

The Role of Competitive Priority and Strategic Alignment in Operational Ambidexterity

Somelina Obiechina, College of Business, Idaho State University, 333 East Humbolt St. Apt 2, Pocatello, ID 83201, 208-317-9591, obiesome@isu.edu

Jie Guo McCardle, College of Business, Idaho State University, 921 S. 8th Avenue, Pocatello, ID 83209, 208-282-3536, mccajie@isu.edu

Dennis Krumwiede, College of Business, Idaho State University, 921 S. 8th Avenue, Pocatello, ID 83209, 208-282-3506, Krumdenn@isu.edu

ABSTRACT

We examine the influence of competitive priority and strategic alignment on firms' ability to achieve both exploitation and exploration in operations. Analyses of 769 firms worldwide show that alignment is a key success factor for both exploitation and exploration. This effect is stronger for exploitation than it is for exploration. Priority shows influence only on exploration. Results support differential effects of alignment and priority on operational ambidexterity.

INTRODUCTION

To compete in today's highly dynamic business world, firms must frequently adapt their strategic visions to capture the future market trend while maintaining efficiency in their current operations. Firms that can exploit their existing capabilities to succeed in short term competition while at the same time explore new avenues to adapt to long-term change stand a better chance for sustainable competitive advantages [6]. The notion ambidexterity captures such a phenomenon. Research in ambidexterity has distinguished its two major dimensions—exploration and exploitation [13]. Exploration pertains to firm behaviors that relate to “search, variation, risk-taking, experimentation, play, flexibility, discovery and innovation” while exploitation pertains to firm behaviors such as “refinement, choice, production, efficiency, selection, implementation and execution” [10, p. 71]. In recent years, research in ambidexterity has garnered momentum and provided sufficient evidence for its positive association with innovation and performance [3].

Compared to the voluminous studies regarding ambidexterity at the organizational level, less attention has been paid to how ambidexterity takes place in the operational arena. Operational performance is primarily evaluated along six metrics. These are cost, quality, delivery timeline, flexibility, innovation, and environmental impact/workplace safety [8]. The first three efficiency-based metrics correspond to measures for exploitation; and the latter three adaptation-based metrics correspond to measures for exploration. Operations are the vital process through which firms materialize their vision and strategy. Understanding how and where firms transform their strategic goals, resources and capabilities into operational ambidexterity will contribute to our understanding of both strategic and operations management.

Research has identified that competitive priority and strategic alignment are two essential conditions for operational success [1] [4]. On the one hand, competitive priorities denote strategic preferences or a consistent set of goals for manufacturing firms to gain competitive advantage. With strategic prioritization of operations goals, a firm is able to create a sustainable competitive advantage that is hard

to imitate because of the time and resources required to implement such operation laden strategy [7]. On the other hand, alignment is an essential enabler of strategic implementation because by aligning and adjusting key systems, processes, and decisions within the firm, firms can leverage their resources and capabilities to maximize their output [4]. Therefore, alignment is expected to enhance organizational performance.

Furthermore, competitive priority and strategic alignment each represents a different agenda in firms' endeavor for competitive advantages. Competitive priorities ensure that operations decisions are in line with the firm's strategy as a whole. Top management deliberately identifies appropriate objectives and attaches requisite importance to these objectives. These activities are inherently exploration-oriented. In comparison, strategic alignment focuses on utilization of existing resources and capabilities to maximize efficiency, the corner stone of exploitation. From this regard, competitive priority provides strategic guidance to ensure a firm's long-term adaptation to environmental changes while strategic alignment focuses more on continuous improvement [13]. Therefore, while both are essential for all operational performance metrics, the former is more pertinent to exploration and the latter to exploitation.

Taken together, operational ambidexterity is made possible when organizations can align various inputs in support of organizational goals; and when competitive priorities are identified and configured to adapt to changes in the business environment. Therefore, the goal of our study is to examine the common and unique contribution of competitive priority and strategic alignment in achieving operational ambidexterity.

THEORY AND HYPOTHESES

Competitive Priorities and Operational Ambidexterity

Competitive priority is a set of objectives or 'strategic preference' chosen by an organization as part of their competitive arsenal [1]. They are critical to drive decisions on resource allocation and capabilities development. Research has identified six goals that are the primary strategic priorities for manufacturing. These competitive priorities are each defined as follows: cost is the monetary expense associated with running a plant; product is the core products and services offered that meet customer' needs and wants; delivery is the trustworthiness of the production process to deliver when promised; flexibility is the variety a production process is capable of; innovation pertains to the use of new products and process as a means of competing; environment/safety refers to policies implemented in the prevention of danger/injury on a manufacturing plant and the environment in which it operates [8]. Applying the ambidexterity framework, exploration entails performance in flexibility, innovation and environment/safety; while exploitation consists of performance in cost, product/service, and delivery. Research has demonstrated that competitive priorities have long lasting influence on various business practices such as technology adoption, process choice, capability management, manufacturing planning and control systems, employee skills development and quality assurance [1] [7].

To the extent that firms place emphases on both exploratory and exploitative goals, we expect to see a positive influence of competitive priorities on their corresponding performance outcomes [12]. Furthermore, because competitive priorities represent a firm's strategic posture for long-term competition and guide critical resource allocation to meet operational objectives [1], they should have particular significance for exploratory goals. Activities that aim at improving innovation and environmental impact are associated with higher levels of risks, take longer time to yield returns, and require tolerance for ambiguities and uncertainties. To overcome challenges posed by the pursuit of

exploration, top management needs to deliberately direct resource allocation toward those dimensions. Tushman and O'Reilly (1996) propose that in the absence of clear strategic intent in situations dealing with emerging business, short term oriented metrics can impede resource input for exploration. Clearly defined priorities on exploration can help secure firms' ongoing commitment for exploration. As such, competitive priorities should create the fertile ground for exploration related activities. Thus, our first hypothesis states:

H1: Competitive priority is positively associated with exploration and exploitation. This effect will be stronger for exploration than for exploitation.

Strategic Alignment and Operational Ambidexterity

Priorities alone, as important as they are, are only the first step in achieving operational ambidexterity. Strategic alignment refers to the fit amongst various organizational systems, activities and capabilities and has been shown to be a key factor for strategic implementation [15]. Mintzberg (1978, p. 935) notes that strategy is a 'decision stream.' In other words, it is not just the emphasis placed on a particular desired competitive advantage but rather the series of decisions taken to achieve it that determines the eventual outcome. Each of these decisions must contain a certain consistency; i.e. they should be aligned with other aspects of the organization [11]. Strategic alignment is a multifaceted concept that entails situations such as when operational strategies support corporate competitive strategies or when internal capabilities and resources are coordinated to achieve operational goals etc. In essence, strategic alignment pools together the necessary resources required to make operational ambidexterity a successful undertaking.

Because alignment represents the strategic deployment of existing resources and capabilities, it has a focus on continuous improvement that maximizes efficiency. Therefore, we expected alignment to be especially advantageous for exploitation related activities that have a strong functional, efficiency orientation. Thus, our second hypothesis states:

H2: Strategic alignment is positively associated with both explorative and exploitative performance. This effect will be stronger for exploitation than for exploration.

METHODS

Sample and Data

We test our hypotheses using data from a worldwide survey conducted by the Global Manufacturing Research Group (GMRG). Leading scholars in this field have developed the GMRG survey instrument for use around the world. Prior research using GMRG data has reported acceptable validity and translation (refer to [13] for a full description). This study uses a total of 769 responses from 13 countries from the 5th round administration of the survey. The unit of analysis for the survey is the manufacturing plant.

Measures

Five out of six plant performance constructs are each measured by 3-item scales, with flexibility measured by a 2-item scale. Strategic alignment is measured by an 8-item scale. Competitive priority is measured as a percentage assigned to each competitive goal, relative to one another. The sum of the assigned weights for the six goals is 100 percent. These metrics were transformed using natural log to normalize the data distribution. Because our sample were collected from 12 countries worldwide, we

assigned them to three clusters and created dummy variables to control for the economic and cultural context. The Developed Western group includes Australia (67), Canada (4), Germany (43), Ireland (289), and the U.S. (159). Eastern European group includes Croatia (113), Hungary (34), Poland (73), and Ukraine (43). Asian group include China (67), India (58), and Vietnam (79). We also included plant size as a control variable due to its influence on strategic choice, resource allocation, scale and scope of operations [8]. Plant size is measured by the number of full time employees (log transformed).

Analysis and Results

Confirmatory factors analyses (CFAs) show that the measurement model fit data well: χ^2 (247) = 683.91, CFI = .95, GFI = .94, AGFI = .92, IFI = .95, TLI = .94, RMSEA = .05, PCLOSE = .90. Composite reliability for the seven latent factors range from .73 to .88, suggesting great internal consistency. Convergent validity and discriminant validity also meet requirement for structural equation modeling (SEM) analyses based on the results of coefficient loadings and significance, average variance extracted (AVE), and Chi-square difference test [5]

For hypotheses testing, the structural model fit indices show good model fit with the data. χ^2 (400) = 992.84, CFI = .94, GFI = .92, AGFI = .91, IFI = .94, TLI = .93, RMSEA = .04, PCLOSE = 1.0. For control variables, plant size is positively related to product and environment/safety and negatively related to cost. The cluster dummy variables are also significant, suggesting performance differences among facilities in different economical and cultural clusters.

Results show that the three competitive priority metrics are respectively related to innovation ($\beta = .31$, $p < .01$), flexibility ($\beta = .08$, $p < .01$), and environment/safety ($\beta = .14$, $p < .01$), but not related to product, cost, and delivery. The lack of direct association between competitive priority and these three performance outcomes is not expected. However the direction of the association is consistent with our prediction that priority will have a stronger influence on exploration. As such, hypothesis 1 is partially supported.

The relationship between strategic alignment and operational performances receive strong support. Path coefficients from alignment is related to product ($\beta = .45$, $p < .01$), cost ($\beta = .29$, $p < .01$), delivery ($\beta = .40$, $p < .01$), flexibility ($\beta = .42$, $p < .01$), innovation ($\beta = .31$, $p < .01$), and environment/safety ($\beta = .37$, $p < .01$). To test the differential effect of alignment on exploitation vs exploration outcomes, we create a second order model in which three exploitative variables are treated as first order constructs that reflect a second order construct, exploitation. Three explorative variables are treated as first order construct that reflect a second order construct, exploration. Procedures are taken to validate the second-order model. Flexibility is found to have high levels of cross loadings on exploitation and exploration and thus is removed from the second order model. SEM analysis of the second order model show alignment is significantly related to the exploitation ($\beta = .65$, $p < .01$) and exploration ($\beta = .53$, $p < .01$), with stronger influence on exploitation. Alignment explains 42% of variance in exploitation and 26% variance in exploration. Therefore, hypothesis 2 is supported.

Discussion

Our study draws two important findings. First, operational performance entails exploitative and exploratory dimensions and second, both competitive priorities and strategic alignment are critical inputs for manufactures to achieve operational ambidexterity. Moreover, the strength of their effects differ depending on the nature of exploitation vs. exploration. For organizations to succeed in

exploration, they need to take a deliberate effort to guide strategic emphasis and resource input toward those metrics. For organizations with successful alignment, it is important to balance the efficiency gain from exploitation vs. the need for exploration intended for long term adaptation. To accomplish operational ambidexterity, organizations need to ensure that goals, process, procedures, investments, capabilities, and other improvement activities are all linked to the overarching strategies and priorities of the organization.

This study is limited by its correlational nature and as such no causal relationship can be inferred from our findings. Another limitation is the use of perceptual measures for performance. Although they are common in the literature, further studies could strive to obtain objective measures. This would in turn help validate the robustness of our findings. On a final note, our data capture a snapshot of the proposed relationships at a particular period of time. It does not account for changes that might occur over a long period of time. This should be taken into consideration when doing a study in a similar field.

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