors foster the initial creation of new ventures. In the 1980s, scholars' interest shifted to the firm itself, and the first empirical evidence regarding the liability of newness hypothesis emerged (Carroll and Delacroix 1982; Freeman *et al.* 1983). In their empirical investigation, Carroll and Delacroix (1982) showed that newspapers

Table 1. Types of liability influencing new venture survival

Liability	Introduction year	Introducing authors	Core hypothesis
Liability of newness	1965	Stinchcombe	The likelihood of venture failure declines monotonically with age.
Liability of smallness and bigness	1983	Freeman, Carroll and Hannan	The size of ventures is inversely related to their death rates.
Liability of adolescence	1988/1990	Fichman and Levinthal; Brüderl and Schüssler	In an early phase (adolescence), ventures face no death risk at all (honeymoon phase). After this period, the death risk rises abruptly, a stage followed by a continuous decline.
Liability of aging	1986/1987	Aldrich and Auster; Carroll	Existing organizations experience problems that limit their ability to embrace more adaptive states that would enhance their survival prospects.
Liability of resource scarcity	1989	Carroll and Hannan	Adverse conditions on founding hinder resource acquisition by new organizations.
Liability of legal form	1990	Brüderl and Schüssler	Minimal capital requirements might be high for new organizations depending on the legal form they adopt.
Liability of obsolescence	1989/1994	Baum/Barron <i>et al.</i>	Mortality rates increase with age owing to organizations' poor fit with their external environment.
Liability of senescence	1989/1994	Baum/Barron <i>et al.</i>	Mortality rates increase with age owing to the accumulation of durable and rigid organizational features (rules, routines and structures) that hinder adaptability.
Liability of foreignness	1995/2002	Zaheer; Mata and Portugal	Firms operating in foreign markets incur additional costs compared to local firms.
Liability of underdeveloped social ties	2004	Delmar and Shane	New ventures are vulnerable to an absence of relationships with external stakeholders.
Liability of success	2010/1999	Ucbasaran <i>et al.</i> ; McGrath	Experienced entrepreneurs might be excessively optimistic compared to novice entrepreneurs.
Liability of ethnicity	2016	Jiang <i>et al.</i>	New ventures started by immigrants are disadvantaged because of their founders' immigration status.
Liability of identity, conformity and differentiation	2018	Micelotta <i>et al.</i>	New ventures started by women are disadvantaged because of the industry's gender bias in assessing the opportunity, performance and uniqueness.

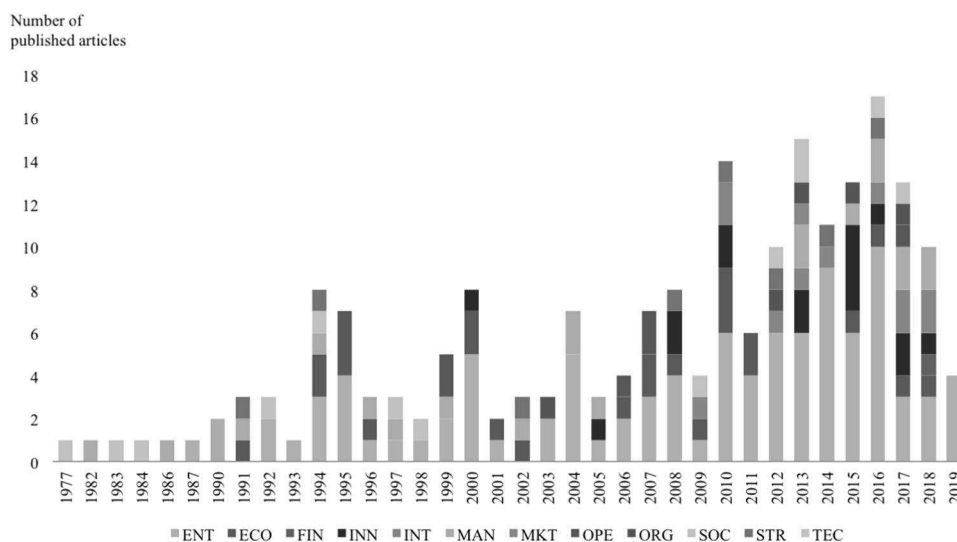


Figure 1. Distribution of articles by ABS categories over time. Note: An explanation of the abbreviations for the categories is provided in Table 2. The five most cited articles in our review are: (1) 'Fools rush in – the institutional context of industry creation' (Aldrich and Fiol 1994; 1414 citations); (2) 'Initial human and financial capital as predictors of new venture performance' (Cooper et al. 1994; 880 citations); (3) 'Survival of the fittest? Entrepreneurial human capital and the persistence of underperforming firms' (Gimeno et al. 1997; 859 citations); (4) 'The liability of newness – age dependence in organizational death rates' (Freeman et al. 1983; 712 citations); (5) 'Beyond survival: achieving new venture growth by building legitimacy' (Zimmerman and Zeitz 2002; 688 citations). [Colour figure can be viewed at wileyonlinelibrary.com]

in Argentina and Ireland suffered from high mortality in their early years. Only a year after, Freeman *et al.* (1983, p. 692) confirmed the liability of newness hypothesis but further found that the *liabilities of smallness and bigness* (i.e. initial size and conditions at birth related to structural differences over time) also exist but do not eliminate age dependence.

In the late 1980s/early 1990s, researchers started to challenge Stinchcombe's arguments both theoretically and empirically. Building on Fichman and Levinthal's (1991) work, Brüderl and Schüssler (1990) formally introduced the concept of the *liability of adolescence*. Their main argument and finding was that new ventures could survive for a time just after their founding with little risk of failure because they could draw on the initial stock of assets firms typically acquire at founding (the honeymoon period). As such, they predicted and showed that failure rates have an inverted U-shape relationship with firm age (Brüderl and Schüssler 1990; Fichman and Levinthal 1991; Henderson 1999). Both the newness and the adolescence perspective propose that the early years of a firm's life are the most hazardous and that failure rates eventually decline with age. They differ only in terms of whether failure rates peak at founding or some years later (Henderson 1999, p. 283).

Around the same time the liability of adolescence was introduced, authors started to argue that firms suffer from the *liability of obsolescence* (Barron *et al.* 1994; Baum 1989) – that is, failure rates increase with age. Barron *et al.* (1994) suggested that core structures are 'imprinted' in young organizations, so older firms' fit with the environment is reduced. Additionally, by arguing that organizations accumulate durable features, such as rules, routines and structures, as they age, which obstruct their ability to act in a timely fashion when facing changing environments, Barron *et al.* (1994) proposed the *liability of senescence* to describe old organizations' disadvantage compared with younger firms. The liabilities of obsolescence and senescence are close to the *liability of aging* concept introduced by Aldrich and Auster (1986) in the entrepreneurship literature and by Carroll (1987) in the sociology literature a year later that builds on organizational inertia arguments.

Interest in the literature then moved toward the resource-based view of the firm after Eisenhardt and Schoonhoven's (1990) seminal article proposing that factors related to resources/capabilities enable new firms to mitigate the liability of newness (Abatecola *et al.* 2012). For example, the *liability of foreignness* (Zaheer 1995), which describes the additional costs incurred by firms operating in overseas markets

compared to local firms, has been explored in studies on new foreign and domestic firms' survival (e.g. Mata and Portugal 2002; Sethi and Judge 2009). The problematic accrual of necessary resources also underpins the *liability of resource scarcity* (Carroll and Hannan 1989), which describes the adverse founding conditions that hinder organizations' resource acquisition; the *liability of a legal form* (Brüderl and Schüssler 1990), which is related to organizations' resource dependency and the minimum capital requirements inherent in certain legal forms; and the *liability of underdeveloped social ties* (Delmar and Shane 2004), which is associated with the lack of relationships between new ventures and external stakeholders (Stinchcombe 1965; Stuart et al. 1999).

Finally, interest in the literature on new venture liabilities has increasingly expanded to include individuals' different psychological factors. An example of such a factor is the *liability of success* (McGrath 1999; Ucbasaran et al. 2010), which describes successful experienced entrepreneurs' optimism compared to that of novice entrepreneurs. Recently, scholars – especially entrepreneurship scholars – have become interested in biodemographic characteristics, such as ethnicity (e.g. Jiang et al. 2016: the *liability of ethnicity*) and gender (Micelotta et al. 2018: the *liabilities of identity, conformity and differentiation*).

Taken together, drawing on Stinchcombe's (1965) original insights on the liabilities that influence new ventures' probability of survival, scholars have identified numerous liabilities that stem from a 'mismatch' between organizational factors and industry conditions (Micelotta et al. 2018). Interestingly, although the liability of newness concept was introduced and first advanced by sociology researchers, a more vibrant discussion about the topic has evolved in the field of entrepreneurship. Figure 1 shows that the years 2010–2018 account for the bulk of research on new venture survival, with a peak of 17 articles in 2016. The numerous liabilities outlined above, combined with the importance of the new venture survival topic, warrant a focused review of the antecedents of new venture survival.

Review method and descriptive results

In conducting the review, we followed the systematic literature review method suggested by Tranfield et al. (2003). We focused our search on articles published after Stinchcombe's seminal work in 1965, in which he first introduced the liability of newness concept.

Accordingly, our search covers 54 years of new venture survival research (1965–2019). Consistent with prior studies published in this journal (e.g. Laaksonen and Peltoniemi 2018), we searched for articles in the Web of Science Social Sciences Citation Index. The search was performed in July 2019. The subsequent search and article-selection process followed four steps (Tranfield et al. 2003).

(1) Search and elimination of unrelated articles

We conducted our search using the Web of Science field tag for *topic* (including titles, abstracts and keywords). We entered the terms 'new firm*', 'new venture', 'venture', 'start*up*', 'newly founded organization*', 'newly founded business', 'entrepreneurial', 'organizational death', 'liability of newness', 'survival' and 'failure'. The first four terms were chosen because they are commonly used as synonyms for 'new business' in the entrepreneurship and management literature (e.g. Gartner 1990; Josefy et al. 2017; Shepherd et al. 2000), whereas 'newly founded organization' and 'newly founded business' are terms regularly used as synonyms for 'new venture' (or 'new organization') by sociology researchers (e.g. Brüderl et al. 1992). The term 'entrepreneurial' was included because it usually relates to firm newness and venture creation (e.g. Cefis and Marsili 2011; Tavassoli and Jienwatcharamongkhon 2016). To capture survival, we included the terms 'survival', 'organizational death' and 'failure' (the last two terms as opposites to survival). Lastly, in addition to 'liability of newness', we added the term 'liabilit*' to capture keywords referring to other liabilities (see Table 1), which are relevant to the objectives of our study. We introduced search operators ('AND', 'OR'; see Figure 2) together with the specified search terms to ensure that all the liabilities yielded by the search were tied to new ventures and their survival. An asterisk (*) was included as a wildcard symbol to allow for variations of the search terms in each query. We excluded the terms 'joint venture*', 'property liability' and 'new product*' since they might have appeared in the titles, abstracts or keywords given the search terms we used but do not relate to our research question.

To ensure our search was not too broad and still focused on a relevant set of research fields, we limited the search to publications in the Web of Science categories of 'business', 'management', 'economics', 'business finance', 'operations research and management science' and 'sociology'. Following several other systematic literature reviews in the management field (e.g. Calabrò et al. 2019), we further

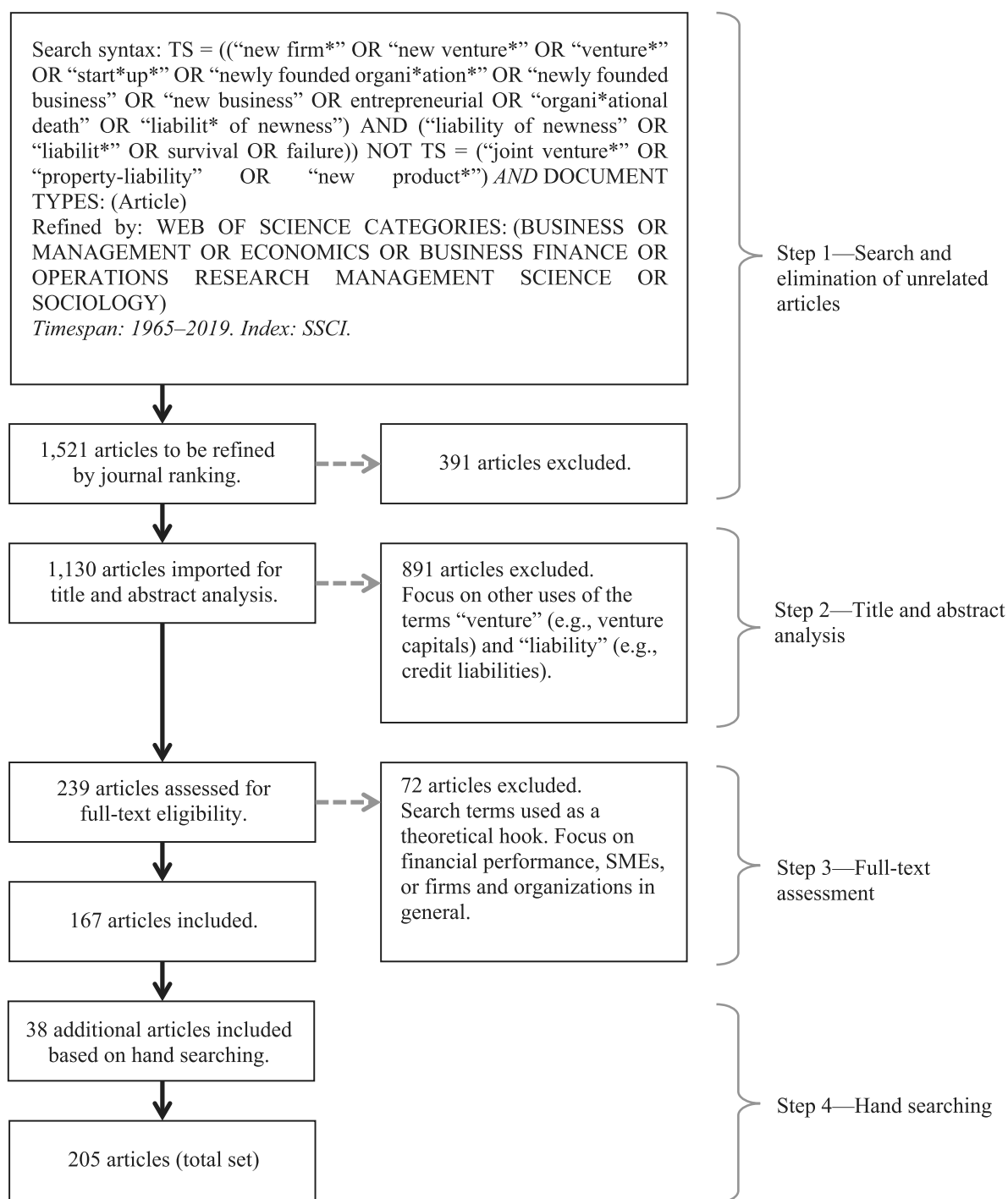


Figure 2. Search strategy, sampling frame and selection process.

restricted the document types to ‘articles’ as they constitute the standard format for scholarly publications (Klang *et al.* 2014) and are assumed to have the largest impact on scholarly discourse (Podsakoff *et al.* 2005).

This initial search resulted in 1521 records. To ensure the quality of the information in the articles (Light and Pillemer 1984; Ordanini *et al.* 2008), we refined our search by selecting only those journals that appeared

in the Association of Business Schools (ABS) Academic Journal Guide 2018 ranking, which reduced the sample to 1130 articles.

(2) Title and abstract analysis

Next, we read all the titles and abstracts to assess whether the basic criteria of relevance were fulfilled (Rashman *et al.* 2009) and eliminated articles that fell outside the scope of our review (Adams *et al.* 2016; Bakker 2010; Keupp *et al.* 2012). We excluded articles from our review if one of the following criteria was fulfilled: (1) the search terms were used in a way that does not match the focus of this review (e.g. the term 'venture' was used to describe venture capital investments); (2) the study did not explore firm survival, firm failure or any of the liabilities of interest (e.g. liability laws, joint liability-based microcredits, environmental liability information); or (3) the focus was on the effects of failure (e.g. learning from failure) without considering its causes. This step led us to exclude 891 articles.

(3) Full-text assessment

We retrieved the full texts of the remaining 239 articles and read them. We discarded articles in which the search terms were used only as a theoretical hook and were not discussed in sufficient detail to contribute to the focus of this review. After completing a comprehensive assessment and double-checking the criteria applied in Step 2, we decided to include 167 studies in the sample.

(4) Hand searching

In this last step, we performed hand search and citation tracking (Adams *et al.* 2017; Nabi *et al.* 2017; Rashman *et al.* 2009), which entailed checking relevant references in the selected articles and then searching for their titles in the Web of Science database. This led us to include 38 articles whose keywords did not match those used in the initial search (e.g. 'new technology-based firms', 'newly incorporated companies' and 'newly created SMEs'). Our final sample consists of 205 publications, which form the basis of this review.

Figure 2 summarizes our search steps and inclusion criteria, as suggested by the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocol (Shamseer *et al.* 2015).

We analysed the final sample using an Excel data-extraction sheet (Rashman *et al.* 2009) in which both

the descriptive elements and the main results were collected for each article. To ensure a high degree of inter-rater reliability, two of the authors subsequently discussed any differences in the coding and recoding of the articles. A third author was consulted in the case of any disagreement. All the studies included in this review (205 in total) are marked with an asterisk (*) in the references. Appendix 1 in the online Supporting Information lists all the empirical studies (178 in total) and reports their main findings, sample characteristics and survival antecedents.

Table 2 lists the journals used in the systematic review and summarizes the articles published per journal and field in accordance with the ABS Academic Journal Guide 2018. Regarding the journals, 53 different journals are represented in our final sample. Of the different research fields, most of the studies (97 articles) are published in the fields of entrepreneurship and small business management. The top two journals in terms of the number of published articles on new venture survival are *Small Business Economics* (34 articles) and *Journal of Business Venturing* (31 articles), both of which are entrepreneurship journals.

Methodological approaches

Research on new venture survival is dominated by empirical investigations. Of the articles included in our review, only 21 are theoretical (e.g. Bakker and Josefy 2018; DeTienne 2010; Hannan 1998; Shepherd *et al.* 2000), whereas 178 articles are empirical (e.g. Brüderl and Schüssler 1990; Freeman *et al.* 1983; Stearns *et al.* 1995; Wennberg *et al.* 2016). The majority of the studies in this review (75%, 153 articles) rely on quantitative research designs (e.g. Coad *et al.* 2016; Henderson 1999; Reynolds 1987), suggesting that this research field has been dominated by positivistic epistemological approaches. Only 10% of the studies in our sample are qualitative (21 articles) (e.g. Micelotta *et al.* 2018; Simón-Moya and Revuelto-Taboada 2016) and mainly concerned with exploring different strategies for new venture survival. In addition, four articles use mixed methods, applying both quantitative and qualitative approaches (e.g. Choi and Shepherd 2005; Littunen 2000; Rauch and Rijdsdijk 2013); five articles are literature reviews (e.g. Aldrich and Yang 2012; Josefy *et al.* 2017); and one article is a meta-analysis of factors leading to success or failure in new technology ventures (Song *et al.* 2008).

Table 2. List of journals used in the systematic review and articles per journal

Journal name by field	Total count
Entrepreneurship and Small Business Management (ENT)	97
<i>Small Business Economics</i>	34
<i>Journal of Business Venturing</i>	31
<i>Journal of Small Business Management</i>	9
<i>Entrepreneurship Theory and Practice</i>	6
<i>International Small Business Journal</i>	6
<i>Entrepreneurship and Regional Development</i>	4
<i>Strategic Entrepreneurship Journal</i>	3
<i>International Entrepreneurship and Management Journal</i>	2
<i>Entrepreneurship Research Journal</i>	1
<i>International Journal of Entrepreneurial Behaviour and Research</i>	1
Economics, Econometrics and Statistics (ECO)	25
<i>Review of Industrial Organization</i>	5
<i>Journal of Evolutionary Economics</i>	4
<i>International Journal of Industrial Organization</i>	3
<i>Applied Economics</i>	2
<i>Applied Economics Letters</i>	2
<i>Journal of Industrial Economics</i>	2
<i>Review of Economics and Statistics</i>	2
<i>Economic Record</i>	1
<i>Empirical Economics</i>	1
<i>Journal of Political Economy</i>	1
<i>Labour Economics</i>	1
<i>World Bank Research Observer</i>	1
General Management, Ethics, Gender and Social Responsibility (MAN)	22
<i>Administrative Science Quarterly</i>	6
<i>Journal of Management</i>	4
<i>Academy of Management Review</i>	3
<i>Journal of Business Research</i>	3
<i>Academy of Management Annals</i>	2
<i>Academy of Management Journal</i>	1
<i>European Management Journal</i>	1
<i>Journal of Business Ethics</i>	1
<i>Management Decision</i>	1
Innovation (INN)	16
<i>Technovation</i>	8
<i>Industry and Innovation</i>	3
<i>Research Policy</i>	3
<i>Creativity and Innovation Management</i>	1
<i>Journal of Product Innovation Management</i>	1
International Business and Area Studies (INT)	11
<i>International Business Review</i>	5
<i>Asia Pacific Journal of Management</i>	2
<i>Journal of International Business Studies</i>	2
<i>Management and Organization Review</i>	1
<i>Management International Review</i>	1
Strategy (STR)	8
<i>Strategic Management Journal</i>	7
<i>Long Range Planning</i>	1
Organization Studies (ORG)	5
<i>Organization Science</i>	5

(Continued)

Table 2. Continued

Journal name by field	Total count
Operations Research and Management Science (OPE)	6
<i>Management Science</i>	6
Operations and Technology Management (TEC)	5
<i>Production and Operations Management</i>	3
<i>International Journal of Production Economics</i>	1
<i>International Journal of Technology Management</i>	1
Marketing (MKT)	1
<i>Industrial Marketing Management</i>	1
Finance (FIN)	1
<i>Journal of Corporate Finance</i>	1
Sociology (SOC)	8
<i>American Sociological Review</i>	4
<i>American Journal of Sociology</i>	3
<i>Social Science Research</i> ^a	1
Total	205

^aNot in ABS 2018 ranking.

Qualitative designs include multiple case studies (e.g. Almeida and Fernando 2008; Corner and Wu 2012; Gartner *et al.* 1999) and in-depth single-case or ethnographic studies (e.g. Eftekhari and Bogers 2015). Of the quantitative empirical studies, most use longitudinal datasets (95%, 146 articles), and only a handful use cross-sectional data (5%, seven articles). This finding is not surprising given that research questions investigating new venture survival are, by default, tied to a time dimension. Furthermore, of the 153 quantitative empirical articles, most (79%, 121 articles) use official national/industrial statistics (e.g. Affärsdata database [Sweden], German industrial statistics [Germany]) or databases administered by different foundations and organizations (e.g. National Federation of Independent Businesses [United States], Kauffman Firm Survey [United States], Munich and Upper Bavaria Chamber of Commerce [Germany]). Only around 19% (29 articles) of the quantitative articles collect their data via independent surveys (i.e. surveys that are not part of larger data-collection efforts, such as the Kauffman Firm Survey). Interestingly, very few studies (2%) combine archival data with surveys (for exceptions, see Fichman and Levinthal 1991; Hiatt and Sine 2014; Singh *et al.* 1986) or use experimental methods (see Artinger and Powell 2016) to study new venture survival.

Regarding the methods applied in the quantitative research designs, most studies use survival analysis

(i.e. hazard models) because the main purpose of such studies is often to predict and estimate the failure risk of new ventures. The first empirical studies exploring new venture survival mainly used linear hazard models (e.g. Makeham 1859 model) that assumed the hazard rate was monotonic with respect to time (Carroll and Delacroix 1982; Freeman *et al.* 1983; Singh *et al.* 1986). However, in 1990, researchers (e.g. Brüderl and Schüssler 1990; Fichman and Levinthal 1991) started to challenge the appropriateness of linearity and empirically proved that the hazard rate changes with time in a non-monotonic inverted U-shaped manner (log-logistic distribution). More recently, studies have predominantly applied estimation methods (e.g. Cox proportional hazard regressions) for which no assumptions about the shape of the baseline hazard rate needs to be made (e.g. Ebert *et al.* 2019; Strotmann 2007). Another method that has been increasingly applied in more recent studies is piecewise hazard modelling (e.g. Eberhart *et al.* 2017; Fackler *et al.* 2016; Goldenstein *et al.* 2019), which enables researchers to concentrate on specific time intervals. Since the hazard rate is at the core of new venture survival empirics, we recommend that future studies report study estimates using different hazard functions (e.g. see Goldenstein *et al.* 2019).

Turning to the empirical studies (both quantitative and qualitative) in our sample, 12% of them (22 articles) focus exclusively on new ventures up to 5 years

old, and only 1% (two articles) focus on new ventures less than 1 year old. In addition, 6% (10 articles) use samples of prospective entrepreneurs (i.e. those who have not yet registered their businesses). Regarding the remaining articles in our review, it is important to note the use of several criteria to address firm age. While some studies concentrate on firms up to 5 years old (e.g. Almeida and Fernando 2008; Burke *et al.* 2008; Cheng 2015; Delmar and Shane 2004; Ebert *et al.* 2019; Eftekhari and Bogers 2015; Gimeno *et al.* 1997; Stenholm and Renko 2016), most of them included ventures between zero and 10 years old (e.g. Brüderl and Schüssler 1990; Gimmon and Levie 2010; Lyles *et al.* 2004; Mahmood 2000; Mata and Portugal 2002; Reynolds 1987; Stearns *et al.* 1995) or from zero to more than 10 years old (e.g. Cader and Leatherman 2011; Carroll and Delacroix 1982; Freeman *et al.* 1983; Ranger-Moore 1997; Rao 1994; Starr *et al.* 2017), and others follow firms during a specific time span (e.g. Audretsch 1991; Barron *et al.* 1994; Fotopoulos and Louri 2000; Goldenstein *et al.* 2019; Rocha *et al.* 2015; Shane and Foo 1999; Singh *et al.* 1986).

The empirical studies in our sample draw their data primarily from one country (96%, 170 articles), with only a few studies expanding their data to conduct cross-border investigations (4%, eight articles). The samples of the reviewed articles come mainly from North America (42%) (United States [39%] and Canada [3%]) and Europe (44%). Among the European countries, Germany (9%), Sweden (9%) and the United Kingdom (8%) are the most frequently used as data sources to study new venture survival. Interestingly, only 11% of the studies were conducted in emerging countries in Asia (10%), Oceania (2%), Latin America (2%) and Africa (1%).

New venture survival: Analysis of the literature

Our analysis of the 205 articles in this structured literature review focuses on the status of new venture survival research and the underlying mechanisms within the entrepreneurship, management and sociology literature. We start our analysis by elaborating on different issues related to studying the new venture survival construct. In this section, we review definitions and different contexts of new venture survival and depict its relationship to venture performance. After that, we analyse factors, including different theoretical mechanisms (i.e. liabilities), that have been

used to explain the mortality rates of new ventures. We conclude our analysis by evaluating the different methodological approaches and sample characteristics adopted by studies included in this review.

Definitions of new venture survival

Manifestations, causes and consequences of firm survival and failure differ between new ventures and established organizations (Josefy *et al.* 2017). In general, new venture survival is conceptualized as the opposite of new venture failure² (Barney 1986; Morse *et al.* 2007; Shepherd *et al.* 2000). Chrisman *et al.* (1998, p. 7) stated that ‘a venture fails when it ceases to exist as an economic entity’. Therefore, survival can be viewed as an absolute measure of performance that depends on a venture’s ability to continue its operations as a self-sustaining entity (Brush and Vanderwerf 1992). Given that new ventures are often incapable of realizing profits or sales, survival can even become ‘the de facto measure of performance’ for new ventures (Josefy *et al.* 2017, p. 778). Continuance and discontinuance alone, however, can never be viewed in isolation when making survival–performance inferences (Bates 2005; Wennberg *et al.* 2010). To better interpret survival and make inferences about new venture performance in terms of success and failure, researchers have started viewing survival in relation to certain expectations (e.g. of entrepreneurs, investors or the general public). For instance, Morse *et al.* (2007, p. 160) defined business failure as ‘the termination of a venture as a consequence of actual or anticipated performance below a critical threshold’, thus viewing failure as highly contextual. The authors implied that although continuance (or discontinuance) is highly correlated to success (or failure), it is not necessarily the same.

Most studies in our review rely on this logic of operational (dis)continuance (e.g. Carter *et al.* 1997; Gimeno *et al.* 1997; Yang *et al.* 2017) to conceptualize new venture survival. The ways researchers have determined whether a new venture failed or survived, however, vary strongly and can be grouped into three categories, as illustrated in Table 3: (1) accounting-based approaches; (2) market-based approaches; and (3) stakeholder-based approaches.

Studies using *accounting-based* approaches emphasize poor financial performance as a means to

²Scholars have used several terms to refer to organizational failure, including mortality, death, market exit and failure (Josefy *et al.* 2017).

Table 3. Approaches to new venture survival

Approaches to a new venture's survival	Accounting-based approaches	Market-based approaches	Stakeholder-based approaches
Operationalization of survival	Financial performance	Traceability: is it still possible to locate the firm in the market?	Discontinuance of ownership by central stakeholders
Measures used	Bankruptcy, insolvency	Phone contact, mail delivery by the post office, operating websites	Likelihood of stakeholder support in the long term; termination of the venture by all the team members
Example references	Shepherd and Haynie (2011); Zacharakis <i>et al.</i> (1999)	Antretter <i>et al.</i> (2019); Lyles <i>et al.</i> (2004); Reynolds (1987)	Choi and Shepherd (2005); Delmar and Shane (2006)

operationalize survival (e.g. Shepherd and Haynie 2011; Zacharakis *et al.* 1999). The reason many scholars have used bankruptcy or insolvency to determine whether a business has failed is that those measures rely on clear and observable events. Accounting-based measures often provide an objective indicator of business failure. However, there might also be other (economic) reasons for closing a business, such as insufficient financial gain for the entrepreneurs or investors that are ignored under this narrow definition of business failure (Watson and Everett 1996).

Studies that focus on *market-based* approaches often use traceability (i.e. the possibility of locating a new venture in the market environment) as an indicator of whether a firm still exists. For example, Reynolds (1987) used the term 'non-survival' to refer to situations in which firms were reported to be out of business (in phone interviews) or in which no phone contact could be established with any of the representatives of a firm. This concept has since been adopted in many different ways. For instance, Lyles *et al.* (2004, p. 361) proposed that firms that 'did not respond to normal inquiries, firms to which the post office was unable to deliver letters, [and] firms that were not listed in directories or telephone directories' were out of business. In more recent studies, Antretter *et al.* (2019) or Raz and Gloor (2007) considered whether a new venture survived or failed by conducting a web search to see if the company still had an operating website.

Defining survival using a *stakeholder-based* approach, which appears to be the least common approach in the literature, emphasizes the discontinuance of ownership in or responsibility for a business by central stakeholders. For instance, Delmar and Shane (2006, p. 394) employed a disbanding approach to determine 'if the new venture has been

terminated by all members of the team pursuing it'. In their conjoint experiment, Choi and Shepherd (2005) considered survival as the likelihood of stakeholder support – that is, the likelihood that a stakeholder will commit to a long-term relationship with an organization. Overall, it is important to note that although (dis)continuance has emerged as a relevant criterion to develop a universal definition of firm survival (e.g. Chrisman *et al.* 1998; Coad 2014; Singh *et al.* 2007), it does not necessarily equate with financial success or failure. In fact, some existing ventures can be considered 'living dead' (Ruhnka *et al.* 1992), whereas others discontinued because they were successfully sold (Wennberg *et al.* 2010).

Factors affecting new firms' survival chances

In this section, we synthesize the current state of new venture survival research and introduce a framework (Figure 3) to conceptualize new venture survival. Following Brüderl *et al.* (1992), we categorize survival factors into three categories: (1) conditions characterizing new ventures' environment; (2) attributes, structural characteristics and strategies of new ventures themselves; and (3) individual characteristics of founders and founding teams. In addition, we build on Fichman and Levinthal's (1991) interpretation of Stinchcombe's liability of newness concept and consider inter-organizational and intra-organizational relationships as intermediaries between the different levels of our analysis. The letters in our framework refer to the basic factors in Stinchcombe's (1965) seminal work.

Of the empirical articles included in this review, 15% (26) analyse conditions characterizing new ventures' environment, 33% (58) analyse attributes, structural characteristics and strategies of new ventures themselves, 24% (43) concentrate

on the individual characteristics of founders and founding teams and 8% (14) observe inter- and intra-organizational relationships. Twenty percent (37) of the articles consider more than one category, thus fostering a multidimensional discussion on the survival construct (e.g. Eisenhardt and Schoonhoven 1990; Falck 2007; Gartner *et al.* 1999; Strotmann 2007).

Conditions characterizing the environment of a new venture

Stinchcombe's (1965) original work on the liability of newness adopted a social–environmental perspective, concentrating on the macro-economic factors affecting new venture survival. Organizational ecologists (e.g. Hannan and Freeman 1977), whose basic argument is that organizational selection processes are mainly driven by *environmental forces*, were among the first to advance Stinchcombe's work by investigating the effect of the environment on new venture survival. Due to this early adoption, macro-economic forces received a great deal of research attention, especially in the 1980s and 1990s.

In our analysis, we follow Carroll (1987) and differentiate between *task environment*, *institutional environment* and *political environment*. Furthermore, given recent technological advancement, our analysis also covers a fourth dimension – *technological environment* – that was not part of Stinchcombe's original work.

Task environment describes factors that are directly related to an organization's work (e.g. markets, resources and competition) (Carroll and Huo 1986). Market structure dynamics (Adams *et al.* 2015; Segarra and Callejón 2002; Strotmann 2007), the external business environment (Burke *et al.* 2008; Patti *et al.* 2016), local market idiosyncrasies (Tausig 2017), the effects of the business cycle (Ejermo and Xiao 2013; Rannikko *et al.* 2019), periods of economic crisis (Simón-Moya *et al.* 2016) and recession (Terjesen *et al.* 2016) have been studied as environmental forces that affect the survival chances of new ventures. Generally, scholars have found evidence that conditions such as economic expansion (Carroll and Delacroix 1982; Geroski *et al.* 2010) and uncertain environments (Azadegan *et al.* 2013; Delmar *et al.* 2013; Lyles *et al.* 2004) positively affect new venture survival. However, the survival of a venture is susceptible to business cycle effects such as changes in the growth rate of industry profits and competition (Jensen *et al.* 2008), and when the industry competes through innovation, new ventures' survival rates are

higher than those of incumbents because newcomers more easily find a market niche (Jensen *et al.* 2008). This finding is consistent with other studies that have examined the effects of technological conditions on firm survival (e.g. Audretsch 1991; Lin and Huang 2008) but contrasting evidence also exists (e.g. Ebert *et al.* 2019; Segarra and Callejón 2002). These mixed findings recall Audretsch's (1995) observations that the ambiguity of an innovative environment could be both a barrier to survival (e.g. in terms of adjustment for entrants) and a source of opportunities to mitigate other disadvantages (e.g. differentiation in small firms).

Another task environment element that affects new ventures' chances of survival is industry characteristics. Both industry size and industry growth have been found to positively influence new venture survival (e.g. Resende *et al.* 2016) but survival rates decline when the industry matures (Falck 2007), or in industries with a high minimum efficient size of establishments or high number of new entrants (Fritsch *et al.* 2006).

A further positive influence on new ventures' survival is the effect of clusters (i.e. regional agglomerations of related industries) (Wennberg and Lindqvist 2010). These beneficial effects, however, are often found to be moderated by firms' resources and capabilities (Lööf and Nabavi 2014; Pe'er and Keil 2013), and the effect can also turn negative when an industry is affected by macro-economic conditions (Wang *et al.* 2018). Similarly, the effects of agglomeration externalities on survival are positive only in regions with a diversity of firms at the industry level (Tavasoli and Jienwatcharamongkhol 2016).

Regional characteristics (e.g. type of region, growth rate of employment, access to labour markets and proximity to suppliers and customers) have been found to significantly increase new ventures' survival according to studies of new businesses from Germany conducted by Falck (2007) and Fritsch *et al.* (2006). Fotopoulos and Louri (2000) found similar results. These findings, however, contradict Stearns *et al.*'s (1995) conclusions about urban versus rural locations, and Littunen's (2000) observations of Finnish metal-product manufacturing firms, both indicating that location does not significantly affect survival. In contrast, Brixy and Grotz (2007) revealed a negative relationship between the regional environment and survival rates of new firms from western Germany.

Although factors in this category mostly resemble Stinchcombe's (1965) 'money economy' (i.e. the social and economic macro-structures that play a

fundamental role in enhancing new firms' survival chances), a recent study by Micelotta *et al.* (2018) directed attention to identity at the industry level, highlighting the negative effects of industry gender-imprinting influences on new ventures' survival. Future research should focus on similar industry-specific cultural barriers to entrepreneurship, as well as advanced and developing market economies as contexts for analysing new ventures' survival.

Regarding the *institutional environment*, empirical studies have shown the relevance of external legitimacy (Singh *et al.* 1986) and the social construction of reputation (Rao 1994; Starr *et al.* 2017) for new ventures' survival. Based on Aldrich and Fiol's (1994) observation that entrepreneurs' lack of cognitive and socio-political legitimacy makes new organizations vulnerable to the liability of newness, studies probed that conducting activities to generate legitimacy decreases the risk that a venture will disband (Delmar and Shane 2004; Shane and Foo 1999). In the same stream, Simmons *et al.* (2014) suggested that economic sanctions can trigger processes to build legitimacy in failed businesses and encourage entrepreneurs to seek out and engage in innovative behaviours.

Other scholars have observed how institutional context determines the founding conditions of new firms as well as the circumstances at each moment of their lifecycle (Geroski *et al.* 2010; Yildiz and Fey 2012). In this vein, institutional changes and their impact on new firm survival and growth have been analysed by scholars like Eberhart *et al.* (2017), who observed that bankruptcy reforms lowered failure barriers and Zhang and White (2016), who suggested that later entrants to the market improved their survival by modifying the institutional environment. Moreover, scholars have explained the importance of new ventures' legitimacy to resource acquisition, survival and growth (Fisher *et al.* 2017; Zimmerman and Zeitz 2002).

The *institutional environment* reflects Stinchcombe's (1965) 'urbanization', referring to social devices used to regulate relationships among strangers. As we understand it, this is what social norms do regardless of whether they come from formal institutions or society itself. Future research could explore venture survival in terms of what is currently legal and socially accepted, that is, which aspects of today's society related to legitimacy and social norms are important influences on a new venture's survival, and how new ventures shape what is socially accepted in their struggle for survival.

While Stinchcombe (1965) identified the *political environment* (*political revolution*) in his seminal work, our review reveals only two studies researching this topic (e.g. Carroll and Delacroix 1982; Hiatt and Sine 2014). The early study by Carroll and Delacroix (1982) analysed founding conditions in the newspaper industry, showing that political turbulence at birth has a negative effect on firm survival. Newspapers founded during political crises are likely to emerge to support political causes but they become obsolete once turbulence ends (Carroll and Delacroix, 1982). More recently, also studying political turmoil and firm survival, Hiatt and Sine (2014) suggested that firms' chances of survival decrease in environments with high levels of political and civil violence.

Research on how technological change affects the macro-environment and its impact on new venture survival is equally as scarce as research on the political environment. Morse *et al.* (2007) lead this topic, proposing the effects of technological and social changes on the conventional understanding of the liability of newness. They suggest that virtually embedded new ventures that can build inter-organizational relationships through the use of electronic technologies have better survival chances. However, these propositions remain unstudied.

Attributes, structural characteristics and strategies of new ventures themselves

Firm age was the first organizational attribute that scholars analysed to explain and demonstrate the liability of newness (Carroll and Delacroix 1982; Freeman *et al.* 1983; Reynolds 1987) but the discussion on the relationship between age and survival has included contradictory claims and divergent empirical findings (e.g. Brüderl and Schüssler 1990; Freeman *et al.* 1983; Mahmood 2000).

While some studies have reported that the influence of age on new venture survival is positive (e.g. Coad *et al.* 2018; Esteve-Pérez *et al.* 2018; Geroski *et al.* 2010; Gregg and Parthasarathy 2017; Wennberg *et al.* 2016), others have found that age is negatively related to survival (e.g. Barron *et al.* 1994; Ranger-Moore 1997; Strotmann 2007), and still others have reported inconclusive results in this respect (e.g. Carr *et al.* 2010). For instance, Persson (2004) observed that in Sweden, only 30% of firms were still trading 7 years after foundation, with exit rates varying across different types of establishments and industries. This contrasts with Esteve-Pérez and

Manez-Castillejo's (2008) results for Spanish manufacturing firms, where exit rates are high not only in the early days of a firm but also when they are mature.

Additionally, some studies have highlighted the different patterns of age dependence (i.e. the relationship between the firm's age and the firm's mortality rates) that might exist in different business lifecycle stages (e.g. Henderson 1999). For instance, a firm may initially exhibit a low mortality risk that rises to a high level during the first 2 years, followed by a continuous decline (Brüderl and Schüssler 1990; Holmes *et al.* 2010; Mahmood 2000).

Researchers have also paid attention to the organizational attribute of *size*, uncovering evidence of a liability related to smallness (Audretsch and Mahmood 1995; Brüderl *et al.* 1992; Headd 2003; Honjo 2000a; Mata and Portugal 1994; Mata *et al.* 1995; Resende *et al.* 2016). However, being small is not necessarily a liability in cases where technology and industry lifecycle stage shape the relationship between firm size and the likelihood of survival (Agarwal and Audretsch 2001); where trade, fiscal and monetary reforms in the operating environment attenuate small firms' survival disadvantages (Klapper and Richmond 2011); and in industries with complex technologies where patent-portfolio quality reduces the risk of failure (Useche 2015).

Some studies have explored the joint influence of size and age on firm survival (e.g. Box 2008; Fackler *et al.* 2013; Neubaum *et al.* 2004; Venkataraman and Low 1994). For instance, Wennberg *et al.* (2016) showed that entrepreneurs' risk preferences change as ventures age and increase in size, thereby explaining venture exit from both perspectives.

Other factors explaining survival involve characteristics of firms' organizational structure. Hannan and Freeman (1984) proposed that organizational structures with high-level *inertia* (i.e. those whose speed of reorganization is much lower than the speed of change in environmental conditions) were favoured by selection within populations of organizations in modern societies, where the structure's reproducibility rises with age over an organization's early years. Hannan (1998) introduced four additional factors (apart from inertia) to explain different liabilities – *endowment*, *imprinting*, *capability* and *position* – which we describe next, together with research found in their domains. The first factor, *endowment*, refers to the quantity and quality of resources that organizations have. In this respect, scholars have examined capital and liquidity constraints (Cole and Sokolyk 2018;

Headd 2003; Honjo 2000b; Laitinen 1992; Tanrisever *et al.* 2012; Wiklund *et al.* 2010), general and specific (non-founder) human capital (Rauch and Rijdsdijk 2013; Siepel *et al.* 2017) and the effects of combinations of internal resources on the survival of new ventures (Aspelund *et al.* 2005; Yang *et al.* 2017). Financial and human resources (separately or combined) have mostly been found to positively influence new ventures' survival (Gurdon and Samsom 2010; Holtzeakin *et al.* 1994). For instance, Cooper *et al.* (1994) found that initial financial capital increases new ventures' chances of survival, and Laitinen (1992) observed that failure risk increases in the presence of high indebtedness and insufficient revenue financing.

With respect to human resources (or what Stinchcombe 1965 called *general literacy and specialized advancing schooling*), studies conducted in countries such as Spain and Germany found survival to be positively influenced by general human capital (Simón-Moya and Revuelto-Taboada 2016) and specific human capital (Rauch and Rijdsdijk 2013). However, motivation-enhancing human resource practices may mediate the effect of human and financial resources on firm survival (De Geest *et al.* 2017); and regardless of the founder's human capital, the workforce skills have been considered particularly relevant and a prerequisite of long-term survival (Siepel *et al.* 2017).

The second factor, *imprinting*, describes the historically specific environments that determine an organization's founding conditions (Hannan 1998). Early decisions that make core features resistant to change in later stages may undermine the fit between an organization and its environment. In turn, the degree of fitness between a firm and its environment is influenced by the strategies the firm decides to follow (Lawless and Finch 1989). Since the distance between an organization's actual environment and its founding conditions increases with age, the mutual action of imprinting, inertia and environmental change results in the liability of obsolescence (Hannan 1998). Studying firms' strategies, scholars noted that multiple patterns of age dependence may exist simultaneously within a single population, and one pattern may dominate depending on the contingencies affecting an organization (e.g. technology strategy) (Bruno *et al.* 1992; Henderson 1999). Strategies such as optimal distinctiveness (Bayus and Agarwal 2007; Goldenstein *et al.* 2019) and strategic balance and resource mastery (Almeida and Fernando 2008) have been suggested as survival enablers, although the relevance of the first is

attenuated by venture age (Goldenstein *et al.* 2019). Diverging from these findings are those relating to internationalization strategies with positive (Fariborzi and Keyhani 2018; Joardar and Wu 2017; Puig *et al.* 2014), negative (Yu and Kim 2013) and insignificant (Westhead *et al.* 2001) effects on survival. For instance, Sleuwaegen and Onkelinx (2014) showed that internationalization did not influence failure rates in Belgian international new ventures (INVs).

Conflicting findings are also evident in matters of innovativeness (Carayannopoulos 2009; Helmers and Rogers 2010; Howell 2015; Löfsten 2016). Some results indicate that new firms that adopt both incremental and radical innovations are likely to survive longer than firms that do not adopt such innovations (Velu 2015), whereas others have shown that start-up new venture innovativeness is negatively associated with subsequent survival (Hyytinen *et al.* 2015). Others observed no impact of innovative technical strategies on survival (Eisenhardt and Schoonhoven 1990), whereas Bayus and Agarwal (2007) explained entry timing as a determinant of increased survival from diversified product technology strategies: while diversification benefits early entrants, it harms those who enter later. Lastly, some scholars have focused on growth-oriented strategies, franchising and survival, where Douma (1991) observed horizontal expansion, related diversification and vertical integration to strongly influence firms' continuity; and Bates (1995) found a higher risk of firm discontinuance in young franchise start-ups.

The third factor, *capability*, is the 'ability to execute routines and solve problems' (Hannan 1998, p. 132). Theoretical developments following Stinchcombe's arguments suggest that capabilities are improved with experience (Hannan and Freeman 1984), but the opposite may also be true when accumulated durable features hinder firms from adjusting patterns to enable efficient collective action, thus leading to the liability of senescence (Barron *et al.* 1994). Corner and Wu (2012) explored dynamic capabilities in new ventures owned by Chinese entrepreneurs, finding that revealing technology and sharing information with customers helped ensure ventures' survival, and scholars have also identified the key role of learning for survival in a new venture's early phases (Gabrielsson and Gabrielsson 2013). In this sense, capabilities have been found to assist firms in managing survival crises and solving growth-related issues, in adapting to their changing environment (Esteve-Pérez and Manéz-Castillejo 2008) and determining survival in INVs (Khan and Lew 2018).

Scholars have also shown that high absorptive capacity increases the probability of survival (Buenstorf 2007; Coeurderoy *et al.* 2012) and that entrants enjoy an 'advantage of newness' in learning (Posen and Chen 2013; Zhou *et al.* 2010). Regarding the latter, Zhou *et al.* (2010) observed that both knowledge capability upgrading and network capability upgrading help firms avoid the liabilities of newness and foreignness, improving firms' chances of survival. Similarly, Tatikonda *et al.* (2013) suggested working capital, customer responsiveness and firm adaptability are the main capabilities that can enhance new ventures' chances of survival in their early years.

The fourth factor, *position* in the social structure, involves an organization's ability to build and develop ties with other relevant actors in the social environment (Hannan 1998). In their conceptual paper, Fichman and Levinthal (1991) compare new ventures to relationships in terms of their initial stock of assets (e.g. trust, goodwill and psychological commitment) that reduces their risk of dissolution in the early days (the 'honeymoon period'). Under this framework, scholars have studied stakeholders' support (Becker-Blease and Sohl 2015; Nagy *et al.* 2014; Shepherd 1999) and their perceptions of organizations' age and other dimensions of newness related to the challenges of adaptation (Choi and Shepherd 2005). Findings indicate that the older the organization, the greater the chance that stakeholders will support it, but also that stakeholders perceive certain features of newness (e.g. cognitive legitimacy, affective congruence, reliability) positively, which enhances new organizations' access to stakeholders' resources.

Our literature review also accounts for theoretical developments regarding organizational characteristics affecting new venture survival. Castrogiovanni (1996) proposed several ways in which pre-start-up planning facilitates survival (e.g. legitimating a new venture proposal) and identified conditions that can limit these impacts (e.g. environmental uncertainty), whereas Shepherd *et al.* (2000) explained new venture failure on the basis of the new venture's degree of novelty (or ignorance). Novelty may relate to customers' uncertainty about the new venture; the production team's knowledge related to the technology used in the new venture; and the entrepreneurial team's business skills. Consequently, mortality risk increases with the degree of novelty for each matter and the number of them displaying novelty for the new venture. Lastly, recent discussions in this stream have been turning to the relevance of firm age in the markets of today's fast-paced world, where firms exist for shorter

periods than they used to and have different timescales for their operations (Bakker and Josefy 2018).

Individual characteristics of founders and founding teams

Explorations of the relationship between new venture survival and founders' characteristics began in the 1990s. Based on human capital theory, Brüderl *et al.* (1992) introduced founders' individual characteristics – years of schooling, work experience and industry-specific knowledge – as indispensable conditions for firm survival. Other studies also followed this approach (e.g. Abdesselam *et al.* 2004; Cressy 1996; Garner *et al.* 1999; Gimeno *et al.* 1997; Kato and Honjo 2015; Kor and Misangyi 2008; Lussier 1995; Mitra 2009; Paik 2014; Thornill and Amit 2003; Ulvenblad *et al.* 2013; van Praag 2003), with findings indicating that founding boards' background, experience, networking and gender diversity significantly affect the survival of new firms (Wilson *et al.* 2014). In addition, some scholars explain the importance to firm survival of types of knowledge (e.g. Gimmon and Levie 2010; Wennberg 2009), forms of experience (e.g. Fern *et al.* 2012) and business owners' talent (Storey and Wyncarczyk 1996); whereas others posit that it is not entrepreneurs' human capital but their hard-working nature that matters for new ventures' successful exit (Lee and Lee 2015) or continuity in their activity (Colombo and Grilli 2017).

Entrepreneurs' biodemographic characteristics, such as gender (Boden and Nucci 2000; Klapper and Parker 2010) and ethnicity (Freeland and Keister 2016; Jiang *et al.* 2016), have also been observed in the context of venture survival. Biodemographic characteristics are innate attributes that are immediately cognitively accessible, pervasive and hardly alterable (Milliken and Martins 1996). Results in this respect have indicated more favourable survival rates for male-owned businesses compared to female-owned businesses (Boden and Nucci 2000) and for new ventures owned by women willing to assume business risks (Rey-Martí *et al.* 2015). Regarding ethnicity, studies have shown that ventures owned by immigrants tend to have higher exit rates (Mueller 2014), and those owned by non-Caucasians are less likely to receive financial support (Freeland and Keister 2016). However, some results have also indicated that closure rates for minority entrepreneurs are not higher than those for Caucasian founders (Cheng 2015).

Lastly, some studies using psychological approaches have focused on entrepreneurial behaviour

and persistence. For instance, potential entrepreneurs who actually started a business more often engaged in activities to set up business operations than those who did not go on to start a business (Bhave 1994; Gatewood *et al.* 1995). Moreover, nascent entrepreneurs who planned their business activities early (Liao and Gartner 2006) and opportunity entrepreneurs (Cabrer-Borrás and Rico-Belda 2018) were more persistent in their entrepreneurial endeavours. In addition, some scholars of venture failure observed that entrepreneurs attributed the failure to internal causes such as poor management (Zacharakis *et al.* 1999). Other research suggests that failure can be perceived differently depending on the cultural context (Cardon *et al.* 2011) and that entrepreneurial features can facilitate learning from failure (Mueller and Shepherd 2016). Other authors explored different configurations of entrepreneurial failures associated with distinct profiles of entrepreneurs (Khelil 2016) and the founder role identity as an element explaining persistence in the face of adversity (Hoang and Gimeno 2010). Moreover, scholars scrutinizing entrepreneurial exits suggested the importance of well-planned exit strategies for entrepreneurial success (Cefis and Marsili 2011; DeTienne 2010; Yusuf 2012).

Our review accounts for only one study exploring founders' personality traits and venture survival. Based on the *big five* personality attributes of extraversion, emotional stability, agreeableness, conscientiousness and openness to experience (Barrick and Mount 1991), Ciavarella *et al.* (2004) found entrepreneurs' conscientiousness to be positively related to venture survival, whereas the opposite was true of openness to experience.

Other studies on venture survival have explored founders' risk attitudes, confidence and motivation. They suggest that changes in risk attitudes influence entry into self-employment (Brachert *et al.* 2017) and that entrepreneurs' chances of success increase when ambition, management experience and perceived market risk combine (Van Gelderen *et al.* 2005). Regarding confidence and optimism, high levels of confidence drive individuals to start a new venture (Artinger and Powell 2016; Hogarth and Karelaia 2012; Hyytinen *et al.* 2014), experiences of failure temper optimism (Ucbasaran *et al.* 2010) and overconfidence endangers venture survival (Gudmundsson and Lechner 2013). Finally, founders' motivations were found to influence a social venture's survival and its social impact (Ruvio and Shoham 2011).

Inter-organizational and intra-organizational relationships

In addition to bringing a human capital perspective to the analysis, Brüderl *et al.* (1992) suggested exploring the effects of founders' social resources. Studies on this matter have indicated that network support (Brüderl and Preisendörfer 1998), as well as appropriate schemes for resource exchange between the new venture and their relevant networks (Hung 2006), are essential for a new venture's formation and survival.

Fichman and Levinthal (1991) started studying the density of firms' social lives by exploring the duration dependence on social and organizational relationships. Subsequent work analysed strategic alliances in technology-based new ventures, revealing that understanding of the parties' resources and interests, cooperation to nurture trust and goodwill, and flexibility in terms of realizing benefits from cooperation are critical factors in the success of a venture (Carayannis *et al.* 2000). Other approaches to inter-organizational relationships (e.g. Jayawarna *et al.* 2011; Lu and Hwang 2010; Semrau and Werner 2012) have shown the importance of social capital to ease access to bootstrapped resources and to explain organizational performance. Studies indicate the relevance of the size of informal inter-firm networks (i.e. the network structure of firm managers) (Raz and Gloor 2007; Zhao and Burt 2018), the value of close entrepreneurial ties (de Jong and Marsili 2015) and shared ethnicity in networks (Kalnins and Chung 2006) as enhancing agents of survival. Further elements explored include ecosystem collaboration, user involvement and open environments, all of which have been found to positively influence new venture survival (Eftekhari and Bogers 2015; Xia and Dimov 2019). In this respect, Chrisman and McMullan (2004) and Rotger *et al.* (2012) highlighted the positive effects of counselling on survival, but these effects may depend on the size of the firm, characteristics of the counsellor's experience and age of the owner (Solomon *et al.* 2013). In addition, organizational sponsorship has been found to mediate the relationship between new organizations and their environments (Amezcuca *et al.* 2013), resulting in improved venture survival rates.

Intra-organizational relationships (i.e. relationships among team members) have been found to create stronger competitive advantages, innovation and efficiency for firms (Littunen 2000), and team-driven ventures are more likely to continue in business (Littunen 2000).

Synthesis and future research agenda

Based on our review and proposed framework (Figure 3), we identified future research directions across the different factors affecting firm survival and suggestions for research methodologies. Table 4 summarizes some of the key future research questions to be explored. In addition to the existing liabilities, we propose as a 'transversal inquiry' the further exploration of new liabilities, which are likely to emerge as further knowledge of variables/factors affecting entrepreneurship develops. Before we discuss the research opportunities related to each of these categories separately, we highlight the key trends in the literature in general.

General trends and research opportunities

Our literature review reveals that in order to understand why new organizations survive (or die), scholars have resorted to one of two converging streams of research: the literature emerging from the original idea of the liability of newness proposed by Stinchcombe (1965), upon which other liabilities have been discovered over time; and the literature focused on factors explaining new venture survival. We propose that these streams converge based on the observation that in some cases, the study of particular factors led to the identification of new liabilities. Similarly, in other cases, by challenging notions of already known liabilities, scholars have spotted new factors that explain survival or have reinterpreted the ways in which particular factors and their influence are understood. In this regard, our findings indicate that the types of liabilities and their related antecedents emerged according to the approaches adopted over time and links with the availability of data and the development of new research methods. For instance, we observe that the earlier liabilities of newness, smallness and aging emerged in periods when researchers focused on the organization and its environment and adopted perspectives from organizational ecology and organizational theory. In contrast, more recent liabilities, such as the liability of ethnicity and the liability of identity, have emerged from the (less unusual) current use of psychological and behavioural approaches in management and entrepreneurship and are also in line with themes concerning contingencies of today's society.

The divergent findings found in the literature prevent us from providing a general conclusive indication

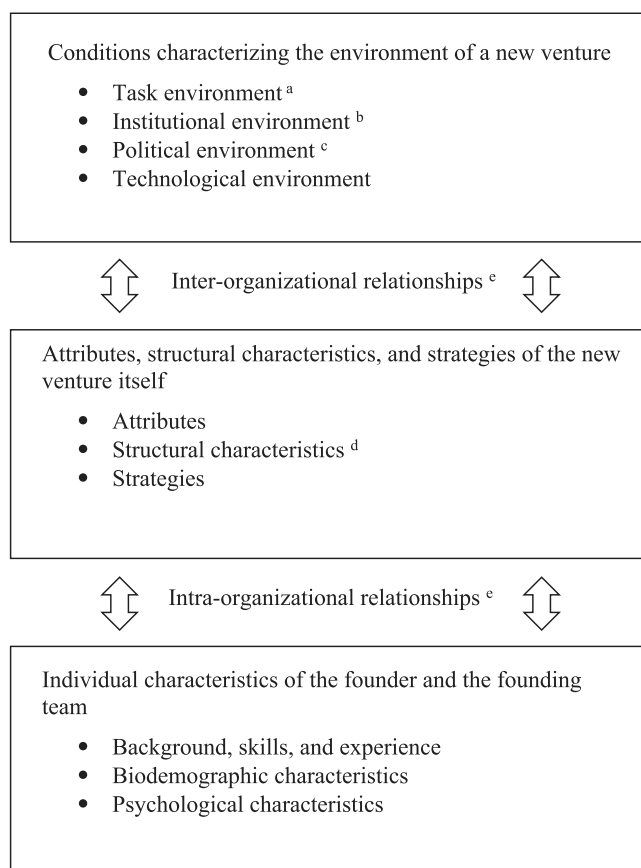


Figure 3. Framework of current research: factors affecting the chances of survival among new ventures.

Note: Superscript letters indicate that Stinchcombe (1965) considered this factor in his seminar work. *a* = money economy; *b* = urbanization; *c* = political revolution; *d* = general literacy and schooling; *e* = density of social life.

of which factors are decisive for survival; however, we provide some clues of what should be expected under similar conditions to those reported in the studies. Thus, we propose that new venture survival cannot be explained by an isolated condition, factor or attribute; instead, endeavours in this respect should look at conditions, attributes and intermediaries as a whole. As our analysis showed, the multidimensional exploration of the survival construct is rare. Given the diversity of new organizations (e.g. high-/low-tech, manufacturing/services, labour/capital intensive), the diversity of environments (e.g. advanced/developing economies, political turmoil/stability) and the diversity of firm founders' characteristics (e.g. in terms of their skills, bio-demographics and psychology), different configurations of these factors are likely to impact new venture survival differently, and what holds under particular conditions may work inversely in other scenarios. We encourage future research to focus on comparisons of dissimilar

configurations of environments, organizations and founders' characteristics and use more integrative approaches to study new venture survival.

Recommendations on conditions characterizing the environment

We invite scholars to explore environmental issues that could be considered liabilities in the era of globalization, and how new technologies or new trends can mitigate those environmental liabilities. Our review also calls for further research on the specific contexts in which new ventures operate, which might include industry-specific cultural barriers to entrepreneurship and perceptions of legitimacy in society that influence new ventures' creation processes and chances of survival. As our results indicate, most of the current knowledge of new venture survival builds on insights from developed economies. Therefore, we encourage research that compares survival factors of

Table 4. Future research directions for new venture survival research

Conditions affecting the environment of a new venture	<ul style="list-style-type: none"> • What other liabilities exist in the context of new venture survival? • Which environment-related factors represent new liabilities in the global world? • What factors influence new venture survival in emerging markets? How do they differ from or resemble the factors in developed economies? • How do industry-specific cultural barriers to entrepreneurship, or perceptions of legitimacy in society, influence new venture survival? Which liabilities are more likely to affect new ventures in specific industries? • How do high/low immigration rates influence new ventures' survival prospects? • Which conditions for new ventures' survival matter in individualized versus collective cultures? • Which institutional pressures and configurations influencing survival can be found in different countries?
Attributes, structural characteristics and strategies of the new venture itself	<ul style="list-style-type: none"> • How do intangible/invisible resources influence survival in new ventures? • How do (organizational-level) variables such as identity, passion, commitment, resilience and energy influence the survival of new ventures? • Which liabilities exist by type of new venture (e.g. high-growth entrepreneurship, social entrepreneurship, ecopreneurship, radical innovation entrepreneurship)? • Which liabilities exist in the context of corporate entrepreneurship? Which survival factors influence corporate venturing?
Individual characteristics of the founder and the founding team	<ul style="list-style-type: none"> • Can technological developments become a liability for new ventures? • How do identity tensions within the firm founder affect new venture survival? • Which identity conflicts and tensions within the founding team affect new venture survival and how? • How does the founder's role identity (or identities) influence new venture survival? • How does the founder's social identity (or identities) influence new venture survival? • In what ways can the psychological capital of the founding team influence survival in a new venture? • How do different types and sources of knowledge influence new venture survival? • Do survival rates differ for ventures owned by senior versus young entrepreneurs? • In what ways can new definitions of gender affect new ventures' survival? • Which liabilities affect firms owned by disabled entrepreneurs?
Inter- and intra-organizational relationships	<ul style="list-style-type: none"> • How do the characteristics of (internal and external) networks in terms of density, stability, resource asymmetry and self-sufficiency influence new ventures' survival? • Which conditions hinder trust in inter- and intra-organizational relationships? • How can damaged inter- and intra-organizational relationships be repaired/replaced, and how does any such repair/replacement affect survival? • How can internal and external trust be measured? • Which dimensions (and levels) of trust matter for those who survive? • How do variables such as teams' shared strategic cognition, potency, cohesion and conflict influence survival? • How do positive identity perspectives and the building of social resources relate to new venture survival?
Methodological approaches	<ul style="list-style-type: none"> • What new indicators or measures should be considered in empirically measuring new venture failure? • What combinations of factors should be considered when measuring new venture failure? • How might future studies capture alternative explanations of new venture failure? • What happens to entrepreneurs after they discontinue their business? • What implications does venture failure have beyond entrepreneurs such as investors and society? • How can we acquire a deeper understanding of new venture survival by utilizing alternative methods to quantitative studies such as narrative-oriented research, participant observations, action research and phenomenological studies on new venture survival? • How can we efficiently capture the survival and failure of emerging ventures that are not yet established?

emerging and developed economies, as well as research that identifies which liabilities are more likely to affect new ventures by industry types. Other research ideas might concern new ventures' survival

prospects in relation to country-level characteristics such as high/low immigration rates, or individualistic versus collectivist cultures. Other unexplored topics include survival in new ventures founded to advance

particular causes (e.g. support of environmental, gender or migratory issues) and the effects of political variables on other industries apart from newspapers (e.g. the mass media in the digital era). Morse *et al.*'s (2007) work provides a solid starting point to conduct empirical studies to explore aspects such as survival chances in virtually embedded new ventures and the impact of technological change for new venture survival.

Recommendations regarding organizational attributes

Given that technological developments fundamentally change the way new ventures emerge, organize and compete (Morse *et al.* 2007), we encourage studies exploring the role of inertia in today's organizations; be that whether/how this concept can be better understood in new ventures embedded in a digital world or how technological processes influence organizational inertia and the dynamics in which teams collaborate with each other. Our analysis reveals that these studies are clearly lacking. Other opportunities emerge from the role that invisible or intangible resources play in new ventures' survival. In this regard, we propose exploring the relationship between organizational-level variables such as (the use of) time, image, identity, passion, commitment, resilience and energy and the chances of survival among new ventures. Furthermore, an interesting but yet to be explored topic involves the survival factors affecting new ventures established in existing organizations (i.e. corporate venturing). Future research might compare the survival factors of new, independent ventures to those of ventures born within corporations. Lastly, we encourage research on the development of operational capabilities for survival in the digital era. This topic might be studied in relation to both human and psychological capital at the team level, as well as workforce psychological characteristics such as commitment and resilience.

Recommendations on characteristics of entrepreneurs and founding teams

The findings of this study indicate that future research on the characteristics of entrepreneurs and founding teams might focus on identity conflicts, psychological capital and other psychological aspects of these individuals. Scholars could, for instance, explore how the founders' role and social identities influence survival and the liabilities associated with founders' identity

types. Alternatively, researchers might want to focus on variables that explain persistence and venture survival, such as hope and grief management. Our review also reveals options to expand the perspectives of human capital theory by exploring topics such as the role and source of types of knowledge for survival. Lastly, our findings regarding biodemographic matters reveal opportunities for future research on survival prospects (and liabilities) in contexts of diversity and inclusion, such as ventures owned by senior/young entrepreneurs, gender minorities and disabled entrepreneurs.

Recommendations on inter- and intra-relationships of new ventures

The analysis reported above reveals that although important, liabilities related to inter- and intra-relationships of new ventures have received little prior attention. Future studies could, for example, focus on network density, stability, resource asymmetry and trust-building processes that are necessary for survival. With regard to those processes, unexplored topics involve the conditions that hinder trust in new ventures' internal and external relationships; the development of measurements and constructs to capture internal/external trust; and the exploration of dimensions (and levels) of trust that matter for those who survive. We also encourage research on social processes concerning how teams' shared strategic cognition, potency, cohesion and conflict affect new ventures' survival; and positive identity perspectives to explore social resources influencing survival.

Methodological recommendations

Given the wide variety of research methods used to study this topic, we do not suggest a new set of methods to study new venture survival. Instead, we urge scholars to pay specific attention to the processes of operationalization, analysis and sampling. Future studies should try to elicit the variety of reasons why new ventures can fail. Most studies have focused on the predominant antecedents of new venture survival but have neglected alternative explanations, such as family reasons, the pursuit of other more promising ideas/ventures, and suchlike. These alternative reasons may be hard to capture with purely quantitative methods, but narrative-oriented research, participant observations, action research and phenomenological studies may reveal them. Moreover, studies on new venture survival have generally failed to follow up on

what happens to entrepreneurs after they discontinue their businesses. Recent studies have suggested that entrepreneurial failure (e.g. He *et al.* 2018; Mantere *et al.* 2013; Ucbasaran *et al.* 2013) is an important experience that – in a best-case scenario – results in ventures that are more successful than prior efforts. Nordic countries, for example, have comprehensive statistics on individuals' career choices and progression that could be linked and utilized to study failed entrepreneurs. We invite future research to address these issues and develop a more profound understanding of not only why new ventures fail but also the implications for entrepreneurs, investors and society of such failures.

Another observation concerning the methodological limitations of the current literature on new venture survival is the prevalence of quantitative studies. The heavy reliance on a positivistic paradigm is somewhat problematic because with secondary datasets come certain limitations to uncovering more complex dynamics and underlying mechanisms that influence new venture survival, as Williams (1993) noted long ago. Furthermore, as the current research on new venture survival is dominated by publicly available datasets or registries, which are valuable but offer limited information, we invite future research to study new venture survival using mixed-methods approaches (i.e. combining quantitative and qualitative approaches), by combining archival data with survey data and by conducting longitudinal case studies. In addition, since most quantitative studies have undertaken a survival probability analysis as reported in the methodological approaches section, it is important to direct the discussion towards hazard rates and their generalizability. As a minimum, as the hazard rate is at the core of new venture survival empirics, we recommend that future studies report study estimates using different hazard functions (see Goldenstein *et al.*, 2019).

Moreover, our review confirms Aldrich and Yang's (2012) argument that a large number of studies have concentrated on established ventures and not on emerging ventures that are in the process of organizing themselves (see also Yang and Aldrich 2017). As many of Stinchcombe's (1965) core arguments are related to nascent ventures, we strongly encourage future studies to capture new ventures in their inception phase or even before that. We understand that tracking new ventures at this stage of development is challenging, but this type of research is needed to enhance the current status of our knowledge. For example, tracking nascent entrepreneurs and their teams during and

after start-up weekends – standardized entrepreneurship events held globally – could be used to capture ventures at or even before their inception (see Sirén *et al.*, 2020).

Finally, it would be interesting to extend the research on new venture survival beyond the western world. Our review shows that emerging markets are sorely under-represented in this research stream. The absence of studies in this context is surprising as these markets play an increasingly important role in the global entrepreneurial ecosystem. Understanding factors affecting new venture survival in emerging economies like China and India will have significant implications for policymakers at the regional and state levels. We suggest that future research focuses on the specific circumstances under which new ventures emerge, organize and grow in these markets.

Conclusion

This literature review explored the factors that influence new venture survival and how they relate to our current understanding of the liability of newness. Based on the survival factors outlined in Stinchcombe's (1965) seminal work, this review synthesizes the empirical findings to date into systematic clusters of environmental, organizational, individual and network-related factors of new venture survival. More specifically, the review shows that the factors proposed by Stinchcombe (1965) retain their validity as elements influencing survival; but many more have been reported in the literature since then. Based on these insights, we suggest different avenues for future research, seeking to increase our understanding of new venture survival in the digital era.

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Supporting Information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Appendix 1. List of empirical studies included in the review