Journal of Management Research
Vol. 20, No. 2, April - June 2020, pp. 113-132

Optimal Misalignment: Strategic Intent, Organizational Capabilities, and Performance

Richard Brown and William Kline

Abstract

The purpose of this paper is to explore the linkage between strategic intent and firm performance. We find that while strategic intent is associated with lower levels of financial performance, those firms that have specific combinations of both intent and capabilities outperform rivals. We test the hypotheses on a panel data set of pharmaceutical firms from 1993 to 2003. We find empirical evidence supporting the tenets of strategic intent theory (Hamel & Prahalad, 1989). Secondly, we find evidence that optimally misaligned firms are associated with increased profitability over those firms with different intent-capabilities mixes. These two findings add to the knowledge stocks in strategic management, generally, and to the literature on strategic intent and capabilities, specifically. The evidence in this paper points to firms that have a high level of patents yet low levels of strategic intent and calibration as being laggards in the market. On the other hand, firms that are misaligned in the opposite direction (i.e. a lower level of patents but increased intent) seem to outperform rivals, at least in the short term.

Keywords: Strategic Intent, Decision-making, Capabilities, Performance, Implementation, Optimal Misalignment

INTRODUCTION

"Plans are only good intentions unless they immediately degenerate into hard work."

–Peter Drucker

Strategic implementation is the culmination of a series of corporate-level decisions that are largely unobservable to non-participants. As such, these intermediate steps that end in corporate action are often ignored. Prior to implementing strategies, however, firms must make *ex-ante* decisions as to which resources they wish to utilize to reach corporate goals. To accomplish this progression, management must intentionally formulate strategies to compete against rivals (Child, 1972). The intended result of this competition has two implications. First, and at a minimum, firms must survive from one time-period to the next. Secondly, and conditional on survival, firms must distinguish themselves over rivals in order to thrive. The foundation of capability build-up lies in what some scholars have termed *strategic intent*, which is defined as the ambition of corporations that outweigh their current resources (Hamel & Prahalad, 1989). Strategic intent has also been defined as "stretch" because of the misalignment between current resources/capabilities and future goal ambition (Hamel & Prahalad, 1993; Sitkin et al., 2011). Intent is theoretically important because it must normally precede the actions that lead to outcomes, either successful or unsuccessful.

While there have been many theoretical and empirical papers addressing capabilities (see Newbert, 2007 for a comprehensive list), there has been much less attention paid to strategic intent to

Richard S. Brown
Associate Professor of Management

William A. Kline
Assistant Professor of Management
Pennsylvania State University Harrisburg
Middletown, PA 17057, USA

date. This lack of attention provides an opportunity for our theoretical contributions. Following the prevailing guidance with respect to theoretical contributions (Dubin, 1978; Whetten, 1989), we add relevant constructs, specifically, capabilities and optimal misalignment, to the existing theoretical model linking strategic intent to firm performance. The capabilities construct is a valuable addition to the existing literature because capabilities lead to the successful execution of firm strategy. Without such capabilities, competitive advantage and ultimately superior firm performance, would not be possible. The optimal misalignment construct contributes to the literature by further refining our understanding of the contexts where capabilities and intent congruence is necessary. Two major contributions of this paper are, therefore, evident. First, ours is the first paper to find empirical evidence supporting the tenets of strategic intent theory (Hamel & Prahalad, 1989).[1] Secondly, we find evidence that optimally misaligned firms are associated with increased profitability over those firms with different intent-capabilities mixes. We find that while strategic intent is associated with lower levels of financial performance, those firms that have specific combinations of both intent and capabilities outperform rivals. These findings add to the knowledge stocks in strategic management, generally, and to the literature on strategic intent and capabilities, specifically.

The rest of the paper is organized as follows. In the next section, we review the current theory to formulate the main idea of the paper, which is the importance of strategic intent and its relationship to firm performance. Section 3 identifies the methods undertaken, including the sample selection, variable operationalization, and estimation procedures. In Section 4, we report results and, in Section 5 conclude our findings and discuss the ways that this study adds to both the theoretical and empirical understanding of these constructs.

1 One other paper (Doving & Gooderham, 2008) explicitly tested one hypothesis related to strategic intent but the findings were insignificant.

LITERATURE REVIEW

A Process Model of Strategic Intent

Strategic intent represents objective goal-setting that articulates the organization's aspired direction of growth and plays a pivotal role in shaping organizational resource allocation and capability development (Hamel & Prahalad, 1993; Lovas & Ghoshal, 2000). Additionally, strategic intent is management's vision of the firm that creates a misfit between current resources and this firm-level ambition (Hamel & Prahalad, 1989) such that firms are forced to stretch their goals. Firms with low levels of strategic intent, therefore, have a "scarcity of ambition" and frequently have trouble with effective goal-setting. Hamilton et al. (1998) posited that firms must be optimally misaligned in order to use strategic intent for value creation. Optimal misalignment entails a firm that seeks a competitive goal that is seemingly improbable, given the firm's current capabilities. Striving for the seemingly improbable goal guides management in obtaining the capabilities necessary for successful competition (Sitkin et al., 2011) by enacting observable, firm-wide action. At the same time, goal-setting must be reasonable in that overly ambitious firms could suffer from what Grant and Schwartz (2011) termed "too much of a good thing."

A substantive strategic intent requires capabilities to achieve a vision (Mantere & Sillince, 2007) that eventually yields corporate action (Chen, 1996). The vision, which is directed from the top of the organization, conveys a sense of direction, discovery, and destiny (Hamel & Prahalad, 1994) for a firm's employees. While some scholars have argued that vision may flow from employee segments other than the top of the organization (Weick & Roberts, 1993), most have defined vision as a top-down process (Burgelman, 1994; Burgelman & Grove, 1996; Noda & Bower, 1996; Lovas & Ghoshal, 2000). Once the vision is formalized, then internal processes are utilized to reach specific goals, which are explicitly set from the vision. Strategic intent can be thought to be a semi-parallel construct to a vision; however, there are differences (Mantere

& Sillince, 2007). Whereas firms tend to have one overarching and broad vision, strategic intent may entail more specific (Lovas & Ghoshal, 2000) as well as more numerous goals. In other words, firms may have one central vision that is then decomposed into multiple intents by which they compete.

The process by which firms may accomplish their goals is contained in Figure 1. We rely upon the process model developed by Brown (2015c), who argues that a firm makes decision-making vectors after analyzing both its internal capabilities and the external environment. Management then initiates intent by allocating resources to key strategic moves. Once there is intent, management teams engage in calibration, which is defined as a ramp-up period prior to action (Brown, 2015c). This phase then leads to strategic action.

To be more specific, imagine that the firm wants to grow to capture market share. In order to reach this goal, the firm looks externally and internally and decides that growth is possible. However, the firm's current capability repertoire is minimally sufficient to begin the growth process and needs to become more robust in order to accomplish the feat. After the strategic intent is formalized, but before the firm takes solid strategic action, it must "ramp up" its stock of resources and capabilities. For example, the firm may increase its facilities so that it has additional capacity if the goal is reached. This ramp-up period is labeled calibration in our model. Finally, the firm may actually enter the new market (or it may not). The subtlety is that the calibration period is an interim step that precedes competitive action and is a direct result of the firm's strategic intent. Therefore, one can infer strategic intent through calibration. Since intent is highly unobservable, this inference is extremely valuable in determining the effect of intent on certain subsequent outcome measures.

The literature on corporate action and competitive dynamics is a useful parallel as it links a firm's strategic posture with mechanisms to achieve its goal(s). Chen's (1996) awareness-motivation-capability (AMC) perspective posits that firms must be aware of their competitive environment and motivated to act. Competitive motivation (Gimeno, 1999) is similar to strategic intent since both constructs precede corporate action such as attacking or counterattacking rivals' action (Ferrier et al., 1999; Gimeno, 1999; Ferrier, 2001; Basdeo et al., 2006; Derfus et al., 2008; Brown, 2015a).

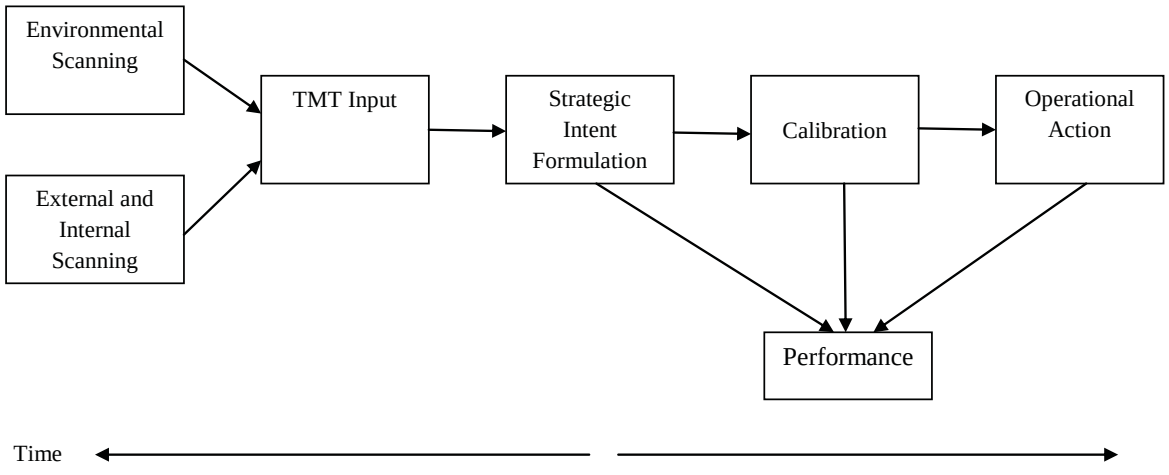

Figure 1: Strategic Intent Process Model

Source: Brown (2015c), and used with permission from the Journal of Management Policy and Practice.

Strategic Intent: Willingness and Ability

In order to capture the essence of strategic intent, we consider both the ability and the willingness of a firm to deploy competitive assets. While ambition (i.e., intent or motivation) is crucial, tangible resources are fundamental (Sitkin et al., 2011). Inherent in corporate action is the capability to deploy financial resources, specifically slack resources (Cyert & March, 1963; Galbraith, 1973). Furthermore, having greater slack resources enhances organizational learning through the reduction in effort to obtain needed inputs for learning (Sitkin et al., 2011; Brown, 2012). While slack resources are needed, unabsorbed slack resources are critical since they are the residual effects of both prior success and current deployments (Bourgeois, 1981). Unabsorbed slack resources may support trial and error periods when a firm's strategy is not initially successful (Young et al., 1996). Therefore, firms have a higher propensity to overcome short-term obstacles in order to reach longer-term goals when slack resources are more abundant.

There are two competing interpretations of how strategic intent is related to firm-level performance. On the one hand, strategic intent should intuitively be a positive predictor of performance as a firm's intent should expand its expertise or scope. However, since a firm's intent initiation requires subsequent capability development, profitability will suffer due to these additional development costs. Firms that obtain the capabilities necessary to support the heightened intent will be rewarded with superior returns, albeit during a future time period, sometimes a distant future time period.

Competitive action research has identified several different areas in which firms can commit strategically: (i) financial, (ii) marketing/distribution, and (iii) capacity (Ferrier et al., 1999; Ferrier, 2001; Basdeo et al., 2006; Chen et al., 2007; Derfus et al., 2008). The allocation to these types of assets indicates top management's commitment to either exploiting current resources or exploring new ones. These types of commitments have been found to lead to higher levels of reputational capital (Basdeo et al., 2006) and more complex strategic repertoires (Ferrier, 2001). However, investment in these areas may hinder short-term profitability. Ferrier et al. (1999) found that aggregated actions lead to more market share erosion of the focal firm, suggesting that actions reflecting intent may have an inverse relationship with performance.

More direct evidence of this negative relationship comes from the literature on exploration. Rothaermel and Deeds (2004) find that exploration is negatively related to products in development. Nooteboom et al. (2007) find that exploration reduces a firm's patenting propensity. He and Wong (2004) find that firms that explore more than exploit have negative sales growth. Finally, Mudambi and Swift (2011) find that diversification negatively affects firm-level sales growth and that diversification negatively moderates the positive relationship that exists between R&D volatility and sales growth.

This empirical evidence parallels the small theoretical literature on strategic intent. Hamel and Prahalad (1989, 1993) argued that strategic intent, in the long run, is positive but may be costly in the short-term. Their use of the word "stretch" in the 1993 work implies that the firm must stretch current resources and capabilities to impose their competitive position. This stretch, by definition, has associated costs that diminish profitability. Hamilton et al. (1998) posited that a firm's short-term profitability suffers for the benefit of longer-term competitive sustainability when firms have stretch goals. Sitkin et al. (2011) theoretically proposed that stretch goals are those which are "…seemingly impossible" (p. 545) and that "…as goals become more extreme, there are complex yet predictable organizational effects that are likely to be negative except under a limited set of specifiable circumstances" (p. 546). The associated empirical and theoretical underpinning is the foundation for our first hypothesis:

Hypothesis 1: Firm-level strategic intent is negatively related to short-term firm performance.

Capabilities, Strategic Intent, and Optimal Misalignment

Capabilities have been defined as embedded firm-level processes that have an intended and specific purpose (Winter, 2003). Additionally, and following Winter (2000), capabilities are not *ad hoc*, meaning that they are repeated processes that the firm intentionally practices for two purposes. The first purpose is to improve the capability, and the second purpose is to create firm value relative to its rivals (Drenevich & Kriauciunas, 2011). These repeated processes are considered organizational routines (Nelson & Winter, 1982) that allow firms to operate and profit in their chosen markets. As part of the RBV, capabilities have had an increasingly important role in explaining heterogeneous outcomes as scholars have deemed resource stocks a necessary but insufficient condition for competitive advantage (Powell, 2002).

In order for a capability to lead to an advantage, resources must be effectively deployed. The explicit intent to compete along certain capabilities has been described as a top-down process within the firm and, therefore, managerial capabilities are crucial (Castanias & Helfat, 2001; Adner & Helfat, 2003). Managerial capabilities include not only which strategies to follow but also how to execute these strategies. Therefore, while it may appear that competitors are competing along very similar dimensions, it is the firm-level processes that lead to advantages vis-à-vis rivals. Noda and Bower (1996) theorize that competitive advantage resides in the iterative choices made by management, even if competitors appear to be operating along similar lines. These iterative choices are sometimes re-combinations of existing resources as new information is processed by management (Kogut & Zander, 1992). This recombination hypothesis is prevalent in dynamic capabilities theory (Teece et al., 1997), which posits that sustained competitive advantage is earned only if firms learn through feedback loops; in other words, if firms have routines to improve their routines.[2]

[2] This is labeled second-order capabilities in the literature, most notably by Danneels (2002).

The ultimate goal for firms is to increase the probability of earning both competitive advantage and superior economic returns (Barney, 1991; Amit & Schoemaker, 1993). There are a number of papers that have provided evidence that capability development, deployment, and proficiency lead to such goals. For example, Parnell (2018), among many others, finds evidence linking capabilities with firm performance.[3] Scholars have also identified relationships between capabilities and a host of underlying factors, in various contexts, which contribute to firm advantage. In a study of 192 service firms, Kamboj and Rahman (2018) identify a link between marketing capabilities and sustainable innovation, while Panda and Rath (2018) draw from the banking sector to highlight a relationship between human IT capabilities and firm agility. Further, Reyes et al. (2015) studied supply chain professionals to connect knowledge management capabilities with supply chain technology adoption. Collectively, these papers support the logic that competitive advantage is realized through both the selection of key resources *ex-ante* and the deployment of capabilities that optimize these resources *ex-post* (Makadok, 2001). In essence, rent-seeking is the culmination of managerial capabilities in resource picking and capability deployment (Makadok, 2001).

Moderating Effect of Capabilities on the Strategic Intent-performance Relationship

The effects of any intended strategy are based on the appropriate execution and partly constrained by the firm's available resources and capabilities (Mishina et al., 2004; Gary, 2005). Hamel & Prahalad (1993) warned about the downside of strategic intent when "resource commitments outpace the accumulation of customer and competitor insight" (p. 84). Hence, we need to examine the interaction of resource/capability repertoire and strategic

[3] See additional papers: Prencipe, 1997; Argyres & Silverman, 2004; Cho & Puckik, 2005; Sampson, 2005; Dutta et al., 2005; Kotha et al., 2011; Yam et al., 2011; Combs & Ketchen, 1999; Rothaermel & Deeds, 2004; Nooteboom et al., 2007; Brown, 2015c.

choice, i.e., how the firm's core capability interacts with its strategic intent to affect performance.

Strategic intent theory posits that mismatched firms will have competitive advantages vis-à-vis rivals. Firms with an adequate level of capabilities, but with ambitions that outstrip this level, are those with appropriate strategic intent. Hamel and Prahalad (1993) and Sitkin et al. (2011) label this ambition *stretch*, which are goals that seem to be improbable given current levels of organizational capabilities. Hamilton et al. (1998) go further by addressing the interaction of capabilities and intent. They state, "For the successful realization of an aggressive strategy, the goals and core capabilities of an organization must be optimally misaligned. Such misalignment is not destructive, but rather energizes the organization to strive for what may seem to an outsider an unattainable goal. When an organization optimally misaligns its resources in pursuit of a goal, it is optimally misaligning today's resources with tomorrow's goals (p. 408)." Therefore, if firms are optimally misaligned, they will have more competitive success, leading to superior performance.

The logic behind why optimal misalignment positively affects firm performance is as follows. Firms with very low levels of capabilities and very high levels of capabilities suffer from productivity problems. Firms with low levels of capabilities lack the foundational platform to compete effectively with rivals that are more productive in their institutional field. This may seem intuitive. What is less intuitive is the productivity issues with high capability firms as noted by numerous scholars (Leonard-Barton, 1992; Miller, 2002; Drenevich & Kriauciunas, 2011; Sleesman et al., 2012; Schilke, 2013). High levels of capabilities may also generate a commitment that drives strategic persistence to the point of diminishing firm performance (Lant et al., 1992; Grossman & Cannella, 2006). The accumulation of pivotal capabilities will initially improve operational performance; however, the magnitude of this effect tends to diminish as the value delivered is outweighed by the costs of developing and maintaining the firm's capability. Ultimately, this relationship can turn negative as the external environment shifts the competitive parameters that lead to success (Leonard-Barton, 1992; Drnevich & Kriauciunas, 2011). This overinvestment in previously needed capabilities may be indicative of poor resource allocation by management through the failure to iteratively change strategy (Lovas & Ghoshal, 2000).

Considering that the level of capabilities may affect the relationship between strategic intent and performance, we propose in Hypothesis 2 that capabilities positively moderates the negative association between strategic intent and short-term performance proposed in Hypothesis 1. Furthermore, in Hypothesis 3, we propose that firms that are optimally misaligned will outperform firms with intent-capability combinations that are sub-optimally misaligned. We define optimal misalignment as the mismatch between capabilities and intent. For example, alignment captures firms with high levels of capabilities and high levels of intent or low levels of capabilities and low levels of intent. Accordingly, misalignment is when firms have high levels of capabilities and low levels of intent or vice versa. Misalignment encompasses all firms that strive to stretch their goals, even if this means sacrificing some of today's profitability for tomorrow's financial gains.

Hypothesis 2: The negative relationship between strategic intent and short-term performance will be positively moderated by firm-level capabilities.

Hypothesis 3: Optimally misaligned firms will outperform rivals that are not optimally misaligned.

DATA AND METHODS

Data

In this sample, we gathered firm-level data on pharmaceutical firms for the years 1993 through 2003. The pharmaceutical industry was selected because of the industry's focus on research and development (R&D), which is reflective of capability-building (Henderson & Cockburn, 1994; Yeoh & Roth, 1999; DeCarolis, 2003). Firms in this study were drawn from the following

standard industry classification (SIC) codes per the Occupational Safety and Health Administration (OSHA): (i) Pharmaceutical Preparations (SIC 2834), (ii) In Vitro and In Vivo Diagnostic Substances (SIC 2835) and (iii) Biological Products Except Diagnostic Products (SIC 2836), (Brown, 2015c).

Our firm-level financial data were drawn from the Compustat database, while patent data was sourced from the National Bureau of Economic Research's (NBER) patent database and the United States Patent and Trademark Office (USPTO). The USPTO data supplemented missing firm-level patent data if needed. The final panel dataset contains 225 firm-year observations from a sample of 28 firms over the period from 1993 to 2003. Capturing data from these firms represents more than 90 percent of industry sales (Basdeo et al., 2006).

Estimation

The most common panel data estimation techniques include either a fixed-effects or random-effects regression. Random-effects regression is powerful when attempting to explain differences across entities (as opposed to only within entities) and, therefore, this was the technique employed. The model used is as follows:

$$Y_{it} = \alpha + \beta' X_{i(t-1)} + W'Z_{i(t-1)} + U_{it} + \varepsilon_{it} \quad (I)$$

where Y is the dependent variable represented in this study by return on assets (ROA) and return on invested capital (ROIC), $\beta'X$ are vectors of parameter estimates and explanatory variables, and $W'Z$ are vectors of parameter estimates and control variables. U_{it} is defined as the between-entity error, and ε_{it} is defined as the error term, which incorporates all other factors such as omitted variables.

However, post hoc tests of the random-effects model resulted in serial correlation, a common issue in random-effects models. The Wooldridge Test for Serial Autocorrelation suggests that random-effects would be biased because the resulting standard errors may be inflated. In the case of inflated standard errors, coefficients may appear to be significant (or more significant) when they are actually not statistically different from zero. Frain (2008) recommends using a special case of the Generalized Least Squares (GLS) for panel data that may suffer from both heteroskedasticity and serial correlation. This model is also known as a cross-sectional time-series feasible generalized least squares (FGLS) and is specified as:

$$Y_{it} = \propto + \beta' X_{i(t-1)} + W'Z_{i(t-1)} + \varepsilon \quad (II)$$

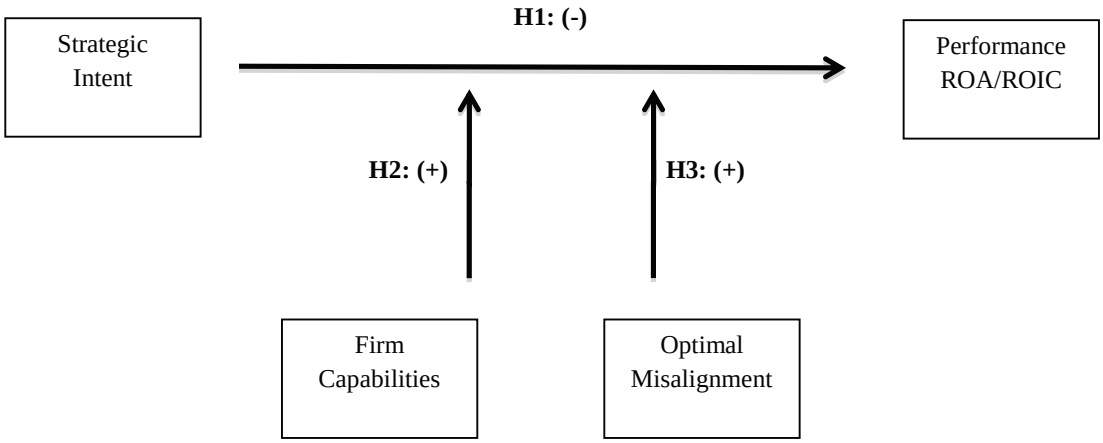

Figure 2: Hypotheses Predictions

where Y is a vector of performance measures represented in this study by return on assets (ROA) and return on invested capital (ROIC); β 'X are vectors of parameter estimates and explanatory variables and W'Z is a vector of parameter estimates and control variables. FGLS allows us to relax the assumptions of homoscedasticity and non-correlation and to return maximum likelihood estimates for the specified variables.

Dependent Variables

Since this study is concerned with firm-level performance effects, the dependent variables used in this study consist of two commonly used return measures (DeCarolis, 2003; Derfus et al., 2008; Brown, 2015c): Return on Assets (ROA) and Return on Invested Capital (ROIC). Specifically, these are operationalized as follows:

$$ROA_{it} = \text{Earnings Before Interest and Taxes } (EBIT)_{it} / \text{ Total Assets}_{it} \quad \text{(III)}$$

$$ROIC_{it} = \text{Earnings Before Interest and Taxes } (EBIT)_{it} / \text{ Invested Capital - Cash}_{it} \quad \text{(IV)}$$

Primary Explanatory Variables

Strategic Intent

Strategic intent has not been the focus of many empirical papers in the literature to date and, therefore, there is less precedent for the appropriate mechanism to measure this construct.[4] One paper that addresses strategic intent (Hamilton et al., 1998) proposed that researchers use financial measures that signal strategic intent through spending on activities aligned with market entry, new product launches, or expansionary projects. More specifically, Hamilton et al. (1998) suggest the use of capital expenditures, R&D intensity, and marketing intensity from firm financial statements. In a paper examining strategic intent and pharmaceutical firm performance, this approach was utilized (Brown 2015c). In tangential research in a study of competitive dynamics, Nair and Selover (2012) also used sales intensity, capital expenditures, and capital intensity to model corporate action. This guidance is consistent with previous work measuring other corporate strategy variables such as strategic persistence (Finkelstein & Hambrick, 1990; Kline & Wadhams, 2011). In this literature stream, scholars use six different financial ratios in an aggregate measure to capture strategic persistence. We use similar logic in this paper and measure strategic intent in the following manner:

Strategic intent operationalization (continuous): First, we measure three intensity constructs: (i) Δ R&D intensity, (ii) Δ marketing intensity, and (iii) Δ fixed capital intensity:

$$\Delta\text{R\&D Intensity}_{i(t-2\rightarrow t-1)} = \Delta\text{R\&D Expenditures}_{i(t-2\rightarrow t-1)} / \Delta\text{Total Revenues}_{i(t-2\rightarrow t-1)} \quad \text{(V)}$$

$$\Delta\text{Marketing Intensity}_{i(t-2\rightarrow t-1)} = \Delta\text{SG\&A Expenses}_{i(t-2\rightarrow t-1)} / \Delta\text{Total Revenues}_{i(t-2\rightarrow t-1)} \quad \text{(VI)}$$

$$\Delta\text{Fixed Capital Intensity}_{i(t-2\rightarrow t-1)} = \Delta\text{PP\&E Assets}_{i(t-2\rightarrow t-1)} / \Delta\text{Total Revenues}_{i(t-2\rightarrow t-1)} \quad \text{(VII)}$$

Next, we aggregate these three measures to calculate our strategic intent variable.

$$\text{Strategic Intent}_{i(t-2\rightarrow t-1)} = \Sigma(\Delta\text{R\&D Intensity}, \Delta\text{Marketing Intensity}, \Delta\text{Fixed Asset Intensity})_{i(t-2\rightarrow t-1)} \quad \text{(VIII)}$$

Strategic intent operationalization (categorical). We also measured strategic intent through a categorical operationalization that incorporates both firm willingness (i.e., the previous measurements of strategic intent in this paper) and ability (i.e., the current resources that the firm possesses). We used slack resources, specifically available slack (current assets divided by current liabilities), to measure ability. Thus, we used the following equation.

$$\Sigma\,(\Delta\text{R\&D Intensity}, \Delta\text{Marketing Intensity}, \Delta\text{Fixed Asset Intensity})_{i(t-2\rightarrow t-1)} / \Delta\text{Current Ratio}_{i(t-2\rightarrow t-1)} \quad \text{(IX)}$$

where firm i's current ratio represents the current ratio's change between year t-2 to year t-1.

[4] In fact, there has been one quantitative empirical paper (Doving & Gooderham, 2008) which has directly measured the strategic intent construct.

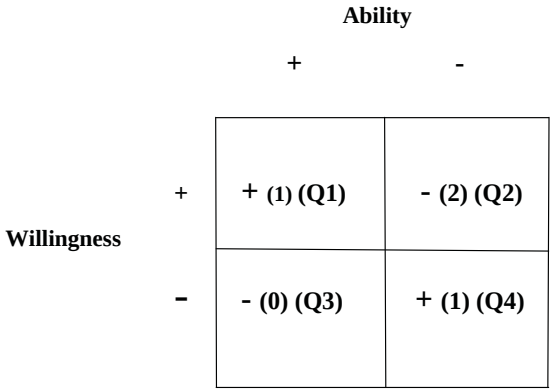

Figure 3: Strategic Intent Ability-Willingness Matrix

* Drawing on Hamel and Prahalad's (1989) definition, "ambition of corporations that outweigh their current resources", we developed the four quadrants in Figure 3. The four quadrants represent a two-by-two matrix showing dimensions for ability and willingness. Intent is captured in Quadrant 2 because willingness exceeds ability thus reflecting corporate ambition. Quadrants 1 and 4 show alignment (i.e., the change in our continuous strategic intent variable and the change in available slack are going in the same direction: positive to positive, negative to negative), hence do not reflect ambition. Quadrant 3 is the reference category since ability exceeds willingness (i.e., no ambition or willingness is negative and ability is positive).

*Figure 3 is taken from Brown (2015c) and reprinted with permission from the Journal of Management Policy and Practice.

Figure 3 provides a two-by-two matrix representing outcomes from equation IX. Positive results are found in the top left and bottom right quadrants (Q1 and Q4, respectively), and negative results surface in the top right and bottom left quadrants (Q2 and Q3, respectively). The positive outcomes represent consistency in the direction of both willingness and ability, while the negative outcomes represent a divergence in willingness and ability. If the willingness is positive, while slack is negative, it suggests strong intent (i.e., firms are willing despite a shortage of resources). Conversely, negative willingness coupled with ample resources suggests a lack of strategic intent.

Firm Capabilities

Patent data serve as a measure of capabilities in our sample since pharmaceutical firms depend on intellectual property protection for competitive advantage (Brown, 2015c, Henderson & Cockburn, 1994; Hall et al., 2001; DeCarolis, 2003; Lin & Chen, 2005; Kotha et al., 2011). Following previous work, we normalized (e.g., normalized by firm size, which is measured by revenue) and took the natural log of patent counts to estimate capabilities in a given year. Specifically, we measure capabilities as follows[5]:

$$\text{Ln [Capabilities}_{i(t-1)} = \text{Number of Patent Applications}_{i(t-1)}/\text{Total Revenues}_{i(t-1)}] \quad \text{(X)}$$

Firm-level patent applications are a proxy for a firm's capabilities in this industry as the ability to effectively apply for appropriate patents utilizes crucial resources from segments of the firm, including legal, R&D, and executive management. Firm-level patent applications give valuable information about which markets firms are going to enter. The firm may already be competing in these markets, in which case the patent application indicates the level of depth that the firm's decision-

5 We added one to each firm's patent count since we took the natural log of this count. Without this step, firms with zero patents in a given year would have a logged patent count that is undefined. By adding one to each firm's patent count, the firm thus has zero input for capabilities as the log of one is zero.

makers are aiming for, or the firm may be entering new markets, in which case the patent application indicates the level of breadth in decision-making. Patent applications are a valid proxy; therefore, for the embedded processes that firms must have in place (Winter, 2003) both in resource picking and resource exploitation (Makadok, 2001).

Interaction of strategic intent and capabilities (Moderator): Following Hypotheses 2 and 3, we use an interaction of strategic intent and capabilities to measure the moderating effect of capabilities on the link between strategic intent and performance. This was done in two ways.

The first method of operationalizing this interaction term is simply the product of the continuous variables (Hypothesis 2). The second method was employed to measure the optimal misalignment proposed in Hypothesis 3. In this method, we interacted the capabilities measure by the categorical strategic intent measure, as shown in equation IX.

Control Variables

We controlled for time effects, industry-level effects, and firm-level effects. With respect to time effects, we controlled for each year in our sample period. At the industry level, we control for inter-industry effects by concentrating on a single industry. Additionally, we control for the primary sector within the pharmaceutical industry by coding the three sectors (SIC 2834, 2835, 2836) in order to control for the differences between them. No firm had a primary four-digit SIC code of 2835 and, therefore, this became a dichotomous variable coded 0 for SIC code 2834 and 1 for SIC code 2836.

At the firm-level, we controlled for firm size, firm location, prior performance, and financial slack (Guha, 2016). Firm size was measured as the natural log of a firm's total assets in year t. Firm location is a binary variable that is equal to 1 if the firm is headquartered in the United States and equal to 0 otherwise. Past performance is controlled for by including the lagged performance measure in the specific estimation. For example, firm i's 1999 return on assets was used as a control measure when modeling the dependent variable return on assets for firm i in the year 2000. Financial slack was estimated by calculating the firm's current ratio, which is its current assets divided by its current liabilities.

RESULTS

Table 1 gives the summary statistics for the sample used in the study, and Table 2 is the pairwise correlation table. The results of the feasible generalized least squares (FGLS) models estimated in STATA are included in Table 3. We first tested control-only models (Models 1 and 5) followed by models that added in explanatory variables and interactions iteratively. Hypothesis 1 posited that there would be an inverse relationship between strategic intent and firm-level short-term performance. Models 2 and 6 include the measure of strategic intent from equation VIII for dependent variables ROIC and ROA, respectively. In both models, the coefficient for the strategic intent variable is both negative and highly significant (b=

Table 1: Summary Statistics

Variable	N	Mean	St. Dev	Min	Max
ROA	225	0.126	0.266	-2.722	0.415
ROIC	225	0.202	0.539	-6.748	0.963
Strategic Intent	225	-0.121	3.778	-35.538	38.483
Capabilities	225	3.120	8.755	0.000	107.400
Financial Slack	225	2.857	2.112	0.828	13.093
Firm Size	225	15.095	2.021	9.387	18.576

Table 2: Correlation Matrix

		1	2	3	4	5	6	7	8	9	10	11	12
1	ROA	1											
2	ROS	09135*	1										
3	ROIC	0.9380*	0.7737*	1									
4	ROA(t-1)	0.9659*	0.8968*	0.8757*	1								
5	ROS(t-1)	0.9071*	0.9970*	0.7643*	0.9071*	1							
6	ROIC(t-1)	0.9227*	0.7860*	0.9285*	0.9459*	0.7939*	1						
7	Capabilities	–0.9059*	–0.9706*	–0.7783*	–0.9051*	–0.9732*	–0.8037*	1					
8	Ln Capabilities	–0.3868	–0.5223*	–0.244	–0.4290*	–0.5307*	–0.2813	0.6260*	1				
9	Strategic Intent	0.6067*	0.6056*	0.5405*	0.7006*	0.6489*	0.6612*	–0.6297*	–0.2345	1			
10	Strategic Intent (Multi-Year)	–0.5434*	–0.6935*	–0.3941	–0.5040*	–0.6680*	–0.38	0.6413*	0.5159*	0.072	1		
11	Financial Slack	–0.3904	–0.2607	–0.4850*	–0.4335*	–0.299	–0.5339*	0.3228	–0.1237	–0.5708*	–0.1247	1	
12	Firm Size	0.6924*	0.5199*	0.7152*	0.6649*	0.5285*	0.7004*	–0.5352*	0.0492	0.5845*	–0.0859	–0.6377*	1

Table 3: Results of Feasible Generalized Least Squares (FGLS) Estimation

			Dependent Variable: ROIC				Dependent Variable: ROA			
H	**Expected Sign**	**Variable**	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
1	(-)	Strategic Intent		-0.024***	0.000			-0.009***	-0.017***	
2	(+)	Ln Capabilities x Strategic Intent			-0.000***				-0.000***	
3	(+)	Ln Capabilities x Strategic Intent (Cat 1)				-0.163***				-0.048***
	(+)	Ln Capabilities x Strategic Intent (Cat 2)				0.058**				0.025***
		Strategic Intent (Cat 1)				0.243***				0.046
		Strategic Intent (Cat 2)				-0.209**				-0.124***
		Lagged Performance	0.387***	0.477***	0.288***	0.261***	0.677***	0.717***	0.413***	0.477***
		Firm Location	0.074	0.071	0.075***	0.090	0.024	0.024	0.017	0.031
		SIC	0.040	0.028	0.017	0.066	0.022	0.016	0.051	0.052
		Financial Slack	0.014	0.004	0.03	-0.008	0.004	-0.000	-0.013**	-0.005
		Firm Size	0.086***	0.074***	-0.020***	0.117***	0.021***	0.018***	0.016**	0.037***
		Constant	-1.225***	-0.943***	-0.177*	1.378***	-0.312**	-0.224*	-.208***	-0.377***
		Year Dummies	Yes	Yes	0.025***	Yes	Yes	Yes	Yes	Yes
		Chi-Square	128.18***	195.41***	4113.43***	322.85***	374.07***	494.08***	2312.75***	727.59***
		Log Likelihood	-129.105	-109.500	153.079	-79.714	89.014	109.556	251.425	141.191
			N=225	N=225	N=225	N=225	N=225	N=225	N=225	N=225
		*** < 0.01 ** < 0.05 * < 0.10								

-0.024, p=0.001 in Model 2; b= -0.009, p=0.001 in Model 6). Therefore, hypothesis 1 is supported. This can be interpreted as an increasing level of strategic intent is associated with declining short-term performance.

Models 3 and 7 tested hypothesis 2. Hypothesis 2 posited that capabilities would positively moderate the negative relationship between strategic intent and firm performance. In these two models, capabilities were operationalized according to equation X, and strategic intent was operationalized according to equation VIII. In both models 3 and 7, the interaction term's coefficient is significant yet opposite that predicted. Hypothesis 2 predicted that capabilities would positively moderate the strategic intent-performance relationship. The coefficient values in our estimations, however, were negative and significant, thereby lending no support for hypothesis 2.

Finally, hypothesis 3 was concerned with the interaction of capabilities and strategic intent to test the association of performance for optimally misaligned firms. The hypothesis predicted that the interaction would result in positive firm performance for firms that are misaligned. This hypothesis was tested for the dependent variable ROIC in Model 4 and the dependent variable ROA in Model 8. Reported in Table 3 are the two categories above the baseline category (Baseline=Category 0, Quadrant 3). The baseline category includes firms that are low in strategic intent and, therefore, not expected to benefit from being optimally misaligned. Category 2 (Quadrant 2) represents firms that are high in strategic intent and low in ability; therefore, they are expected to benefit from being misaligned. The middle category (Quadrants 1 and 4) includes firms that have increased strategic intent relative to the baseline but are not at an optimum on the misalignment scale. In both Models 4 and 8, the interaction terms are significant. In Model 4 (ROIC), the middle category's (Cat 1: Quadrants 1 and 4) coefficient is negative and significant. Since it is difficult to determine if firms in this category are optimally misaligned, the coefficient of interest is the interaction term with category 2. In both models, this coefficient is positive and significant (b=0.058, p=0.021 in Model 4; b= 0.025, p=0.000) in Model 8, lending support to hypothesis 3.

A contour plot of the interaction is included in Figure 4. Including such a plot is important for two reasons. First, hypotheses 2 and 3 are similar conceptually but not operationally since one strategic intent variable is continuous, and the other is categorical. Second, and more importantly, interactions are difficult to interpret without a graphical representation. The high-performance segments are denoted by red and yellow in Figure 3 and include firms that are in the top quintile of performance. Figure 4 provides evidence that firms with high strategic intent and lower capabilities (i.e., optimally misaligned) outperform competitors in the sample with other mixes of these variables. Additionally, firms that have negative ROA, denoted by light blue and dark blue, are not optimally misaligned in that they have very high levels of capabilities while having strategic intent levels that are below the sample mean. These findings will be expanded upon in the Discussion section.

Robustness

We performed several robustness checks to address the consistency of findings and reverse causality.

Tobit Estimation: Since our dependent variables are ratios, there may be a truncation of the dependent variable. Therefore, as a robustness check, we estimated panel data Tobit regressions using the *xttobit* command in STATA. The results of the Tobit models are consistent with those of the random-effects models reported in Table 3.

Reverse Causality: We tested for reverse causality by regressing lagged performance measures against both our strategic intent and capabilities variables. We used two different lags—1 year and 3 years—and estimated random effects models with the same control variables included in Table 3.[6] In

[6] The lagged performance measures in our original models were removed since performance was included as an explanatory variable in these models.

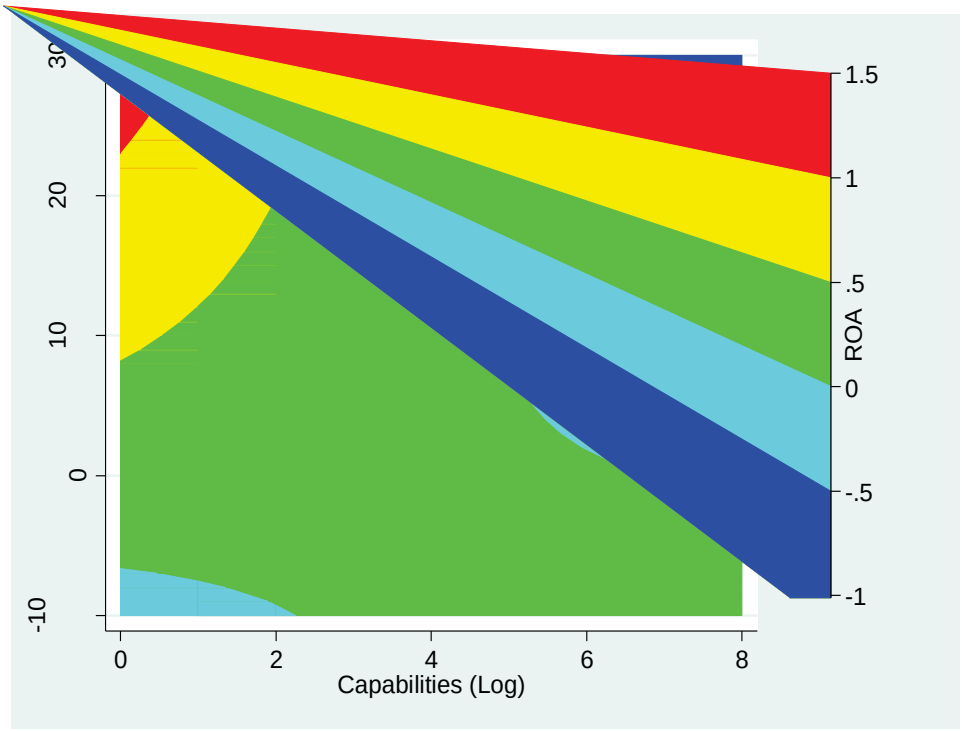

Figure 4: Interaction Plot of Strategic Intent and Capabilities (Moderator)

total, there were four models estimated (two lags and two independent variables). The coefficients for the performance variables in all models were insignificant. The lowest p-value for any of the coefficients was 0.34 leading to the conclusion that prior performance does not predict either strategic intent or capabilities in our sample.

DISCUSSION, LIMITATIONS AND FUTURE RESEARCH

Discussion

In this paper, we measured and tested strategic intent theory (Hamel & Prahalad, 1989) and made several significant contributions. The most notable of these contributions lies with the construct of strategic intent. Strategic intent research began over two decades ago with seminal works by Hamel and Prahalad (1989, 1993) in which they challenged static competitor analyses, yet it has been largely neglected.

Our paper used an aggregated measure for strategic intent that includes the differences in intensities (over time) of three items: R&D, Marketing, and Fixed Assets. In addition, we controlled for a firm's ability to absorb the costs of its actions by dividing the aggregated measure by firm-level slack. Thus, it captures the intent of a firm in terms of three main sources of competitive advantage: technology, marketing, and capacity. In all main effects models, intent was significant and negatively associated with performance. This was the predicted effect considering that a firm's stretch capabilities are a short-term cost that reduces current profitability for the hope of long-term sustainability. This is not always the case as many papers using similar measures where expenses have been associated with increased performance (DeCarolis, 2003).

The subtlety in our operationalization of strategic intent lies in the *changes* in these expenses over time and lagged relative to the dependent variables. It is our contention that the differential

of these measures accounts for the firm-level intentions of future firm-level action. Consider the process model in Figure 1. In this model, intent occurs after the input of the TMT, followed by a "calibration" period. Calibration can be thought of as a ramp-up period where the firm is putting essential assets into place so that strategic action can be executed. It is important to note that the period of intent that we measure in equations V through IX occurs at this second stage. While the change in intensity, especially if positive, may appear to be corporate action, it is not the ethereal action that has been studied in the competitive dynamics literature (Chen, 1996; Ferrier, 2001; Basdeo et al., 2006; Derfus et al., 2008). Instead, it is the calibration that results from the intent turned into action by the alteration of asset allocations expressed in our formula. Since intent is difficult to observe over a sample because of omitted evidence, this method of operationalization teases out the strategic intent from the difference in calibration. By observing calibration, we posit that the firm's intent becomes measurable in a manner that has been heretofore untested. While there are other methods available to those researching strategic intent, there is no precedent in the literature that guides us to another measurement type.

The strategic action and competitive dynamics literature have utilized content analysis (Ferrier, 2001; Basdeo et al., 2006; Derfus et al., 2008) to measure competitive action. This option was available in this study. However, content analysis is problematic for a number of reasons. First, considering that larger firms have a disproportionate probability of finding themselves mentioned in the business press, the data may be biased toward larger firms. This problem is not resolved by controlling for size since there may be a complete absence of articles in the press for smaller firms. In other words, measuring intent through published articles in newspapers and other publications, simply controlling for firm size, will not resolve the issue of a small firm having zero presence in the media. The lack of media presence is not indicative of having no strategic intent, yet this may be the interpretation in the data and estimations of such models.

Secondly, if content analysis is used, we argue that many of the individual articles surveyed are evidence of either (i) intent that may or may not be truly intended or (ii) action. In the first case, firms may attempt to falsely signal the marketplace in an attempt to competitively bluff (Seale et al., 2006) their rivals or to prop up market measures (i.e., stock returns). Put differently, parsing out cheap talk (Farrell, 1987) is difficult using this methodology. The final issue includes instances where it is action that researchers are measuring. In this case, content analysis may capture action, and this action may then be double-counted if intent was captured in prior periods of data collection.

An interesting finding is the interaction of capabilities and the categorical strategic intent variable. Our findings indicate that firms with the highest level of strategic intent and low to middling levels of capabilities have higher performance (ROA) on average. What might cause this result? One explanation could be that there is a competing effect within firms where the positive effects of capability attainment outweigh the short-term losses from high levels of strategic intent. In this case, firms with an optimal level of profit-producing capabilities have the ability to invest in future aspirations while remaining profitable. Another explanation, counter to the first, is that firms that earn outsized profits from previous capability build-up are more able to produce short-term gains from current investment (i.e., strategic intentions). In other words, there is a learning curve that the firm has optimized by targeting investment in winning short-term proposals that other firms have not yet mastered.

Figure 4 adds another layer of interest to the interaction results since this plot breaks down the interaction and its relationship to performance. These figures show that firms that are high performers in the sample have one thing in common, which is that they have high levels of strategic intent. This is certainly an avenue for future empirical studies considering that optimal

misalignment is a tenet of strategic intent theory (Hamel & Prahalad, 1993; Hamilton et al., 1998; Sitkin et al., 2011). The plot also shows that firms with both the highest levels of strategic intent and capabilities were segmented into the lowest-performing firms in the sample. Not only is this a prediction of strategic intent theory, but it is also consistent with the literature on corporate inertia and rigidities (Leonard-Barton, 1992).

Our contributions to current theory are most notable in the strategic intent arena. We have confirmed a number of major tenets in this literature stream, most notably the negative returns to stretch goals and the benefits of optimal misalignment. These results need to be further tested in different industry settings as these are the first significant empirical results of strategic intent to date. Additionally, we have offered a novel approach to the measurement of strategic intent in the absence of precedent. The method that we employ contributes to the intermediate steps between decision-making processes and operational action.

Limitations and Future Research

We note four limitations in our study. First, our study incorporates the actions in one industry. While the findings provide some guidance for research and management in the pharmaceutical industry, generalizing our findings to other industries with limited intellectual property protection is difficult. Future research incorporating other industries such as biotechnology, information technology, and engineering would help to address the generalizability concern. Second, we use patent counts as the measure of capabilities, and one could debate whether some other measure could be a better proxy for this firm-level measure. While we argue that patent applications indicate the ability for firms to innovate, it is possible that this measurement is not optimal. In future research, executive surveys and or case studies would contribute to the literature since managers should be able to articulate the firm-level capabilities that are aligned with their firm's value proposition. Third, much like the capabilities construct, we recognize that the measurement of the strategic intent is difficult. We followed the guidance provided by Hamilton et al. (1998), Nair and Selover (2012), and Brown (2015b) and utilized readily available and interpretable financial ratios as a proxy for intent. However, these ratios, collectively may not be perfectly calibrated with managerial intentions. Again, integrating managerial surveys or case studies into this literature would contribute to the understanding of managerial logic in this domain. It could also illuminate how managerial perceptions evolve over time or relative to the moves of competitors. Finally, our models only captured the link between strategic intent and short-term performance. Therefore, it is unclear whether our findings apply in the long-run as well. Given the accelerating rate of competition and the compression of windows where firms can link capabilities and to performance, long-term performance measurement becomes a difficult task. Grim et al. (2006) provide a number of examples of the increasing speed of competition due to technology, deregulation, globalization, and business acumen. As an example, over a ten-year period, they found that the competitive moves of software firms increased nine-fold. It appears that this trend is continuing; therefore, capabilities and competitive advantages that stem from them are likely to be short-lived. As such, capabilities, as well as the capabilities to intent alignment/misalignment, must constantly be recalibrated to generate the subsequent returns. In other words, capabilities in year one must be adjusted in year two in order to remain viable. Nonetheless, future research addressing longer performance lags could shed light on temporal factors influencing these constructs, assuming that performance measures are not influenced by other confounding factors.

Managerial Implications

There are three dimensions to view potential managerial implications from the findings presented here. The first dimension is for managers at pharmaceutical firms. These managers have the ability to increase short-term profitability by

positioning their firms in an optimally misaligned manner. What does this mean? The evidence in this paper points to firms that have a high level of patents yet low levels of strategic intent and calibration as being laggards in the market. On the other hand, firms that are misaligned in the opposite direction (i.e., a lower level of patents but increased intent) seem to be outperforming rivals, at least in the short term. Managers at firms that have the flexibility to reposition themselves may be able to rid the firm of unwanted resources (i.e., patents that are out of the firm's core business) in order to misalign the firm with respect to new or existing ambitions. Focusing on essential capability-building may induce a rejuvenated sense of competitiveness while ridding managers (and other employees) of inefficiencies associated with non-core assets and markets.

The second dimension addresses non-pharmaceutical firms and their implications from the present study. In industries that are not based on technological resources and capabilities, management also has the ability to optimally misalign the firm. Obviously, this misalignment will be industry-specific and, therefore, a full analysis is not possible here. However, as an example, restaurant service companies might optimally misalign themselves by following a growth strategy through company-owned stores, as opposed to growth by franchising. In such an industry, the calibration of a more focused *ex-ante* strategy (Makadok, 2001) may induce management to execute the firm's actual business (i.e., cooking and serving food) than on its superficial business (i.e., growth as displayed in financial statements through overreliance on franchising). This misalignment should help management to accumulate resources and nurture capabilities in ways that are difficult when management is focused on growth in the pool of potential franchisees. The initial ambition (strategic intent) to grow through core activities should be mismatched with its resource/capability stock to help outperform its rivals.

A final managerial implication that derives from the current work relates to corporate governance. While the first two implications explained actions that top management teams (TMTs) could implement in the face of the findings herein, another way to view them are with respect to the body that manages the managers, namely the boards of directors (BOD). BODs have two main responsibilities to their constituents (i.e., shareholders and other stakeholders)--monitoring and incentivizing. While the latter is the most discussed in the literature, the former responsibility can be made more robust at firms where misalignment may occur. Taking the results in this paper generally, and the willingness-ability matrix specifically, BODs could make sure that top managers were stretching the goals of the firm in order to avoid complacency. As firms have shown time and again, management teams tend toward risk-aversion and strategic persistence once their firms have reached a certain level of success. As an additional monitoring technique, BODs could have a mechanism by which they hold TMTs to account for complacency and nudge them toward another round of stretch goals. This would both fulfill their dual roles as managerial overseers and shareholder representatives.

REFERENCES

Adner, R., & Helfat, C. (2003). Corporate effects and dynamic managerial capabilities. *Strategic Management Journal*, 24(11), 1011-1025. https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.331

Amit, R., & Schoemaker, P. (1993). Strategic assets and organizational rent. *Strategic Management Journal*, 14(1), 33-46. https://onlinelibrary.wiley.com/doi/10.1002/smj.4250140105

Argyres, N., & Silverman, B. (2004). R&D, organization structure, and the development of corporate technological knowledge. *Strategic Management Journal*, 25(8-9), 929-958. https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.387

Barney J. (1991). Firm resources and sustained competitive advantages. *Journal of Management* 17(1), 99-122. https://journals.sagepub.com/doi/pdf/10.1177/014920639101700108

Basdeo, D., Smith, K., Grimm, C., Rindova, V., & Derfus, P. (2006). The impact of market actions on firm reputation. *Strategic Management Journal*, 27(12), 1205-1219. https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.556

Bourgeois, L. (1981). On the measurement of organizational slack. *Academy of Management Review*, 6(1), 29-39. https://www.jstor.org/stable/257138?seq=1#page_scan_tab_contents

Brown, R. (2012). The role of legitimacy for the survival of new firms. *Journal of Management and Organization*, 18(3), 412-427. https://doi.org/10.1017/S1833367200000882

Brown, R. (2015a). Firm-level political capabilities and subsequent financial performance. *Journal of Public Affairs*, 16(3), 303-313. https://onlinelibrary.wiley.com/doi/10.1002/pa.1592

Brown, R. (2015b). Franchising as a collective action mechanism in highly fragmented industries. *Journal of Managerial Issues*, 27(4), 63-83. https://www.jstor.org/stable/i40172055

Brown, R. (2015c). Strategic intent, capabilities, and financial performance: A study of the pharmaceutical industry. *Journal of Management Policy and Practice*, 16(1), 18-30. https://pdfs.semanticscholar.org/49c0/8e0c9360c85401169cb2230fc027ad18ebfe.pdf

Burgelman, R. (1994). Fading memories: a process theory of strategic business exit in dynamic environments. *Administrative Science Quarterly*, 39(1), 24-56. https://www.jstor.org/stable/2393493?seq=1#page_scan_tab_contents

Burgelman, R., & Grove, A. (1996). Let chaos reign, then rein in chaos-repeatedly: managing strategic dynamics for corporate longevity. *Strategic Management Journal*, 28(10), 965-979. https://www.jstor.org/stable/2393493?seq=1#page_scan_tab_contents

Castanias, R., & Helfat, C. (2001). The managerial rents model: theory and empirical analysis. *Journal of Management*, 27(6), 661-678. https://journals.sagepub.com/doi/10.1177/014920630102700604

Chen, M. (1996). Competitor analysis and inter-firm rivalry: toward a theoretical integration. *Academy of Management Review*, 21(1), 100-134. https://www.jstor.org/stable/258631?seq=1#page_scan_tab_contents

Chen, M., Su, K., & Tsai, W. (2007). Competitive tension: the awareness-motivation-capability perspective. *Academy of Management Journal*, 50(1), 101-118. https://journals.aom.org/doi/10.5465/amj.2007.24162081

Child, J. (1972). Organizational structure, environment and performance: the role of strategic choice. *Sociology*, 6(1), 1-22. https://journals.sagepub.com/doi/10.1177/003803857200600101

Cho, H., & Pucik, V. (2005). Relationship between innovativeness, quality, growth, profitability and market value. *Strategic Management Journal*, 26(6), 555-575. https://www.jstor.org/stable/20142249?seq=1#page_scan_tab_contents

Combs, J., & Ketchen, J. (1999). Explaining interfirm cooperation and performance: toward a reconciliation of predictions from the resource-based view and organizational economics. *Strategic Management Journal*, 20(9), 867-888. https://onlinelibrary.wiley.com/doi/10.1002/%28SICI%291097-0266%28199909%2920%3A9%3C867%3A%3AAID-SMJ55%3E3.0.CO%3B2-6

Cyert, R., & March, J. (1963). A behavioral theory of the firm. Prentice-Hall: Englewood Cliffs, NJ.

Danneels, E. (2008). Organizational antecedents of second-order competences. *Strategic Management Journal*, 29(5), 519-543. https://onlinelibrary.wiley.com/doi/10.1002/smj.684

DeCarolis, D. (2003). Competencies and imitability in the pharmaceutical industry: an analysis of their relationship with firm performance. *Journal of Management*, 29(1), 27-50. https://journals.sagepub.com/doi/10.1177/014920630302900103

Derfus, P., Maggitti, P., Grimm, C., & Smith, K. (2008). The red queen effect: competitive actions and firm performance. *Academy of Management Journal*, 51(1), 61-80. https://www.jstor.org/stable/20159494?seq=1/analyze

Doving, E., & Gooderham, P. (2008). Dynamic capabilities as antecedents of the scope of related diversification: the case of small firm accountancy practices. *Strategic Management Journal*, 29(8), 841-857. https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.683

Drnevich, P., & Kriauciunas, A. (2011). Clarifying the conditions and limits of the contributions of ordinary and dynamic capabilities to relative firm performance. *Strategic Management Journal*, 32(3), 254-279. https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.882

Dubin, R. (1978). Theory development. New York: Free Press.

Dutta, S., Narasimhan O., & Rajiv S. (2005). Conceptualizing and measuring capabilities: methodology and application. *Strategic Management Journal* 26(3), 277-285. https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.442

Farrell, J. (1987). Cheap talk, coordination and entry. *Rand Journal of Economics*, 18(1), 34. https://www.jstor.org/stable/2555533?seq=1#metadata_info_tab_contents

Ferrier, W., Smith, K., & Grimm, C. (1999). The role of competitive action in market share erosion and industry dethronement: a study of industry leaders and challengers. *Academy of Management Journal*, 42(4), 372-388. https://www.jstor.org/stable/257009?seq=1#page_scan_tab_contents

Ferrier, W. (2001). Navigating the competitive landscape: the drivers and consequences of competitive aggressiveness. *Strategic Management Journal*, 44(4), 858-877. https://www.jstor.org/stable/3069419?seq=1#page_scan_tab_contents

Finkelstein, S., & Hambrick, D. (1990). Top-Management-Team tenure and organizational outcomes: The moderating role of managerial discretion. *Administrative Science Quarterly*, 35(3), 484-503. https://www.jstor.org/stable/2393314?seq=1#page_scan_tab_contents

Frain, J. (2008). Introduction to STATA with econometrics in mind. STATA Publication.

Galbraith, J. (1973). Designing complex organizations. Reading, MA: Addison-Wesley.

Gary, M. (2005). Implementation strategy and performance outcomes in related diversification. *Strategic Management Journal,* 26(7), 643-664. https://www.jstor.org/stable/20142256?seq=1#page_scan_tab_contents

Gimeno, J. (1999). Reciprocal threats in multimarket rivalry: staking out "spheres of influence" in the U.S. airline industry. *Strategic Management Journal*, 20(2), 101-128. https://onlinelibrary.wiley.com/doi/abs/10.1002/%28SICI%291097-0266%28199902%2920%3A2%3C101%3A%3AAID-SMJ12%3E3.0.CO%3B2-4

Grant, A., & Schwartz, B. (2011). Too much of a good thing: the challenge and opportunity of the inverted u. *Perspectives on Psychological Science*, 6(1), 61-76. https://journals.sagepub.com/doi/abs/10.1177/1745691610393523

Grim, C., Lee, H., & Smith, K. (2006). Strategy as action: Competitive dynamics and competitive advantage. *Oxford University Press, NY, NY.*

Grossman, W., & Cannella, A. (2006). The impact of strategic persistence on executive compensation. *Journal of Management*, 32(2), 257-278. https://journals.sagepub.com/doi/10.1177/0149206305280105

Guha, M. (2016). Organizational slack in declining and surviving firms. *Journal of Strategy and Management, 9(1), 93-114.* https://doi.org/10.1108/JSMA-11-2014-0092

Hall, B., Jaffe, A., & Trajtenberg, M. (2001). The NBER patent citation data file: lessons, insights and methodological tools. NBER Working Paper 8498. https://www.nber.org/papers/w8498

Hamel G., & Prahalad, C. (1989). Strategic intent. *Harvard Business Review,* 67(2), 63-76. https://hbr.org/2005/07/strategic-intent

Hamel G., & Prahalad, C. (1993). Strategy as stretch and leverage. *Harvard Business Review* 71(2), 75-84. https://hbr.org/1993/03/strategy-as-stretch-and-leverage

Hamel, G., & Prahalad, C. (1994). Competing for the future. Harvard Business Press: Cambridge.

Hamilton, R., Eskin, E., & Michaels, M. (1998). Assessing competitors: the gap between strategic intent and core capability. *Long Range Planning,* 31(3), 406-417. https://www.sciencedirect.com/science/article/pii/S0024630198800071?via%3Dihub

He, Z., & Wong, P. (2004). Exploration vs. exploitation: an empirical test of the ambidexterity hypothesis. *Organization Science*, 15(4), 481-494. https://pubsonline.informs.org/doi/10.1287/orsc.1040.0078

Henderson, R., & Cockburn, I. (1994). Measuring competency? exploring firm effect in pharmaceutical research. *Strategic Management Journal,* 15(S1), 63-84. https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.4250150906

Kamboj, S., & Rahman, Z. (2017). Market orientation, marketing capabilities and sustainable innovation: The mediating role of sustainable consumption and competitive advantage. *Management Research Review*, 40(6), 698-724. https://www.emerald.com/insight/content/doi/10.1108/MRR-09-2014-0225/full/html

Kline, W., & Wadhams, T. (2011). Overcoming competitive inertia: board composition and strategic persistence. *International Journal of Management and Information Systems,* 16(1), 111-124. https://clutejournals.com/index.php/IJMIS/article/view/6727

Kogut, B., & Zander, U. (1992). Knowledge of the firm, combinative capabilities and the replication of technology. *Organization Science*, 3(3), 383. https://pubsonline.informs.org/doi/10.1287/orsc.3.3.383

Kotha, R., Zheng, Y., & George, G. (2011). Entry into new niches: the effects of firm age and the expansion of technological capabilities on innovative output and impact. *Strategic Management Journal*, 32(9), 1011-1024. https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.915

Lant, T., Milliken, F., & Batra, B. (1992). The role of managerial learning and interpretation in strategic persistence and reorientation: an empirical exploration. *Strategic Management Journal*, 13(8), 585-608. https://www.jstor.org/stable/2486652?seq=1#page_scan_tab_contents

Leonard-Barton D. (1992). Core competency and core rigidities: a paradox in managing new product development. *Strategic Management Journal,* 13(S1), 111-125. https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.4250131009

Lin, B., & Chen, J. (2005). Corporate technology portfolios and R&D performance measures: a study of technology intensive firms. *R&D Management*, 35(2), 157-170. https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1467-9310.2005.00380.x

Lovas, B., & Ghoshal, S. (2000). Strategy as guided evolution. *Strategic Management Journal*, 21(9), 875-896. https://onlinelibrary.wiley.com/doi/abs/10.1002/1097-0266%28200009%2921%3A9%3C875%3A%3AAID-SMJ126%3E3.0.CO%3B2-P

Makadok R. (2001). Toward a synthesis of the resource-based and dynamic-capability views of rent creation. *Strategic Management Journal,* 22(5), 387-401. https://www.jstor.org/stable/3094265?seq=1#page_scan_tab_contents

Mantere, S., & Sillince, J. (2007). Strategic intent as a rhetorical device. *Scandinavian Journal of Management*, 23(4), 406-423. https://psycnet.apa.org/record/2007-17538-003

Miller, K. (2002). Knowledge inventories and managerial myopia. *Strategic Management Journal*, 23(8), 689-706. https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.245

Mishina, Y., Pollock, T., & Porac, J. (2004). Are more resources always better for growth? Resource stickiness in market and product expansion. *Strategic Management Journal,* 25(12)**,** 1179-1197. https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.424

Mudambi, R., & Swift, T. (2011). Proactive R&D management and firm growth: a punctuated equilibrium model. *Research Policy*, 40(3), 429-440. https://ideas.repec.org/a/eee/respol/v40y2011i3p429-440.html

Nair, A., & Selover, D. (2012). A study of competitive dynamics. *Journal of Business Research*, 65(3), 355-361. https://ideas.repec.org/a/eee/jbrese/v65y2012i3p355-361.html

Nelson, R., & Winter, S. (1982). An evolutionary theory of economic change. Belknap Press/Harvard University Press: Cambridge.

Newbert, S. (2007). Empirical research on the resource-based view of the firm: an assessment and suggestions for future research. *Strategic Management Journal*, 28(2), 121-146. https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.573

Noda, T., & Bower, J. (1996). Strategy making as iterated processes of resource allocation. *Strategic Management Journal*, 17(S1), 159-192. https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.4250171011

Nooteboom, B., van Haverbeke, W., Duysters, G., Gilsing, V., & van den Oord, A. (2007). Optimal cognitive distance and absorptive capacity. *Research Policy*, 36(7), 1016-1034. https://econpapers.repec.org/article/eeerespol/v_3a36_3ay_3a2007_3ai_3a7_3ap_3a1016-1034.htm

Panda, S., & Rath, S. (2017). The effect of human IT capability on organizational agility: an empirical analysis. *Management Research Review*, 40(7), 800-820. https://www.emerald.com/insight/content/doi/10.1108/MRR-07-2016-0172/full/html?fullSc=1

Parnell, J. (2018). Nonmarket and market strategies, strategic uncertainty and strategic capabilities: evidence from the USA. *Management Research Review*, 41(2), 252-274. https://app.dimensions.ai/details/publication/pub.1101652823

Powell, T. (2002). The philosophy of strategy. *Strategic Management Journal*, 23(9), 878-880. https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.254

Prencipe, A. (1997). Technological competencies and product's evolutionary dynamics: a case study from the aero-engine industry. *Research Policy*, 25(8), 1261. https://www.sciencedirect.com/science/article/abs/pii/S0048733396009006

Reyes, P., Worthington, W., & Collins, J. (2015). Knowledge management enterprise and RFID systems adoption to supply chain performance. *Management Research Review*, 38(1), 44-66. https://www.emerald.com/insight/content/doi/10.1108/MRR-01-2013-0011/full/html

Rothaermel, F., & Deeds, D. (2004). Exploration and exploitation alliances in biotechnology: a system of new product development. *Strategic Management Journal*, 25(3), 201-221. https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.376

Sampson, R. (2005). Experience effects and collaborative returns in R&D alliances. *Strategic Management Journal*, 26(11), 1009-1031. https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.483

Schilke, O. (2013). On the contingent value of dynamic capabilities for competitive advantage: the nonlinear moderating effect of environmental dynamism. *Strategic Management Journal*, 35(2), 179-203. https://onlinelibrary.wiley.com/doi/abs/10.1002/smj.2099

Seale, D., Arend, R., & Phelan, S. (2006). Modeling alliance activity: opportunity cost effects and manipulations in an iterated prisoner's dilemma with exit option. *Organizational Behavior and Human Decision Processes*, 100(1), 60-75. https://ideas.repec.org/a/eee/jobhdp/v100y2006i1p60-75.html

Simon, H. (1957). Models of man. Wiley: New York.

Sitkin, S., See, K., Miller, C., Lawless, M., & Carton, A. (2011). The paradox of stretch goals: organizations in pursuit of the seemingly impossible. *Academy of Management Review*, 36(3), 544-566. https://journals.aom.org/doi/abs/10.5465/amr.2008.0038

Sleesman, D., Conlon, D., McNamara, G., & Miles, J. (2012). Cleaning up the big muddy: a meta-analytic review of the determinants of the escalation of commitment. *Academy of Management Journal*, 55(3), 541-562. https://journals.aom.org/doi/abs/10.5465/amj.2010.0696

Teece, D., Pisano G, & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal,* 18(7)**,** 509-533. https://onlinelibrary.wiley.com/doi/abs/10.1002/%28SICI%291097-0266%28199708%2918%3A7%3C509%3A%3AAID-SMJ882%3E3.0.CO%3B2-Z

Weick, K., & Roberts, K. (1993). Collective mind in organizations: heedful interrelating on flight decks. *Administrative Science Quarterly*, 38(3), 357-382. https://www.jstor.org/stable/2393372

Winter, S. (2000). The satisficing principle in capability learning. *Strategic Management Journal*, 21(10-11), 981-996. https://onlinelibrary.wiley.com/doi/10.1002/1097-0266%28200010/11%2921%3A10/11%3C981%3A%3AAID-SMJ125%3E3.0.CO%3B2-4

Winter, S. (2003). Understanding dynamic capabilities. *Strategic Management Journal*, 24(10), 991-995. https://onlinelibrary.wiley.com/doi/10.1002/smj.318

Whetten, D. (1989). What constitutes a theoretical contribution? *Academy of Management Review*, 14(4), 490-495. https://www.jstor.org/stable/29765013?seq=1#page_scan_tab_contents

Yam, R., Lo, W., Tang, E., & Lau, A. (2011). Analysis of sources of innovation, technological innovation capabilities, and performance: an empirical study of Hong Kong manufacturing industries. *Research Policy*, 40(3), 391-402. https://www.sciencedirect.com/science/article/abs/pii/S0048733310002222

Yeoh P., & Roth, K. (1999). An empirical analysis of sustained advantage in the U.S. pharmaceutical industry: impact of firm resources and capabilities. *Strategic Management Journal,* 20(7), 637-653. https://onlinelibrary.wiley.com/doi/abs/10.1002/%28SICI%291097-0266%28199907%2920%3A7%3C637%3A%3AAID-SMJ42%3E3.0.CO%3B2-Z

Young, G., Smith, K., & Grimm, C. (1996). Austrian and industrial organization perspectives on firm-level competitive activity and performance, *Organization Science*, 7(3), 243-254. https://ideas.repec.org/a/inm/ororsc/v7y1996i3p243-254.html