

Dynamic Capabilities and SME Growth: A Structured Review of Empirical Evidence and Measurement Approaches

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Abstract

Dynamic capabilities are widely invoked to explain why some small and medium-sized enterprises (SMEs) grow while most do not, yet the empirical evidence on this link is scattered and often confounded with broader measures of firm performance. This paper presents a structured literature review of empirical studies that relate dynamic capabilities to an explicitly measured growth outcome in SMEs. A search of the Dimensions database, complemented by backward snowballing, yielded 17 studies published between 2004 and 2026. The relationship turns out to be far from uniformly positive: only a minority of studies report simple positive effects, while others find null, negative, curvilinear, configurational or reverse relationships, and the explained variance in growth is typically modest. Evidence is most consistent for scaling and organisational reconfiguration and least consistent for sensing. Dynamic capabilities are most often proxied by a single functional capability or a general index, growth is measured with different indicators over short periods, and many studies rely on a single respondent for both constructs or sample on the outcome. The paper proposes an integrative framework linking microfoundations, capability clusters, growth mechanisms and boundary conditions, and outlines directions for future research.

Keywords: dynamic capabilities; SME growth; high-growth firms; microfoundations; measurement; structured literature review

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1. Introduction

Small and medium-sized enterprises (SMEs) make up the overwhelming majority of firms in most economies, but their contribution to job creation and productivity is highly uneven. Growth among small firms is rare and episodic, and a relatively small group of rapidly growing companies accounts for a disproportionate share of new employment [1, 2]. Most small firms start small, remain small and never intend to grow substantially, whereas a minority expand quickly, often in short bursts that are difficult to repeat [3]. Understanding which firm-level factors allow some SMEs to grow while most remain stable has therefore become a central question for both entrepreneurship research and economic policy, and governments in many countries have introduced programmes aimed specifically at supporting high-growth firms.

This question is particularly pressing for Russia. Studies of Russian medium-sized high-growth companies have documented their importance for the economy and the limited reach of the state programmes designed to support them [4]. At the same time, research on so-called unorthodox gazelles shows that, in an institutional environment with limited access to markets and resources, rapid growth may rest on administrative resources and rents rather than on market-oriented capabilities [5]. These findings make it important to understand which capabilities actually underpin SME growth and how such capabilities can be measured in a way that allows their effect on growth to be distinguished from other explanations. Without such measurement, policies that aim to develop managerial and organisational capabilities in small firms cannot be evaluated, and it remains unclear whether growth reflects capability or merely privileged access to resources.

The dynamic capabilities view offers a natural lens for this task. Dynamic capabilities are defined as the firm's ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments [6], and are commonly disaggregated into the capacities to sense opportunities, seize them and transform the organisation accordingly [7]. Because growth requires a firm to recognise new opportunities, commit resources to them and adapt its structure, dynamic capabilities are frequently assumed to be a driver of growth, especially in young and small firms [8]. An assessment of prior empirical tests indicates a predominantly positive association between dynamic capabilities and firm performance in general [9]. However, most primary studies operationalise performance as a composite of profitability, market share and growth, which leaves open whether dynamic capabilities translate specifically into growth. Both constructs are also notoriously difficult to measure. There is little agreement on how dynamic capabilities should be captured empirically [10], and different indicators of firm growth are only weakly correlated with each other, so that studies using different measures may not be comparable [11].

The distinction between growth and performance is not merely technical. Growth and profitability can diverge, particularly in small firms, where rapid expansion often requires investments that depress short-term profits, and where owners may deliberately prefer stability to expansion. A firm with strong dynamic capabilities may use them to protect margins, enter a profitable niche or survive a crisis without expanding its sales or workforce. Conversely, a firm may grow quickly by riding a favourable market trend without any notable capability to sense, seize or transform. If dynamic capabilities are to be used as an explanation of why some SMEs grow, the evidence must therefore come from studies in which growth is measured explicitly and separately from other performance dimensions.

An earlier systematic review of the SME literature mapped the microfoundations of dynamic capabilities in small and medium-sized firms [12]. That review focused on the content of the capabilities rather than on their outcomes. To the best of the author's knowledge, no review has yet examined specifically how empirical studies link dynamic capabilities to an explicitly measured growth outcome in SMEs, and how measurement choices shape the resulting evidence. The present paper addresses this gap through a structured review guided by three research questions. RQ1: What empirical evidence links dynamic capabilities to SME growth? RQ2: How are dynamic capabilities operationalised in this research? RQ3: How is SME growth operationalised?

The paper makes three contributions. First, it consolidates fragmented evidence and shows that the relationship between dynamic capabilities and SME growth is heterogeneous and frequently contingent, non-linear or reciprocal; it also shows that the strength of the evidence differs between the sensing, seizing and transforming clusters. Second, it systematises the approaches used to measure both constructs and identifies the measurement and design problems that limit the comparability of findings. Third, it proposes an integrative framework and a research agenda that can guide future empirical work, including research in emerging and transition economies. The remainder of the paper is organised as follows. Section 2 outlines the theoretical background, Section 3 describes the review protocol, Section 4 presents the results, Section 5 discusses them and proposes a research agenda, and Section 6 concludes. The appendices report the key statistics of each included study and the studies excluded at the full-text stage.

2. Theoretical background

2.1. Dynamic capabilities and their microfoundations

The dynamic capabilities view emerged as an extension of the resource-based view intended to explain how firms sustain competitive advantage in changing environments [6]. While the

resource-based view emphasises the possession of valuable and hard-to-imitate resources, the dynamic capabilities view focuses on the processes through which firms renew their resource base. Eisenhardt and Martin [13] argued that dynamic capabilities consist of identifiable organisational processes, such as product development, alliancing and strategic decision-making, whose form and effectiveness depend on market dynamism: in moderately dynamic markets they resemble detailed routines, whereas in high-velocity markets they are simple, experiential and fragile. Teece [7] later organised the concept into three clusters of activity. Sensing involves scanning, interpreting and learning about technological and market opportunities; seizing involves designing business models, making investment decisions and building commitment; and transforming involves the continuous realignment of tangible and intangible assets. Teece also introduced the notion of microfoundations, the distinct skills, processes, procedures, organisational structures, decision rules and disciplines that underpin each cluster. Subsequent work has located important microfoundations at the level of individual managers, whose cognitive capabilities in perception, attention, problem-solving and social cognition shape how opportunities are sensed and how resources are reconfigured [14].

The concept has also attracted criticism. Arend and Bromiley [10] argued that the view lacks a coherent theoretical core and agreed measures, and that its claims are often difficult to falsify. Two points from this debate are central to the present review. First, if dynamic capabilities are defined by their capacity to change the resource base, there is a danger of tautology when growth, which is itself a change in the resource base, is used to infer their presence; empirical studies must therefore measure capabilities independently of the outcome they are expected to explain. Second, because dynamic capabilities are costly and their effectiveness depends on the environment [13], there is no theoretical reason to expect a uniformly positive or linear relationship with any performance outcome, including growth.

2.2. Dynamic capabilities in SMEs

Applying the concept to SMEs raises several issues. First, in small and young firms dynamic capabilities are often improvised and concentrated in the founder or a small management team rather than embedded in formal routines [8]. This makes the boundary between organisational and individual capabilities particularly blurred, and it means that dynamic capabilities develop largely through the entrepreneur's learning and accumulated experience. Second, the distinction between dynamic capabilities and the substantive or operational capabilities they change [8] is difficult to maintain in practice. Researchers therefore often treat functional capabilities with a change-oriented component, such as marketing or digital capabilities, as proxies for dynamic capabilities. Third, building and maintaining dynamic capabilities is costly, and SMEs typically operate with limited slack resources, so that investments in sensing and experimentation compete directly with day-to-day operations. Arend [15] found that younger SMEs benefited more from dynamic capabilities while smaller SMEs benefited less, which suggests that a minimum scale may be needed for capability investments to pay off.

2.3. SME growth and its measurement

Penrose [16] conceptualised firm growth as a process driven by unused productive services and constrained by the availability of managerial resources able to plan and absorb expansion. This idea implies that the managerial capacity to reorganise the firm limits how fast it can grow. Empirical research has since adopted a variety of indicators. Delmar et al. [1] showed that the choice of indicator (sales or employment, absolute or relative change, organic or acquired growth) changes which firms are classified as high-growth and reveals distinct growth patterns. Shepherd and Wiklund [11] demonstrated that the correlations between common growth measures are modest and that the determinants of growth differ depending on the measure used.

Parker et al. [3] followed British high-growth firms and found that their growth rarely persisted. Wiklund et al. [2] proposed an integrative model in which entrepreneurial orientation, resources, environmental conditions and growth attitudes jointly explain small business growth. Taken together, this literature implies that conclusions about the drivers of growth are sensitive to how growth is measured, over what period and in which sample, and that any single capability is likely to explain only a small share of the variance in growth.

2.4. Why dynamic capabilities should matter for growth

From a theoretical standpoint, each cluster of dynamic capabilities offers a plausible route to growth. Sensing allows a firm to identify unmet customer needs, new markets and technological options. Seizing translates these opportunities into new products, business models and investments. Transforming adapts structures, roles and processes so that the firm can absorb a larger scale of operations, which is precisely the managerial constraint highlighted by Penrose [16]. Growth may thus be expected to occur through several mechanisms, including product and process innovation, the development of new domestic and foreign markets, and organisational reconfiguration that relieves managerial bottlenecks.

At the same time, the literature suggests several reasons why the relationship may be weak or contingent. Dynamic capabilities are expected to matter most in dynamic environments [13]; their development consumes scarce resources; and their value depends on whether they are deployed in line with the firm's needs [8, 15]. Excessive change can also be harmful, because frequent reconfiguration disrupts operations and erodes the efficiency of existing routines. Finally, the relationship may run in both directions: growth provides resources, experience and slack that can be invested in capability development, so that growing firms may develop stronger capabilities rather than the reverse. The empirical relationship between dynamic capabilities and SME growth is therefore an open question that requires attention to measurement, functional form, causal direction and boundary conditions.

3. Methodology

3.1. Search strategy and eligibility criteria

The study is designed as a structured literature review. It follows the main steps of systematic reviewing (a predefined search string, explicit eligibility criteria, a documented selection process and systematic data extraction) and reports the selection process in line with the PRISMA 2020 statement [17], but it relies on a single database and a single reviewer. Dimensions was chosen as the database because of its broad coverage of journals, including regional outlets that are not indexed in Scopus or Web of Science, which allowed the search to capture studies from emerging economies before applying the indexing criterion at the eligibility stage. The search was conducted on 2 October 2026 in titles and abstracts using the following string: ("dynamic capability" OR "dynamic capabilities" OR "microfoundations" OR "sensing seizing") AND ("SME" OR "SMEs" OR "small and medium" OR "small firms" OR "high-growth" OR "gazelles") AND ("firm growth" OR "sales growth" OR "employment growth" OR "revenue growth" OR "growth performance" OR "high-growth firms"). The third block of terms limited the search to studies that mention growth explicitly rather than performance in general. The results were limited to journal articles in the field of research "Commerce, Management, Tourism and Services", with no restriction on publication year. The search returned 44 records.

Studies were included if they (a) reported original empirical research, either quantitative or qualitative; (b) examined SMEs, new ventures or high-growth firms; (c) treated dynamic capabilities, one of their clusters or their microfoundations as an explanatory construct; (d)

measured growth explicitly, either as an outcome variable or as a separately identifiable component of performance; and (e) were published in English in a peer-reviewed journal indexed in Scopus or Web of Science. Conceptual papers and reviews, studies of large firms, studies in which growth could not be separated from a composite performance measure, and studies in which dynamic capabilities were not an explanatory construct were excluded. Criterion (d) was applied strictly: a study was retained if it reported results for a growth indicator separately, even if it also analysed other performance outcomes. Qualitative studies were retained if growth was used as an explicit criterion for selecting or contrasting cases, because such studies provide evidence on how dynamic capabilities operate in growing firms. Criterion (e) was introduced as a minimum quality threshold, given that Dimensions also indexes journals with limited peer review.

3.2. Study selection

Screening of titles and abstracts led to the exclusion of 28 records, mainly because growth was not the outcome, the sample did not consist of SMEs or the paper was conceptual. Full texts were sought for the remaining 16 records; two could not be retrieved. Of the 14 full texts assessed, one was excluded because it was published in a journal not indexed in Scopus or Web of Science and did not operationalise growth. This left 13 studies.

The database search was complemented by backward snowballing. The reference lists of all 13 included studies, comprising 1,145 entries (including duplicates across lists), were screened by title using the same eligibility criteria, which retained 21 candidate records. Screening of their abstracts excluded 11 records, mainly because growth was not measured (for example, when the outcome was resilience, survival or value creation) or because dynamic capabilities were not an explanatory construct. Full texts were sought for the remaining 10 records; one could not be retrieved. Of the nine full texts assessed, five were excluded: in one study the outcome was the choice of growth strategy among high-growth firms rather than growth itself; in three studies, including that of Arend [15], growth could not be separated from a composite performance measure; and in Parker et al. [3] the explanatory variables were management strategies rather than dynamic capabilities. Four studies were added, and the final sample therefore comprises 17 studies (Figure 1). The studies excluded at the full-text stage are listed with reasons in Appendix B.

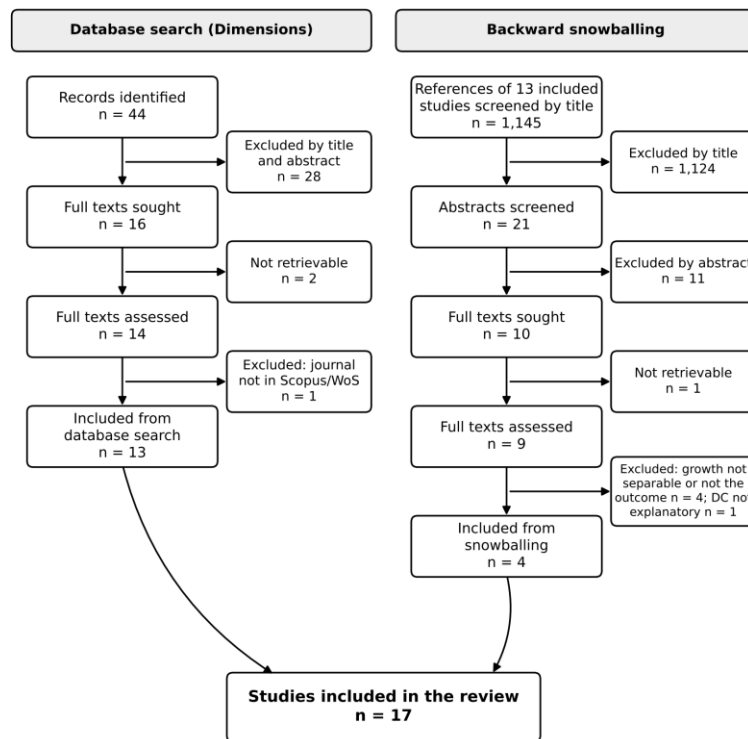


Figure 1. Study Selection Process

3.3. Data extraction and synthesis

For each study, the following data were extracted into a coding table: bibliographic details, country and context, sample and data period, research design and method of analysis, the dynamic capability construct and its measurement, the level at which dynamic capabilities were conceptualised, the type of growth indicator and the period over which it was measured, the main findings, mediators and moderators, and methodological limitations. Dynamic capability constructs were additionally classified by the cluster they primarily represent (sensing, seizing, transforming, functional proxy or general index), so that the evidence could be compared across clusters. Growth measures were classified by data source (register or database, self-reported actual change, perceptual comparison, expectation, case-selection criterion) and by the length of the observation window.

Because the studies differ widely in design and measurement, a meta-analysis was not feasible; the results are therefore synthesised narratively and supported by frequency counts. Where the original studies report regression or structural equation coefficients, these are cited as reported: standardised coefficients (β) and unstandardised coefficients (b) indicate the direction and strength of an association, and R^2 indicates the share of variance in growth explained by the model. These values illustrate the direction and order of magnitude of effects within each study; because the studies use different scales, samples and model specifications, they are not directly comparable across studies. For configurational studies, consistency and coverage are reported instead: consistency indicates how reliably a combination of conditions leads to the outcome, and coverage indicates what share of the outcome cases it explains. The methodological quality of the studies was assessed descriptively, with attention to three risks that are particularly relevant to the research questions: common-method bias when the same

respondent reports both capabilities and growth [18], selection on the outcome, and the absence of temporal separation between the measurement of capabilities and growth.

4. Results

4.1. Overview of the included studies

The 17 included studies were published between 2004 and 2026, and ten of them appeared in 2021 or later, which indicates growing interest in the topic. Thirteen studies are quantitative and four are qualitative. The rise in publications after 2020 is almost entirely due to quantitative survey-based studies, several of which were motivated by the COVID-19 crisis [19–21].

The studies cover eleven single-country settings (the United Kingdom, Finland, the Netherlands, the United States, South Korea, Australia, Hungary, Argentina, Brazil, Ghana and Portugal) and two cross-national samples, one of nine European and Latin American countries and one of 24 European countries. The United Kingdom is the most frequent setting, with four studies, followed by Finland and the United States with two each. Two Finnish studies draw on the same data collection [22, 23] and are therefore not fully independent. No study was conducted in Russia or in other post-Soviet economies. Sample sizes in the quantitative studies range from 107 to 1,421 firms, with the exception of one study that analysed country-level aggregates [24]. The studies are published in a wide range of journals in entrepreneurship, small business, strategy and innovation management, with the International Small Business Journal and the International Journal of Entrepreneurial Behavior & Research publishing two each. Table 1 summarises the included studies.

Table 1. Overview of the Included Studies

Study	Context and sample	DC operationalisation	Growth measure	Main finding
Macpherson et al. (2004) [25]	UK; single case, 32 staff	Knowledge integration via supply network; restructuring	Turnover, £0.8m to £3.5m in 18 months	Growth crises occur concurrently
Uhlaner et al. (2013) [26]	Netherlands; 229 SMEs; panel	External sourcing; employee involvement in renewal	Average annual sales growth, 3 years	Sourcing (+) via process innovation; involvement (–)
Galvin et al. (2014) [27]	Australia; 190 service SMEs; panel	Capability development (training, IT systems)	Sales growth, 1 year (lagged)	No effect; market development (+)
D'Annunzio et al. (2015) [28]	Argentina; 8 SMEs; cases	Sensing, seizing, transforming (qualitative)	Gradual vs accelerated growth	Emergent DC; seizing as bottleneck
Szalavetz (2015) [29]	Hungary; 5 high-growth firms; cases	Organisational reconfiguration	≥20% annual turnover growth, 3 years	Professionalisation, delegation, formalisation
Eshima and Anderson (2017) [30]	South Korea, UK; 535 and 107 SMEs	Adaptive capability (3 items)	Perceived and archival sales and asset growth	Growth → adaptive capability (reverse)
Arora et al. (2020) [31]	USA; 223 new ventures	Sensing and seizing from website text	Logged sales growth, 2 years	Seizing inverted U; sensing ns
Scuotto et al. (2021) [24]	24 European countries; Eurostat data, 25 country-level observations	Employees' digital skills as microfoundations	Annual growth of sales and employment	(+), $R^2 < 2\%$
Teixeira et al. (2021) [32]	Brazil; 137 startups	Five-dimension DC scale	Perceived growth vs competitors	Two of five dimensions (+)
Clampit et al. (2022) [19]	USA; 304 SMEs; COVID-19	General DC index (3 items)	Revenue change vs pre-crisis level	(+), stronger in smaller firms
Joensuu-Salo et al. (2023) [22]	Finland; 214 SMEs	Marketing capability (8 items)	Employment trajectory, register data	(+) on growth slope
Joensuu-Salo and Matalamäki (2023) [23]	Finland; 242 SMEs	Digital capability (5 items)	Three-year turnover growth, financial statements	(+), 5% of variance
Donbesuur et al. (2023) [33]	Ghana; 156 family SMEs	Opportunity discovery and creation	Perceived growth vs competitors	Discovery (+); creation U-shaped
Dejardin et al. (2023) [20]	Portugal; 209 SMEs; COVID-19	Dynamic service innovation capabilities, before and during the pandemic	Turnover change 2020 vs 2019 (self-reported)	Three of four dimensions (+); sensing ns
Matikonis and Graham (2024) [21]	UK; 1,421 SMEs; COVID-19	Count of adaptations (0–5)	Past and expected employment change	ns for past change; (+) for aspirations
Rees-Jones et al. (2024) [34]	UK (Wales); 20 founders	Founder sensing and seizing	≥73% workforce growth within 3 years	Founders seize growth trigger points
Komlósi and Szerb (2026) [35]	9 countries; 778 growing SMEs	DC pillars of a competitiveness index	Employment growth, 3 years	No condition necessary in kind; DC works in combination

Note: DC – dynamic capabilities; ns – not significant; (+) positive and (–) negative association. Studies are listed chronologically.

4.2. How SME growth is measured

Four broad approaches to measuring growth can be distinguished (Table 2). The first relies on objective data from registers or financial databases. Joensuu-Salo et al. [22] modelled the trajectory of employment over three years using register data, Joensuu-Salo and Matalamäki [23] used cumulative three-year turnover growth from a financial statement database, Arora et al. [31] used logged sales growth from Dun and Bradstreet data, Galvin et al. [27] used sales

growth from a national business longitudinal survey, and the British part of the study by Eshima and Anderson [30] used sales and asset growth rates from a financial database. Scuotto et al. [24] used annual growth rates of sales and employment from Eurostat data, aggregated to the country level.

The second approach relies on respondents' reports of actual change, such as average annual sales growth in a panel survey [26], the ordinal change in employment over the past year [21], employment growth over three years [35] or the change in revenue relative to the pre-pandemic level [19, 20]. The third approach uses perceptual assessments of growth relative to competitors, typically combining several items such as sales, market share and profitability [30, 32, 33]. Such measures blur the distinction between growth and other performance dimensions that the review sought to maintain, but they were retained because the original authors explicitly framed them as growth. The fourth approach, found in qualitative studies, uses growth as a criterion for selecting cases, for example at least 20% annual turnover growth for three years [29], workforce growth of at least 73% within three years [34], a contrast between gradual and accelerated growth [28] or a more than fourfold increase in turnover within 18 months [25].

Three features of this measurement landscape deserve attention. First, sales-based indicators dominate, whereas employment is used in fewer studies and assets in only one. Because sales and employment growth respond to different drivers and occur with different time lags [1, 11], the dominance of sales measures limits what can be said about the contribution of dynamic capabilities to job creation, which is the main policy interest in high-growth firms. Second, growth is usually observed over short windows of one to three years, which makes it difficult to distinguish sustained growth from a temporary spike, a concern reinforced by the low persistence of firm growth [3]. Only one study separates realised growth from expected growth: Matikonis and Graham [21] found that dynamic capabilities were unrelated to past employment change but positively related to growth aspirations.

Third, in four studies the sample was selected on the outcome, either by including only growing firms [35] or by studying high-growth cases [25, 29, 34]. Such designs can reveal how dynamic capabilities operate in growing firms, but they cannot show whether these capabilities distinguish growing firms from non-growing ones. Only one qualitative study contrasted firms with different growth trajectories [28], which is the design that would allow such a comparison in a case-based setting.

Table 2. Approaches to Measuring Growth and Dynamic Capabilities

Construct	Approach	Studies
Growth	Objective register or database data	[22–24, 27, 30, 31]
	Self-reported actual change	[19–21, 26, 35]
	Perceived growth relative to competitors	[30, 32, 33]
	Growth expectations	[21]
	Growth as a case-selection criterion	[25, 28, 29, 34]
Dynamic capabilities	Single capability used as a proxy	[22, 23, 26, 27, 30, 33]
	General or aggregate index	[19, 21]
	Sensing, seizing and transforming clusters	[20, 28, 31, 32, 35]
	Organisational reconfiguration	[25, 29]
	Individual-level capabilities	[24, 34]

4.3. How dynamic capabilities are operationalised

The studies use five approaches to operationalise dynamic capabilities (Table 2). The most common approach, found in six studies, treats a single capability with a change-oriented component as a proxy. Examples include marketing capability measured with an established eight-item scale [22], digital capability [23], external sourcing of knowledge and employee involvement in renewal [26], the development of training and administrative systems [27], adaptive capability [30] and the discovery and creation of opportunities [33]. The second approach uses general or aggregate indices, such as a count of adaptations made during the COVID-19 pandemic [21] or a three-item measure of the ability to develop new capabilities [19].

Only five studies capture the sensing, seizing and transforming clusters directly. Two of them use the scale of dynamic capabilities for service innovation developed by Janssen et al. [36], applied to Brazilian startups [32] and Portuguese SMEs [20]. One uses composite pillars of a small business competitiveness index [35], one uses text mining of changes in company websites [31], and one assesses each cluster qualitatively [28]. Finally, two qualitative studies conceptualise dynamic capabilities as organisational reconfiguration [25, 29], and two studies locate them at the individual level: in the founder [34] and in employees' digital skills treated as microfoundations [24].

This pattern has several consequences. Measurement quality varies considerably: some constructs rest on binary or single items with low reliability [26], while others use well-established multi-item scales [22, 23]. Because many proxies capture a single functional domain, it is often unclear whether the findings concern dynamic capabilities as such or the substantive capabilities that dynamic capabilities are supposed to change [8]. A marketing capability scale, for example, captures the firm's ability to perform marketing activities well, which may or may not involve the reconfiguration of the resource base. The general indices avoid this problem but provide little information on which aspects of dynamic capabilities matter.

Microfoundations are examined directly mainly in qualitative studies. The only quantitative study that addresses individual-level microfoundations measures them with country-level aggregates [24], so firm-level microfoundations of the kind emphasised by the theory [14] remain unmeasured in quantitative research. A promising exception is the use of unobtrusive measures: Arora et al. [31] inferred sensing and seizing from changes in the topics of company websites, an approach that avoids common-method bias and can be applied to large samples over time. Its limitation is that website content reflects what a firm communicates rather than what it does, so the validity of such measures depends on the assumption that strategic changes are reflected in public communication.

4.4. The relationship between dynamic capabilities and growth

The evidence on RQ1 is mixed. Five quantitative studies report clear positive associations. Marketing capability was positively related to the slope of employment growth ($\beta = 0.24$) [22], and digital capability to three-year turnover growth ($\beta = 0.22$), although it explained only about 5% of the variance [23]. Among Brazilian startups, sensing user needs ($\beta = 0.53$) and scaling and stretching ($\beta = 0.44$) were positively associated with perceived growth, whereas the other three dimensions of dynamic service innovation capabilities were not significant [32]. During the pandemic, dynamic capabilities were positively related to revenue change relative to the pre-crisis level ($b = 6.78$) [19]. In Portuguese SMEs, three of the four dimensions of the same dynamic service innovation capabilities scale used by Teixeira et al. were positively related to the change in turnover in 2020 compared with 2019: conceptualising ($\beta = 0.30$), coproducing and orchestrating ($\beta = 0.50$), and scaling and stretching ($\beta = 0.22$), whereas sensing was not

significant [20]. Notably, the two studies that used this scale agree only on the role of scaling and stretching, which illustrates how strongly results depend on the context and the growth measure. A sixth study found a positive association between employees' digital capabilities and SME growth, but it was based on 25 country-level observations and explained less than 2% of the variance [24], so its evidence is weak.

Other studies show that the relationship depends on which capability is measured and which outcome is considered. In Dutch SMEs, external sourcing of knowledge was positively related to sales growth, mainly through process innovation, whereas employee involvement in renewal was negatively related to it [26]. In Australian service SMEs, capability development had no direct or total effect on sales growth, while market development had a strong positive effect and the two interacted negatively [27]. In British SMEs, most of them micro-firms, dynamic capabilities were unrelated to past employment change but positively related to growth aspirations [21]. Overall, the direct associations indicate that positive effects are found in about half of the quantitative studies, that they are usually of small to moderate size and that they are rarely found for all dimensions of dynamic capabilities at once.

Several studies go beyond linear direct effects. Seizing, measured through website change, had an inverted U-shaped relationship with sales growth, while sensing was not significant [31], which suggests that moderate strategic change supports growth whereas very frequent change becomes counterproductive. Opportunity discovery was positively related to growth, whereas opportunity creation had a U-shaped relationship with it [33]: modest efforts at creating new opportunities were associated with lower growth, and only intensive efforts paid off. A configurational analysis of 778 growing SMEs in nine countries found that no single competency was necessary in kind for high employment growth and identified fourteen sufficient configurations [35]. Firms combining resources, dynamic capabilities and entrepreneurial attitudes grew on average by 208.6%, compared with 67.2% for configurations based on dynamic capabilities alone, and internationalisation acted as a bottleneck that became binding only at higher growth levels.

Finally, one study reversed the causal direction and showed that prior growth increased adaptive capability, which in turn increased entrepreneurial orientation [30]. This finding was obtained in a Korean sample using instrumental variables and partly replicated in a British sample with archival data, where asset growth, but not sales growth, was related to adaptive capability. It is consistent with the Penrosian argument that growth generates managerial experience and slack resources [16], and it implies that cross-sectional associations between dynamic capabilities and growth cannot be interpreted as evidence that capabilities cause growth.

4.5. Mediators and moderators

The studies also identify several mediators and moderators. Innovation [26], market development [27] and internationalisation [35] act as channels through which capabilities are converted into growth. These channels correspond to the mechanisms expected on theoretical grounds (Section 2.4), but each was examined in only one study, and no study tested several mechanisms simultaneously. Firm size moderates the relationship, but the direction is disputed: dynamic capabilities had stronger effects in smaller firms in the Netherlands [26] and in the United States during the pandemic [19], whereas Arend [15], whose study was excluded from the sample because it used a composite performance measure, found that smaller SMEs benefited less. Firm age steepened the U-shaped effect of opportunity creation [33], and government support weakened the link between dynamic capabilities and employment [21], which suggests that public support may partly substitute for firms' own adaptive efforts in a crisis.

Environmental conditions are mostly treated as part of the research context rather than as measured moderators. Three studies were conducted during the COVID-19 pandemic [19–21], and their outcomes measure stability or recovery of revenue and employment rather than growth in normal conditions. In these studies dynamic capabilities appear to help firms limit losses rather than expand. The other studies were conducted in relatively stable conditions, but none measured environmental dynamism directly, so the theoretical prediction that dynamic capabilities matter more in turbulent environments [13] has not been tested in this literature.

4.6. Evidence by capability cluster

Classifying the constructs by the cluster they primarily represent reveals differences in the consistency of the evidence (Table 3). Evidence on sensing is the least consistent. Sensing user needs was positive in one study [32], sensing was not significant in two others [20, 31], and opportunity discovery, which is close to sensing, was positive [33]. External knowledge sourcing, which also has a sensing component, was positive mainly through innovation [26]. Qualitative studies, by contrast, emphasise the central role of the founder's sensing and of personal networks [28, 34]. One possible explanation is that sensing is a necessary first step that does not produce growth unless opportunities are subsequently seized, so that its effect is mediated and difficult to detect in direct tests.

Evidence on seizing is mixed and points to non-linearity. Conceptualising and coproducing were positive in one study [20] but not significant in another [32], seizing measured through website change had an inverted U-shaped effect [31], and opportunity creation had a U-shaped effect [33]. The qualitative evidence identifies seizing as a bottleneck in developing-country SMEs [28] and highlights founders' ability to act on trigger points [34]. Evidence on transforming is the most consistent among multidimensional studies: scaling and stretching was the only dimension positively related to growth in both studies that used the dynamic service innovation capabilities scale [20, 32], and the qualitative studies of high-growth firms consistently describe organisational reconfiguration as a condition for sustained growth [25, 29]. At the same time, capability development in training and administrative systems had no effect [27], and employee involvement in renewal had a negative effect [26], which suggests that not every form of internal change supports growth.

Table 3. Evidence by Dynamic Capability Cluster

Cluster	Quantitative evidence	Qualitative evidence
Sensing	(+) sensing user needs [32]; (+) opportunity discovery [33]; (+) external sourcing, via innovation [26]; ns [20, 31]	Founder sensing via personal networks [28, 34]
Seizing	(+) conceptualising, coproducing [20]; ns [32]; inverted U [31]; U-shaped opportunity creation [33]	Seizing as a bottleneck [28]; seizing trigger points [34]
Transforming	(+) scaling and stretching [20, 32]; ns capability development [27]; (–) employee involvement [26]; growth → adaptive capability [30]	Professionalisation, delegation, formalisation [29]; restructuring, knowledge integration [25]
Functional proxies	(+) marketing capability [22]; (+) digital capability [23]; (+) weak, digital skills [24]	–
General indices	(+) revenue stability [19]; ns past growth, (+) aspirations [21]; effective in combination [35]	–

Note: (+) positive, (–) negative association; ns – not significant. A study may appear in several rows.

4.7. Qualitative evidence on growth processes

The qualitative studies complement these results by showing how dynamic capabilities operate during growth. In Argentinean SMEs in the software and tourism industries, dynamic

capabilities developed through emergent experimentation rather than planning, sensing relied on the entrepreneur's personal networks, and seizing was the main bottleneck that distinguished accelerated from gradual growth [28]. Hungarian high-growth firms had to reconfigure their organisation by professionalising leadership, specialising functions, delegating authority, formalising processes and attracting external investors [29]. These changes correspond closely to the managerial constraint on growth described by Penrose [16]: growth required the founders to build an organisation that could manage a larger scale of activity.

A British case showed that rapid growth depended on integrating knowledge through supply-network relationships and on restructuring that created space for entrepreneurial activity, with several growth crises occurring at once rather than in sequence [25]. This finding challenges stage models of growth in which firms pass through crises one after another and suggests that dynamic capabilities must address several pressures simultaneously. Welsh founders of high-growth firms sensed and seized specific trigger points, that set off growth episodes, relying heavily on their networks [34]. Taken together, the qualitative studies suggest that in small firms dynamic capabilities are closely tied to the founder, develop through experience rather than design, and become organisational capabilities only when the firm grows and professionalises.

4.8. Methodological characteristics of the evidence

Table 4 summarises the methodological characteristics that are most relevant to the interpretation of the findings. Three observations stand out. First, common-method bias is a serious risk: in eight of the thirteen quantitative studies, both dynamic capabilities and growth are reported at least in part by the same respondent [19–21, 26, 30, 32, 33, 35], which can inflate the observed associations [18]. Second, only a few studies observe growth longitudinally, through panel data [26, 27], latent growth curves [22] or longitudinal website data [31], and only the two Finnish studies reduce the common-method risk by linking survey data on capabilities to growth data from registers and financial statements [22, 23]. Third, causal identification is rarely addressed: only two studies used instrumental variables or two-stage estimation [30, 31], and only one tested the reverse direction of causality [30].

Table 4. Methodological Characteristics of the Included Studies

Characteristic	n	Studies
Quantitative design	13	–
Qualitative design (case studies, interviews)	4	[25, 28, 29, 34]
Growth from registers or financial databases	6	[22–24, 27, 30, 31]
Same respondent for capabilities and growth (at least in part)	8	[19–21, 26, 30, 32, 33, 35]
Longitudinal or panel data on growth	4	[22, 26, 27, 31]
Instrumental variables or two-stage estimation	2	[30, 31]
Sample selected on the outcome (growing firms only)	4	[25, 29, 34, 35]
Data collected during the COVID-19 pandemic	3	[19–21]
Validated multidimensional DC scale	2	[20, 32]
Test of non-linear effects	2	[31, 33]

Note: n – number of studies; DC – dynamic capabilities. A study may appear in several rows.

The reliance on single-respondent surveys is understandable given that small firms rarely publish detailed financial data and that registers are not available in many countries. However, it means that a substantial part of the positive evidence comes from designs in which respondents who perceive their firm as capable may also report its growth more favourably. The studies that take growth from independent financial sources [22, 23] report positive effects,

which is encouraging, but these effects are modest in size and come from a single country and a shared data collection.

5. Discussion

5.1. Interpretation of the findings

The review shows that the commonly assumed positive link between dynamic capabilities and SME growth is supported only partly. Simple positive effects appear mainly when a single well-measured capability is related to growth over a few years, and even then the explained variance is modest. When studies distinguish between different capabilities, outcomes or time horizons, the picture becomes more complex: some capabilities have no effect or a negative effect, effects can be curvilinear, dynamic capabilities may affect growth intentions more than realised growth, and they appear to be effective mainly in combination with other resources. These findings are consistent with theoretical arguments that dynamic capabilities are costly and context-dependent [8, 13]. They also suggest that the relationship is reciprocal: growth not only results from dynamic capabilities but also expands the resource base from which these capabilities develop [16, 30].

The contrast with the general literature on dynamic capabilities and performance is instructive. Assessments of that literature report a predominantly positive association [9]. The weaker and more heterogeneous evidence found here may reflect the specific nature of growth as an outcome. Composite performance measures include profitability and perceived competitive position, which may respond more directly to capabilities than growth does and which are more susceptible to same-respondent bias, whereas growth is volatile and rarely persistent [3]. It is therefore plausible that dynamic capabilities help SMEs to perform better without necessarily making them grow, and that growth depends on additional factors such as growth aspirations, market opportunities and access to finance [2].

The differences between clusters also deserve interpretation. The relatively consistent evidence for scaling, stretching and organisational reconfiguration fits the Penrosian view that the binding constraint on growth lies in the firm's managerial and organisational capacity [16]. Sensing, on the other hand, may be widespread among small firms but insufficient for growth unless opportunities are acted upon. This interpretation is supported by the qualitative evidence that seizing is a bottleneck [28] and that founders who grow their firms are those who act on specific trigger points [34]. It suggests that research and support programmes that focus on opportunity recognition alone may have limited effects on growth.

The heterogeneity of the findings is closely related to the heterogeneity of measurement. Studies differ in the construct used to represent dynamic capabilities, in the indicator of growth and in the period over which growth is observed. Because different growth measures capture different phenomena [1, 11], because many proxies for dynamic capabilities capture only one functional domain, and because the level of analysis ranges from individual founders to country aggregates, the accumulated evidence is difficult to compare. The problem identified by Arend and Bromiley [10], namely the lack of agreed measures, is therefore not only a theoretical concern but a practical obstacle to the accumulation of knowledge on SME growth.

5.2. An integrative framework

Figure 2 summarises the findings in an integrative framework. Microfoundations at the level of founders, routines and structures underpin the sensing, seizing and transforming clusters [7, 14]. These clusters affect growth through innovation, market development and internationalisation, and organisational reconfiguration. Their effects are shaped by firm size and age, environmental turbulence and crises, external support and the institutional context.

Growth in turn feeds back into capability development by providing resources, experience and the need for organisational change. The framework does not imply that each link is equally well supported. The links from transforming to growth through reconfiguration and from growth back to capabilities are supported by several studies, whereas the links from sensing to growth and the role of environmental turbulence remain largely untested.

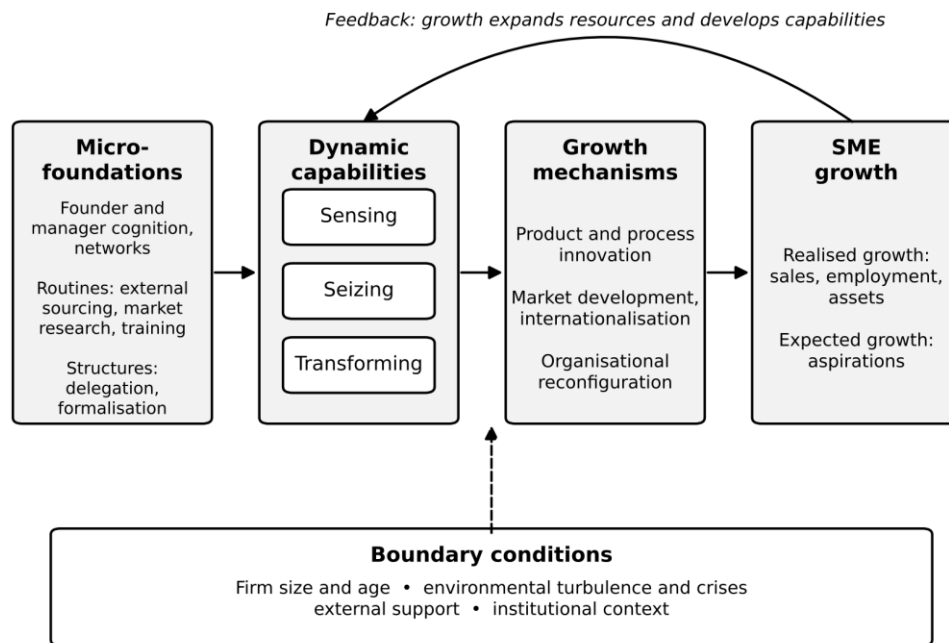


Figure 2. Integrative Framework of Dynamic Capabilities and SME Growth

5.3. Directions for future research

Four directions for future research follow from the review. First, growth should be measured explicitly and in several dimensions. Studies should separate growth from other aspects of performance, combine sales, employment and, where relevant, assets, distinguish realised growth from growth intentions, and use register data where possible to avoid common-method bias. Reporting results for several growth indicators would make it possible to assess whether conclusions depend on the measure chosen, and observing growth over longer periods would help to distinguish sustained growth from temporary episodes.

Second, dynamic capabilities should be measured with instruments that capture all three clusters and, ideally, their microfoundations. The dominance of single-capability proxies makes it difficult to judge whether findings concern dynamic or operational capabilities. Validated multidimensional scales [36] could be combined with unobtrusive measures, such as the analysis of company websites [31], and with qualitative evidence on founders and managers [14, 34] to strengthen construct validity.

Third, research designs should take account of non-linearity and reciprocity. Longitudinal panels that observe both capabilities and growth at several points in time can test whether dynamic capabilities precede growth, follow from it, or both. Samples should include non-growing firms, since studies that select only growing firms cannot show what distinguishes them from others. Configurational methods [35] are well suited to examining how dynamic capabilities combine with resources and entrepreneurial attitudes.

Fourth, the contexts in which the relationship has been studied should be broadened. The evidence comes mainly from developed economies, with only a few studies from Latin America and Africa and none from Russia or other post-Soviet countries. In transition economies, where growth may also be driven by administrative resources and rents [5], comparing the role of dynamic capabilities with that of non-market resources would be particularly informative. The conflicting results on firm size [15, 19, 26] also call for studies that compare micro, small and medium-sized firms within one design, and the role of environmental dynamism should be measured rather than assumed.

These directions also matter for practice. For policy-makers, the findings suggest that programmes aimed at high-growth firms should combine capability development with complementary resources such as access to finance and international markets, rather than focusing on any single competency [35], and should be designed so as not to replace firms' own adaptive efforts [21]. In the Russian context, where the reach of support programmes for medium-sized high-growth companies has been limited [4], reliable measures of firm capabilities could help to target support at firms whose growth rests on market-oriented capabilities rather than on administrative resources.

5.4. Limitations

This review has several limitations. The search was conducted in a single database, and although backward snowballing partly compensated for this, forward citation searching was not performed and relevant studies may have been missed. The outcome block of the search string required growth-related terms in the title or abstract, which improved precision but may have excluded studies that report growth results only in the full text. Screening and coding were carried out by a single reviewer, which may introduce subjective judgement. The review covered only English-language journal articles, and three potentially eligible records could not be retrieved in full text. The small number of studies and their heterogeneity did not allow a quantitative synthesis of effect sizes, and the classification of constructs into clusters required interpretive judgement, particularly for functional proxies. Finally, the inclusion of perceptual growth measures, which partly overlap with other performance dimensions, may have blurred the distinction between growth and performance in a few studies.

6. Conclusion

This structured review examined 17 empirical studies that relate dynamic capabilities to explicitly measured growth in SMEs. The evidence does not support a simple claim that dynamic capabilities lead to growth. Positive effects coexist with null, negative, curvilinear, configurational and reverse relationships, and the size of the effects is generally modest. The evidence is most consistent for scaling and organisational reconfiguration and least consistent for sensing. A key reason for the heterogeneity lies in measurement and design: dynamic capabilities are usually proxied by a single functional capability or a general index, growth is measured through different indicators over short periods and sometimes in samples selected on the outcome, and many studies rely on a single respondent for both constructs.

The proposed framework links microfoundations, capability clusters, growth mechanisms and boundary conditions, and highlights the feedback from growth to capability development. For researchers, the review offers a basis for designing studies with more precise measurement of both constructs and with designs that can address reverse causality and non-linearity. For managers and policy-makers, it suggests that investment in dynamic capabilities is most likely to support growth when it is combined with complementary resources and translated into concrete mechanisms such as innovation, market development, internationalisation and organisational change. Extending this research to Russia and other transition economies, where

the sources of rapid growth may differ from those in developed markets, remains an important task for future work.

Appendix A. Methods and Key Statistics of the Included Studies

Table A1. Methods and Key Statistics of the Included Studies

Study	Design and analysis	Key statistics	Main limitations
Macpherson et al. (2004) [25]	Single longitudinal case study; interviews and documents	Turnover grew from £0.8m to £3.5m in 18 months; 32 staff	Single case selected on the outcome
Uhlaner et al. (2013) [26]	Panel survey, 1999–2002; OLS, Sobel test and bootstrapped mediation	n = 229; external sourcing b = 2.02; employee involvement b = -1.89	Low reliability of some measures ($\alpha = 0.57$); self-reported growth
Galvin et al. (2014) [27]	Business Longitudinal Survey, 1994–1998; regression with lagged growth	n = 190; capability development ns; market development (+); $R^2 = 0.27$	Capability measured through training and IT investment only
D'Annunzio et al. (2015) [28]	Eight comparative case studies, 2013–2014	Contrast of gradual and accelerated growth	Small number of cases; two industries
Szalavetz (2015) [29]	Five case studies of high-growth firms	$\geq 20\%$ annual turnover growth over three years	Selection on the outcome; no comparison group
Eshima and Anderson (2017) [30]	Survey (Korea) and archival data (UK); SEM with instrumental variables	n = 535 and 107; growth $\rightarrow$ adaptive capability $\beta = 0.298$; UK asset growth $\beta = 0.234$; UK sales growth ns	Three-item adaptive capability measure; perceived growth in Korean sample
Arora et al. (2020) [31]	Website text mining; two-stage least squares	n = 223; seizing inverted U; sensing ns	Website content as proxy for strategic change; single industry
Scuotto et al. (2021) [24]	Eurostat 2017 data aggregated from 2,156,360 SMEs; regression	25 country-level observations; coefficient 8.90 ($p < 0.01$); $R^2 = 0.016$	Country-level aggregation of firm-level construct
Teixeira et al. (2021) [32]	Survey; stepwise regression	n = 137 (67 in regression); sensing user needs $\beta = 0.532$; scaling and stretching $\beta = 0.442$	Small regression sample; perceived growth
Clampit et al. (2022) [19]	Survey, June 2020; regression with interactions	n = 338 (304 used); b = 6.78; DC $\times$ size b = -2.74; adjusted $R^2 = 0.14$	Single respondent; crisis-specific outcome
Joensuu-Salo et al. (2023) [22]	Survey linked to register data; latent growth curve SEM	n = 214; marketing capability $\rightarrow$ growth slope $\beta = 0.24$	Shared data collection with [23]
Joensuu-Salo and Matalamäki (2023) [23]	Survey linked to financial statement data; SEM	n = 242; digital capability $\rightarrow$ turnover growth $\beta = 0.22$; $R^2 \approx 5\%$	Shared data collection with [22]
Donbesuur et al. (2023) [33]	Cross-sectional survey of family firms; moderated hierarchical regression	n = 156; discovery $\beta = 0.22$; creation U-shaped; age moderates	Perceived growth; single respondent
Dejardin et al. (2023) [20]	Survey, September–October 2020; PLS-SEM	n = 209; conceptualising 0.30, coproducing 0.50, scaling 0.22; sensing 0.205 ($p = 0.058$); $R^2 = 31.6\%$	Retrospective self-reports; crisis period
Matikonis and Graham (2024) [21]	Survey; ordinal regression	n = 1,421; past employment b = 0.01 ns; aspirations b = 0.44 (OR = 1.56); DC $\times$ support b = -0.17	Ordinal one-year outcome; count measure of DC
Rees-Jones et al. (2024) [34]	Semi-structured interviews, 2018–2019	20 founders; $\geq 73\%$ workforce growth within three years	Selection on the outcome; retrospective accounts
Komlósi and Szerb (2026) [35]	Cross-national survey; fsQCA and NCA	n = 778; 14 configurations; consistency 0.767, coverage 0.271; internationalisation d = 0.538	Growing firms only; self-reported growth

Note: β – standardised coefficient; b – unstandardised coefficient; R^2 – explained variance; OR – odds ratio; d – NCA effect size; ns – not significant; DC – dynamic capabilities.

Appendix B. Studies Excluded at the Full-Text Stage

Table B1. Studies Excluded at the Full-Text Stage

Study	Journal	Search stage	Reason for exclusion
Ojo (2025)	Jurnal Inovasi Ekonomi	Database	Journal not indexed in Scopus or Web of Science; growth not operationalised
Ding et al. (2023)	Management Decision	Database	Full text not retrievable
Rice et al. (2024)	European Business Review	Database	Full text not retrievable
Liu and Yang (2019)	Journal of Small Business Management	Snowballing	Full text not retrievable
Barbero et al. (2011)	International Small Business Journal	Snowballing	Outcome is the choice of growth path, not growth
Arend (2014) [15]	Small Business Economics	Snowballing	Growth not separable from composite performance
Battisti and Deakins (2017)	International Small Business Journal	Snowballing	Growth not separable from composite performance
Ferreira and Coelho (2020)	International Journal of Innovation Science	Snowballing	Growth not separable from composite performance
Parker et al. (2010) [3]	Small Business Economics	Snowballing	Explanatory variables are management strategies, not dynamic capabilities

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