

THE UNDEREXPLORED ROLE OF MANAGING INTERDEPENDENCIES FIT IN ORGANIZATION DESIGN AND PERFORMANCE

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Abstract: We argue that research on interdependencies fit is an underexplored variable in strategy and organization research and is the missing variable that differentiates the performance of “built to last” organizations from the rest. Interdependencies fit relates to how well activities and processes within the organization or between the organization and its environment mutually reinforce one another. We suggest that the major reason underlying variation in firm performance may be rooted in differences of whether and how firms manage interdependencies within and across an organization’s strategic activities. Progress on researching interdependencies fit could be realized by focusing on strategically important activities, and the research challenge is to identify the unobservable processes and routines that underlie interdependencies fit.

Keywords: Interdependencies fit; modularization; architecture of complexity

A considerable body of research in the field of strategy and organizations focuses on explaining heterogeneity in firm performance. Scholars have presented various endogenous and exogenous explanations at micro and macro levels of analysis (e.g., individual, organization, industry level) (Bloom & Van Reenen, 2010; McGahan & Porter, 1997; Mithas & Krishnan, 2008). However, the puzzle of unexplained heterogeneity in firm performance endures. One stream of research focuses on interdependencies fit between sets of organizational dimensions as the source of effectiveness and variation in performance. Table 1 highlights a sample of organizational theories and studies of interdependencies fit for various sets of organizational dimensions. In addition, research on complementarities—“doing [more of] one thing increases the returns to doing [more of] another” (Milgrom & Roberts, 1995: 181)—has gained increasing attention in recent years as a framework for exploring the mechanisms underlying interdependencies fit. A review of 108 empirical studies on complementarities by Ennen and Richter (2010) documents that empirical research on complementarities has mostly focused on fit involving two dimensions of interdependencies - between organization resources, organizational design, strategy and environment.

Table 1. Sample of Organizational Theories and Approaches Emphasizing Dimensions of Interdependencies Fit

Organization Theory and Other Approaches	Dimensions of Interdependencies Fit
Resource-based view of the firm	Complementary assets play a crucial role in explaining sustainable competitive advantages and innovations (e.g. Stieglitz & Heine, 2007; Teece, 1986). In relation to acquisitions and alliances (King, Slotegraaf & Kesner, 2008; Rothaermel, 2001). Value from mergers and acquisitions is created only if firms' resources can be uniquely and strategically combined (fit) (e.g. Barney, 1991).
Institutional theory	Coercive Isomorphism - fit between organizational routines and processes and external environment (e.g. regulatory environment). Mimetic Isomorphism - alignment between organizational routines and processes and industry best practices (DiMaggio & Powel, 1983).
Contingency theory	Fit between the organization and its environmental contingencies (Donaldson, 2001; Drazin & Van de Ven, 1985; Venkatraman, 1989).
Organizational configurations	Fit between contextual factors, strategy, and organizational structure give the firm a selection advantage over other organizations lacking such fit (Miller, 1986; Miller & Friesen, 1984).
Other approaches	Fit between organizational strategy, structure, and process (Miles & Snow, 1978). Fit between environmental characteristics, employee characteristics, organizational characteristics, and managerial policies and practices, each of which must be consonant with the other three to achieve effectiveness (Steers, 1976). Fit between the practices that comprise a firm's production function (Lenox, Rockart, & Lewin, 2006, 2010; Levinthal, 1997; Rivkin, 2000). Fit between information technology and work organization (Bresnahan, Brynjolfsson & Hitt, 2002).

We build on and extend research on interdependencies fit by suggesting that organizational capabilities that effectively manage fit between interdependencies within and across strategic activities is a key explanatory mechanism of effective performance and competitive advantage, and is, in fact, the missing variable differentiating “built to last” organizations from the rest. In particular, we suggest that firms select certain activities as strategically important, and for these activities it can be expected that firms manage, achieve and sustain interdependencies fit. An activity can be a traditional function such as marketing, or, it can cut across functions such as innovation and supply chain management. It may cross organizational levels and sources of resources. Effectiveness in managing interdependencies fit within a strategically important activity affects the overall performance of this activity. Consequently, the greater the number of strategically important activities for which companies are able to effectively manage interdependencies fit, the higher the overall company performance.

Execution of activities involves configuring processes and routines, some of which may be difficult to observe. We particularly draw attention to the unobservable¹ and inimitable knowledge bases underlying routines and processes that promote interdependencies fit and, therefore, lead to sustained competitive advantage. We also discuss the implications for organization design practice. This perspective opens new directions for research in strategic management and organization studies.

ELEMENTS OF INTERDEPENDENCIES FIT IN ORGANIZATION THEORY AND BOUNDED RATIONALITY

Organizations are complex systems that include multiple interdependencies at various levels (Cyert & March, 1963; Simon, 1947). Figure 1 illustrates the many elements and levels at which interdependencies occur including, for example, interdependencies between individuals in the organization (Puranam, Raveendran & Knudsen, 2012); interdependencies

¹ By “unobservable” we mean not directly perceived or discerned without in-depth understanding of the underlying behaviors and processes.

at the organizational level (Massini & Pettigrew, 2003); interdependencies between the organization and the environment (Volberda *et al.*, 2012); interdependencies at the industry level (Lenox, Rockart & Lewin, 2010); and interdependencies at the country level (Lewin, Massini, & Peeters, 2012).

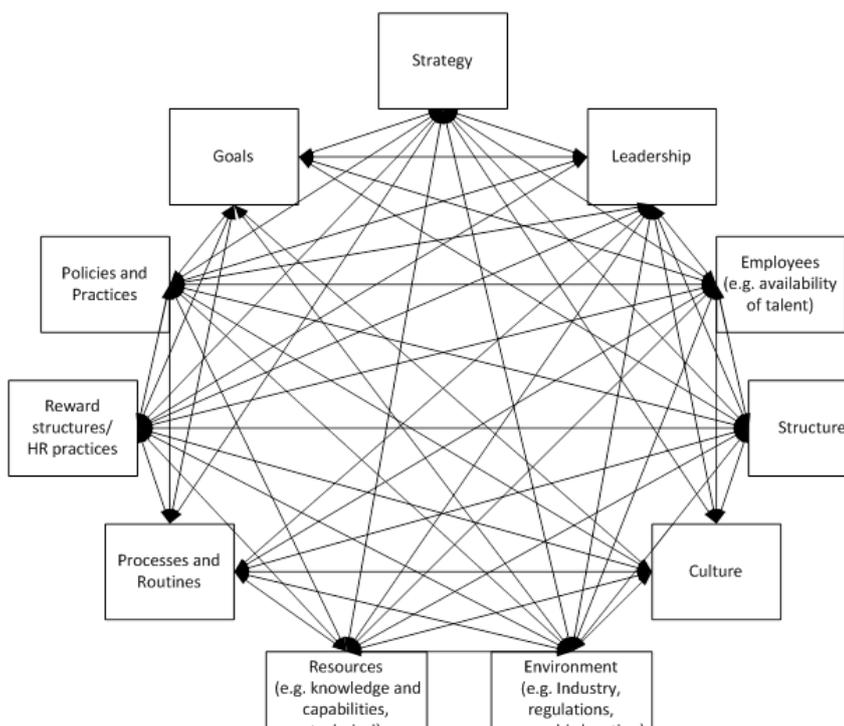


Fig. 1². Organizational Design Interdependencies

Figure 1 demonstrates the enormous complexity involved in organization design choices. In reality, organization design cannot be expected to achieve optimal fit among all possible interdependent elements (Miller, 1992). In his discussion of the architecture of complexity, Simon (1962) argues that optimizing the design of an organization across all possible interdependencies is computationally not feasible. This bounded rationality drives the practice of decomposing the organization into manageable sub-elements. Simon's work gave rise to a line of research on modularization (e.g., Baldwin & Clark, 1997, 2000; Langlois, 2002; Orton & Weick, 1990; Sanchez & Mahoney, 1996), and indeed, as seen in Table 1, most subsequent conceptual discussions in the strategy and organization literature focus on a subset of dimensions of interdependencies fit.

As our point of departure, we concur with findings in the extant literature on organizational decomposition and modularization that achieving optimal organization design across all possible interdependencies is not logically or computationally feasible. However, we argue that interdependencies fit is most likely to be developed and observed for activities that the firm determines to be strategically important. High interdependencies fit in one activity does not necessarily imply high interdependency fit in other activities. Furthermore, since companies vary greatly in their strategic priorities, a strategic activity in one company may not be considered strategic in another company. The choice of which activities are deemed strategic is likely to be idiosyncratic and reflective of management intentionality (Hutzschenreute, Pedersen, & Volberda, 2007), and hence a key source of variation across companies. Companies that successfully manage interdependencies fit for a higher number of strategic activities are assumed to achieve a higher overall firm performance³. This is consistent with the conclusion of Burton, Lauridsen, and Obel (2002) that when organizations focus only on a subset of interdependent elements they will underperform.

2 Adapted from Leavitt (1965).

3 Siggelkow's (2011) analysis of the Vanguard mutual fund company offers an example of a firm that has thought through many levels of interdependencies fit.

INTERDEPENDENCIES FIT WITHIN A STRATEGIC ACTIVITY

An organizational activity involves critical interdependencies (e.g. processes, structures, resources), and organizations vary greatly in whether and how they manage the interdependency among these critical elements. The critical interdependencies may also occur across firms' boundaries, and between internal and external elements (Baldwin, 2012; Tushman, Lakhani, & Lifshitz-Assaf, 2012). For example, a critical interdependency in sourcing business services is the interdependency between the company and its providers. While some companies build a centralized organizational unit for managing specific dimensions of the relationship with the provider (e.g. risk compliance, performance metrics), other companies may not. This variation may be due to the strategic importance of the activity, the maturity level of the company/activity, path dependence, and more. The overall effectiveness of the activity depends on the extent to which the organization manages the critical interdependencies involving the activity.

FORMAL AND INFORMAL INTEGRATION MECHANISMS

The organization design literature discusses a wide range of integration mechanisms believed to be important in achieving coordination and fit across interdependencies that make up an activity. Formal structural elements and processes are further differentiated by unobservable process knowledge, capabilities, cultural values, and socially enabling mechanisms, which guide action (Ocasio & Joseph, 2006) and form the basis for achieving interdependencies fit. The unobservable interdependent processes themselves, however, can vary greatly in effectiveness (e.g., depth of process knowledge, quality of process, and accuracy and timeliness of underlying information) and play a crucial role in whether companies achieve a particular level of fit across the critical elements of an activity and between activities. Figure 2 illustrates structural or formal integration mechanisms and informal or process knowledge mechanisms that have been discussed in the literature and form the unobservable interdependencies fit mechanisms.

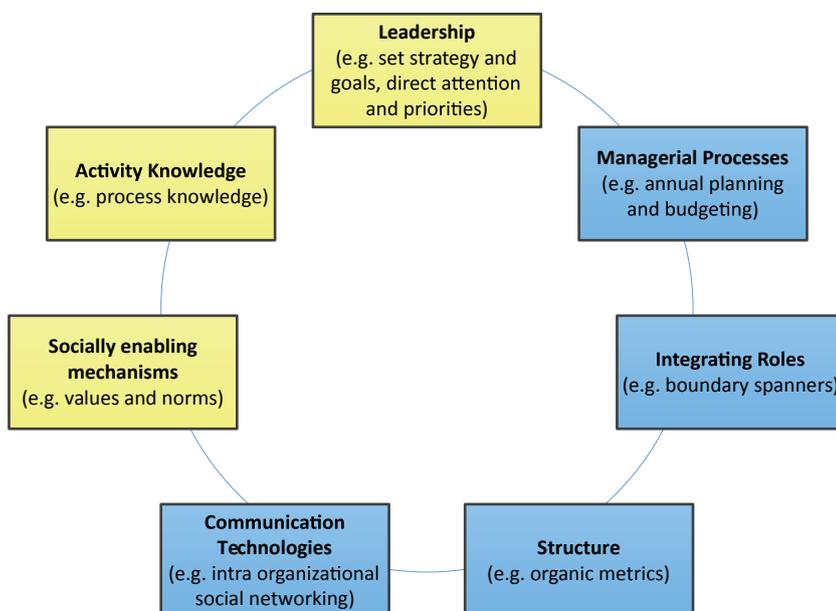


Fig. 2. Formal and Informal Integration Mechanisms

THE CENTRAL ROLE OF UNOBSERVABLE MECHANISMS

Socially enabling mechanisms such as process knowledge, cultural values, and leadership act as the “glue” between interdependencies within and across activities. These mechanisms collectively constitute the unobservable routines that guide firm-specific action and that

differentiate firms from one another. Furthermore, equifinality, by which “a system can reach the same final state from different initial conditions and by a variety of different paths” (Katz & Kahn, 1978: 30), is to be expected in the way companies configure and achieve interdependencies fit within and across activities. When companies achieve high interdependencies fit, the processes underlying this fit are unobservable and constitute inimitable capabilities that may be a source for sustainable competitive advantage (Barney, 1991). This is even more the case when the interdependencies fit occurs among a high number of activities or processes.

The often-discussed case of the 3M Company provides an example of the significance of cultural values and socially enabling mechanisms for creating an interdependencies fit which is inimitable and a source of competitive advantage. 3M is recognized and acclaimed for its culture of innovation. Many companies have attempted to imitate the 3M innovation model, but most have been unable to replicate the process knowledge, socially enabling mechanisms, and values that underlie the high interdependencies fit at 3M. Examples of unobservable values that are rooted in the 3M culture are demonstrated in such socially enabling “commandments” that guide behavior, such as “The Eleventh Commandment: Thou shall not kill a new product idea” and “Make a little, sell a little” as the 3M way for searching and valuing market signals that guide product decisions.

CONCLUSIONS AND IMPLICATIONS FOR ORGANIZATION DESIGN

Organization design theorists and practitioners focus for the most part on fit and misfit of organizational structure in prescribing “optimal design” (e.g. Burton, Obel, & DeSanctis, 2011). This Point of View article advances the argument that because of bounded rationality achieving optimal design across all possible interdependencies is not logically or computationally feasible. Instead, we suggest that for activities that firms determine to be strategically important it can be expected that organizations develop, manage, achieve and sustain interdependencies fit. This implies that firms will vary in which fit is most important and where misfit is considered acceptable.

Achieving interdependencies fit has its own dynamics of implementation, evaluation and reflection, and continuous improvement. In particular, interdependencies fit is a continuous and evolving process rather than an end state. Moreover, interdependencies fit needs to be understood and researched using qualitative methods designed to uncover firm-specific expression of formal and informal coordination and integration mechanisms (Lewin, Massini, & Peeters, 2011) of achieving interdependencies fit⁴.

We underscore the strategic imperative for directing attention to strive for managing interdependencies fit beyond modular solutions. In other words, managers must adopt an organizational mindset to design and manage interdependencies within and across activities, involving the unobservable infrastructure of values and norms that guide actions as well as tacit process knowledge which collectively enables and supports specific interdependencies fit. Similarly, at the level of strategic planning, managers need to be more aware of creating interdependencies fit for strategically critical activities and deliberately creating inimitable unique capabilities that maintain interdependencies fit for sustainable competitive advantage. We conclude by stating that interdependencies fit is an underexplored mechanism of organization design and is the missing variable differentiating “built to last” organizations from the rest.

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4 Comparative qualitative “polar type” case study methodology can be a particularly powerful method for uncovering patterns and relationships within the data (Eisenhardt & Graebner, 2007).

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