Long Range Planning 58 (2025) 102513

Contents lists available at ScienceDirect

Long Range Planning

journal homepage: www.elsevier.com/locate/lrp

From start to stardom: The impact of resource allocation strategies on new venture survival and growth

Matteo Cristofaro [a,*], Ivo Hristov [b], Riccardo Cimini [a], Dan Lovallo [c]

[a] Management, University of Rome "Tor Vergata", Italy
[b] University of L'Aquila, Italy
[c] The University of Sydney, Italy

ARTICLE INFO

Keywords:
Start-up
Resource allocation
Survival
Growth
Strategic management

ABSTRACT

An enduring question in the survival and growth of new ventures literature is why some start-ups secure survival while others fail, and why certain nascent firms achieve rapid growth in the ensuing years while many stagnate. This study investigates how conservative and aggressive resource allocation strategies impact these outcomes. By analyzing 44,559 firm-year observations in Italy from 2011 to 2019, we find that the more aggressive the resource allocation strategies—i.e., allocating a larger share of total assets to non-financial resources—the greater the likelihood of survival in the early phase. The same holds true during the growth phase, where ventures that continue adopting aggressive resource allocation strategies significantly increase their chances of becoming high-growth firms. Additional analysis highlights the critical role of plant, property, and equipment in influencing these outcomes. We also demonstrate that past resource allocation strategies exert a path-dependence effect. This underscores the importance of early-stage decisions in shaping a venture's long-term growth trajectory, as the more aggressive the resource allocation during the survival phase, the higher the likelihood of transitioning into a high-growth firm in later stages.

1. Introduction

Why do some start-ups survive and others fail? And why do some newly established firms outperform others in growth terms? These questions are central to the literature on the survival and growth of new ventures (e.g., Gilbert et al., 2006; Josefy et al., 2017; Ehsani and Osiyevskyy, 2023) and are highly relevant for entrepreneurs, managers, and policymakers. In the U.S., 20% of businesses fail within the first year, and nearly 50% fail by year five (Forbes, 2024). A similar pattern is observed in Europe, where almost one in five new ventures fail within the first year (Statista, 2021). These high failure rates stem from the 'liability of newness' (Stinchcombe, 1965), pointing to resource gaps that early-stage firms struggle to bridge (Abatecola et al., 2012; Soto-Simeone et al., 2020). For those that endure, the challenge shifts to sustaining growth. The shift from survival to rapid expansion remains a key research area, as

* Corresponding author.
E-mail addresses: matteo.cristofaro@uniroma2.it (M. Cristofaro), ivodimitrov.hristov@univaq.it (I. Hristov), riccardo.cimini@uniroma2.it (R. Cimini), dan.lovallo@sydney.edu.au (D. Lovallo).

https://doi.org/10.1016/j.lrp.2025.102513
Received 25 August 2023; Received in revised form 3 December 2024; Accepted 6 February 2025
Available online 12 February 2025

high-growth firms,[1] despite making up less than 2% of all firms (Eurostat, 2023), contribute disproportionately to job creation and productivity, accounting for nearly 50% of total job creation in the U.S. and Europe (e.g., Bisztray et al., 2023; Kim et al., 2024).

The challenges of survival and growth for new ventures emphasize the critical need for strategies to navigate those hurdles (Parks, 1977). We posit that resource allocation strategies—how a firm distributes its resources to achieve its goals (Maritan and Lee, 2017a)—are crucial for tackling these dual challenges of survival and growth. Resource allocation not only reflects a firm's strategic direction (Mintzberg, 1978), but also becomes "the essential element of strategy" (Bower, 2017: 2422; see also Bardolet et al., 2011, 2017; Maritan and Lee, 2017a; Lovallo et al., 2020).

In this regard, while the literature on organizational survival and growth (Gilbert et al., 2006; Josefy et al., 2017; Soto-Simeone et al., 2020) - including the one on so-called unicorn and gazelle companies(Cristofaro et al., 2024) - has explored the impact of individual resources like human, social, and financial capital (Esteve-Perez and Manez-Castillejo, 2008; Geroski et al., 2010; Mata and Portugal, 2002), findings have been mixed (Newbert, 2007).[2] For instance, studies show both positive and negative effects of human capital (in terms of education and expertise) on firm survival and growth (e.g., Geroski et al., 2010); similarly, some studies find financial resources to be influential, while others do not (e.g., Cooper et al., 1994; Gilbert et al., 2006; Linder et al., 2020). This highlights a gap in the literature: while specific resources have been examined, few studies explore the broader impact of general resource allocation strategies on survival and growth. In particular, the effects of aggressive strategies—allocating more on non-financial resources like plant, property, and equipment—and conservative strategies—allocating a larger proportion of total assets to liquid financial assets, like cash—remain underexplored (Hobfoll et al., 2018; Paeleman et al., 2024). Addressing this gap is essential for understanding the link between resource allocation and competitive advantage and explaining firm heterogeneity and performance differences in similar contexts (Maritan and Lee, 2017b; Lockett et al., 2009). This also responds to calls for more research on how initial capital and resource allocation influence new venture survival and growth (Soto-Simeone et al., 2020; Gilbert et al., 2006).

Our study responds to these calls by examining new ventures in Italy across different sectors for 2011–2019 (44,559 firm-year observations). Using a non-linear logistic regression model and controlling for industry, we find that new ventures adopting a more aggressive resource allocation strategy in the early stage of their life significantly enhance their likelihood of survival. Our causality tests (Granger, 1969) indicate that aggressive resource allocation decisions create self-reinforcing mechanisms, where past strategies significantly influence the likelihood of a new venture's survival and its potential to become a high-growth firm. The more aggressive the resource allocation during the survival phase, the higher the likelihood of transitioning into a high-growth firm in later stages.

We contribute to the literature on new venture survival and growth by empirically demonstrating the lasting impact of resource allocation strategies on these outcomes. Our findings underline that a new firm's evolution is shaped, in part, by *how* it deploys its resources over time, with early decisions starting a path-dependence process that influences long-term performance. We provide evidence that more aggressive resource allocation strategies can help overcome the 'infant mortality' effect of new ventures and lay the foundation for a high-growth future. This supports the relevance of resource allocation strategies in explaining firm heterogeneity in survival and growth, contributing to the theoretical advancement of the RBV (Lockett et al., 2009; Newbert, 2007) and extending research on resource allocation (Maritan and Lee, 2017a). For entrepreneurs, these findings emphasize the importance of making informed, strategic decisions about resource allocation early in a venture's life, as this can significantly enhance survival prospects and future growth potential. For policymakers, our insights point to the need for supportive regulatory frameworks that encourage firms to adopt aggressive resource allocation strategies, fostering a more resilient and competitive entrepreneurial ecosystem.

The paper is organized as follows. Section 2 discusses and hypothesizes the link between the literature on new ventures' survival and growth with resource allocation. Section 3 details the data and methods used, while Section 4 presents the results. Section 5 discusses the results, and Section 6 concludes, offering implications for theory and practice, outlining the study's limitations, and identifying future research avenues.

2. Theoretical background and hypotheses development

The firm life cycle generally begins with a 'birth' stage, usually followed by the firm's growth.[3] During the early years, new ventures face intense survival challenges, collectively known as the "liability of newness" (Stinchcombe, 1965). This liability stems from the common lack of experience, constrained resources, limited legitimacy (Singh et al., 1986), and stable ties with stakeholders of new ventures, all of which restrict their ability to establish long-term market positions and expose them to competitive pressures (Freeman et al., 1983; Hristov et al., 2022).

Effective resource allocation becomes essential for firms navigating these pressures (Zahra, 2021). At the beginning of each financial year, firms strategically plan resource distribution to maximize potential and secure competitive advantages (Mintzberg, 1978). The Resource-Based View (RBV) offers a framework to understand how unique resources contribute to competitive advantage

[1] In this study, we adopt the Cooper et al.'s (1994) definition of a high-growth firm. We consider high-growth firms to be those in which the change in number of employees is above the median value of the distribution, and low-growth firms those in which the number of employees is below the median.

[2] Following the resource-based view (RBV) of the firm, resources are commonly defined as "assets which are semi-permanently tied to the firm" (Wernerfelt, 1984, p. 171). Accounting literature defines resources using the term 'asset' (IASB, 2018). Given this overlap, the terms 'resource' and 'assets' can be used interchangeably, while we utilize the term 'resource allocation' to refer to the distribution of 'total assets'.

[3] While the debate on the stages of a firm's life continues (see Phelps et al., 2007 for a review), we intentionally simplify the discussion, considering an early period of struggle for new ventures, and greater possibility of growth in subsequent years.

(Wernerfelt, 1984; Barney, 1991), with Peteraf and Barney (2003) emphasizing that resource allocation strategies impact a firm's ability to achieve cost or differentiation advantages, which directly influence survival and growth (see also Levinthal, 2017; Maritan and Lee, 2017a).

In responding to early-stage pressures, managers generally adopt one of two contrasting resource allocation strategies: conservative or aggressive (Hobfoll et al., 2018; Paeleman et al., 2024). A *conservative* strategy prioritizes protecting financial resources, minimizing immediate risks, decreasing investments, and hoarding precautionary cash. Managers employing this approach may reduce or delay investments, adopting a "wait-and-see" stance in the belief that initial caution will protect the firm and allow it to adapt as the environment evolves (Yang et al., 2004). Conversely, an *aggressive* strategy is oriented toward growth-oriented investments, emphasizing tangible (e.g., plant, property, and equipment [PPE], and inventory) and intangible assets (e.g., research & development [R&D], patents, etc.) to swiftly establish a market presence and competitive advantage to pursue opportunities. This strategy prioritizes long-term gains over immediate stability, with managers actively allocating resources to build legitimacy and secure a strong market position (Wenzel et al., 2020). We advance that these two contrasting strategies can help firms overcome the start-up hurdle and lay the groundwork for sustainable growth.

2.1. New ventures' survival and resource allocation strategies

Several studies have examined the impact of different resource allocation strategies on the survival of early-stage ventures, highlighting the distinct contributions of both conservative and aggressive approaches. Notably, some research emphasizes the advantages of conservative strategies, which focus on accumulating financial resources. These strategies are often praised for their flexibility and their critical role in providing initial stability to new ventures, while also facilitating the gradual development of essential business capabilities (Soto-Simeone et al., 2020). It has been found that financial resources gathered via a conservative strategy provide a buffer that enables entrepreneurs to execute strategic goals and adapt amidst competitive pressures (Gilbert et al., 2006) by addressing immediate operational needs and mitigating risks (Wiklund and Shepherd, 2005). In fact, firms in the first years with slack in financial resources, even if combined with resource constraints in others, build their terrain for survival (Paeleman and Vanacker, 2015). This perspective aligns with the conservation of resources (COR) theory, for which a conservative resource allocation strategy helps firms maintain alignment with turbulent market conditions, fostering survival by focusing on preservation, via the accumulation of financial resources, rather than expansion (Halbesleben et al., 2014; Hobfoll et al., 2018).

In contrast, an aggressive resource allocation strategy emphasizing tangible and intangible assets can significantly enhance a new venture's survival likelihood. For instance, substantial investments in PPE provide a strong operational base that facilitates production and scaling, helping to overcome the liability of newness (Coad et al., 2013). Empirical evidence shows that new ventures investing heavily in tangible assets, such as PPE, are more likely to survive due to the early establishment of robust production capabilities, reducing the vulnerabilities associated with the liability of newness (Mata and Portugal, 2002). Similarly, Thornhill and Amit (2003) emphasize that investments in physical assets contribute to building a stable infrastructure, which is crucial for mitigating early-stage risks and enhancing a firm's operational resilience. However, the success of such an approach heavily depends on the complementary role of effective inventory management. Higher inventory levels can enhance the likelihood of survival by acting as a buffer against demand variability and supply chain disruptions. Research shows that increased inventory levels are linked to improved sales and profitability, essential for sustaining operations, particularly in uncertain environments (Gaur et al., 2005). Similarly, Eroglu and Hofer (2011) find that firms with higher relative inventory levels exhibit better financial performance, suggesting that a strategic increase in inventory can support the firm's long-term survival by mitigating risks and maintaining operational stability.

Beyond tangible investments, an aggressive strategy should also prioritize investments in innovation and R&D, which are crucial for building a firm's legitimacy and adaptive capacity (Josefy et al., 2017). Indeed, innovation and R&D investments play a pivotal role in leveraging knowledge to enhance the firm's technological capabilities, facilitating the introduction of new products and services (Tang and Murphy, 2012). Additionally, aggressive investments in firm-specific assets like patents further amplify survival prospects by differentiating the venture and securing unique market positions, as evidenced by studies showing the positive impact of patents on resilience and strategic exits (Esteve-Pérez and Mañez-Castillejo, 2008; Kato et al., 2022). Moreover, a meta-analysis by Rosenbusch et al. (2011) highlights that while innovation generally contributes to enhanced performance, its benefits are most pronounced when aligned with a firm's strategic resource allocation. Specifically, aggressive investments in R&D can amplify survival prospects by fostering differentiation and innovation, but their effectiveness depends on the firm's ability to balance innovation intensity and operational stability.

Taken together, these studies suggest that an aggressive resource allocation approach, focusing on building tangible and intangible assets swiftly, provides new ventures with the structural and competitive advantages needed to survive their formative years. Therefore, we hypothesize that.

H1. *New ventures that adopt a more aggressive resource allocation strategy in the early stages of their life cycle significantly enhance their likelihood of survival*

2.2. New ventures' growth and resource allocation strategies

If a new venture can survive the early, turbulent years, the subsequent ones are often characterized by fierce competition (Bruderl and Schlusser, 1990). That is, in the subsequent period, firms aim to gain a sustained competitive advantage and scale operations at a sustained pace (Abatecola et al., 2012).

The literature on conservative resource allocation strategies offers mixed findings regarding their role in new venture growth. Some studies suggest that a conservative focus does not significantly influence growth (Wiklund and Shepherd, 2005). Similarly, Wenzel et al. (2020), in their commentary on strategic responses to resource constraints, suggest that managers often employ a conservative approach to protect core resources, leading to stable, incremental—but not strong—growth. Their conceptual analysis argues that conservative strategies centered on safeguarding financial resources contribute to organizational stability, though they may limit a firm's potential for achieving exceptional results. Consistent with this, Cooper et al. (1994) provide empirical evidence that, while financial capital is crucial for initial survival, its accumulation alone is not a strong predictor of high growth. Instead, high growth is more closely associated with strategic investments in innovation, industry-specific know-how, and the development of managerial capabilities, underscoring the limitations of a purely conservative approach focused on capital preservation. More recent evidence from Rehman et al. (2021), based on an analysis of 2994 Chinese firms listed on the Shanghai and Shenzhen Stock Exchanges from 2003 to 2018, further supports this view. The study finds that higher cash holdings during the growth stage help firms mitigate financing constraints and provide stability. However, this conservative strategy often limits proactive investments in growth opportunities, revealing a trade-off between financial stability and the pursuit of high growth.

In contrast, aggressive resource allocation strategies are strongly associated with long-term growth, effectively mobilizing resources for innovation and adaptation (Doern, 2017). For instance, PPE investments provide the necessary infrastructure for scaling operations and meeting increased market demand, as Grazzi et al. (2016) highlighted. Such capital investments support short-term output expansion and long-term growth, especially in industries with high operational intensity and during times of crisis (Paeleman et al., 2024). Additional support for aggressive investments in tangible assets, such as PPE, comes from Gompers et al. (2010), who emphasize establishing a robust operational base that facilitates scaling.

While investments in PPE lay the groundwork for operational capacity, a complementary focus on inventory management is vital for firms aiming to maintain growth momentum. Elsayed and Wahba (2016) show that the positive impact of higher inventory levels is particularly strong during rapid growth and revival stages. Their analysis suggests that while lean inventory practices might suit mature firms, higher inventory-to-sales ratios are crucial for firms in dynamic growth phases, helping them meet increasing demand and expand market presence. Thus, these findings indicate that an aggressive inventory strategy enhances firm performance by ensuring stock availability, enabling flexibility, and supporting expansion in high-growth stages (see also Davidsson et al., 2009).

Beyond tangible assets, innovation and R&D investments are central to the growth of new ventures, as they facilitate the creation of unique products, enhance market differentiation, and foster long-term scalability. Allocations towards R&D and firm-specific assets like patents have significantly boosted growth prospects, with empirical evidence indicating a strong positive relationship between R&D expenditures and firm performance (Tahat et al., 2018). Moreover, Kafouros and Wang (2008) highlight the persistent and statistically significant effects of R&D investments on firm performance, suggesting that the economic returns from industrial research tend to last over time. Their findings indicate that while technologically advanced firms experience a faster depreciation of R&D returns, other firms benefit from a slower decay, supporting the notion that strategic R&D investments contribute to sustained performance gains. Furthermore, Czarnitzki and Hottenrott (2011) provide evidence that R&D investments are especially critical for small and medium-sized enterprises (SMEs), as they help overcome financing constraints and enhance market differentiation, facilitating long-term scalability. Finally, a recent critical review by Hussinki et al. (2024) suggests that current financial reporting often underrepresents the true value of intangibles, potentially underestimating their impact on firm growth.

In summary, an aggressive resource allocation strategy that integrates substantial investments in PPE, maintains higher inventory levels, and prioritizes the development of intangible assets, provides a comprehensive growth framework. From this, we test the following hypothesis.

H2. *New ventures that adopt a more aggressive resource allocation strategy after the initial phase significantly increase their likelihood of becoming high-growth firms*

3. Methodology

3.1. Research design and data collection

This study adopts a quantitative research design to examine the effects of resource allocation strategies on new venture survival and growth. Using a comprehensive panel dataset, we leverage secondary data from the AIDA database (Bureau van Dijk), which provides detailed yearly financial and accounting information for Italian firms registered with local Chambers of Commerce. Given the peculiar accounting practices of financial institutions, we excluded these firms from our sample to maintain consistency in our analysis. For the period 2011–2019, we downloaded accounting data of Italian firms to identify the following.

a) an initial sub-sample of firms that have survived the early stage of their life cycle and have continued to operate in the following years (i.e., till 2019), and
b) a sub-sample of firms that failed during the early stage of their life cycle.

We define the early stages of a new venture's life cycle as the first four years, based on country and industry characteristics (Dunne et al., 1988). This timeframe is further supported by a review of relevant Italian literature and national statistics, which indicate that four out of ten new ventures fail within their first three to four years (Cafferata, 2022; Corriere, 2016). To identify new ventures, we focus on firms formally registered in the Italian firms' register. Ceasing firms are those that have canceled their registration.[4]

Supplementary material (SM) 1 summarizes the sample composition, which is an unbalanced panel dataset that counts 44,559 firm-year observations. The table provides evidence that the first sub-sample of firms surviving to the early stages of their life cycle is a strongly balanced dataset. After eliminating firms due to missing data, it counts 33,543 firm-year observations (3727 entities) belonging to different industries that, adopting the Nomenclature of Economic Activities (NACE), are distributed as follows: 4% primary sector, 10% secondary sector, 86% tertiary sector. The second sub-sample is unbalanced due to the presence of firms that ceased during the early stages of their life cycle. After eliminating firms with missing data, it consists of 11,016 firm-year observations.

The chosen timeframe from 2011 to 2019 allows us to minimize the potential confounding effects of the 2008–2009 financial crisis and avoid the disruptions caused by the COVID-19 pandemic. By defining the early stages as the period from 2011 to 2014, we focus on a critical phase in the firms' life cycle, providing a clear basis for analyzing their subsequent performance.

We employed logistic regression models with time-fixed effects to test our hypotheses, following established methodological practices (e.g., Cimini et al., 2022; Lovallo et al., 2020). These models allow us to predict the effects of different resource allocation strategies on firm survival and growth probability. Additionally, we conducted Granger causality tests and applied a two-stage least squares (2SLS) regression to address potential endogeneity concerns, enhancing the reliability of our findings.

3.2. Measurement

According to Callao et al. (2007), a European continental country is a good subject for this type of research because such countries are characterized by a strong regulatory environment underpinned by the rule of law. For this reason, Italy has been chosen as the focal country because Italian legislation does not allow annual report preparers to exercise discretion regarding content; hence, identifying non-financial and financial resources from companies' annual reports is straightforward to identify new ventures that have adopted an aggressive resource allocation (ARA) strategy or a conservative resource allocation (CRA) strategy.

Definitions of financial and non-financial resources useful to identify firms adopting such strategies are taken from the Italian Civil Code (Book V, Title V, article 2424), which dictates the structure of Italian firms' balance sheets.

Italian law defines *financial resources* (FR) as those present in liquid form at the end of the year or allocated to financial activities that generate new financial resources. We include commercial and non-commercial receivables, active mortgages, medium-long-term securities, and equity asset allocation (share capital held in associated firms, subsidiaries, and other firms). *Non-financial resources* (NFR) are defined as tangible goods (i.e., purchased or manufactured internally, assets under construction such as plant, machineries, etc.) and non-tangible goods (R&D costs, industrial patent rights, and rights to use intellectual property, grants, licenses, trademarks and similar rights, goodwill, software costs, costs for improvements, and incremental expenses on third party assets). Both tangible and intangible goods might include budget allocations to human resources. Coherently with our theoretical framework and similar applications (Hobfoll et al., 2018; Paeleman et al., 2024), firms pursuing an ARA strategy have allocated a larger share of total assets to NFR. On the other hand, those allocating a larger share of total assets to FR have adopted a CRA strategy.

We define *high- and low-growth firms*, following Cooper et al. (1994), that is, by the yearly change in the number of employees. This measure has been chosen following Weinzimmer et al. (1998), who suggested adopting 'employees' as an appropriate concept for growth in services organizations, which are usually more labor intensive (as emerged from the distribution of the sample over the three sectors of the economy). Similar to other works (e.g., Moreno and Casillas, 2007), we consider high-growth firms to be those in which the change in number of employees is above the median value of the distribution, and low-growth firms those in which the number of employees is below the median.

3.3. Statistical method

To test our research hypotheses, we used a logistic regression model with time-fixed effects (e.g., Cimini et al., 2022; Lovallo et al., 2020). This model can predict the effect of an increase of a variable X on the probability that $Y = 1$.

Several variables have been downloaded from the AIDA database to implement our research protocol. The table in Appendix 1 alphabetically describes each variable and identifies its type (i.e., dummy, integer, real), with related symbols referring to the variables included in the regression models of this work. Some of those are used to assess the dependent, independent, and control variables of the regression models.

After calculating the percentage of non-financial resources to total assets ($\%NFR_{it}$), we split this variable at the median to identify the clusters of firms that have adopted a more ARA strategy ($\%NFR_{it}$ over the median) and less ARA strategy ($\%NFR_{it}$ under the median) during the early stage of their life cycle (2011–2014). For each cluster, we estimated the following specification derived from the logistic regression model of equation (1) to test our first hypothesis:

$$\text{Log}\,(Survive_i) = \alpha_0 + \alpha_1 \%NFR_{it} + \alpha_2 ROA_{it} + \alpha_3 lnTA_{it} + FEs + \varepsilon_{it} \quad (1)$$

[4] Firms cancelled by the register are not only those that failed but those that went into liquidation, were sold, or ceased trading due to a business combination. The available databases do not provide sufficient information to know the reason for a firm's cancellation.

where the symbols assume the meanings reported in Appendix 1.

Moving from the value of the regression coefficient α_1, this study predicts the probability that we will observe a firm's survival after the early stage of its life cycle associated with an increase of 1% of %*NFR* and considering the values of the other control variables. We expect that new ventures that adopt a more ARA strategy in the early stages of their life cycle significantly enhance their likelihood of survival. If so, the probability of failure or survival is positively affected by a firm's propensity to implement an ARA strategy during the early stages of its life cycle.

We identify two clusters of high- and low-growth rate firms to test our second hypothesis. Focusing on the years after the early stages of their life cycle (i.e., 2015–2019), we run the following specification derived from the logistic regression model of equation (1) over the clusters of firms that have adopted a more ARA strategy (%NFR_{it} over the median) and less ARA strategy (%NFR_{it} under the median) in the five years after the early stage of their life cycle:

$$\text{Log}(HGF) = \alpha_0 + \alpha_1 \%NFR_{it} + \alpha_2 ROA_{it} + \alpha_3 lnTA_{it} + FEs + \varepsilon_{it} \quad (2)$$

where the symbols assume the meaning reported in Appendix 1.

Moving from the value of the regression coefficient α_1, this study predicts the probability of becoming a high-growth firm associated with an increase of 1% of *NFR* and considering the values of the other control variables. We expect new ventures that adopt a more ARA strategy after the initial phase to significantly increase their likelihood of becoming high-growth firms. If so, the probability of becoming a high-growth firm is positively affected by a firm's propensity to implement an ARA strategy during the five years after the early stage of the firm's life cycle.

Once equations (1) and (2) have been estimated over the single clusters of firms that adopted a more or less significant ARA strategy, we apply Granger (1969) causality to avoid biases due to endogeneity and to gain insight into cause and effect (Lev et al., 2010). We are interested to see whether *Y* is also predicted using the lagged variables of *X*. According to Granger (1969), a treatment variable 'Granger-causes' an outcome if the lagged values of the treatment variable better explain variation in the outcome variable compared to lagged values of the outcome variable alone.[5] Implementing Granger causality tests should also alleviate endogeneity risks arising from omitted variables, measurement errors, and simultaneity.

To avoid endogeneity, also in our sensitivity analyses, after several checks to control if methodological choices regarding the model specification have biased results, we used a two-stage least square (2SLS) regression, assuming that the adoption of an ARA strategy might be affected by variables such as the number of employees and wages.

After testing the robustness of our findings, some additional analyses were undertaken. First, we have investigated the ARA strategies focusing on the contribution of single resources (plant, property, and equipment, PPE; inventory, INV; and intangible assets, IA), always with a focus on the ability of such strategy to affect the probability that a firm survives in the early stage of its life cycle or becomes a high-growth firm in the five years after. In doing this, we controlled for the different levels of ARA strategies (high vs low) and ran the following logistic regression models:

$$\text{Log}(Survive_i) = \alpha_0 + \alpha_1 \%PPE_{it} + \alpha_2 \%IA_{it} + \alpha_3 \%INV_{it} + \alpha_4 ROA_{it} + \alpha_5 lnTA_{it} + FEs + \varepsilon_{it} \ (1\text{–}bis)$$

$$\text{Log}(HGF) = \alpha_0 + \alpha_1 \%PPE_{it} + \alpha_2 \%IA_{it} + \alpha_3 \%INV_{it} + \alpha_4 ROA_{it} + \alpha_5 lnTA_{it} + FEs + \varepsilon_{it} \ (2\text{–}bis)$$

where the symbols assume the meaning reported in Appendix 1.

Running both equations on the clusters of firms adopting more or less ARA strategies, we expect our results to be consistent with the main analysis and, therefore, validate our research hypotheses.

As a second additional test, this paper investigates the effect of the interaction between ARA and CRA strategies on 1) the probability of a new venture surviving the early period (2011–2014), and 2) the probability of a venture becoming a high-growth firm after the early period (2015–2019). This further analysis is needed due to the competitive interaction of such strategies. To do so, this study introduces the following specifications (with the annual change in financial assets and its interaction with the annual change in non-financial resources as a new explanatory variable) that might be considered dynamic models:

$$\text{Log}(Survive_i) = \alpha_0 + \alpha_1 \Delta FR_{it} \ / \ \Delta TA_{it} + \alpha_2 (\Delta FR_{it} / \Delta TA_{it} \text{x} \Delta NFR_{it} / \Delta TA_{it}) + \alpha_3 ROA_{it} + \alpha_4 lnTA_{it} + FEs + \varepsilon_{it} \quad (3)$$

$$\text{Log}(HGF_i) = \alpha_0 + \alpha_1 \Delta FR_{it} / \Delta TA_{it} + \alpha_2 (\Delta FR_{it} / \Delta TA_{it} \text{x} \Delta NFR_{it} / \Delta TA_{it}) + \alpha_3 ROA_{it} + \alpha_4 lnTA_{it} + FEs + \varepsilon_{it} \quad (4)$$

where the symbols assume the meaning reported in Appendix 1.

The models have been estimated over the clusters of firms adopting a more CRA strategy ($\Delta FA_{it}/\Delta TA_{it}$ over the median, cluster 1) and a less CRA strategy ($\Delta FR_{it}/\Delta TA_{it}$ under the median, cluster 2) to investigate.

a) the effect on the probability of surviving and becoming a high-growth firm, captured by the regression coefficient α_1, produced by an increase in CRA strategy for firms that have not experimented with any change in an ARA strategy;
b) the incremental effect on such a probability, captured by the regression coefficient α_2, is also produced by an ARA strategy increase.

[5] We do not test if *Y* Granger-causes *X* to avoid comparing results of a logistic regression (in our case to be used for testing if *X* Granger-causes *Y*) with those of the linear regression model (in our case to be used for testing if *Y* Granger-causes *X*).

To investigate the interaction between ARA and CRA strategies, the model includes the change in *NFR* and *FR*, not the *%NFR* and the *%FR*, to avoid the multicollinearity issue. To control for the scale effect, the explicative variables (ΔFR_{it} and ΔNFR_{it}) are scaled by the ΔTA. We expect that both regression coefficients α_1 and α_2 should be statistically significant. The significance of α_1 would suggest that an increase in CRA strategy affects the probability of survival or becoming a high-growth firm. The significance of α_2 would suggest an incremental effect produced by an ARA strategy in those firms that have also adopted a CRA strategy.

As in the main analysis, we used the non-linear logit model to maintain coherence with the research hypotheses. Despite arguments that the non-linear model with interaction terms cannot be sufficient to test the moderating effect (e.g., Hoetker, 2007), only a non-linear probabilistic logit model is coherent and allows testing of our research hypotheses.

ROA and *TA*, computed in natural logarithm, are considered control variables in all the regression models. Those two are considered the most reliable variables for analyzing, respectively, companies' profitability (e.g., Kim and Henderson, 2015; Lovallo et al., 2020) and size (e.g., McShane et al., 2011).

4. Results

4.1. Descriptive statistics

Data reported in SM 2 provides descriptive statistics for variables used to test our hypotheses. In Panel A, descriptive statistics have been calculated for the full sample (i.e., 44,559 firm-year observations); in Panel B for firms that failed during the period 2011–2014 (i.e., 11,016 firm-year observations); in Panel C for firms that survived during the period 2015–2019 (i.e., 33,543 observations).

Note that the average percentage of non-financial assets of firms that failed during 2011–2014 (i.e., 0.30) is lower than that of firms that survived 2011–2019 (i.e., 0.39). This provides a first insight into H1; the results of the Granger (1969) causality test support the direction of causality from X (the ARA strategy) to Y (the probability of survival).

Figs. 1 and 2 show that it is more probable that firms that survived to the early stage or that have become high-growth firms are those that have adopted a more ARA strategy. Those adopting a less ARA strategy are less likely to survive or become high-growth firms.

We have also calculated and disclosed in SM 3 the correlation coefficients for variables used to test our hypotheses. The low correlation coefficients provide first insights that multicollinearity should not bias the regression analysis results. The tables dedicated to presenting the regression parameters disclose the variance inflation factor (VIF) of the single regression coefficients. Applying a rule of thumb, in case VIF is below 5, the strength of multicollinearity in the model does not account for rendering other predictors redundant (Akinwande et al., 2015). So, we expect to find VIF values under 5 to avoid biases due to multicollinearity in our regression models.

4.2. Testing

The results shown in Table 1 support H1. Panel A shows the regression parameters estimated using equation (1) over the cluster of firms adopting a more ARA strategy. Panel B reports the regression parameters estimated using equation (1) over the cluster of firms that have adopted a less ARA strategy. Panel C shows the probability of a firm's survival, estimated from the logistic regressions' parameters shown in Panels A and B.

By focusing on the early period, Table 1 reports regression parameters estimated by regressing equation (1) over the early period for firms adopting a more (Panel A) and less (Panel B) ARA strategy. Findings in the first two panels suggest that the probability of survival is affected by the resource allocation strategy adopted in the early stage of the new venture's life cycle. The regression coefficient of *%NFR* is statistically significant at 1% (p-value <0.001). In both panels, the results show that the ARA strategy positively affects and Granger-causes the probability of a firm's survival. Therefore, causality tests suggest that the probability of survival in a certain year not only depends on the ARA strategy of the same year but also those of the three years before. Thus, past ARA strategies might influence the probability of a firm's survival in the future. Findings in Panel C suggest that new ventures adopting a more ARA strategy have a higher probability of survival (i.e., 64%) than start-ups with a less ARA strategy (i.e., 51%). The low values of the VIF disclosed for each explicative variable of equation (1) provide insight into the fact that multicollinearity does not bias the research findings.

The results in Table 2 support H2. Panel A shows the regression parameters estimated using equation (2) over the cluster of firms adopting a more ARA strategy. Panel B reports the regression parameters estimated using equation (2) over the cluster of firms that have adopted a less ARA. Panel C shows the probability of a firm's high growth estimated from the logistic regressions' parameters in Panels A and B. The findings in the first two panels suggest that the propensity to adopt a more or less ARA strategy affects the probability of becoming a high-growth firm. The regression coefficient of *%NFR* is statistically significant at 1% (p-value <0.001). Both panels show that the ARA strategy positively affects and Granger-causes the probability for a new venture to become high-growth firms. Therefore, causality tests suggest that the probability of becoming a high-growth firm in a certain year depends on the ARA strategy of the same year and those of the three years before. Thus, past ARA strategies influence the probability of a newly established firm becoming a high-growth firm. The findings in Panel C suggest that new ventures adopting a more ARA strategy are more likely to become high-growth firms (i.e., 83%) than start-up with less ARA (i.e., 82%). Also in this case, the low values of the VIF disclosed for each explicative variable of equation (1) provide insight that multicollinearity does not bias the research findings.

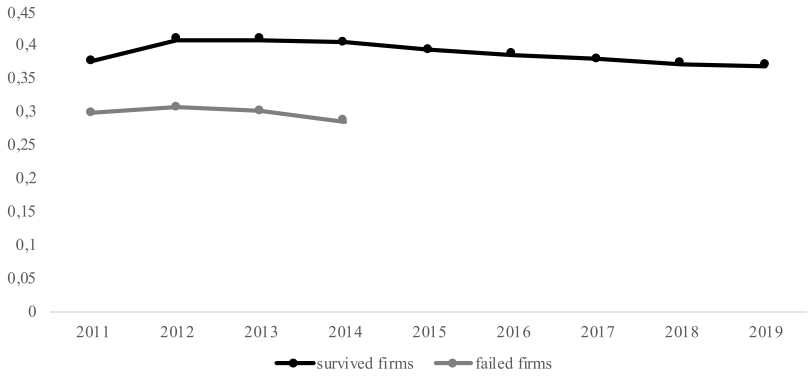

Fig. 1. The ARA strategy in firms that survived and failed.

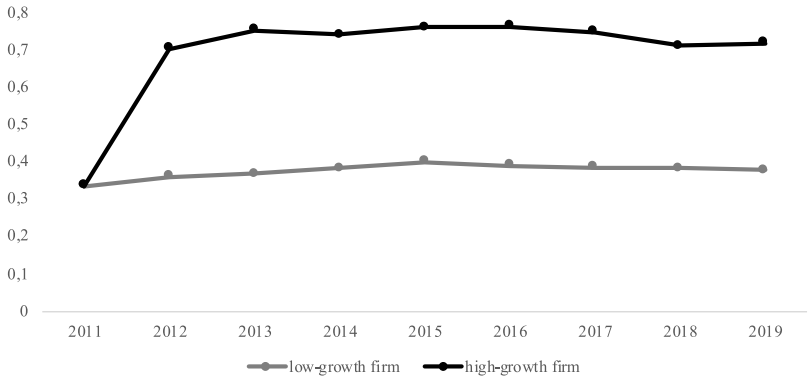

Fig. 2. The ARA strategy in high-growth vs low-growth firms.

4.3. Robustness checks

To test the robustness of our findings, we performed various sensitivity analyses.

We used the Bayesian information criterion (BIC) in the first robustness test to identify the better model that fits the data. Findings disclosed in SM 4 suggest that the logit model estimated over the cluster of new ventures adopting a more ARA strategy fits the data better, providing additional insight that the likelihood that such firms survive or become high-growth firms is higher than firms that have adopted a less ARA strategy. In fact, the BIC of the first specifications are lower than those of the second. This first test compares and contrasts the specifications used in the main analysis with those adopted in our additional robustness tests.

In the second test, we use industry-adjusted *ROA* to control for industry profitability differences.[6] Findings in SM 5 validate the results of the main analysis. Firms adopting a more ARA strategy in the early stage of their life cycle have a higher probability of surviving the early period (64%) than new ventures that have adopted a less ARA strategy (51%). Similarly, new ventures adopting a more ARA strategy after the initial stage significantly increase their likelihood of becoming high-growth firms (83%) than firms pursuing a less ARA strategy (82%). The BIC values reported in the table also provide insights that the models used in the main analysis (with *ROA* as a control variable) fit the data better than those in this second sensitivity analysis (with industry-adjusted *ROA*).

Because many of the findings can be related to industry differences, in addition to the control for adjusted *ROA*, in the third sensitivity analysis, we have added dummies to control for the industries of the firms analysed to equations (1) and (2). We identify the different industries of sample firms according to the first two digits of the NACE identifier available in the AIDA database. The results disclosed in SM 6 support our hypotheses. Firms adopting a more ARA strategy have a higher probability of surviving to the early period (i.e., 63%) than new ventures that have adopted a less ARA strategy (i.e., 51%). Similarly, in firms that survived the early period that had adopted a more ARA strategy, the probability of becoming a high-growth firm (83%) is higher than for new ventures that

[6] Industry-adjusted *ROA* is computed as the difference between the *ROA* downloaded from the AIDA database and the industry median value of *ROA* calculated for each year. In particular, $adjROA_{firm,t} = ROA_{firm,t} - median\left(ROA_{industry,t}\right)$. Our preference for the median is chosen to minimize the effect of large outliers.

Table 1
Testing the first hypothesis.

Panel A) More ARA strategy in the early period					Number of obs = 12,995		
Logistic Regression Log likelihood = −7118					LR chi2 (5) = 2814 Prob > chi2 = 0.00 Pseudo R^2 = 17%		
Survive	Coeff.	Std.Err.	z	P > I z I	95% conf. interval		VIF
%NFR	0.44	0.09	4.65	0.00	0.25	0.63	1.09
ROA	0.01	0.00	16.02	0.00	0.01	0.01	1.14
lnTA	0.36	0.01	25.40	0.00	0.33	0.38	1.29
FE_1	−1.33	0.07	−18.88	0.00	−1.47	−1.19	1.98
FE_2	−1.20	0.07	−16.81	0.00	−1.34	−1.06	1.85
FE_3	−0.75	0.08	−10.00	0.00	−0.90	−0.61	1.74
FE_4	–	(omitted)					
Intercept	−0.26	0.10	−2.63	0.00	−0.46	−0.07	
Granger (1969) causality test L1.%NFR (+0.55**) = 0 & L2.%NFR (−0.39**) = 0 Chi2 (2) = 7.45; Prob > chi2 = 0.02							
Panel B) Less ARA strategy in the early period					Number of obs = 12,929		
Logistic Regression Log likelihood = −8028					LR chi^2 (5) = 1857 Prob > chi^2 = 0.00 Pseudo R^2 = 10%		
Survive	Coeff.	Std.Err.	z	P > I z I	95% conf. interval		VIF
%NFR	3.94	0.27	14.44	0.00	3.40	4.48	1.09
ROA	0.01	0.00	18.12	0.00	0.01	0.01	1.05
lnTA	0.26	0.01	19.61	0.00	0.24	0.29	1.20
FE_1	−1.09	0.06	−18.29	0.00	−1.21	−0.97	1.98
FE_2	−1.12	0.06	−18.64	0.00	−1.24	−1.00	1.85
FE_3	−0.73	0.06	−11.63	0.00	−0.85	−0.60	1.74
FE_4	–	(omitted)					
Intercept	−0.59	0.09	−6.68	0.00	−0.76	−0.42	
Granger (1969) causality test L1.%NFR (−1.14***) = 0 & L2.%NFR (−0.20) = 0 Chi2 (2) = 37.25; Prob > chi2 = 0.00							

Panel C Descriptive statistics of probability to survive in the early period						
Variable	Obs	Mean	Std.Dev.	Min	Max	Median
More ARA strategy	12,995	0.64	0.22	0	0.99	0.67
Less ARA strategy	12,929	0.51	0.18	0	0.96	0.50

The table reports the regression parameters of equation (1) estimated to test our first research hypothesis over the cluster of firms that in the early period have adopted a more (panel a) or less (panel b) ARA strategy. In both the panels also the coefficients of the lagged values of %NFR and the results Granger (1969) test are tabulated. In panel c the descriptive statistics of the probability to survive are tabulated. (***) denotes coefficients significant at 1% (**) denotes coefficients significant at 5%.

survived the early period that had adopted a less ARA strategy (82%). The BIC values reported in the table also provide insights that the models used in the main analysis (without dummies that control for industries) fit the data better than those in this second sensitivity analysis (with dummy fixed effects that control for industries).

We used a continuous model in the fourth sensitivity analysis to operationalize growth and test our second hypothesis. Instead of considering *HGF* as the dependent variable, in the second specification, we have used the natural logarithm of the *NOE*, unlike in the first specification, where we used the change in the *NOE*. The findings are reported in SM 7. Our findings suggest that, on average, after the yearly period, the *NOE* change and the *NOE*'s natural logarithm increase more in the cluster of firms adopting a more ARA strategy than in those that pursued a less ARA strategy. Assuming they are possible variables to measure growth, our findings provide evidence that there is a positive relationship between an increase in such strategy and the likelihood that a firm becomes high growth after the early stage of its life cycle. The BIC values suggest that the model with the natural logarithm of the *NOE* as the dependent variable fits the data better than the model with the change of the *NOE* as the dependent variable. However, comparing such BIC values with those reported in the previous tables provides insight that the logit model fits the data better than the linear and the log-log models.

In the last sensitivity analysis, a 2SLS is used to avoid omitted variables associated with ARA strategy biasing findings in the main analysis. According to our results, disclosed in SM 8, our hypotheses continue to be validated. The probability of surviving the early period is higher for those firms that have adopted a more ARA strategy (average Pr = 36%) than for firms that have pursued a less ARA strategy (average Pr = 2%). Similarly, the probability of becoming a high-growth firm is higher for those firms that, in the (five) years after the early stages of their life cycle, have adopted a more ARA strategy (average P = 97%) than for firms that have pursued a less ARA strategy (average P = 88%).

Table 2
Testing the second hypothesis.

Panel A) More ARA strategy in the period after the early					Number of obs = 9318		
Logistic Regression Log likelihood = −4164					LR chi2 (6) = 213 Prob > chi2 = 0.00 Pseudo R^2 = 3%		
HGF	Coef.	Std.Err.	z	P > I z I	95% conf. interval		V.I.F.
%NFR	1.65	0.14	12.03	0.00	1.38	1.92	1.04
ROA	0.002	0.001	2.35	0.02	0.001	0.004	1.06
lnTA	−0.15	0.02	−6.92	0.00	−0.19	−0.10	1.10
FE_5	0.43	0.09	4.81	0.00	0.26	0.61	1.61
FE_6	0.11	0.08	1.28	0.19	−0.06	0.27	1.60
FE_7	0.08	0.08	0.94	0.35	−0.09	0.24	1.60
FE_8	0.34	0.09	3.92	0.00	0.17	0.51	1.60
FE_9	–	(omitted)					
Intercept	1.21	0.15	8.03	0.00	0.92	1.51	
Granger (1969) causality test L1.%NFR = 0 (+0.09) & L2.%NFR = 0 (+0.19) Chi2 (2) = 2.53; Prob > chi2 = 0.28							
Panel B) Less ARA strategy in the period after the early					Number of obs = 9317		
Logistic Regression Log likelihood = −4327					LR chi2 (6) = 115 Prob > chi2 = 0.00 Pseudo R^2 = 1%		
HGF	Coef.	Std.Err.	z	P > I z I	95% conf. interval		V.I.F.
%NFR	−0.97	0.29	−3.34	0.00	−1.53	−0.40	1.01
ROA	0.001	0.001	1.23	0.22	−0.001	0.003	1.01
lnTA	−0.17	0.02	−9.55	0.00	−0.21	−0.14	1.01
FE_5	0.28	0.09	3.13	0.00	0.10	0.45	1.60
FE_6	0.04	0.08	0.48	0.62	−0.12	0.21	1.61
FE_7	0.10	0.08	1.22	0.22	−0.06	0.27	1.61
FE_8	0.10	0.08	1.19	0.23	−0.06	0.27	1.62
FE_9	–	(omitted)					
Intercept	2.48	0.13	19.89	0.00	2.24	2.73	
Granger (1969) causality test L1.%NFR = 0 (+0.12) & L2.%NFR (−0.84***) = 0 & L3.%NFR = 0 Chi2 (2) = 21.41; Prob > chi2 = 0.00							

Panel C Descriptive statistics of probability to become an high-growth firm after the early period

Variables	Obs	Mean	Std.Dev.	Min	Max	Median
More ARA strategy	9318	0.83	0.05	0.52	0.96	0.84
Less ARA strategy	9317	0.82	0.02	0.57	0.93	0.82

The table reports the regression parameters of equation (2) estimated to test our second research hypothesis over the cluster of firms that after the early period have adopted a more (panel a) or less (panel b) aggressive resource allocation strategy. In both the panels also the coefficients of the lagged values of %NFR and the results Granger (1969) test are tabulated. In panel c the descriptive statistics of the probability to become high-growth firm are tabulated. (***) denotes coefficients significant at 1%.

4.4. Additional analysis

4.4.1. The single components of the ARA strategy

We investigate the ability of the single components of the ARA strategy (i.e., *PPE, INV, and IA*) to influence the probability of a firm surviving the early period and of becoming a high-growth firm by running equations (1-bis), and (2-bis), the findings of which are shown in Table 3.

The findings of the main analysis and research hypotheses are validated. Table 3, Panel A suggests that the probability of surviving is higher during the early period for firms that pursued a more ARA strategy (63%) than those that adopted a less ARA strategy (51%).

The panel provides insights that for the former (cluster 1), only an increase in *PPE* positively affects the probability of survival. The relationship is not significant for *INV*, while for *IA*, it is negative. Given that this last result is relevant to new ventures belonging to the cluster with a percentage of allocation to an ARA strategy over the median, the findings are consistent with the literature suggesting that firms with less chance of survival are those that have a higher propensity to capitalize intangible assets and those in which earnings management behavior is more common (e.g., Jones, 2011). Note also that the Italian legislation allows capitalizing costs that international accounting standards require to appear in the income statement.

For cluster 2, an increase in *PPE, IA*, and *INV* positively affects the probability of a new venture surviving the early period. Table 3, Panel B provides insights that for firms that survived the early period, the probability of becoming a high-growth firm is higher for firms that pursued a more ARA strategy (83%) than those that have adopted a less ARA strategy (82%). The panel shows that for cluster

Table 3
Findings of additional analysis (equation (1)-bis and 2-bis).

Panel A Effect on the probability of survival						
	Cluster 1: More ARA strategy Number of obs = 12,995 Pseudo R^2 = 18%			Cluster 2: Less ARA strategy Number of obs = 12,929 Pseudo R^2 = 11%		
Survive	Coeff.	z	V.I.F.	Coeff.	z	V.I.F.
$\%PPE_{it}$	1.06	+9.85***	2.16	5.32	+13.79***	1.15
$\%IA_{it}$	−0.35	−2.83***	1.77	2.38	+7.57***	1.47
$\%INV_{it}$	0.16	+1.50	2.17	3.44	+6.74***	1.06
ROA_{it}	0.01	+15.87***	1.14	0.01	+17.99***	1.05
$lnTA_{it}$	0.32	+21.62***	1.47	0.25	+16.89***	1.44
FE_1	−1.32	−18.67***	1.98	−1.03	−17.06***	2.05
FE_2	−1.19	−16.59***	1.85	−1.08	−17.91***	1.88
FE_3	−0.74	−9.88***	1.74	−0.71	−11.30***	1.75
FE_4	–	(omitted)		–	(omitted)	
Intercept	−0.09	−0.85		−0.55	−5.91***	

	Mean	Median	BIC
More ARA strategy	0.63	0.67	16.110
Less ARA strategy	0.51	0.50	16.125

Panel B Effect on the probability of becoming a high-growth firm						
	Cluster 1: More ARA strategy Number of obs = 9318 Pseudo R^2 = 3%			Cluster 2: Less ARA strategy Number of obs = 9317 Pseudo R^2 = 1%		
HGF	Coeff.	z	V.I.F.	Coeff.	z	V.I.F.
$\%PPE_{it}$	1.92	12.85***	2.54	−1.67	−4.20***	1.02
$\%IA_{it}$	0.79	3.90***	1.65	0.08	0.13	1.02
$\%INV_{it}$	1.45	9.74***	2.61	−0.55	−1.17	1.02
ROA_{it}	0.001	2.25**	1.06	0.001	1.40	1.01
$lnTA_{it}$	−0.16	−7.71***	1.14	−0.18	−9.69***	1.03
FE_5	0.44	4.86***	1.60	0.27	3.12***	1.62
FE_6	0.11	1.30	1.60	0.04	0.51	1.61
FE_7	0.08	0.94	1.60	0.10	1.23	1.60
FE_8	0.34	3.91***	1.61	0.10	1.19	1.60
FE_9	–	(omitted)	1.61	–	(omitted)	1.60
Intercept	1.38	8.89***		2.52	19.94***	

	Mean	Median	BIC
More ARA strategy	0.83	0.84	8.374
Less ARA strategy	0.82	0.83	8.738

The table reports the regression coefficients of equations (1-bis) and (2-bis) and investigates the effect on the probability to survive and to become high-growth firms produced by an increase of the single components that characterize an ARA strategy (%PPE, %IA, % INV).

1, an increase in *PPE, IA,* and *INV* positively affects the probability of becoming a high-growth firm. For cluster 2, an increase in *PPE* negatively affects the probability of becoming a high-growth firm. For *IA* and *INV*, the relationship is not significant. The fact that *IA* is not significant might be due to the presence of costs that the Italian legislation, unlike the international accounting standards, allows to be capitalized in the balance sheet.

4.4.2. The interactions between ARA and CRA strategies

We assume that not only does an ARA strategy affect the probability of survival or of becoming a high-growth firm but also that such effects change concerning the level of increase of the CRA strategy that, when standing alone, like the ARA strategy, should affect the probability of survival of the early period or of becoming a high-growth firm.

As in the main analysis, equation (3) is run over the early period (2011–2014), while equation (4) is run over the years after the early period (2015–2019) for the clusters of firms that have pursued a more ARA strategy (cluster 1) and a less ARA strategy (cluster 2).

The results in Table 4, Panel A, show that, in firms that pursued a more CRA strategy, stand-alone, this increased the probability of surviving the early period (the coefficient of $\Delta FA/\Delta TA$ is positive and statistically significant). The significance and the positive sign of the interaction term regression coefficient suggest that the effect of the probability of survival due to an increase of the CRA changes according to whether firms have experimented or otherwise with an increase of the ARA strategy. In firms that pursued a less CRA, we found different results. For firms that have not experimented with an ARA strategy during the yearly period, stand-alone, an increase in CRA strategy does not affect the probability of surviving in the early period. Also, the regression coefficient of the interaction term is not significant, suggesting that there is no difference between the effect produced on the probability of survival by an increase of CRA strategy in firms that have experimented with a rise in an ARA strategy and firms that have not.

Table 4
Findings of additional analysis (equations (3) and (4)).

Panel A Effect on the probability to survive						
	Cluster 1: More ARA strategy Number of obs = 8360 Pseudo R2 = 12%			Cluster 2: Less ARA strategy Number of obs = 8124 Pseudo R^2 = 18%		
Survive	Coeff.	z	V.I.F.	Coeff.	z	V.I.F.
$\Delta FR_{it}/\Delta TA_{it}$	0.04	2.91***	3.30	−0.01	−0.61	4.00
$\Delta FR_{it}/\Delta TA_{it}x\Delta NFR_{it}/\Delta TA_{it}$	0.001	2.15**	3.29	−0.001	−0.13	4.00
$lnTA_{it}$	0.30	18.18***	1.11	0.47	23.41***	1.13
ROA	0.01	12.58***	1.08	0.01	15.74***	1.12
FE_1	–	(omitted)		–	(omitted)	
FE_2	−1.03	−15.75***	1.31	−0.90	−12.51***	1.49
FE_3	−0.73	−10.91***	1.31	−0.72	−9.75***	1.48
FE_4	–	(omitted)		–	(omitted)	
Intercept	−0.26	2.77***		−0.74	−6.42***	
BIC	9572				8596	
Panel B Effect on the probability of becoming a high-growth firm						
	Cluster 1: More ARA strategy Number of obs = 8977 Pseudo R^2 = 9%			Cluster 2: Less ARA strategy Number of obs = 8997 Pseudo R^2 = 1%		
HGF	Coeff.	Z	V.I.F.	Coeff.	z	V.I.F.
$\Delta FR_{it}/\Delta TA_{it}$	−0.03	−3.12***	3.70	0.002	−0.18	3.80
$\Delta FR_{it}/\Delta TA_{it}x\Delta NFR_{it}/\Delta TA_{it}$	−0.001	−2.06**	3.71	0.001	0.49	3.80
$lnTA_{it}$	−0.13	−6.99***	1.02	−0.09	−4.42***	1.02
ROA	0.001	0.82	1.02	0.003	2.38**	1.02
FE_5	0.32	3.69***	1.61	0.47	5.13***	1.62
FE_6	0.19	2.18**	1.61	0.01	0.15	1.62
FE_7	0.17	1.98**	1.62	0.04	0.52	1.61
FE_8	0.21	2.51**	1.63	0.22	2.54**	1.59
FE_9	–	(omitted)		–	(omitted)	
Intercept	2.19	17.36***		1.89	13.49***	
BIC	8477				8448	

The table report the regression coefficients of equations (3) and (4) that investigate the effect on the probability to survive and to become high-growth firms produced by an increase of aggressive or conservative resource allocation strategy.

Regarding the probability of becoming high-growth firms, the findings in Table 4, Panel B shows that in firms that pursued a more CRA strategy that survived the early period, stand-alone, a more CRA strategy reduces the probability of becoming high-growth firms (the coefficient of $\Delta FA/\Delta TA$ is negative and statistically significant). Instead, the significance and the positive sign of the interaction term regression coefficient suggest that the effect of the probability of becoming high-growth firms due to an increase of the CRA changes according to whether firms have experimented or otherwise with an increase of the ARA strategy. In firms that pursue a less CRA strategy after the yearly period, an increase of such CRA strategy does not affect the probability of becoming a high-growth firm. Also, the regression coefficient of the interaction term is not significant, suggesting that there is no difference between the increase in the probability of becoming a high-growth firm due to an increase in CRA strategy between firms that have experimented and those that have not experimented with an increase of ARA strategy.

5. Discussion

The results of this study show that different resource allocation strategies (i.e., aggressive or conservative) of assets influence new ventures' likelihood of survival and growth. Our findings confirm our expectations (see H1 and H2), suggesting that adopting a more aggressive resource allocation strategy, primarily investing in plant, property, and equipment, increases the probability of survival and subsequent high growth. Several robustness tests confirm these results. We explore the rationale behind favoring aggressive resource allocation strategies and investments, especially in PPE, for enhancing new ventures' survival and growth and the enduring impact of early resource allocation decisions on a firm's future trajectory.

Allocating a firm's assets toward resources closely tied to the production process (i.e., plant, property, and equipment [PPE]) is a strategic move that can bolster a new venture's legitimacy. By investing in tangible, capital-intensive assets, new ventures can demonstrate their operational capability and commitment to long-term value creation, which is crucial for overcoming their liability of newness. This latter refers to the heightened risk of failure young firms face due to limited track records and unproven credibility (Stinchcombe, 1965). However, legitimacy theory posits that new ventures can mitigate these risks by aligning their resource allocation with signals external stakeholders perceive as credible and indicative of stability (Zimmerman and Zeitz, 2002). Specifically, aggressive resource allocation towards PPE helps to enhance a firm's operational performance and resilience against environmental fluctuations (Hendricks et al., 2009). This increases the firm's perceived legitimacy, which is a critical factor for accessing essential external resources (Paeleman et al., 2024). According to legitimacy theory, the perception of legitimacy plays a pivotal role in shaping

stakeholders' willingness to engage with and support a new venture (Delmar and Shane, 2004). By demonstrating substantial investment in primary activities, a new venture signals its readiness to scale production and meet market demands effectively, thus reducing uncertainties that typically surround nascent businesses. The increased legitimacy of strategic PPE investments can lead to several advantages for new ventures. Firstly, it enhances stakeholders' trust, fostering stronger relationships with investors, suppliers, and customers. This heightened trust facilitates access to financial, human, and material resources, vital for the venture's operational success and strategic initiatives (Deephouse and Suchman, 2008). Secondly, the perception of legitimacy can translate into preferential treatment in resource allocation and strategic partnerships, thereby supporting the firm's survival and enabling it to capture growth opportunities more effectively (Zimmerman and Zeitz, 2002). Ultimately, this legitimacy-driven resource acquisition and maintenance significantly overcome initial survival challenges and pave the way for sustained high growth.

Regarding why ARA strategies in the early stage of a firm's life cycle can significantly impact its long-term growth prospects, the theory of path dependence offers a compelling explanation (David, 2001). In organizational contexts, path dependence emerges as a process driven by historical contingencies and self-reinforcing mechanisms, which progressively narrow the scope of strategic choices available to firms (Sydow et al., 2009). The early years of a new venture represent a critical period marked by heightened vulnerability, where firms must also contend with the liability of newness (Stinchcombe, 1965). By adopting aggressive resource allocation strategies, particularly heavy investments in non-financial assets such as plant, property, and equipment (PPE), firms establish an early trajectory that sets the stage for path-dependent growth. The initial commitment to resource-intensive investments serves as a 'critical juncture'—a decisive moment that triggers self-reinforcing mechanisms, anchoring the firm's strategic direction (Boeker, 1989). This early commitment signals operational capability and builds legitimacy, aiding the firm in overcoming initial credibility gaps. Over time, the self-reinforcing dynamics of coordination effects, complementarities, and learning effects play a significant role in solidifying the firm's chosen path. Coordination effects arise as organizational routines become more efficient, reducing uncertainty and costs associated with decision-making (Sydow et al., 2009). Complementarities between the chosen resource allocation and other strategic activities amplify the benefits of maintaining the established course, further embedding the aggressive approach into the firm's decision-making processes (Romanelli, 1989). Additionally, learning effects ensure that the accumulated experience from early investments increases efficiency, making deviations from this path increasingly costly and unlikely.

Our empirical evidence suggests that firms choosing an ARA strategy and investing heavily in PPE during the early stage show a higher likelihood of achieving high growth later. The initial ARA strategy sets a positive feedback loop, reinforcing a path-dependent strategic approach. The persistent effects of these early decisions enhance stakeholder trust and facilitate access to essential external resources, thus enabling a transition from survival to high-growth trajectories (Sydow et al., 2009). This perspective underscores how early-stage strategic choices shape a firm's long-term development, embedding a durable culture of resource-intensive expansion that persists even as external conditions evolve. Ultimately, the path dependence framework provides a robust explanation for the observed outcomes, highlighting how the self-reinforcing mechanisms stemming from early aggressive strategies contribute to a locked-in growth trajectory. This not only solidifies the firm's strategic focus but also underscores the importance of initial resource allocation decisions in shaping long-term success.

Overall, these insights lay the groundwork for advancing theoretical understanding in resource allocation for new ventures' survival and growth and offer valuable guidance for entrepreneurs and executives seeking to optimize their ventures' chances of long-term success.

6. Implications

6.1. Implications for theory

Our investigation aims to fill a gap in the literature by taking an approach aimed to explore the broader impact of general resource allocation strategies on survival and growth, addressing calls for more theoretical and empirical insights into the consequences of firms' adoption of conservative and aggressive approach on new ventures' survival and growth (e.g., Hobfoll et al., 2018; Paeleman et al., 2024). Here, we provide the three main theoretical implications of our results.

Contrary to some studies that emphasize conservative strategies as essential for new ventures' survival (e.g., Soto-Simeone et al., 2020; Wiklund and Shepherd, 2005; Gilbert et al., 2006), our findings suggest that new firms benefit from adopting an ARA strategy. Specifically, firms that allocate a larger proportion of their total assets toward non-financial assets, particularly plant, property, and equipment (PPE), are perceived as legitimate by stakeholders (Zimmerman and Zeitz, 2002) and more competitive, as they possess an operational structure capable of responding to production needs and the operating environment while also seizing opportunities (e.g., Paeleman et al., 2024; Kato et al., 2022; Geroski et al., 2010). This supports Cooper et al. (1994), who argue that financial resources are relevant insofar as they enable firms to 'buy time, undertake more ambitious strategies, change courses of action, and meet the financing demands imposed by growth rather than simply guaranteeing stability and sustained prosperity as conservative strategies might aim to do. How new firms distribute total assets across resources not only deepens our understanding of the Resource-Based View (RBV) but also contributes to the legitimacy literature by introducing resource allocation as a novel *impression management tactic*.

As an impression management tactic, aggressive resource allocation serves as a strategic tool through which firms signal stability, operational readiness, and growth potential to stakeholders. Impression management involves crafting and projecting specific perceptions to influence stakeholders' opinions, fostering trust, credibility, and positive evaluations of the firm (Gardner and Martinko, 1988). By visibly committing to PPE and other non-financial assets, new ventures project an image of resilience, readiness, and potential for high growth—even if this approach sacrifices immediate returns for long-term gains (Delmar and Shane, 2004). This strategic display of resource commitment allows new firms to manage impressions effectively, attracting critical support from

stakeholders who might otherwise be hesitant due to the firms' limited track record. Through this approach, firms leverage aggressive resource allocation not only for operational benefits but also to construct a reputation that attracts resources, strategic partnerships, and goodwill, addressing the 'liability of newness' by fostering legitimacy and stakeholder trust (Stinchcombe, 1965).

Our findings further underscore that ARA strategies extend beyond merely aiding survival; they actively propel firms toward high-growth trajectories by laying a foundation that stakeholders perceive as capable of scaling and seizing market opportunities. After navigating the initial, turbulent phase, firms that maintain significant non-financial asset investments can capitalize on emerging opportunities and withstand competitive pressures. This efficiency in deploying resources reinforces stakeholders' perceptions of the firm's operational capability, echoing Penrose's (1959) assertion that growth depends on strategically deployed resources. The adoption of ARA thus becomes not only a functional strategy but also a powerful impression management approach that builds legitimacy and fosters a durable reputation for growth, aligning early resource decisions with long-term strategic objectives.

Building on resource allocation and path dependence concepts, our study uniquely positions aggressive resource allocation strategies as pivotal in shaping a firm's long-term growth trajectory. Traditionally, path-dependence theory has emphasized the role of historical contingencies and self-reinforcing mechanisms in narrowing strategic choices over time (Romanelli, 1989; David, 2001). Our findings extend this view by demonstrating that early, aggressive resource allocations, particularly towards PPE, are critical junctures that initiate a path-dependent process. These early investments set off self-reinforcing mechanisms, including coordination, complementarities, and learning effects, which progressively embed a growth-oriented strategic direction (Sydow et al., 2009). From a resource allocation perspective, Maritan and Lee (2017a, b) emphasize the importance of understanding how deliberate allocation choices can shape organizational capabilities. Our study deepens this insight by illustrating that bold and substantial early investments are not simply operational decisions but are foundational in establishing a persistent growth trajectory. Rather than viewing resource allocation as inherently growth-enabling, we demonstrate that the strategic choice to allocate aggressively catalyzes *path-dependent effects*, locking the firm into a trajectory of increasing returns. This perspective integrates insights from resource allocation and path-dependence theories, underscoring how early-stage strategic decisions have enduring implications, impacting a firm's capacity for survival and high growth.

6.2. Implications for practice and policy makers

The practical insights from our research findings can guide strategic decision-making and policy shaping for new venture development. *First*, to enhance survival and accelerate growth, entrepreneurs should consider adopting aggressive resource allocation strategies, mainly by prioritizing investments in PPE. From an impression management perspective, significant, visible investments in PPE help shape a favorable image of the venture, signaling stability, resilience, and a commitment to long-term success. By showcasing these tangible commitments, entrepreneurs can effectively manage external perceptions, fostering trust and credibility among stakeholders such as investors, suppliers, and customers. These strategic allocations serve as powerful signals, reducing the uncertainties associated with new ventures and positioning the firm as operationally ready and growth-oriented, aligning with impression management tactics emphasizing deliberate efforts to shape stakeholder perceptions. Beyond impression management, early aggressive investments, especially in PPE, set off a path-dependent process that shapes the firm's strategic direction. These initial allocations act as critical junctures, triggering self-reinforcing mechanisms—such as coordination effects, learning effects, and complementarities—that anchor the firm's growth trajectory. By committing to capital-intensive resources early on, entrepreneurs embed efficiencies into the firm's operations, progressively narrowing future strategic choices and enhancing adaptive capacity. The path-dependent effects of aggressive resource allocation decisions create positive feedback loops, locking the firm into a trajectory that increases the likelihood of sustained high growth. This highlights the importance of early, decisive investments for building credibility and establishing a durable foundation that drives long-term success.

Second, resource allocation is vital for managing resources' versatility over time and understanding their impact on the firm's life cycle (Klepper, 1996; Lovallo et al., 2020). Entrepreneurship programs, such as those fostered by business incubators, universities, and local institutions, play a crucial role in shaping the mindset and capabilities of aspiring entrepreneurs. Integrating training modules focused on strategic resource allocation can equip entrepreneurs with invaluable insights, particularly regarding the aggressive strategic allocation of resources to drive growth. By investigating behavioral insights, these programs can highlight common biases—such as short-termism and aversion to risk—that may incline entrepreneurs toward a conservative approach. Practical exercises, simulations, and case studies can provide hands-on experience, enabling entrepreneurs to apply theoretical concepts to real-world scenarios. These exercises develop decision-making skills and foster an understanding of how strategic allocation choices can enhance long-term growth potential.

Third, policymakers can strategically leverage tax incentives and other forms of support to encourage aggressive resource allocation strategies. By offering tax breaks and favorable treatment for ventures prioritizing non-financial asset allocation, policymakers can incentivize entrepreneurs to make strategic decisions aligned with long-term survival and growth objectives. Additional legal and financial incentives, such as streamlined regulatory processes, targeted financing options for non-financial asset investments, and enhanced support for R&D, can further facilitate this approach. By creating an enabling environment that rewards aggressive resource allocation, policymakers can catalyze sustainable growth and competitiveness within entrepreneurial ecosystems. Such measures help lower the barriers for ventures willing to invest in capital-intensive assets, thus accelerating their capacity to establish a solid operational base, increase market legitimacy, and ultimately foster a more resilient and innovative economy.

6.3. Limitations and future research

This study has several limitations worth noting. *First*, while we focus on the early stages of a firm's life cycle, future research could explore how aggressive or conservative resource allocation strategies impact firms during later stages, particularly in addressing the 'liability of aging.' The 'liability of aging' refers to the increasing challenges mature firms face, such as declining flexibility, bureaucratic inefficiencies, and reduced adaptability (Bruderl and Schussler, 1990). Investigating whether aggressive resource allocation, which may benefit firms in their early stages, continues to be advantageous or becomes detrimental as firms age could provide valuable insights. It would be especially important to understand if mature firms need to shift towards more conservative strategies to maintain stability or if continued bold investments can help counteract the adverse effects of aging. Such research would broaden our understanding of how strategic resource allocation decisions evolve across the organizational life cycle and how they can be adapted to mitigate the risks associated with aging.

Second, we used a unidimensional operationalization (based on employees) of growth (Weinzimmer et al., 1998); combining sales and employee data may provide additional insights and reveal if the identified patterns are still valid in capital-intensive versus employee-intensive industries. Using other databases would allow researchers to investigate whether resource allocation changes the reason a firm has not survived (e.g., liquidation or business combination). In this regard, the study of interaction effects between aggressive or conservative resource allocation strategies can be enhanced by future research that asks how they interact over the stages of industry evolution (nascent markets, growing markets, industry shakeout, mature markets, declining markets). We suggest, also based on the initial insights of our interaction analysis, that studying the interaction between aggressive or conservative resource allocation strategies should be the center of future studies in the allocation stream of literature, including of more established firms.

Third, the Italian legislation, unlike international accounting standards, allows capitalizing costs. This discrepancy could potentially amplify the observed effects, particularly regarding intangible assets. Furthermore, a significant portion of the organizations in our sample operate in the services sector. While our findings may be relevant for countries with service-based economies, exploring their applicability across diverse contexts is essential. Future research could replicate our study in various countries and industries, including sectors like banking, where contrasting outcomes might be expected, thereby contributing to a broader understanding of the generalizability of our results.

Lastly, future research should focus on developing practical frameworks and models that help entrepreneurs and executives make informed decisions about resource allocation and shape their strategic behavior (Cristofaro et al., 2024), particularly in light of the path-dependence effects observed in our study. Given that early resource allocation choices can initiate self-reinforcing mechanisms and lock firms into specific strategic trajectories, it is crucial to understand the long-term implications of these decisions. Future studies could explore the conditions under which aggressive resource allocation strategies create positive path-dependent growth versus scenarios where such strategies may limit flexibility or lead to suboptimal outcomes. Scholars could develop decision-making tools or algorithms tailored to different industry contexts, firm characteristics, and strategic objectives to support decision-makers, incorporating insights from path-dependence theory. These tools could guide when to adopt aggressive versus conservative resource allocation strategies, considering factors like the firm's stage of development and external conditions. Additionally, longitudinal case studies and empirical analyses could further examine the self-reinforcing mechanisms triggered by early investments, identifying best practices for leveraging path dependence to achieve sustained growth. Future research can equip entrepreneurs with strategies to optimize their choices, enhance firm performance, and foster sustainable growth trajectories by offering actionable frameworks and models that account for the dynamic nature of resource allocation decisions and their path-dependent effects.

Statements

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

CRediT authorship contribution statement

Matteo Cristofaro: Writing – review & editing, Writing – original draft, Supervision, Resources, Project administration, Methodology, Conceptualization. **Ivo Hristov:** Writing – review & editing, Writing – original draft. **Riccardo Cimini:** Writing – review & editing, Writing – original draft, Visualization, Validation, Software, Methodology, Formal analysis, Data curation. **Dan Lovallo:** Writing – review & editing, Writing – original draft.

Declaration of competing interest

None.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.lrp.2025.102513.

APPENDIX 1. Variable description

Symbol	Description	Type
$\%IA_{rt}$	Percentage of intangible assets with respect to total assets	Real (>0)
$\%INV_{rt}$	Percentage of inventories with respect to total assets	Real (>0)
$\%NFR_{rt}$	Percentage of non-financial resources with respect to total assets	Real (>0)
$\%PPE_{rt}$	Percentage of plant, property, and equipment with respect to total assets	Real (>0)
FES_{rt}	Variables that control for the time fixed effect avoid potential bias arising from omitted factors being constant across entities but varying over time	Dummy (0–1)
FR_{rt}	Financial Resources obtained calculating by the difference between total assets and NFR	Integer (>0)
HGF_{rt}	1 if the firm analysed is a high-growth firm, and 0 otherwise. The choice to use a dummy as a dependent variable is due to our use of a logistic regression that allows predicting the probability that an increase of X has on the probability that Y = 1. In our case, we seek to estimate, for firms surviving the early period with the ratio of non−financial resources to total assets over and under the median, the effect that an increase of 1% of non−financial resources relative to total assets has on the probability of a firm becoming a high-growth firm.	Dummy (0–1)
IA_{rt}	Intangible Assets	Integer (>0)
INV_{rt}	Inventories	Integer (>0)
NFR_{rt}	Non-Financial Resources obtained calculating the weight of property, plant and equipment (PPE), intangible assets (IA), and inventories (INV) relative to total assets. In this study, firms that have adopted an aggressive resources allocation strategy are those that have allocated a higher proportion of their total assets to NFR	Integer (>0)
NOE_{rt}	Number of Employees	Integer (>0)
PPE_{rt}	Plant, property, and equipment	Integer (>0)
ROA_{rt}	Return on Assets. It controls for the profitability of firm i at the end of the period. The presence of the industry control within our robustness checks, that confirms the results achieved in the main analysis, led us to avoid using an adjusted-ROA for the main analysis	Real (0–100)
$SURVIVE_{rt}$	1 if the firm i survives after the early period, and 0 otherwise. The choice to use a dummy as the dependent variable is due to our use of a logistic regression that allows for prediction of the effect that an increase of X has on the probability that Y = 1. In our case, we want to estimate, for new ventures with a ratio of non−financial assets to total assets over and under the median, the effect that an increase of 1% of non−financial assets relative to total assets has on the probability for the same firm to survive in the early period	Dummy (0–1)
TA_{rt}	Total Assets. The natural logarithm controls for the entity size	Integer (>0)
ΔFR_{rt}	Change of Financial Resources	Integer (<0; >0)
ΔNFR_{rt}	Change of Non-financial Resources	Integer (<0; >0)
ΔTA_{rt}	Change of Total Assets	Integer (<0; >0)

The table discloses the symbols used to identify the variables useful to implement the research protocol of this paper; it describes each of them and reports the type of variables (i.e., dummy, integer, real). Subscripts *i* and *t* stand for the entity and the years analysed. The years range from 2011 to 2019 with the period 2011–2014 the so-called early period.

Data availability

Data will be made available on request.

References

Abatecola, G., Cafferata, R., Poggesi, S., 2012. Arthur Stinchcombe's "liability of newness": contribution and impact of the construct. J. Manag. Hist. 18 (4), 402–418.

Akinwande, M.O., Dikko, H.G., Samson, A., 2015. Variance inflation factor: as a condition for including suppressor variable (s) in regression analysis. Open J. Stat. 5 (7), 754–767.

Bardolet, D., Fox, C.R., Lovallo, D., 2011. Corporate capital allocation: a behavioral perspective. Strateg. Manag. J. 32 (13), 1465–1483.

Bardolet, D., Brown, A., Lovallo, D., 2017. The effects of relative size, profitability, and growth on corporate capital allocations. J. Manag. 43 (8), 2469–2496.

Barney, J., 1991. Firm resources and sustained competitive advantage. J. Manag. 17 (1), 99–120.

Bisztray, M., De Nicola, F., Muraközy, B., 2023. High-growth firms' contribution to aggregate productivity growth. Small Bus. Econ. 60 (2), 771–811.

Boeker, W., 1989. Strategic change: the effects of founding and history. Acad. Manag. J. 32 (3), 489–515.

Bower, J.L., 2017. Managing resource allocation: personal reflections from a managerial perspective. J. of Mgmt. 43 (8), 2421–2429.

Bruderl, J., Schussler, R., 1990. Organizational mortality: the liabilities of newness and adolescence. Adm. Sci. Q. 35 (3), 530–547.

Cafferata, R., 2022. Management in adattamento: tra razionalità economica e imperfezione dei sistemi. Il Mulino, Bologna, Italy.

Callao, S., Jarne, J.I., Laínez, J.A., 2007. Adoption of IFRS in Spain: effect on the comparability and relevance of financial reporting. J. Int. Account. Audit. Taxat. 16 (2), 148–178.

Cimini, R., Mechelli, A., Sforza, V., 2022. Auditor independence and value relevance in the European banking sector: do investor protection environment and corporate governance matter? J. Account. Audit Finance 37 (3), 654–677.

Coad, A., Segarra, A., Teruel, M., 2013. Like milk or wine: does firm performance improve with age? Struct. Change Econ. Dynam. 24, 173–189.

Cooper, A.C., Gimeno-Gascon, F.J., Woo, C.Y., 1994. Initial human and financial capital as predictors of new venture performance. J. Bus. Ventur. 9 (5), 371–395.

Corriere, 2016. Imprese: quattro su dieci muoiono nei primi tre anni di vita. Retrieved from. https://brescia.corriere.it/notizie/economia/16_ottobre_19/imprese-quattro-dieci-muoiono-primi-tre-anni-vita-13a08716-960d-11e6-9c27-eb69b8747d1f.shtml.

Cristofaro, M., Abatecola, G., Giannetti, F., Zannoni, A., 2024. The survival of the fastest: unveiling the determinants of unicorns and gazelles' early success. Scand. J. Management 40 (2), 101335.

Cristofaro, M., Augier, M., Lovallo, D., Abatecola, G., Leoni, L., 2024. Behavioral strategy in evolution: A review and conceptual framework. Eur. Manag. J. https://doi.org/10.1016/j.emj.2024.10.002.
Czarnitzki, D., Hottenrott, H., 2011. R&D investment and financing constraints of small and medium-sized firms. Small Bus. Econ. 36 (1), 65–83.
David, P.A., 2001. Path dependence, its critics, and the quest for 'historical economics'. In: Garrouste, P., Ioannides, S. (Eds.), Evolution and Path Dependence in Economic Ideas. Edward Elgar Publishing, pp. 15–40.
Davidsson, P., Steffens, P., Fitzsimmons, J., 2009. Growing profitable or growing from profits: putting the horse in front of the cart? J. Bus. Ventur. 24 (4), 388–406.
Deephouse, D.L., Suchman, M., 2008. Legitimacy in organizational institutionalism. The SAGE handbook of organizational institutionalism/SAGE. In: Greenwood, R., Oliver, C., Suddaby, R., Sahlin, K. (Eds.), The SAGE Handbook of Organizational Institutionalism. Sage, London, pp. 49–77.
Delmar, F., Shane, S., 2004. Legitimating first: organizing activities and the survival of new ventures. J. Bus. Ventur. 19 (3), 385–410.
Doern, R., 2017. Strategies for resilience in entrepreneurship: building resources for small business survival after a crisis. In: Vorley, T., Williams, N. (Eds.), Creating Resilient Economies: Entrepreneurship, Growth and Development in Uncertain Times. Edward Elgar Publishing, London, pp. 11–27.
Dunne, T., Roberts, M.J., Samuleson, L., 1988. Patters of firm entry and exit in U.S. manufacturing industries. The RAND J. Econ. 19 (4), 495–515.
Ehsani, M., Osiyevskyy, O., 2023. Firm failure and the exploration/exploitation dilemma: the role of firm life cycle. Long. Range Plan. 56 (3), 102307.
Elsayed, K., Wahba, H., 2016. Reexamining the relationship between inventory management and firm performance: an organizational life cycle perspective. Future Business J 2 (1), 65–80.
Eroglu, C., Hofer, C., 2011. Lean, leaner, too lean? The inventory-performance link revisited. J. Oper. Manag. 29 (4), 356–369.
Esteve-Pérez, S., Mañez-Castillejo, J.A., 2008. The resource-based theory of the firm and firm survival. Small Bus. Econ. 30 (3), 231–249.
Eurostat, 2023. High growth enterprises (growth by 10% or more) and related employment by NACE Rev. 2 (2008-2020). Available at: https://ec.europa.eu/eurostat/databrowser/view/BD_9PM_R2_custom_373382/bookmark/table?lang=en&bookmarkId=eb63f94d-450c-49b4-a5b2-3c0cbf8f68f1. accessed on October 20th, 2024.
Forbes, 2024. Small business statistics of 2024. Available at: https://www.forbes.com/advisor/business/small-business-statistics/. October 19th, 2024.
Freeman, J., Carroll, G.R., Hannan, M.T., 1983. The liability of newness: age dependence in organizational death rates. Am. Sociol. Rev. 48 (5), 692–710.
Gardner, W.L., Martinko, M.J., 1988. Impression management in organizations. J. Manag. 14 (2), 321–338.
Gaur, V., Fisher, M.L., Raman, A., 2005. An econometric analysis of inventory turnover performance in retail services. Manag. Sci. 51 (2), 181–194.
Geroski, P.A., Mata, J., Portugal, P., 2010. Founding conditions and the survival of new firms. Strateg. Manag. J. 31 (5), 510–529.
Gilbert, B.A., McDougall, P.P., Audretsch, D.B., 2006. New venture growth: a review and extension. J. Manag. 32 (6), 926–950.
Gompers, P., Kovner, A., Lerner, J., Scharfstein, D., 2010. Performance persistence in entrepreneurship. J. Financ. Econ. 96 (1), 18–32.
Granger, C.W.J., 1969. Investigating causal relations by econometric models and cross-spectral models. Econometrica 37 (3), 424–438.
Grazzi, M., Jacoby, N., Treibich, T., 2016. Dynamics of investment and firm performance: comparative evidence from manufacturing industries. Empir. Econ. 51, 125–179.
Halbesleben, J.R.B., Neveu, J.-P., Paustian-Underdahl, S.C., Westman, M., 2014. Getting to the "COR" understanding the role of resources in conservation of resources theory. J. Manag. 40 (5), 1334–1364.
Hendricks, K.B., Singhal, V.R., Zhang, R., 2009. The effect of operational slack, diversification, and vertical relatedness on the stock market reaction to supply chain disruptions. J. Oper. Manag. 27.
Hobfoll, S.E., Halbesleben, J., Neveu, J.P., Westman, M., 2018. Conservation of resources in the organizational context: the reality of resources and their consequences. Annu. Rev. Organ. Psychol. Organ. Behav. 5, 103–128.
Hoetker, G., 2007. The use of logit and probit models in strategic management research: critical issues. Strat. Mgmt. J. 28 (4), 331–343.
Hristov, I., Cimini, R., Cristofaro, M., 2022. Assessing stakeholders' perception influence on companies' profitability: evidence from Italian companies. Prod. Plann. Control. https://doi.org/10.1080/09537287.2022.2078247.
Hussinki, H., King, T., Dumay, J., Steinhöfel, E., 2024. Accounting for intangibles: a critical review. J. Account. Lit. https://doi.org/10.1108/JAL-05-2022-0060.
International Accounting Standards Board (IASB), 2018. Conceptual framework for financial reporting. Available at: https://www.ifrs.org/content/dam/ifrs/publications/pdf-standards/english/2021/issued/part-a/conceptual-framework-for-financial-reporting.pdf. (Accessed 21 February 2024).
Jones, S., 2011. Does the capitalization of intangible assets increase the predictability of corporate failure? Account. Horizon 25 (1), 41–70.
Josefy, M.A., Harrison, J.S., Sirmon, D.G., Carnes, C., 2017. Living and dying: synthesizing the literature on firm survival and failure across stages of development. Acad. Manag. Ann. 11 (2), 770–799.
Kafouros, M.I., Wang, C., 2008. The role of time in assessing the economic effects of R&D. Ind. Innovat. 15 (3), 233–251.
Kato, M., Onishi, K., Honjo, Y., 2022. Does patenting always help new firm survival? Understanding heterogeneity among exit routes. Small Bus. Econ. 59 (2), 449–475.
Kim, Y.H., Henderson, D., 2015. Financial benefits and risks of dependency in triadic supply. Chain Relationships. J. Oper. Manag. 36 (1), 115–129.
Kim, J.D., Choi, J., Goldschlag, N., Haltiwanger, J., 2024. High-growth firms in the United States: key trends and new data opportunities. FEDS Working Paper No. 2024-74, SSRN. https://ssrn.com/abstract=4969155. October 19th, 2024.
Klepper, S., 1996. Entry, exit, growth, and innovation over the product life cycle. Am. Econ. Rev. 562–583.
Lev, B., Petrovits, C., Radhakrishnan, S., 2010. Is doing good, good for you? How corporate charitable contributions enhance revenue growth. Strat. Mgmt. J. 31 (2), 182–200.
Levinthal, D.A., 2017. Resource allocation and firm boundaries. J. Mgmt. 43 (8), 2580–2587.
Linder, C., Lechner, C., Pelzel, F., 2020. Many roads lead to Rome: How human, social, and financial capital are related to new venture survival. Entrep. Theory Pract. 44 (5), 909–932.
Lockett, A., Thompson, S., Morgenstern, U., 2009. The development of the resource-based view of the firm: a critical appraisal. Int. J. Manag. Rev. 11 (1), 9–28.
Lovallo, D., Brown, A.L., Teece, D.J., Bardolet, D., 2020. Resource re-allocation capabilities in internal capital markets: the value of overcoming inertia. Strat. Mgmt. J. 41 (8), 1365–1380.
Maritan, C.A., Lee, G.K., 2017a. Resource allocation and strategy. J. Mgmt. 43 (8), 2411–2420.
Maritan, C.A., Lee, G.K., 2017b. Bringing a resource and capability lens to resource allocation. J. Mgmt. 43 (8), 2609–2619.
Mata, J., Portugal, P., 2002. The survival of new domestic and foreign-owned firms. Strateg. Manag. J. 23 (4), 323–343.
McShane, M.K., Nair, A., Rustambekov, E., 2011. Does enterprise risk management increase firm value? J. Account. Audit Finance 26 (4), 641–658.
Mintzberg, H., 1978. Patterns in strategy formation. Mgmt. Sci. 24, 934–948.
Moreno, A.M., Casillas, J.C., 2007. High-growth SMEs versus non-high-growth SMEs: a discriminant analysis. Enterpren. Reg. Dev. 19 (1), 69–88.
Newbert, S.L., 2007. Empirical research on the resource-based view of the firm: an assessment and suggestions for future research. Strateg. Manag. J. 28 (2), 121–146.
Paeleman, I., Vanacker, T., 2015. Less is more, or not? On the interplay between bundles of slack resources, firm performance and firm survival. J. Manag. Stud. 52 (6), 819–848.
Paeleman, I., Vanacker, T., Zahra, S.A., 2024. Should we be conservative or aggressive? SME managers' responses in a crisis and long-term firm survival. J. Manag. Stud. 61 (7), 2849–2884.
Parks, G.M., 1977. How to climb a growth curve: eleven hurdles for the entrepreneur-manager. J. Small Bus. Manag. 15 (1), 25.
Penrose, E., 1959. The Theory of the Growth of the Firm. Oxford University Press, Oxford, UK.
Peteraf, M.A., Barney, J.B., 2003. Unraveling the resource-based tangle. Manag. Decis. Econ. 24 (4), 309–323.
Phelps, R., Adams, R., Bessant, J., 2007. Life cycles of growing organizations: a review with implications for knowledge and learning. Int. J. Manag. Rev. 9 (1), 1–30.
Rehman, A.U., Ahmad, T., Hussain, S., Hassan, S., 2021. Corporate cash holdings and firm life cycle: evidence from China. J. Asia Bus. Stu. 15 (4), 625–642.
Romanelli, E., 1989. Environments and strategies of organization start-up: effects on early survival. Admin. Sci. Qua. 369–387.
Rosenbusch, N., Brinckmann, J., Bausch, A., 2011. Is innovation always beneficial? A meta-analysis of the relationship between innovation and performance in SMEs. J. Bus. Ventur. 26 (4), 441–457.

Singh, J.V., Tucker, D.J., House, R.J., 1986. Organizational legitimacy and the liability of newness. Adm. Sci. Q. 31 (2), 171–193.
Soto-Simeone, A., Sirén, C., Antretter, T., 2020. New venture survival: a review and extension. Int. J. Mgmt. Rev. 22 (4), 378–407.
Statista, 2021. One-year business survival rates in selected European countries in 2018, by country. Available at: https://www.statista.com/statistics/1114070/eu-business-survival-rates-by-country/. October 19th, 2024.
Stinchcombe, A.L., 1965. Organizations and social structure. In: March, J.G. (Ed.), Handbook of Organizations. Rand McNally, Chicago, pp. 153–193.
Sydow, J., Schreyögg, G., Koch, J., 2009. Organizational path dependence: opening the black box. Acad. Manag. Rev. 34 (4), 689–709.
Tahat, Y.A., Ahmed, A.H., Alhadab, M.M., 2018. The impact of intangibles on firms' financial and market performance: UK evidence. Rev. Quant. Finance Account. 50, 1147–1168.
Tang, J., Murphy, P.J., 2012. Prior knowledge and new product and service introductions by entrepreneurial firms: the mediating role of technological innovation. J. Small Bus. Manag. 50 (1), 41–62.
Thornhill, S., Amit, R., 2003. Learning about failure: bankruptcy, firm age, and the resource-based view. Organ. Sci. 14 (5), 497–509.
Weinzimmer, L.G., Nystrom, P.C., Freeman, S.J., 1998. Measuring organizational growth: issues, consequences and guidelines. J. Manag. 24 (2), 235–262.
Wenzel, M., Stanske, S., Lieberman, M.B., 2020. Strategic responses to crisis. Strategic Mgmt. J. 41, V7–V18.
Wernerfelt, B., 1984. A resource-based view of the firm. Strat. Mgmt. J. 5 (2), 171–180.
Wiklund, J., Shepherd, D., 2005. Entrepreneurial orientation and small business performance: a configurational approach. J. Bus. Ventur. 20 (1), 71–91.
Yang, B., Burns, N.D., Backhouse, C.J., 2004. Management of uncertainty through postponement. Int. J. Prod. Res. 42, 1049–1064.
Zahra, S.A., 2021. The resource-based view, resourcefulness, and resource management in startup firms: a proposed research agenda. J. Mgmt. 47 (7), 1841–1860.
Zimmerman, M.A., Zeitz, G.J., 2002. Beyond survival: achieving new venture growth by building legitimacy. Acad. Manag. Rev. 27 (3), 414–431.

Matteo Cristofaro (matteo.cristofaro@uniroma2.it) is an assistant professor of management at the University of Rome 'Tor Vergata'. His research and publications address behavioral strategy, strategic decision making, and organizational adaptation. He is Chair of the Management History Division at the *Academy of Management* 2023–2027.

Ivo Hristov (hristov@economia.uniroma2.it) is associate professor of management at the University of L'Aquila. His research and publications address performance management, corporate sustainability, KPIs and accounting.

Riccardo Cimini (rcimini@unitus.it) is associate professor of management at the University of Rome Tor Vergata. His research and publications address accounting, financial reporting, and auditing.

Dan Lovallo (dan.lovallo@sydney.edu.au) is a full professor of management at the University of Sydney. His research and publications address behavioral strategy, innovation, resource allocation, and managerial cognition.