

A TYPOLOGY OF ORGANIZATIONAL CAPABILITIES

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ABSTRACT

This paper reviews the development of concepts in organizational capabilities. While the current focus in the literature appears to be on dynamic capabilities and the micro-origins of organizational capabilities, we argue that as knowledge of organizational capabilities concepts has developed, there has been an attempt to incorporate many key concepts in strategic management. A typology of capabilities is presented that highlights both increasing aggregation and greater specialization of different approaches to capabilities. The concept of higher-order or meta-capabilities is developed by linking capabilities to concepts from the strategic theory of the firm. The paper concludes that organizations require three key meta-capabilities: dynamic capabilities, indirect capabilities and integrative capabilities.

INTRODUCTION

Researchers have examined the concept of capabilities at different levels. For example, research has found that higher order capabilities [11] or clusters of capabilities [19] improve performance for industries or groups of firms. Similarly, the human resource literature has examined the role that individual and group level competence or capability contribute to the effective achievement of organizational goals. However, the focus of this paper is on organizational capabilities and discussion of multi-level capabilities refer to levels of aggregation within the capabilities themselves, rather than typical conceptualizations of multi-level as individual, group and organization. Organizational capabilities are seen as critical to organizational success. The ability to leverage competences helps organizations meet customer requirements faster and at lower costs [27]. Capabilities have also been found to contribute to sustained growth [3].

At the same time, knowledge and knowledge management have also been envisioned as key variables in the performance of firms particularly in fast-paced, globalizing industrial sectors. “A hallmark of the new economy is the ability of organizations to realize economic value from their collection of knowledge assets...” [15, page 185]. Both knowledge and organizational capability are seen as critical assets in the modern corporation’s struggle for survival. “Organizational knowledge is the most valuable strategic resource, and the ability to create and apply it the most important capability for generating competitive advantage” [30].

The focus of this paper is to develop a typology of organizational capabilities. We argue that one of the core aspects of capabilities is that they are a representation of accumulated knowledge. We use concepts from knowledge management, specifically the idea that knowledge exists and consists of multiple levels, to examine differences between various conceptualizations of capabilities.

This article contributes to the literature by examining the micro-origins of capabilities. We argue that the main practitioner value of capabilities concepts is to aid in conceptualization and abstraction of the

complexity of business. In turn, this enables strategic management decisions to be more holistic. Creating a typology of capabilities will aid in the process of practitioner conceptualization as well as provide researchers with a mechanism to understand gaps in capabilities research. A typology can act as a critical mental model and communication tool for the numerous advances in capabilities research.

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Typologies play a role in improving our understanding of theory by providing a parsimonious description of complex patterns [9]. One of the key goals of typological classification is to have a limited number of distinct categories on which to conduct the classification [1]. At the same time this approach has been criticized for glossing over key details that aid in theory development [7]. However, in strategic management, typologies have had lasting impacts on academic research [14].

In order to generate a meaningful typology, the dimensions by which we analyze capabilities concepts must be both capable of creating distinct categories and have meaning to the discipline of strategic management. The dimensions that are utilized in this analysis focus on strategic management. In particular, we utilize concepts from strategic theories of the firm to guide our analysis.

Strategic theories of the firm, such as the resource-based view or transaction cost theory provide explanations of "...the existence, boundaries, organization and competitive advantage of the firm within a unified theoretical framework" [12: 725]. Similarly, Chrisman et al. [5] argue that a theoretically sound strategy needs to follow four key corporate decisions: investment intensity; scope; segment differentiation and types of competitive weapons. Some of the key concepts of these two approaches to identify key dimensions of strategy mirror each other (e.g. scope vs. boundaries; types of competitive weapons vs. competitive advantage). A well-constructed typology of capabilities should address these issues if it is to represent a corporate strategy or a model of the operations of a firm. Based on this approach, we have chosen four key dimensions on which to evaluate capabilities concepts: strategic importance; level of aggregation, boundary of the firm; and domain-specific vs. generic. Further explanation of the basis for these dimensions is outlined below.

Strategic Importance

Organizational capabilities concepts differ based on the extent to which they are strategically important to the firm. As capabilities concepts developed, they have increasingly incorporated more extensive aspects of strategy within their conceptualizations. For example, competitive dynamics are the heart of core capabilities or distinctive competencies; indirect capabilities incorporate scope or boundary of the firm issues; and, dynamic capabilities look at the reconfiguration of the firm to respond to changing environments. Concepts such as distinctive competences are strategic by definition an organizational capability that delivers competitive advantage [20]. Other concepts such as routines are clearly more operational in nature and do not represent a competitive weapon for the firm. Routines are often necessary for firms to accumulate in order to even participate in a competitive marketplace or to avoid a potential competitive disadvantage. Hence, the strategic importance dimension can be seen as a representation of competitive advantage or competitive weapons.

Some authors focus on domain specific or content oriented classifications of capabilities such as marketing or technological competencies which are functional in nature [13]. Domain-specific capabilities are more narrowly defined capabilities such as marketing capability, human resource capability or technological capability that are functionally oriented or focused on a particular business unit. Domain specific capabilities would include concepts such as branding capability [8], pricing capability [10] and transnational new product development capability [28].

One might also see capabilities as differentiated by the level of strategy that they represent, with many generic capabilities concepts pitched at the level of business strategy or how a firm competes. Concepts

such as core capabilities fit this strategic label. Some authors equate core with strategic differentiation [23]. However, this assumption must be questioned if the classification of 'core' is related to internal rather than competitive firm context. For example, if the core capabilities of any firm are described as the firm's top five to fifteen capabilities [17] then they are not necessarily distinctive or strategic. However, if they are described as providing unique customer value, competitive differentiation or a gateway to new markets [17], then they do represent a strategically important capability. Finally, a number of higher order capabilities go beyond business strategy and examine corporate strategy, strategic change or more holistic or systemic views of the organization.

Level of Aggregation

Capabilities concepts can be classified based on their level of complexity or aggregation. All organizational capabilities concepts consist of the core components of knowledge and resources, with each of the differing concepts aggregating these basic components in different ways. "A firm's functional knowledge is nested within a higher-order set of recipes that act as organizing principles" [22, page 390]. Capabilities can be considered one of these organizing principles. They are a higher order integration of specialized knowledge [16]. Other concepts such as dynamic capabilities [29], indirect capabilities [2] or capabilities life-cycles [18] might be deemed meta-capabilities as they discuss change or management of capabilities themselves.

As organizational capabilities concepts have developed, they have been refined to incorporate a higher level of aggregation as well as to include more specialized areas of focus. Routines are repetitive patterns of action, with a strictly internal focus and typically lacking in strategic direction. Capabilities or competencies are also internally focused, but imply a wider integration of multiple routines. They are often cross-functional, may integrate multiple streams of technology or represent a strategic architecture. Indirect and complementary capabilities incorporate inter-firm structuring of capabilities and dynamic capabilities introduce dynamic or evolutionary aspects involving the reconfiguration of resources. Each additional component added implies both increasing complexity and a wider scope of knowledge being integrated. While this analysis of capabilities represents a level of conceptual aggregation, it could be seen as reflective of the investment intensity objective from strategic management. Capabilities concepts with a higher level of aggregation often represent more extensive representations of firm operations and would therefore entail a higher level of investment for a firm to establish this capability.

Boundary of the Firm

Organizational capabilities concepts differ based on whether their focus is internal or external and whether the resources and processes are internal or external to the organization. While organizational capabilities are by definition within an organization, many capabilities relate to a firm's ability to manage its external environment. This may relate to monitoring or controlling the external environment or to manage the position of the firm within a value chain or supply chain. Stalk, Evans and Shulman [26] describe capabilities as cross-functional, customer focused and involving the entire value chain. Similarly, Prahalad and Hamel [24] describe core competence as extending beyond the firm and Teece, Pisano and Shuen [29] describe dynamic capabilities to be comprised of both internal and external competences. Hence one area of firm boundaries relates to the focus of the capability concept: internal focus, external focus or mixed focus (both internal & external).

However even with an external focus, many capabilities still relate to the management of resources internal to the organization. For example, a customer management capability may relate to sales training processes, customer relationship management software or call centre processes even though the focus of these processes is external to the organization. The clearest manifestation of the management of external resources is in the concepts of indirect and complementary capabilities, where the focus is on

a capability to manage other capabilities located within suppliers and partners. Accessing external capabilities through cooperative relationships "...contributes to the learning processes by which firms adapt and improve their own internal capabilities" [4, page 133]. In a similar manner to indirect capabilities, Kale, Dyer and Singh [21] focus on an organization's accumulation of know-how related to managing alliances, referring to this as an alliance capability. Hence a second area of firm boundaries relates to the location of the resources: internal resources, external resources or mixed resources (both internal & external).

Creating the Typology

Based on this analysis, a typology of organizational capabilities is outlined (see Table 1). Operational Process Capabilities (Type 1) are capabilities that are operational in nature and form a low level of aggregated knowledge or resource combinations. These operational process capabilities are typically internal to a firm and domain specific, but may be cross-functional or inter-firm in nature. Examples would include processes, routines, resource deployments and invisible assets. These capabilities can be thought of as a first-level combination of firm resources and knowledge. In support of this concept, Ray, Barney and Muhanna [25] argue that business process, activities and routines have a key role in a more detailed understanding of higher level capabilities.

Functional Capabilities (Type 2) may be either domain specific capabilities or generic capabilities that are not competitively distinct. They may contribute to organizational performance, but would not be a capability that other firms do not possess. They are typically internal to the firm, may relate to a particular organizational function, but often have cross-functional integration. These capabilities are necessary for a firm to maintain a base level of competitiveness in an industry.

Business-Level Capabilities (Type 3) are capabilities that distinguish a firm from its competitors and would include the concepts of distinctive competence, core competence and core capability. One key attribute of business-level capabilities is that they act as a strategic architecture upon which significant resources and knowledge development occur; they are also often focused on competitive dynamics of strategic business units.

Higher-order Capabilities (Type 4) are capabilities that enable firms to manage sets of capabilities. Other authors have previously proposed the concept of meta-capabilities. Because capabilities are "vulnerable to threats of erosion and substitution" they are capable of being replaced by higher order capabilities that focuses on organizational learning [6, page 143]. Collis suggests a loose categorization of capabilities that is broken into functional capabilities, dynamic capabilities and product development (or creative) capabilities, but then goes on to argue that an exhaustive typology of capabilities is not possible because of their infinite variety [6]. Some of these capabilities could be considered corporate-level capabilities that enable horizontal and vertical integration outside the firm. These are necessarily capabilities that are cross-firm in nature and may include indirect capabilities, alliance capability or acquisition-related capabilities. The primary focus of higher order capabilities is on the assembly of groups of capabilities to meet a changing marketplace.

This categorization of concepts allows us to generally distinguish between different types of capabilities, but clearly has some deficiencies that need further research. There may be some potential overlap in concepts that highlights further refinement required in the categorization scheme and in concepts of capabilities themselves.

Table 1 – Typology of Capabilities				
Category	Representative Concepts	Strategic Importance	Level of Aggregation	Firm Boundaries
Type 1: Operational Process Capabilities	Processes, routines, resource deployments, invisible assets	Operational	Direct management of resources	Internal Focus; Internal Resources
Type 2: Functional Capabilities	Competence, capability, domain-specific capabilities	Functional Strategy	Integrated mgmt. of resources & processes	Mixed Focus; Internal Resources
Type 3: Strategic Capabilities	Core competence, core capability	Business Strategy	Integrated mgmt. of resources & process	Mixed Focus; Internal Resources
Type 4: Higher-order Capabilities	Dynamic capabilities	Strategic Change	Management of capabilities	Mixed Focus; Mixed Resources
	Indirect capabilities, alliance capability	Corporate or Network Strategy	Management of capabilities	Mixed Focus; External Resources
	Integrative Capabilities	Internal Organization / Systemic or Holistic	Management of capabilities	Internal Focus; Internal Resources

CONCLUSION

The existing literature in organizational capabilities is extensive, but is often criticized for lacking clarity. This paper has presented an overview of existing concepts in organizational capabilities ranging from initial work on distinctive competence and routines through to more recent concepts such as dynamic capabilities or indirect capabilities. The different approaches vary in terms of their levels of aggregation, their focus on internal or external organizational issues and the level of strategic behavior that they help to explain. Based on these differences, a typology of capabilities is developed ranging from low-level operational capabilities (Type 1), which focus on internal organizational process, to higher-order or more abstract meta-capabilities (Type 4), which focus on the management of capabilities themselves.

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