

British Journal of Management Virtual Special Issue

The Landscape of Dynamic Capabilities

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Editorial: Dynamic Capabilities: What are they and what are they for?

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Introduction

The Dynamic Capabilities View (DCV) is currently very influential in management scholarship (Cepeda and Vera, 2007; Di Stefano et al., 2014; Schilke et al., 2018). The DCV dates back to an article by Teece and Pisano (1994) and has become better known following the publication by Teece et al. (1997) a few years later. While Teece's original work had been circulating as an unpublished working paper for many years and had become well recognised and cited before its publication, it has since exploded in interest to become one of the most cited yet in management scholarship (Kay and Pitelis, 2016).

The emergence and rise of the DCV corresponds to a shifting global landscape in which rapid and hard to predict changes and pervasive uncertainty are becoming the norm. Such fast changing uncertain environments require firms to find new ways to compete and cooperate, survive and succeed. Managers realise that simply utilising resources to develop products and services that help favourably position their firms in the industry is not enough. Increasingly, firms need to adapt, renew and transform/reconfigure existing resources and capabilities, and even create a completely new resource base in line with shifting

environmental demands (Wang and Ahmed, 2007). Firms may need to create and co-create entire new markets and business ecosystems (Pitelis and Teece, 2010). It is against the backdrop of this shift in business and management practice that the DCV rose to the centre stage of attention in strategic management. The DCV and its insights are particularly relevant in the current changing global geopolitical environment (such as Brexit) that shapes, redefines or even disrupts markets and industry structures. According to the DVC, in order to respond to such challenges, business firms require more than just operational or 'ordinary' capabilities, they need 'dynamic' ones.

Despite its phenomenal success, the nature (what DCs are) and the scope-range of DCs remains hotly debated and indeed rather mystifying. A recent review by Schilke et al. (2018) suggested that the most frequently used DCs definitions are complementary, indicating some convergence of thinking as to what DCs are. Nevertheless, important issues remain. For example, Schilke et al. (2018) also called for further research on a range of issues, including the role of DCs in shaping, and not just responding to, the external environment (see Pitelis and Teece, 2010, 2018, Jones and Pitelis, 2016), complex nomological networks of DCs, antecedents, consequences, mediators and moderators as well as feedback loops among them. Clearly, there is huge scope for further research. In this editorial, we focus on two research opportunities that emerge from two important challenges. First, the nature of DCs - what exactly they are and how they are related to, and differentiated from, ordinary and/or operational capabilities. Second, their scope and range of applicability in organisational decision making. We then look at how a number of selected publications in the *British Journal of Management* help address some of these issues and highlight further important challenges and hence research opportunities for future scholarship. This Special Issue consolidates DCs publications in the *British Journal of Management*, bringing to the fore the

journal's contribution to the DCs research conversation. More importantly, it aims to chart new frontiers for DCs research.

The Nature of DCs

Amit and Schoemaker, (1993, p.35) had defined a capability as “a firm's capacity to deploy resources, usually in combination, using organizational processes, to effect a desired end”. Dynamic capabilities were originally defined as “the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments” (Teece et al., 1997, p.516). Subsequently, multiple definitions emerged, but the one that seems to have met with the agreement of some of its key proponents, including David Teece and Sydney Winter is that a DC is “the capacity of an organization to purposefully create, extend or modify its resource base’ (Helfat et al., 2007, p.1).

For a consensus definition by key figures in the area, the above leaves something to be desired. Among a number of questions (for example why not also ‘*leverage*’ the resource base, why focus only on the organisational resource base and not for example its ‘*positions*’, ‘*paths*’ etc.), a particular challenge is posed by the interrelationship between dynamic and non-dynamic capabilities. Therefore, one way to understand the nature of DCs is to clarify what they are not. For example, they are not ordinary capabilities (a term favoured by Teece, 2012) or operational capabilities (a term favoured by Winter, 2012). Arguably, both fly in the face of conventional thinking and definitions. Conventionally, ‘dynamic’ is seen as the intertemporal version of ‘static’ (Baumol and Blackman, 1991), and hence DCs have a temporal dimension, embedded in the process of creating, extending and modifying existing resource base. In contrast, operational capabilities are day-to-day capabilities, as opposed to longer-term strategic capabilities (Chandler, 1962). In this context, ‘static’ may be a better

term than 'operational' for the opposite of 'dynamic'. This sounds pedantic but it is important. The simple reason is that it is very unclear why ordinary capabilities cannot help create, extend or modify an organisation's resource base. It is likely that they do (Feldman, 2000), and basically even by definition. To understand this better one needs to delve a bit more on this very definition.

For Teece (2012), ordinary capabilities are about doing things right (e.g. building a good car), but DCs are about doing the right thing at the right time. For example, when a car manufacturer senses that car production is becoming commodified and that more can be gained through diversification to, let's say, services when the time is right, it diversifies from car production to service provision. This requires DCs rather than ordinary capabilities. However, in order to do things right, and unless one adopts a very idealised instantaneous picture view of production, ordinary day-to-day operations involve the automatic creation, extension and reconfiguration of a resource base. This is what Adam Smith (1776) had pointed out in the Wealth of Nations, and also later Edith Penrose (1959) and Kenneth Arrow (1962), to mention a few.

The debate on whether DCs are higher level routines or not (Zollo and Winter, 2002) and whether routines have the capacity to change (as claims Feldman, 2000, for example) attests and supports our observation. In terms of a case example, take the VW Golf car. Over the past 35 years it has remained at the top of its game by evolving, yet remaining a Golf. This is an outcome of evolving ordinary capabilities (and routines) not of DCs. A DC would implicate diversifying to another product, sector, country or activity, and at the right time, not perfecting an evolving but basically the same product. But to say that the ordinary capabilities required for an evolving Golf are ordinary in the sense of static, or operational,

would be myopic. Ordinary capabilities here are both evolving and quite extra-ordinary indeed.

Arguably, a better distinction would be between *ordinary and extra-ordinary (or superior)* capabilities, both of which can be static or dynamic. In a matrix with ordinary/superior and static dynamic in its axes we could have four categories (see Figure 1): static and ordinary (like car production in the Soviet Union), ordinary and dynamic (like the VW Golf) and dynamic and superior (like Samsung diversifying from electronics to semiconductor to solar flat panels, to solar PV panels, by building and developing requisite capabilities, leveraging mergers and acquisitions and all these counter-cyclically at an opportune timing). Amazon, moving from its core retail business to the massive cloud-computing market and to voice assistance at home - Alexa - is another case in point. The cell static and superior is arguably more rare-yet a good example might be Swatch subsidiary Nivarox-FAR's balance springs (a part that regulates watches). This has arguably reached such a level of perfection that it hardly evolves, yet it renders Swatch a near monopoly as it controls 90% of the watch market's supply of balance springs. This arguably renders the production of balance springs a case of an 'ordinary', or operational but in practice a very extra-ordinary or superior capability. To conclude, the dynamic-ordinary duality is neither reflecting real diversity on the ground, nor very useful in helping reach consensus in the field and moving it forward. This is clearly witnessed by the continuing existence of debates between the routine-based and non-routines-based approaches to DCs.

Figure 1. Mapping organisational capabilities

	Ordinary	Superior
Static	Static and ordinary capabilities (e.g. car production in Soviet Union)	Static and superior capabilities (e.g. Swatch's balance springs for watches)
Dynamic	Ordinary and dynamic capabilities (e.g. the VW Golf)	Dynamic and superior capabilities (e.g. Samsung and Amazon)

It is also important to note that the very distinction between doing things right and doing the right things at the right time is facile and basically only a short-term transitional matter. What is the purpose or logic or chance, for example, to keep building a good conventional car when everyone is moving to electric and/or autonomous driving? Soon enough whoever does this would need to adapt or perish. In this context, surely the right thing to do, is to *do right the right things at the right time*. This means aligning ordinary and superior capabilities in a way that maintains relevance for both. This is the case even if one maintains the primacy of dynamic-superior over the other three types of capabilities - a rather reasonable assumption to make since static capabilities are, by definition, about the short-term advantage not the longer-term sustainable competitive advantage that DCs are meant to be after. This also hints to a possible hierarchy of DCs to which we return below.

Constituents and Range and Scope of the Applicability of DCs

There is an ongoing debate as to how DCs are manifested in practice. These range from developing new products, through building strategic alliances, to sensing, seizing and transforming/reconfiguring (SST). Teece (2007) favoured the SST, but it can be confusing. Accepting that DCs should be about doing right the right thing at the right time implies that DCs in terms of sensing, seizing and transforming should drive the development of resources and capabilities to implement the chosen path. Developing new products and/or building alliances are means of achieving this hence at a lower level of abstraction. This requires a

decision to either consider DCs as in Teece, in which case building alliances becomes an implementation capability, or adopt a hierarchy of DCs as in Wang et al. (2015). Favouring the higher level of abstraction adopted by Teece would in effect suggest that some ordinary implementation capabilities are quite extra-ordinary indeed - building markets, business ecosystems, networks and global value chains, for example, is no small feat (Parkhe and Dhanaraj, 2003, Pitelis and Teece, 2018).

The SST framework itself is not without limitations. Sensing and seizing is mostly about exogenously available opportunities. This, if anything, is rather alien to the very spirit of DCs, as well as arguments to the effect that creation and co-creation of opportunities are arguably the mother of all DCs (Pitelis and Teece, 2010; Jones and Pitelis, 2015). In more recent work Teece refers to shaping and creating and co-creating, but the challenge remains that in its current formulation it is mostly the T (transforming) that does the DC-ing; the S&S (sensing and seizing) are mostly supporting acts. The formulation also flies in the face of development in entrepreneurship theory that makes clear that while some opportunities are there to be sensed and seized, others and arguably the most important ones, are those that are being created and co-created. In an interesting way the DCV becomes dated before maturing. This needs to change so that we do not throw out the DC baby with the bath water. Below we summarise key areas for future research.

The Special Issue

While apparently critical, this introduction also highlights the important contribution of DCs, in terms of the debates so far, and the opportunities for further research. These include addressing the aforementioned challenges and more. For instance, despite arguments to the effect that there is now sufficient evidence in favour of DCs (Schilke et al., 2018), it is clear

that this evidence is plagued by the various definitional and ontological challenges we have raised.

As noted by Kay and Pitelis (2016), in an encyclopaedia entry on the contribution of David Teece, a problem with DCs would benefit from what Teece did for Oliver Williamson and the Transaction Costs Economics (TCE) paradigm. That too was running out of steam and was accused of being tautological until Monteverde and Teece (1982) were able to proxy an antecedent of TCE (namely asset specificity) and showed econometrically that asset specificity was a predictor of the make/buy decision of firms. Currently, there is little of the sort in DCV and this is not surprising either. DCs are far more diverse to proxy and measure, and without measurement and prediction, Williamson's (1991) insistence on the need for operationalisation and ability to predict, and hence informed prescription, will keep retaining much of its strength. In a recent paper Pitelis and Wagner (2018) proposed strategic shared leadership as an antecedent, co-creator and predictor of organisational DCs and offered case examples to support this. But there are surely more antecedents and the need to move beyond case study to econometric evidence.

Over the years BJM has helped contribute to the DVC by publishing a number of influential articles and a Special Issue in 2009. In this virtual SI, we bring together a select number of these that address a number, albeit not all, of the limitations and challenges we have identified. Our hope is that when reading and re-reading together these will help motivate scholars to look into the challenges and opportunities offered by the DVC and this Virtual Special Issue. In particular, in this issue, we selected seven key articles published in BJM that helped move and can help further enhance the debate on DCs and future research as a whole.

More specifically, in the first article entitled “Dynamic Capabilities: Current Debate and Future Directions” – the Editorial of the BJM 2009 Special Issue on DCs, Easterby-Smith et al. (2009) pointed out two interrelated critical issues: the nature of dynamic capabilities and their effects and consequences. They suggested that the lack of a universally accepted definition of DCs may be due to the fact that Teece et al.’s (1997) definition leaves too much room for interpreting what constitutes DCs and their attributes, as well as the large variations of research contribution from different research traditions. Regarding the effects and consequences of DCs, Easterby-Smith et al. (2009) further summarised the fundamental difference between Teece et al. (1997) and Eisenhardt and Martin (2000): the former attributes superior firm performance to DCs, whereas the latter asserts that DCs have commonalities across firms, which can be passed on and learned as best practices. Hence, the latter suggests that DCs cannot be a source of competitive advantage.

In the second article, Easterby-Smith and Prieto (2008) connected the DCs with the knowledge-based view – two areas of strategic management research that explain why firms differ and the sources of competitive advantage, but were largely developed in parallel until this point. They proposed a framework that draws the boundaries as well as overlaps of DCs and knowledge management. In particular, both DCs and knowledge management hinge on learning capabilities, and DCs are associated with evolution of knowledge through both exploratory and exploitative learning (Levinthal and March, 1993). The co-evolution of knowledge and DCs is a source of a firm’s sustainable competitive advantage.

In the third article, Bowman and Ambrosini (2003) focused on the why and how DCs can create value and hence potential sustainable competitive advantage at the corporate level. They proposed six distinct modes of resource-creating configurations and accordingly six

types of organisational design to enable different resource-creating processes. These six resource-creating configurations aligned with suitable organisational design can be viewed as alternative corporate strategies to deliver value. The implications are, to create competitive advantage, corporate centres must be either a resource provider or put in place processes that create resources – the possession of dynamic capabilities.

In the fourth article, Wang et al. (2015) dealt with two issues identified by Easterby-Smith et al. (2009): what constitutes DCs and their effects and consequences. They operationalised DCs as a higher-order construct consisting of two first-order component factors: absorptive capability and transformative capability – two common features across firms which support Eisenhardt and Martin's (2000) view on equifinality, substitutability, and fungibility of DCs. Further, Wang et al. (2015) found that a firm's ability to learn from own success and avoid being trapped in past success is an antecedent to developing and applying their DCs, which in turn helps achieve competitive advantage.

Barrales-Molina et al. (2013) in the next article further pursued the understanding of antecedents of DCs. They developed a multiple-indicator multiple-cause model to explain DC generation. Their results showed that perceived environmental dynamism triggers the generation of DCs. Moreover, knowledge codification and technical innovation are also conducive to the development of DCs.

In the sixth article, Wilhelm et al. (2015) took a closer look at the different effects of DCs on firm performance in high-dynamic and low-dynamic environment. They found that, although DCs enhance the effectiveness of operating routines under both high and low levels of

environmental dynamism, they only pay off under high levels of environmental dynamism when the costs of increased effectiveness are taken into account.

In the final article, departing from the quantitative approach employed in the previous studies, Kale (2010) used qualitative interview data to study the learning processes involved in the development of innovative Research and Development capabilities in Indian pharmaceutical firms as a response to a major institutional change in India. The qualitative insights complement the above studies by providing fine-grained evidence on how firms make deliberate efforts and investment in different learning mechanisms to develop DCs.

Postscript

DCs have captured the imagination of strategy scholars. Its elevation from the position of a credible challenger to an undisputed champion however, requires more research. This Virtual Special Issue helps identify and highlight some key issues, contributions and remaining challenges. In particular, the conceptualization and operationalization of dynamic capabilities need further development despite scholarly contribution to date. Methodologically, there is little research going beyond traditional interview or survey data. Future studies could adopt innovative methods often developed in other disciplines to elicit new insights on dynamic capabilities. Longitudinal research would also shed light on how dynamic capabilities are initiated, developed and deployed over time, and the stakeholders involved in the process. More antecedents ought to be identified, operationalised and proxied through measurable constructs so as to allow better prediction, testing and more informed prescription. Pitelis and Wagner (2018) for example proposed that the presence of strategic shared leadership leads to superior dynamic capabilities. This can be operationalised and tested. Other such propositions can and ought to be developed. As for managers, there is always a practical concern over the

cost of developing and maintaining dynamic capabilities, and whether ad-hoc problem solving can be favoured against costlier dynamic capabilities. Where sustainable competitive advantage can be reached without resorting to DCs (like with Swatch's balance springs) the case for developing and leveraging DCs in such an activity is less obvious (although not redundant for Swatch, as wider shifts can affect the whole watch sector). We hope that these and other challenges and areas for future research will motivate scholars to pursue and develop further this exciting field.

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