

# Firm-Level Capabilities: The Missing Link in South African Industrial Growth Strategy

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Opinions expressed are those of the authors and not of the BRG Institute.

# Introduction

In 2019, South Africa's National Treasury called for reform, arguing that South Africa was “facing a slow-burn economic crisis”<sup>1</sup>. The COVID-19 pandemic has accelerated the onset of this crisis. It has caused a sharp and rapid deterioration in South Africa's growth prospects and corresponding increases in poverty, unemployment, inequality, business profitability, investment, and macroeconomic risks. The gains achieved by South Africa's investments in reform and growth since the advent of democracy in 1994 – by successive governments, the business community, and an array of other stakeholders – are all but gone. It is time for firms, managers and policymakers alike to engage in the application of new thinking on how to achieve sustained growth and prosperity.

Earlier this year, in partnership with CSIR<sup>2</sup>, TIPS<sup>3</sup> and the TIA<sup>4</sup>, the BRG Institute challenged an expert audience in Pretoria to think differently about South Africa's economic growth problems, and its industrial policy.<sup>5</sup> By applying the dynamic capabilities framework<sup>6</sup> to the South African context, our aspiration is to advance a new paradigm that is firm-centric, system-aware, and capabilities-led. Through a new partnership with the Gordon Institute of Business Science at the University of Pretoria, the BRG Institute intends to make practical, evidence-based contributions to the development of industrial policymaking as well as to the capabilities of managers, entrepreneurs and firms in South Africa. The goal of these contributions is to provide tools for firms and policy makers to improve innovation, productivity and competitiveness over the longer term while minimising the economic impacts of COVID-19 in the short run. This includes improved ability to take advantage of the fourth industrial revolution, to maximise the opportunities it offers while minimising its potential costs.

A critical question for South Africa is how to arrest the decline of the past decade or more and emerge from the COVID-19 crisis on a stronger and more sustainable footing. One part of the answer is to shape policy to maximize the economic contribution of South African firms, the managers who run them, and the entrepreneurs who found them? After all, firms drive sustainable economic growth over time. Innovation and entrepreneurship in firms of all sizes lies at the heart of this challenge and opportunity. Innovation is more than technological advancement – innovation is about creating new opportunities and anticipating and exploiting changing trends. And while South Africa has a long tradition of innovation and entrepreneurship, including the development of impressive new technologies, achieving the scale required to significantly increase economic growth remains elusive. South Africa's innovation potential is not being maximised.

By putting the capabilities of firms and managers front of mind, policy makers in South Africa can become more capabilities-aware. This will foster a focus on policies that help South African firms grow through innovation and to develop greater abilities to identify and exploit new opportunities.

We believe targeted efforts to identify and develop dynamic capabilities in firms will contribute positively to South Africa's economic recovery and longer-term growth. Dynamic capabilities define how firms and the managers that lead them find and exploit opportunities for competitive advantage over time. All companies do this to some extent, but some are more intent and focused on the processes that make them successful, allowing them to extend that success into new areas, cope with and respond to uncertainty more effectively, ride out disruptions and thrive in their aftermath.

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- 1 Economic Policy Division, National Treasury (2019). Economic transformation, inclusive growth, and competitiveness: A contribution towards a growth agenda for the South African economy. [https://cisp.cachefly.net/assets/articles/attachments/80526\\_towards\\_a\\_growth\\_agenda\\_for\\_sa.pdf](https://cisp.cachefly.net/assets/articles/attachments/80526_towards_a_growth_agenda_for_sa.pdf) [accessed June 3, 2020].
  - 2 Council for Scientific and Industrial Research.
  - 3 Trade and Industrial Policy Strategies.
  - 4 Technology Innovation Agency.
  - 5 For more details of this event, see <https://www.brginstitute.org/sa-industrial-policy>.
  - 6 Teece, D. J. (2014). The foundations of enterprise performance: Dynamic and ordinary capabilities in an (economic) theory of firms. *Academy of management perspectives*, 28(4), 328-352; Teece, D. J. (2018). Dynamic capabilities as (workable) management systems theory. *Journal of Management & Organization*, 24(3), 359-368.

## The current context

The economic crisis caused by COVID-19 follows a difficult decade for South Africa, characterised by an inability to shake off the impacts of the global financial crisis of 2008-09 and deal with domestic challenges. Even before COVID-19, real per capita GDP was no higher in 2019 than 2008 and unemployment was higher (with the official youth unemployment rate at over 50%). Despite continued growth in R&D investment by government, firms, higher education, and private non-profit entities over the period, the level remains low (an estimate from 2017 suggesting it remained 0.68% of GDP despite a long-standing target of 1.5%<sup>7</sup>). And, arguably, while the growth achieved between 1994 and 2008 were partly due to significant economic restructuring and greater competitiveness, they were not necessarily accompanied improved capabilities in firms or the state.

The global financial crisis and the ending of the commodity super-cycle has clearly generated long-lasting impacts on the South African economy. But industrial policy failures have also played a role. A new approach to industrial policy was adopted in the late 2000s, around the time of the onset of the global financial crisis. One of its central goals was to increase the share of manufacturing in GDP.<sup>8</sup> But manufacturing output in 2019 was still below 2008 levels<sup>9</sup>, and is set to shrink further as a result of the COVID-19 crisis. Manufacturing output grew more slowly than the rest of the economy in this period, shrinking from 16% to 12% of GDP, a larger decline than in many other emerging markets.<sup>10</sup>

The government acknowledged the need to shift its approach to industrial policy and announced changes in 2019. The revamped industrial strategy involves targeting industrial sectors that are job-rich and offer growth potential and retain a strong emphasis on manufacturing activities.<sup>11</sup>

Alongside this work, the Presidency has sponsored a small industry-led group called the “Public Private Growth Initiative” which works to “address selected inhibitors in individual sectors such as construction, forestry, tourism, manufacturing, energy/renewal energy and health.” ‘Inhibitors’ in this context appear to largely mean government or regulatory obstacles to private enterprise (e.g., visa issues for the tourism sector). Various other initiatives such as the Presidential Commission on the Fourth Industrial Revolution<sup>12</sup> and now plans to recover from COVID-19 are also in place or under development.

The new approach and plans may not succeed without a clear understanding of the capabilities of South African firms, yet it appears that little attention is being paid to this foundational issue. Strong capabilities, of firms and of managers, are required for industrial success and growth, as we unpack below. For example, we would expect to see opportunistic adjustments by firms with strong dynamic capabilities to new possibilities emerging from the shifting of global production networks toward more localisation in the wake of the COVID-19 pandemic. The creation of AfCFTA, and China’s increasing decoupling from the US will provide further openings. More broadly, South Africa’s ability to benefit from the Fourth Industrial Revolution depends to a large extent of the capabilities of its firms.

Developing a deeper understanding of firm-level capabilities in South Africa should also take account of the fact that—unlike in more developed countries where small- and medium-sized firms (SMEs) contribute to employment-led growth—in South Africa, large, high-growth firms contribute to persistent employment-led growth.<sup>13</sup> This suggests that policy should complement its traditional focus on SME-led employment growth with a detailed understanding of the factors that drive high growth in large firms, and to establish the extent to which these factors could be diffused to targeted high-growth SME firms.

7 Department of Science and Innovation’s National Advisory Council on Innovation, quoted in Arnoldi, M (2019). “South Africa struggles to meet R&D spend target”, Engineering News, 26 July. See [https://www.engineeringnews.co.za/article/south-africa-struggles-to-meet-rd-spend-target-2019-07-26/rep\\_id:4136](https://www.engineeringnews.co.za/article/south-africa-struggles-to-meet-rd-spend-target-2019-07-26/rep_id:4136) Last accessed September 2020.

8 Kaplan, D. (2019). “South Africa’s Industrial Policy Time for a review and a Rethink.” Viewpoints, No. 8, August 2019. Centre for Development and Enterprise.

9 Kaplan, D. (2019). “South Africa’s Industrial Policy Time for a review and a Rethink.” Viewpoints, No. 8, August 2019. Centre for Development and Enterprise.

10 Kaplan, D. (2019). “South Africa’s Industrial Policy Time for a review and a Rethink.” Viewpoints, No. 8, August 2019. Centre for Development and Enterprise.

11 Creamer, T. (2019). ANC says ten sectors to be prioritised under ‘re-imagined industrial strategy’ (June 4). Engineering News. [https://www.engineeringnews.co.za/article/anc-says-ten-sectors-to-be-prioritised-under-re-imagined-industrial-strategy-2019-06-04/rep\\_id:4136](https://www.engineeringnews.co.za/article/anc-says-ten-sectors-to-be-prioritised-under-re-imagined-industrial-strategy-2019-06-04/rep_id:4136) (accessed June 2, 2020). The ten targeted sectors are the automotive industry; clothing; textiles; leather and footwear; gas; chemicals and plastics; renewable energy; steel and metal fabrication; tourism; high-tech industries; the creative industry; the oceans economy; and agriculture and agroprocessing.

12 Ramaphosa, C (2020), “A national strategy for harnessing the Fourth Industrial Revolution: The case of South Africa.” Brookings, Foresight Africa 2020. Available at: <https://www.brookings.edu/blog/africa-in-focus/2020/01/10/a-national-strategy-for-harnessing-the-fourth-industrial-revolution-the-case-of-south-africa/>. Last accessed September 2020.

13 Kreuser, C. F., & Newman, C. (2018). Total factor productivity in South African manufacturing firms. South African Journal of Economics, 86, 40-78; Mamburu, M. (2018). On the persistence of growth for South African firms (No. 2018/74). WIDER Working Paper. <https://sa-tied.wider.unu.edu/sites/default/files/SA%20TIED%2021%20On%20the%20Persistence%20of%20Growth%20for%20South%20African%20Firms.pdf>

## The capabilities-based view

Firms have long been recognized as having capabilities, but it's only in the present century that a more detailed consideration of how these capabilities are developed, leveraged, and enhanced has taken place.<sup>14</sup> The most visible aspects of what a firm does—making things or providing services—involve fairly ordinary capabilities that could be (and often are) documented. But what most differentiates one firm from another is the strength of its higher-order dynamic capabilities, which enable the firm to build, coordinate, and leverage its current and future capabilities.

The strength of a firm's dynamic capabilities (even if the firm is a one-person business) determine how well it recognizes emerging trends, devises and implements business models, and organizes its activities for effectiveness and resilience. Firms— even the most successful—cannot rest on their laurels, and these activities must be carried out on a more or less continuous basis. Strong dynamic capabilities are particularly critical in industries undergoing rapid change or facing deep (unforecastable) uncertainty.

The concept of dynamic capabilities was developed to analyse how firms compete, but the idea is scalable, from individuals to whole economies. For an individual owner or manager, dynamic capabilities are the product of experience, personal networks, and a mental frame for assessing the business environment.<sup>15</sup>

Strong dynamic capabilities allow a firm to create a virtuous cycle of innovation and growth. Their forward-looking nature generates momentum. In South Africa, we observe that firms engaged in international trade within global value chains tend to be relatively more competitive and have higher total factor productivity than firms that are focused either on local, or fragmented regional, markets.<sup>16</sup> Economists settle for the explanation that greater exposure to global forces promotes greater efficiency. Looking at this through the capabilities-based view, though, these firms have demonstrated capabilities such as knowledge creation, knowledge integration, learning and leveraging – all of which have been identified as crucial dynamic capabilities.<sup>17</sup>

We further observe that, in addition to firms engaging in global value chains, those South African firms that invest more in research and development also outperform their peers.<sup>18</sup> This is consistent with the view that research and development is an element of a firm's dynamic capabilities.<sup>19</sup>

The dynamic capabilities framework is a systems theory of nested levels—individual, firm, and nation.<sup>20</sup> The “system” encompasses the business and regulatory environment, which must be in mutual alignment with firms if an economy is to be competitive. Entities within the system that have strong dynamic capabilities are able to shape the environment as well as react to it. By acknowledging and demonstrating the agentic approach of firms to shape the environment as well as to be shaped by the environment, the dynamic capabilities approach differs from traditional economic theories that take the environment as a given and thus not capable of being influenced or shaped by managerial decisions and actions. Familiarity with the concepts and principles of the dynamic capabilities framework can inform—and potentially transform—new initiatives for growth and economic development. In particular, capabilities-aware policymakers will seek to develop, implement and assess initiatives that integrate firm- level nuances with economy-wide policies.<sup>21</sup>

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- 14 Teece, Pisano, and Shuen (1997) was the first major publication devoted to the topic. The dynamic capabilities framework builds on important scholarship from the past, including Alfred Marshall (the economy as an evolving system), Frank Knight (uncertainty versus risk), J. M. Keynes (animal spirits), Joseph Schumpeter (creative destruction), Edith Penrose (the role of resources in firm growth), and Oliver Williamson (transaction costs).
- 15 Adner, R., & Helfat, C. E. (2003). Corporate effects and dynamic managerial capabilities. *Strategic Management Journal*, 24(10), 1011-1025.
- 16 Draper, P., Engel, J., Krogman, H., Ngarachu, A., & Wentworth, L. (2018). Between Gatekeeper and Gateway: Taking Advantage of Regional and Global Value Chains by Addressing Barriers to South Africa's Trade Competitiveness. World Bank.
- 17 Makkonen, H., Pohjola, M., Olkkonen, R., & Koponen, A. (2014). Dynamic capabilities and firm performance in a financial crisis. *Journal of Business Research*, 67(1), 2707-2719
- 18 Kreuser, C. F., & Newman, C. (2018). Total factor productivity in South African manufacturing firms. *South African Journal of Economics*, 86, 40-78.
- 19 Teece, D.J. (2007). Explicating dynamic capabilities: The nature and microfoundations of [sustainable] enterprise performance. *Strategic Management Journal*, 28(13), 1319-1350.
- 20 Teece, D. J. (2018). Dynamic capabilities as (workable) management systems theory. *Journal of Management & Organization*, 24(3), 359-368.
- 21 Kattel, R., & Mazzucato, M. (2018). Mission-oriented innovation policy and dynamic capabilities in the public sector. *Industrial and Corporate Change*, 27(5), 787-801. For a literature review of dynamic capabilities in public organizations, see Piening, E. P. (2013). Dynamic capabilities in public organizations: A literature review and research agenda. *Public Management Review*, 15(2), 209-245.

## The shift from old to new perspectives on the role of the “manager”

The capabilities framework differs from traditional approaches to economic development that focus more on accumulation of resources (i.e., investment in technology, factors of production) and reactive planning. A dynamic capabilities perspective is flexible, placing the spotlight on organizations and people that can learn, innovate, and orchestrate assets. The capabilities view recognizes that technology and know-how do not result simply from investment, as in most economic models, but rather result from value creation activities, including strategizing, search, learning, and R&D.<sup>22</sup> Strong firm-level capabilities contribute to profit for investors, better wages for employees, and higher productivity for the economy.

Capabilities are gradually coming to be recognized as foundational to the wealth of nations. Nobel Laureate Amartya Sen adopted the notion of individual-level capabilities as the fulcrum for leveraging tangible resources into human achievement.<sup>23</sup> John Sutton has tied firm-level capabilities to lower cost or raise quality to national outcomes.<sup>24</sup>

These approaches acknowledge the role of learning, but they underplay the role of entrepreneurship, which, broadly defined, is at the heart of dynamic capabilities. It is entrepreneurs and entrepreneurial managers who orchestrate the resources of individuals and guide the development of cost- and quality-driven strategies. A large and growing entrepreneurial-managerial class that can create and guide dynamically capable firms is necessary for growth.

This is not to say that all entrepreneurial activity is good. Criminals are entrepreneurial. Economists have identified a category known as “parasitic” entrepreneurship based on government handouts or exploitation of regulatory lapses.<sup>25</sup> In other words, government must, in the first instance, design the rules to encourage productive entrepreneurship and thwart socially unproductive activities. The state can also provide support for high-quality management training and opportunities for temporary employment as managers in advanced economies or multinational subsidiaries.



22 Teece, D. J. (2019). A capability theory of the firm: an economics and (strategic) management perspective. *New Zealand Economic Papers*, 53(1), 1-43.

23 Sen, A. K. (1985). *Commodities and Capabilities*. Amsterdam: North-Holland.

24 Sutton, J. (2002). Rich trades, scarce capabilities: industrial development revisited, *Economic and Social Review*, vol. 33, no. 1, 1-22.

25 Baumol, W. J. (1990). Entrepreneurship: Productive, Unproductive, and Destructive. *Journal of Political Economy*, 98(5): 893-921.

**In market economies, the competitive strengths of industrial firms rest on learned organizational capabilities ... the competitive strength of national industries depends on the abilities of the core firms ... to maintain and enhance their integrated learning bases.”**

- Alfred Chandler, Jr., *Inventing the Electronic Century* (2001), Introduction

Capabilities can reside in people, organizations, and machines. They can be slow to build—particularly dynamic capabilities—and evolve over time. Because of their embeddedness in organizational processes and individual personalities, they can be unique and hard to copy. Rival firms (or emerging economies) need to develop their own unique know-how.

An organization's capabilities are path-dependent, making a given trajectory or strategy hard to change. The larger the organization, the harder it is to learn to do things in a different, and hopefully better, way. Individuals have cognitive biases that makes it hard to recognize when change needs to occur.<sup>26</sup> Organizational change requires good leadership and a compelling strategic vision.

Economies, too, exhibit path dependence.<sup>27</sup> This can be good when it comes to the establishment of a strong industrial cluster. But the stubborn legacy of the past can also lock an economy into industrial activity that the market no longer values, as in America's "Rust Belt" of former factory towns. A core idea in the dynamic capabilities framework is that entrepreneurial vision and sound leadership—key elements of strong dynamic capabilities— can overcome path-dependent lock-in and steer an organization toward new, higher-value activities than those of the past. Capabilities are also strengthened by building flexibility and resilience into the organizational design.

The same is true of an economy. Visionary leadership can help inspire growth-promoting behaviours. Policies such as universal education, widespread health care, and automatic fiscal stabilizers can make an economy less vulnerable to negative shocks and better prepared to take advantage of new opportunities.

## Moving up the value chain: ordinary vs dynamic capabilities in firms

Firms with strong dynamic capabilities are important for the growth and long-term vitality of an economy, but there are reasons that some firms will not try to develop them (setting aside the difficulty of doing so). In developing economies, a big boost can often be achieved in the short-term by enhancing ordinary capabilities because most firms operate below the efficient frontier.<sup>28</sup> There are also industry settings with sufficient predictability (and low margins) where the investment in strengthening an organization's dynamic capabilities isn't economically justifiable, while strengthening ordinary capabilities to raise operational efficiency is essential.

Ordinary capabilities include operations, administration and governance of the firm's activities, which enable a firm to produce and sell a defined set of products and services.<sup>29</sup> Strong ordinary capabilities allow this to be done efficiently, although they don't guarantee that the output mix is what the market will most value. Determining when output needs to change is the role of dynamic capabilities.

26 Keil, M., Depledge, G., & Rai, A. (2007). Escalation: The role of problem recognition and cognitive bias. *Decision Sciences*, 38(3), 391-421.

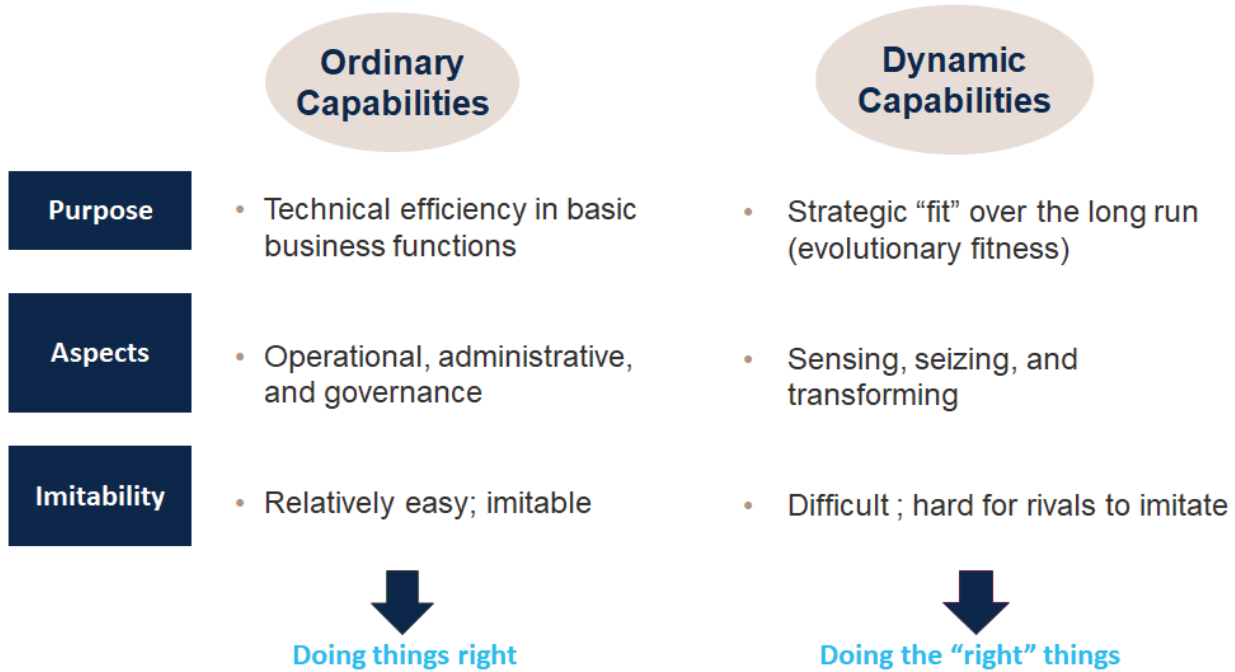
27 See Henning, M., Stam, E., & Wenting, R. (2013). Path dependence research in regional economic development: Cacophony or knowledge accumulation?. *Regional Studies*, 47(8), 1348-1362, for a literature review.

28 Bloom, N., Genakos, C., Sadun, R., & Van Reenen, J. (2012). Management practices across firms and countries. *Academy of Management Perspectives*, 26(1), 12-33.

29 Teece, D.J. (2007). Explicating dynamic capabilities: The nature and microfoundations of [sustainable] enterprise performance. *Strategic Management Journal*, 28(13), 1319-1350.

Building strong ordinary capabilities is generally a matter of acquiring and absorbing available information. Common sources include public domain science and engineering research; traditional business school training; and the use of management consultants and technical experts. By comparison, dynamic capabilities are harder to cultivate. They require learning by trial and error; combinations of data analysis skills and intuition; a willingness to consider creative and often risky solutions; and an abundance of absorptive capacity.<sup>30</sup>

**FIGURE 2: ORDINARY VS. DYNAMIC CAPABILITIES**



**DYNAMIC CAPABILITIES IN THE GLOBAL AUTO INDUSTRY**

In globally competitive industries, strong ordinary capabilities are necessary in order to participate:

“The operations portion of the automobile business has been thoroughly optimized over many decades, doesn’t vary much from one automobile company to another, and can be managed with a focus on repetitive process. It requires little in the way of creativity, vision or imagination. Almost all car companies do this very well, and there is little or no competitive advantage to be gained by “trying even harder” in procurement, manufacturing or wholesale.”

**Competitive advantage requires dynamic capabilities:**

“Where the real work of making a car company successful suddenly turns complex, and where the winners are separated from the losers, is in the long-cycle product development process, where short-term day-to-day metrics and the tabulation of results are meaningless”.

*Bob Lutz, former vice chairman at General Motors<sup>31</sup>*

30 Zahra, S.A. and George, G. (2002). Absorptive capacity: a review, reconceptualization and extension. *Academy of Management Review*, 27, 185–203.

31 Lutz, B. 2011. Life lessons from the car guy. *WSJ.com*, June. 11. Available at <http://online.wsj.com/article/SB10001424052702304259304576375790237203556.html> (accessed June 14, 2020).

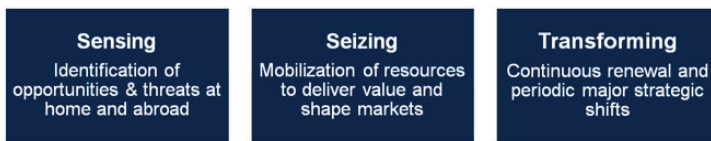
Dynamic capabilities can be thought of as falling into three categories:

- Sensing: Identification of opportunities and threats at home and abroad;
- Seizing: Mobilization of resources to deliver value and shape markets;
- Transforming: Continuous renewal and periodic major strategic shifts

The specific activities in each category are not fixed and can vary from one organization to another. Sensing gives an organization its future orientation. The activities involved range from channelling user feedback to a central repository for analysis to formal exercises in scenario planning to become better prepared. Seizing involves crafting a sustainable relationship between the available resources and the products or services to be offered conditional on the value placed on them by users. This relationship is referred to as the organization's business model. Transforming involves redesigning the organization to increase its effectiveness and its alignment with the strategy. This might involve the decentralization of authority and the integration of information systems across work units.

While these descriptions evoke large organizations, they each have their analogies for small businesses. Even a roadside fruit vendor, for example, can perform sensing by registering customer feedback and making plans in light of predicted future trends (e.g., long-range weather forecasts).

### FIGURE 1: DYNAMIC CAPABILITIES



An organization's dynamic capabilities should, ideally, be embedded in terms of routines and culture throughout the organization, but the role of managers is particularly vital. The organization may be very effective at channelling newly sensed data to top management, but, if the management is aimless, the organization will drift.<sup>32</sup> Managers have three roles to play: operational, entrepreneurial, and leadership.<sup>33</sup> In large organizations, the roles may be filled by different people. In smaller firms, one person may need to fill all three.

Operational management guides the efficient execution of current plans through activities such as budgeting and staffing. These are standard business practices that may nonetheless be scarce in developing economies. Leadership is required to get employees and other stakeholders aligned around a strategic vision and to guide the organization through transformation when necessary. These are core underpinnings of the firm's dynamic capabilities. Unlike basic management, leadership does not lend itself to learning in a classroom or from a book. It can, however, be developed through mentoring and practical experience.<sup>34</sup>

Entrepreneurial management involves the ability to sense opportunities and shifts in the business environment, to coordinate the resources to seize promising new possibilities and to capture value in doing so. These skills are the driving force behind dynamic capabilities for building sustainable competitive advantage. In the public sector, the analogous goal is providing responsive services by a forward-looking, innovative approach.<sup>35</sup> Entrepreneurship skills can be taught to some extent, but there is continuing debate over the methods and their real impact.<sup>36</sup> That said, given the unique role played by firm age and size in relation to South African growth prospects,<sup>37</sup> it follows that investing in human resources as a source of dynamic capabilities is essential.<sup>38</sup>

32 By contrast, a strong top management team confronted with a weak organization can set about transforming it. The key is that management has broad authority to orchestrate resources, whereas the other elements of the organization each have limited authority and will generally find it difficult to coordinate company-wide initiatives.

33 Teece, D. J. (2016). Dynamic capabilities and entrepreneurial management in large organizations: Toward a theory of the (entrepreneurial) firm. *European Economic Review*, 86, 202-216.

34 Doh, J. P. (2003). Can leadership be taught? Perspectives from management educators. *Academy of Management Learning & Education*, 2(1), 54-67.

35 Morris, M. H., & Jones, F. F. (1999). Entrepreneurship in established organizations: The case of the public sector. *Entrepreneurship Theory and Practice*, 24(1), 71-91.

36 Hindle, K. (2007). Teaching entrepreneurship at university: from the wrong building to the right philosophy. In A. Fayolle (ed.), *Handbook of Research in Entrepreneurship Education*, 1, Cheltenham, UK: Edward Elgar, 104-126; Karlan, D., & Valdivia, M. (2011). Teaching entrepreneurship: Impact of business training on microfinance clients and institutions. *Review of Economics and Statistics*, 93(2), 510-527; Bitencourt, C. C., de Oliveira Santini, F., Ladeira, W. J., Santos, A. C., & Teixeira, E. K. (2020). The extended dynamic capabilities model: A meta-analysis. *European Management Journal*, 38(1), 108-120.

37 Mamburu, M. (2018). On the persistence of growth for South African firms (No. 2018/74). WIDER Working Paper

38 Helfat, C.E., Finkelstein, S., Mitchell, W., Peteraf, M., Singh, H., Teece, D. and Winter, S. With Maritan, C. (2007). Dynamic capabilities and organizational processes. In Helfat, C.E., Finkelstein, S., Mitchell, W., Peteraf, M., Singh, H., Teece, D. and Winter, S. (eds), *Dynamic Capabilities: Understanding Strategic Change in Organizations*. London: Blackwell, pp. 30-45.



## 5. Future directions for South Africa

South Africa requires a paradigm shift in firm-level management teams and in industrial policy, in partnership with one another. The shift towards a capabilities-based view of growth and development, could help policymakers to shepherd material improvements in the capabilities of South African firms and their managers. At the same time, policymakers must also improve their own dynamic capabilities in order to be able to question and confirm the projections of the future adopted by firms; to make effective use of resources; and to deliver excellent services.

Below we outline two major areas for future action to build capabilities and competitiveness in South Africa. We hope this paper serves as a catalyst for informed discussion, debate and most importantly – action.

FUTURE DIRECTIONS	DYNAMIC ACTIONS
<p>Build ordinary and dynamic capabilities in South Africa</p>	<ul style="list-style-type: none"> <li>- Establish a sound research programme to diagnose current ordinary and dynamic capabilities levels in South African firms in strategic industry sectors (as per DTI strategy) to get a rich South African evidence base in context to inform future interventions</li> <li>- Establish a cross-sector “Innovation Commission” which brings policymakers together with scholars and business people to focus on building dynamic capabilities in strategic sectors of the economy that are best placed to be regionally and globally competitive. More frequent, and higher quality collaborations are needed both across firms in South Africa and with the state.</li> <li>- Establish policy and a competitive funding pool to build firm-level productivity through ordinary capability development<sup>39</sup>. Through provision of central government funding, develop a programme aimed at identifying, acquiring and widely diffusing existing best-practice ordinary capabilities and technologies. Similar challenges funds are being experimented with by the UK government with the Business Basics Programme.<sup>40</sup></li> </ul>
<p>Build internationalisation and connectivity strategy for South Africa (industry and science/tech)</p>	<ul style="list-style-type: none"> <li>- Strategic investments in renewable energy and other emerging industries with strong links to global value chains that have the potential to help employ and train SA’s large pool of unemployed, low-skill labour. The world is shifting post Covid-19, and from the de-coupling of the US and Chinese economies, which presents some chaos but also opportunity for South Africa</li> <li>- South Africa is relatively unconnected to global S&amp;T networks in terms of, for example, internationally co-authored papers. So provide support for greater foreign engagement by global research institutes and firm-level science and technology units in order to build domestic capacity for the long-term. Help researchers find international collaboration opportunities by providing more research grants specifically for international collaboration; provide support for foreign researchers to study in SA; search for opportunities with local firms to capture value from the knowledge generated. Closely monitor this over time.</li> </ul>

39 This recommendation also featured in a report we recently developed for the New Zealand Government looking into productivity and performance of firms as part of an inquiry launched by the Minister of Finance and Productivity Commission: <https://www.productivity.govt.nz/research/nz-boards-and-frontier-firms>

40 The UK Business Basics Programme launched by the government in 2019 set aside £9.2 million over a four-year programme to fund the identification, diffusion and adoption of existing business practices and technologies that increase firm productivity. There are currently eleven trials and fifteen proofs of concepts underway in the UK. The programme is delivered in partnership with Innovate UK and Nesta. <https://www.gov.uk/government/collections/business-basics-programme>

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### PHIL ALVES

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### PAMELA MONDLIWA

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