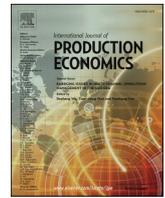




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## Dynamic strategic planning and firm competitive performance: A conceptualization and an empirical test

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Using the dynamic capabilities and flexible planning framework, we propose a Dynamic strategic planning (DSP) scale. We test for the nomological validity of Dynamic strategic planning using operational capabilities (OC) as a mediator. Using a survey of 267 US-based SMEs, we test for the mediation effect of operational capabilities (disaster immunity, innovation, product quality, delivery reliability, process flexibility, and cost leadership) between Dynamic strategic planning scale (clarity of vision, understanding of core capabilities, selecting strategic targets, shared responsibility, and taking action) and financial performance. Supporting the nomological argument that Dynamic strategic planning will be less efficacious directly and would be more effective when it is manifested through operational capabilities, the findings show that Dynamic strategic planning has a negative but non-significant association with financial performance; however, it positively influences financial performance through operational capabilities. Implications of the results are discussed with theoretical contributions and future research directions.

### 1. Introduction

Central to organizational survival and performance in the face of the ever-evolving technological landscape, fluctuating demand, and supply chain disruptions is the dynamic capabilities framework that requires a firm to purposefully create, extend or modify its resource base. Having the capability to sense the market and take advantage of opportunities by readjusting or reconfiguring product or process portfolios is central to sustained competitive advantage. Lower ability to sense and act to emerging opportunities could cause strategic “insensitivity,” strategic myopia, imprisoned resources, and management mediocrity among others (Doz and Kosonen, 2008).

Yet, there remains a limited understanding of how a firm takes a “balanced approach to strategic planning that yields the flexibility of an emergent process with the discipline of a deliberate process” (Dibrell et al., 2007; page 23). As such, the dynamic strategic planning complements the dynamic capabilities framework. Although conceptually explored by Dibrell et al. (2007) and despite significant interest in the concept of dynamic capabilities, we lack an understanding of how firms dynamically plan to maintain planning flexibility especially as an empirically validated scale of Dynamic strategic planning does not exist.

We propose a conceptualization of Dynamic strategic planning or the strategic planning process that aligns a firm’s vision and resources to accommodate changes in the external environment for capturing emerging opportunities. Rooted in the planning flexibility literature (Craig et al., 2014; Tsai et al., 2008; Long, 2000), the Dynamic strategic planning framework informs the environmental response processes in firms (Ives and Mandviwalla, 2004; Shin et al., 2015; Dibrell et al., 2014).

Research efforts remain scant and treatment of Dynamic strategic planning remains generally theoretical. Van Wezel et al. (2006) found that a non-Dynamic strategic planning process will become a bottleneck in the use a firm’s dynamic capabilities such as strategic agility or strategic flexibility, rendering such capabilities less effective. If adaptation to a changing environment is a subsuming organizational paradigm that requires a flexible planning framework, Based on the planning flexibility framework, we use clarity of vision, understanding of core capabilities, selecting strategic targets, shared responsibility, and taking action as the components of the Dynamic strategic planning scale (Long, 2000). Our scale development is informed by the established literature on planning flexibility (Craig et al., 2014; Dibrell et al., 2014; Kukalis, 1989; Van Wezel et al., 2006). To test for the nomological validity of the

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Dynamic strategic planning scale, we use operational capabilities, capabilities rooted in the logic that to adapt to changing environment, the core of the firm—operations—must be adapted to realize the efficacy of dynamic planning (Dyer and Shafer, 1998; Sharifi and Zhang, 1999; Yusuf et al., 1999; Cao and Dowlatshahi, 2005; Brannen and Doz, 2012).

The focus on Dynamic strategic planning and its influence through operational capabilities on performance is important for the following reasons. First, planning alone may not suffice, unless there is an undergird of capabilities infrastructure to support dynamic planning as Dynamic strategic planning could increase disruptions, require more resource allocations and adjustments, and increase re-adjustment costs. Consistent with this idea, our results show a negative association of Dynamic strategic planning with firm performance, however, a positive association through operational capabilities. As Winter (2003) suggests, investments in dynamic capabilities such as Dynamic strategic planning may not always be useful. While ability to plan in concordance with changing environment is relevant to prevent strategic planning from becoming a bottleneck for dynamic capabilities such as strategic agility is important (Dibrell et al., 2014; Van Wezel et al., 2006) simultaneous focus on operational capabilities is needed to gain positive firm performance.

Second, compared to other capabilities such as innovation and marketing capabilities, operational capabilities interface with both innovation and marketing functions and require deeper changes in the tasks, tools, and processes of an organization to realize benefits of dynamic capabilities. The deeply embedded operational capabilities that form the backbone of the delivery of products and services would be central to the nomological validity of the Dynamic strategic planning scale. Tapping into operational capabilities as a mediator could contribute to a deeper understanding of the Dynamic strategic planning construct. Overall, we provide a psychometrically tested measure of Dynamic strategic planning, informed by planning flexibility framework, and validate it using operational capabilities construct as a nomological validator of the scale.

Third, although the notion of deliberate and emergent strategy and dynamic capabilities are widely acknowledged, how firms plan for these changing conditions in a more routine way, remains less explored. The Dynamic strategic planning scale is especially salient to filling the knowledge gap of firms who rely on routines to dynamically engage in the strategic planning process. While dynamic capabilities framework may implicitly call for limited planning or emergent strategy framework may call for “play it by the ear”, the dynamic strategic planning approach provides both the necessary discipline in leveraging the existing resources and providing stability while balancing it with emergent opportunities and challenges. Moving from the notion of a structured planning process, Dynamic strategic planning provides the necessary flexibility in limiting the inertia in following the rigid planning process and maintaining balance with an ongoing focus on the emerging strategic requirements (Dibrell et al., 2007).

## 2. Theoretical background

In proposing a Dynamic strategic planning scale, we first start by reviewing dynamic capabilities and planning flexibility literature. Considering these two streams of literature, in tandem, helps identify the academic gap to motivate the proposed Dynamic strategic planning scale.

### 2.1. Dynamic capabilities

Compared to the static view of planning provided by Resource-Based View (RBV) in explaining competitive advantage (Barney, 1991), Dynamic strategic planning is associated with high-velocity dynamic environments (Eisenhardt and Martin, 2000). Teece et al. (1997) proposed dynamic capabilities as an extension to the work on RBV. Both, the resource-based view as well as the dynamic capabilities approach

usually draw a distinction between resources and capabilities. Resources are “stocks of available factors that are owned or controlled by the firm” whereas capabilities define a firm’s “ability to deploy its resources, usually in combination, using organizational processes to achieve some desired end result” (Amit and Schoemaker, 1993, p. 35). Based on Teece and colleagues’ (1997) dynamic capabilities framework, Dynamic strategic planning could help improve a “firm’s ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments.” Dynamic strategic planning could allow a firm to sense and shape opportunities, and help it maintain its competitiveness by combining, reconfiguring, creating, modifying and extending its resource base (Eisenhardt and Martin, 2000; Zollo and Winter 2002). As a dynamic capability, Dynamic strategic planning allows firms to act upon and modify a firm’s operating protocols in pursuit of improved effectiveness. Dynamic strategic planning in the context of dynamic capabilities thus is not simply a set of processes for deploying resources but also relates to the know-how embedded within these processes.

This is rich empirical and conceptual research on dynamic capabilities (Barreto, 2012; Eisenhardt and Martin, 2000; Teece et al., 1997). Eisenhardt and Martin (2000, p.1108), note that firm must have “commonalities in key features, idiosyncrasy in details.” The existing empirical findings provide two main component factors of Dynamic strategic planning, namely, the *ability to sense* and the *ability to respond*. The first characteristic that underpins the dynamic capability concept, the ability to sense and seize opportunities (Teece et al., 1997), is related to Dynamic strategic planning. The *ability to sense* is a firm’s absorptive capacity. According to Cohen and Levinthal (1990, p. 128), it is “the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends ... the ability to evaluate and utilize outside knowledge is largely a function of the level of prior knowledge.” Wang and Ahmed (2007) review a number of empirical studies that suggest the ability to sense is critical to survival in many industries (see, for instance, Verona and Ravasi, 2003; Salvato, 2003).

The second element of dynamic capability that underpins Dynamic strategic planning is the *ability to respond* or capability to act after sensing an opportunity (Teece et al., 1997; Wang and Ahmed, 2007). Teece defines this in terms of the capability to reallocate, recombine, and in general reconfigure a firm’s resource base to suit changing needs. Empirical studies (e.g. Camuffo and Volpato, 1996; Forrant and Flynn, 1999; Alvarez and Merino, 2003) reveal that the ability to adapt to environmental changes and align internal resources with external demand is critical to firm evolution and survival in several industries. High levels of adaptive capability exhibit dynamic capabilities (Teece et al. 1997).

Taken together, the two commonalities provide a theoretically sound basis from which to conceptualize a planning-based concept of a firm’s response to a changing the environment –. Dynamic strategic planning. Related to dynamic capabilities literature calling for Dynamic strategic planning is the literature on planning flexibility.

### 2.2. Flexible planning systems and Dynamic strategic planning scale

According to Kukalis (1989), planning flexibility is “the capacity of a firm’s strategic plan to change as environmental opportunities/threats emerge” (Barringer and Bluedorn, 1999, p. 424). The conceptualization of flexible planning is rooted in the work on emergent strategy (Mintzberg, 1991; 1994) and in the adaptive planning framework from Ansoff (1991). Flexible planning systems allow the firm to modify, adapt and orchestrate plans to meet emerging opportunities in the changing environment. While strategic agility explains the “how,” flexible planning systems such as Dynamic strategic planning explain the “what”- what type of planning system is best suited for exploiting opportunities in the environment? Alternatively, conceptualized as a planned emergence approach by Grant (2003), Dynamic strategic planning may not only require decentralization but more importantly, it may require adaptive planning. Specifically, based on Long (2000), it requires a

deeper understanding of core capabilities, ability to vary selection of strategic targets, managing planning responsibility jointly at multiple levels, and joint action. These elements of adaptive target selection along with planning and execution at multiple levels, while building upon core capabilities, is at the core of Dynamic strategic planning. Between formalized (Ansoff, 1965) and emergent planning (Mintzberg, 1994), Dynamic strategic planning enables the necessary adaptation to react more effectively to emerging opportunities (Burgelman and Grove, 1996).

Our exposition of dynamic strategic planning is based on Dibrell et al. (2007). The Dynamic strategic planning is an overarching framework over the traditional strategic planning framework. The traditional strategic planning framework is routinized, less reactive to external conditions, has a weaker connection with strategic goals and processes with the changing environment, is reactive, and can be threat-rigid in the face of changing environment. At the opposite end of this continuum is the explorative approach that is not only resource consuming but it also fails at providing a path to maintain balance to maintain stability while responding to external environment. Dibrell et al. (2007) propose a mid-range solution, dynamic strategic planning, which is a “routinized strategic planning process with a strong external focus to maintain strategic flexibility” (page 31). The Dynamic strategic planning framework is rooted in the notion that the planning process must provide an ongoing and clear direction while providing the ongoing flexibility using strategic flex points, or the “processes are both purposeful in providing a clear unified direction for the organization and also dynamic in allowing for changes to occur when the strategy should be adapted to a changing environment” (Dibrell et al., 2007; page 30).

Dynamic strategic planning is elemental to lowering inertia, improving responsiveness, ensuring relevant information processing, and linking the external environment with the internal responsiveness flexibility. Dynamic strategic planning is rooted in planned emergence (Grant, 2003). Although formal strategic planning process framework dates back to Ansoff (1964), in dynamic environment the need for maintaining strategic flex points may be central to improving performance. While the rigidity of strategic planning allows for the necessary efficiency and commitment, along with a clear path of action, being tied to a strategic plan lowers responsiveness to emerging environmental needs (Wiltbank et al., 2006). Dynamic strategic planning does not discount for the value of formal strategic planning but allows room for “planned emergence strategic planning process [that] integrates attributes of the design school approach (i.e., formal strategic planning) (Ansoff, 1991) and the process school approach (i.e., ad hoc, flexibility)” (Dibrell et al., 2014; page 2001). The proposed adaptive approach to planning allows for adaptation in the strategic planning process to improve responsiveness and leverage existing resources and capabilities. The strategic flex points are the routines and norms facilitate planned emergence by allowing for structured planning that is informed by ongoing inflection points in the planning process that are triggered by internal feedback loops from a variety of stakeholders. The planning dynamics are rooted in the information processing perspective where multilevel and multicontextual flow of information with the environment provides the necessary foundation for deliberating on strategic needs and actions. Involvement of internal and external stakeholders is perhaps at the root of maintaining flex points. Central to this premise of planned emergence is sensemaking to continuously construct and reconstruct strategic plans to allow for dynamic development of strategic plans.

Firms with Dynamic strategic planning pursue opportunities in the changing environment. As such, Dynamic strategic planning allows firms to adjust their strategic plans to pursue environmental adaptations (cf. Hoskisson et al., 1999, Stevenson and Carlos Jarrillo-Mossi, 1986). An unadaptable plan could limit adjustments in relation to the turbulent and uncertain environment, and although less discussed, Dynamic strategic planning is central to the planning formulation process (e.g., Doz and Kosonen, 2008; Zhou and Wu, 2010). Lacking Dynamic

strategic planning, gains from operational capabilities may be limited because traditionally, operational activities are centralized and hierarchical. However, with the changing environment, Dynamic strategic planning could improve performance by better aligning external opportunities through operational capabilities.

Van Wezel et al. (2006) describe a phenomenon called planning “flexibility bottleneck”, where a planning process itself hinders organizational agility. Their research indicates that agile and flexible firms are unable to take advantage of their capabilities, as their inflexible planning process negates the possibility of gaining any advantage out of their operational capabilities. This occurs as organizational decisions flow from strategic planning level to the operational levels where the capabilities like agility and flexibility reside. Inflexibility at the planning level will thus percolate to the operational level leading to suboptimal performance. Dynamic strategic planning seems to be a potential dynamic capability that could maximize flexibility potential (Tsai et al., 2008).

### 2.3. The proposed scale of Dynamic strategic planning

The proposed scale for Dynamic strategic planning is closely aligned with the discussion of planning flexibility in Barringer and Bluedorn (1999). Doz and Kosonen (2008) note that Dynamic strategic planning could help firms improve “real-time strategic sensitivity”, “quick collective commitments,” and “strong resource deployment.” Dynamic strategic planning may allow for improved sensing of opportunities in the environment, as well as the ability to reconfigure firms’ resources in order to respond to them. Further, Gardner et al. (1986: 2.22) note “one of the hallmarks of good strategies is the willingness of the drafters to encompass the likelihood of change and consequent uncertainties” and Koontz (1958: 55) shares that “effective planning requires that the need for flexibility be a major consideration in the selection of plans”. Barringer and Bluedorn (1999) further discuss that “a flexible planning system, coupled with intensive environmental scanning, allows a firm’s strategic plan to remain ‘current’” (page 424), reflecting an integration of Ansoff’s (1965) design school and Mintzberg’s (1984) process school, to respond to changing environment while maintaining internal stability.

The underlying premise based on Kukalis (1989) and Barringer and Bluedorn (1999) is that Dynamic strategic planning may allow the “planning flexibility that enables firms to pursue not-planned-for opportunities resulting from environmental change through quick adjustments of their strategic plans” (Dibrell et al., 2014: 2). In a related stream of work, Wiltbank et al. (2006) highlight the value of adaptive planning that lowers constraints from formal strategic planning and improves a firm’s ability to cope with unpredictability.

The theoretical basis for Dynamic strategic planning is also rooted in Mumford and colleagues (2001, 2002) and Long (2000). Mumford and colleagues (2001, 2002) highlighted the need for a dynamic, relational, and cognitive set of processes (Anzai, 1984; Hayes-Roth and Hayes-Roth, 1979). Mumford et al. (2008) emphasized the utility of planning activities instead of a focus on the end result of planning. To suit emergent needs of a firm, planning must shift and adjust through the elements of planning that allow for not only moving from the initial template of a plan but also to leverage internal and external resources to gather information in an ongoing basis to revise, test and adapt plans.

Building on Mumford and colleagues (2001, 2002), we use a five-dimensional conceptualization of Dynamic strategic planning (see Table 1). Our operational definition of Dynamic strategic planning was borrowed from Long (2000). Long (2000) proposed a seven-dimension measure of Dynamic strategic planning—Clarity of Vision, Knowledge of Clients, Understanding Core Capabilities, Selecting Strategic Targets, Shared Responsibility, Knowledge of Competitors, and Taking Action. We contend that two of the dimensions, Knowledge of Clients and Knowledge of Competitors, reflect the market knowledge of a firm, which is an antecedent of Dynamic strategic planning (Hoek et al., 2001)

**Table 1**  
Definitions of the constructs.

Construct	Definition	Theorized Construct Structure	Source
Dynamic strategic planning	It is the strategic planning process that aligns a firm's and vision and resources to accommodate changes in the external environment for capturing emerging opportunities, manifested in five complementary abilities of <i>Clarity of Vision, Understanding Core Capabilities, Selecting Strategic Targets, Shared Responsibility, and Taking Action</i> .  1 Clarity of Vision represents a clear, compelling vision of the ends an organization is working towards and the kinds of relationships and results it hopes to create. 2 Understanding Core Capabilities represents the awareness of an organization of its capabilities and how these capabilities can be used to create value for its customers. 3 Selecting Strategic Targets refers to the awareness by an organization of how it creates value and the ability to use it to select clients who will value what the organization is best able to provide. 4 Shared Responsibility represents the involvement of your value chain partners in decision making with joint-accountability for the outcomes. 5 Taking Action represents the focus of an organization on the organizational strategy and its implementation	Multi-dimensional construct with five dimensions of <i>clarity of vision, understanding core capabilities, selecting strategic targets, shared responsibility</i> and, <i>taking action</i> . These dimensions are theorized as reflective of Dynamic strategic planning construct where Dynamic strategic planning is the second order factor and the dimensions represent the first order factors.	Long (2000)
Operational capabilities	Focal organization's strength is relative to its competitors' on six operational capabilities dimensions - <i>disaster immunity, innovation, product quality, delivery reliability, process flexibility, and cost leadership</i> .  1. Disaster Immunity refers to the capability of an organization to avert and/or recover from disasters. 2 Innovation refers to the capability of an organization in developing new products, processes and working methods. 3 Product Quality refers to the capability of an organization in providing products that conform to established specifications, are reliable and provide overall satisfaction to the customers. 4 Delivery Reliability refers to the capability of an organization to deliver on-time product and service consistently. 5 Process Flexibility refers to the capability of an organization to manufacture a large variety of products within its existing facility. 6 Cost Leadership refers to the capability of an organization to provide products at competitive prices.	First order Multi-dimensional construct with six dimensions of <i>disaster immunity, innovation, product quality, delivery reliability, process flexibility, and cost leadership</i> .	Rosenzweig et al. (2003); Nassimbeni (2003)
Financial performance	Financial performance relative to one's competitors on three dimensions of <i>pre-tax return on assets, return on investments and return on sales</i> .	Unidimensional construct with three reflective indicators - <i>pre-tax return on assets, return on investments and return on sales</i> .	Chen and Paulraj, 2004

and is therefore not considered as a dimension of Dynamic strategic planning. The other five dimensions, Clarity of Vision, Understanding Core Capabilities, Selecting Strategic Targets, Shared Responsibility and Taking Action to reflect the Dynamic strategic planning construct. While Clarity of Vision, Understanding Core Capabilities, Selecting Strategic Targets, Shared Responsibility together reflect the intended strategic direction of a firm; taking action reflects value assessment and flex points in strategy implementation (Dibrell et al., 2007).

Clarity of Vision and Understanding of Core Capabilities give an organization the necessary combination of speed and stability required for Dynamic strategic planning. Clarity of vision provides the necessary execution speed by aligning and motivating value chain partners to exploit relevant opportunities as they evolve. Less understood core capabilities would limit the loci of opportunity exploitation (Long, 2000). The ability to select strategic targets helps a firm modify, enhance or develop its capabilities to match existing and emerging opportunities. Another important aspect of Dynamic strategic planning is that a firm accrues value by building relationships with its value chain partners. Shared Responsibility is a measure of the value created by a supply chain relationship (Long, 2000). A firm's relationship with its value chain members can help in gaining collective commitment which in turn is useful in marshaling its resources towards meeting common strategic goals. This is similar to the conceptualization of Dynamic strategic planning by Sambamurthy et al. (2003), - that a firm simultaneously "co-opts" with all members of its value network to generate and exploit knowledge. Lastly, Taking Action reflects the focus of a firm on the

organizational strategy and its implementation while adapting the strategy to fit changing circumstances without losing sight of the strategy's overall purpose. The taking action dimension reflects the strategic flexibility that is so important for the planning process to be dynamic in nature (Dibrell et al., 2007).

The five-dimensional conceptualization of Dynamic strategic planning (Long, 2000) corresponds quite well with the five components of "flexibility potential" of a planning system provided by Van Wezel et al. (2006). Flexibility potential components represent the key features to be managed in a planning system for maximizing the benefits of dynamic capabilities like organizational agility and flexibility. Table A1 in the appendix identifies the five components of flexibility potential and their corresponding Dynamic strategic planning dimensions. In addition, the mechanism through which a dimension of Dynamic strategic planning maximizes its corresponding component of flexibility potential has also been described.

Understanding of core capabilities implies that the firm is very clear about the available capabilities and its optimal deployment. This allows firms to optimize the use of available capabilities towards potential actions for meeting changing environmental requirements. Selecting strategic targets implies that firms prioritize the interests of key-value chain partners. This strategy helps minimize loss of goodwill with key value change partners if a firm cannot appropriately manage the external environment. Shared responsibility implies that just an individual is not responsible for the failure to cope with the changing environment; rather the entire firm is accountable for the failure. Shared

responsibility thus promotes a feeling of community and appropriate experimentation and risk-taking to manage the changing environment. Clarity of vision implies that a firm’s employees do not have any ambiguity about organizational goals and mission. The clarity about organizational goals and mission allows employees to formulate better plans to achieve the goals. Taking action is indicative of a firm’s focus on the deviation of implementation from the strategic plan. This helps firms to adapt to the external environment without losing focus of the overall business strategy. Fig. 1 broadly maps Dynamic strategic planning on the dynamic capabilities literature.

### 3. Proposed paths

#### 3.1. Dynamic strategic planning and financial performance

Most of the studies of dynamic capabilities have indicated that they affect financial performance indirectly by improving the operational routines of an organization. However, financial performance can also be directly affected by dynamic capabilities such as Dynamic strategic planning (Chen and Chiang, 2011; Dibrell et al., 2007). The direct effect on financial performance is realized by the use of formalized planning (Robinson and Pearce, 1983; Bracker et al., 1988), the ability to manage alliances (Tafti et al., 2009), the stakeholder orientation (Berman et al., 1999), the learning orientation (Ellinger et al., 2002), and active portfolio management (Azagury, 2007).

Firms with Dynamic strategic planning are characterized by formal planning in a changing environment (Doz and Kosonen, 2008). The positive impact of formal planning has been established in prior research (e.g. Robinson and Pearce, 1983). Formal planning involves analyzing a firm’s strengths, weaknesses, opportunities and threats (SWOT) and using it to formulate strategic plans. This formal planning helps organizations stay strategically focused by remaining true to their mission

and value proposition. The strategic focus is achieved via their clarity of vision and understanding of core capabilities. While firms strategically act on available opportunities by selecting the best fit opportunities, the shared effort from supply chain partners is necessary for decisive action. These opportunities represent the best chance to deliver the greatest value to their customers and consequently firms stand to gain competitive financial advantage.

Firms with Dynamic strategic planning have the ability to successfully manage alliances as they can use their knowledge to select the best-fit alliance members and also because they have the ability to garner shared responsibility from alliance members. Effective alliance forming capability provides a firm greater access to external resources enabling faster and cost-effective detection of value-creating opportunities. Moreover, successful alliances open new repositories of knowledge that can be used to develop new and innovative products for increasing market share and profit margins (Eisenhardt and Martin, 2000).

Stakeholder orientation for Dynamic strategic planning is characterized by an instrumental approach to stakeholder management. For a firm adopting this approach, the stakeholders are just a means to make a profit. Therefore, the firm selects best-fit stakeholders for developing value-creating relationships to maximize their wealth. Consequently, instrumental stakeholder-orientation has been shown to be empirically related to better financial performance (Berman et al., 1999).

Firms with Dynamic strategic planning are learning organizations as they invest in acquiring, absorbing, and using knowledge to modify its people and systems. Moreover, firms with Dynamic strategic planning have other characteristics of learning organizations such as market orientation, entrepreneurial alertness, flexible, organic structure, and leaders facilitating learning behavior. Learning organizations are innovative and attuned to emerging market discontinuities that can be exploited using their knowledge. Consequently, learning organizations achieve improved financial performance (Jacobs, 1995; Kaiser and

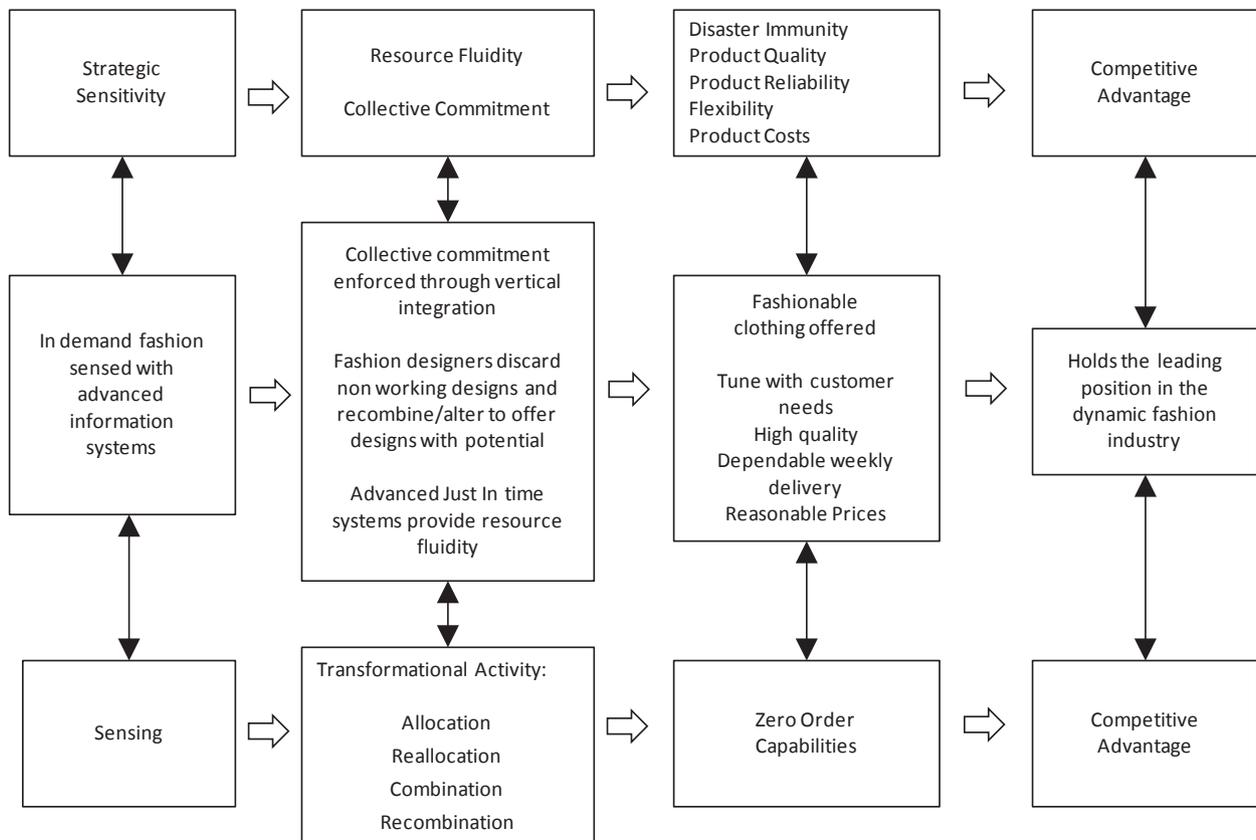


Fig. 1. Dynamic strategic planning and Dynamic Capabilities.

Holton, 1998; Ellinger et al., 2002).

Finally, firms with Dynamic strategic planning can manage their product and partner portfolio effectively. Using their knowledge, Dynamic strategic planning helps respond to changes occurring in the environment by using appropriate asset plays. These asset plays involve acquiring useful assets and divesting the ones that do not add value. Thus, these firms have a best-fit portfolio of hard and soft assets that drive customer satisfaction and business performance (Azagury, 2007).

Based on the above discussion, we propose the first path of the Dynamic strategic planning-operational capabilities-performance link:

**Path 1: Dynamic strategic planning is positively associated with financial performance.**

### 3.2. Operational capabilities and financial performance

In this particular study, we focus on Operational capabilities (OC). As defined in prior research (Rosenzweig et al., 2003), OC is composed of operational ability that directly enables a firm to survive and compete in the market and is interconnected with most of the functions of a firm. Based on the literature, the operational capabilities construct was operationalized as a six-dimensional concept with the dimensions being disaster immunity, innovation, product quality, delivery reliability, process flexibility and, cost leadership. The operational definition of operational capabilities and each of its dimensions has been provided in Table 1.

Operational capabilities directly influence firm performance (e.g. Flynn et al., 1994; Roth and Miller, 1990; Swamidass and Newell, 1987). Operational routines which manifest in the form of operational capabilities affect firm performance (Zott, 2003). Refining operational capabilities help achieve a better fit with the environment (Teecce et al., 1997; Zott, 2003). Consequently, a firm's effectiveness in meeting customer requirements is enhanced (Zollo and Winter 2002; Zott, 2003). This increased effectiveness helps the firm shape the market for their financial advantage (Eisenhardt and Martin, 2000; Zott, 2003). Moreover, the effectiveness in the deployment of operational capabilities results in reducing the time and cost of deployment. This reduction in time and cost helps a firm achieve a competitive advantage (Zott, 2003). Furthermore, the learning effects, encompassed in the knowledge of resource deployment, help sustain competitive advantage as the cost of learning is progressively reduced with each learning cycle (Zott, 2003). This leads us to our next hypothesis.

**Path 2: Operations capability is positively associated with financial performance.**

### 3.3. The nomological net of Dynamic strategic planning, operational capability, and financial performance

The dynamic capabilities literature distinguishes between terms of "capability building" versus "capability outcomes" (Makadok, 2001). The efficacy of Dynamic strategic planning is rooted in processes or behavioral actions which result in outcomes that are deemed valuable by the market. For example, Figueiredo (2003) shows dynamic capabilities play a substantial part in the accumulation of technological capability in two Brazilian steel firms. Other examples support dynamic capabilities impact on the development of new product development capability (Clark and Fujimoto, 1991), project capability (Brady and Davies, 2004), technology adoption and integration capability (Woychyn and Daellenbach, 2005), innovation (Capon et al., 1992) and service capability (Athreya, 2005).

Early proposals on Dynamic strategic planning have indirectly assumed a relationship between a firm's dynamic capabilities and its performance. For example, Zollo and Winter (2002) in assuming a direct effect of dynamic capabilities on performance, suggested that in dynamic environments, superiority would be transient without the presence of higher-order capabilities. Other researchers, however, have proposed an indirect, mediated relationship between dynamic

capabilities and performance.

Under various aspects of Dynamic strategic planning framework, a firm must work synergistically to achieve the best-fit operational routines for the environment. Clarity of vision enables a firm to remain true to its mission even during times of change. Moreover, understanding of core capabilities allows a firm to critically assess its gap based on the changing environment while guided by its value proposition. Furthermore, the selection of strategic targets reemphasizes a firm's commitment towards its value proposition. Shared responsibility garners the shared commitment of the value chain members toward implementing needed change while remaining true to the mission and value proposition. This shared commitment enables faster and concerted actions to renew existing routines by enabling the knowledge generation process which leads to effective generation, articulation, and codification of new knowledge configurations (Leonard-Barton, 1992). Firms with the limited capability to reshape their operational routines develop core rigidities and are limited by outdated operational capabilities. Thus, the capability of Dynamic strategic planning as manifested in the five dimensions of clarity of vision, understanding of core capabilities, selection of strategic targets, shared responsibility and taking action, operate in conjunction to modify existing operational routines such that a firm enjoys better operational capabilities compared to competitors. A related body of work highlights the elements of Dynamic strategic planning - formalized planning (Robinson and Pearce, 1983; Bracker et al., 1988), the ability to manage alliances (Tafti et al., 2009), the stakeholder orientation (Berman et al., 1999), the learning orientation (Ellinger et al., 2002), and active portfolio management (Azagury, 2007).

At the core of Dynamic strategic planning is the operational capability that helps acquire, absorb, and use knowledge to modify its people and systems. Moreover, firms with Dynamic strategic planning have other characteristics of entrepreneurial alertness, flexibility, organic structure, and leaders facilitating learning behavior through operational capability that undergirds these elements of Dynamic strategic planning. Consequently, Dynamic strategic planning may influence financial performance through operational capabilities (Jacobs, 1995; Kaiser and Holton, 1998; Ellinger et al., 2002). The argument at the core of the mediation effect proposed as a part of the nomological net is that Dynamic strategic planning improves the ability to manage product and partner portfolio effectively. Using their knowledge, firms with Dynamic strategic planning can respond to changes occurring in the environment by using appropriate asset plays. These asset plays involve acquiring useful assets and divesting the ones which do not add value. Thus, these firms have a best-fit portfolio of hard and soft assets that drive customer satisfaction and business performance (Azagury, 2007).

Based on the above discussion we hypothesize that.

**Path 3: Dynamic strategic planning has an indirect positive association with financial performance through operational capabilities.**

## 4. Methods

In this section, we detail the research methodology used, validate the scale of Dynamic strategic planning, and test the proposed model. We used structural equation modeling (SEM) to evaluate our research model. The descriptive statistics were obtained using SPSS 15.0 and the confirmatory factor analysis (CFA) and SEM were conducted using AMOS 16.0.

### 4.1. Research design

The population of interest was US manufacturing business units. We followed the survey research process suggested by Churchill (1979). This survey instrument was progressively validated and refined using pre-testing, pilot testing, and large-scale data collection.

#### 4.1.1. Operationalization of the constructs

Table 1 provides the operationalization of each construct along with the key sources.

The *Dynamic strategic planning* construct is based on Long (2000) conceptualizations of strategic planning. Dynamic strategic planning construct is conceptualized as a multi-dimensional construct with five dimensions. These dimensions reflect Dynamic strategic planning as a second-order factor with the five dimensions as first-order factors.

Dynamic strategic planning reflects the view that processes manifest themselves as heuristics of opportunity-capture that underlay dynamic capabilities (Bingham et al., 2007). To quote Bingham et al. (2007) "Heuristics are at the heart of firm capabilities. That is, firm members, must actively translate their process experience into shared heuristics for opportunity capture in order to develop a high performing process, and hence a firm capability" (p. 29). Heuristics are simple rules of how work should be done and help a) focus attention and save time; b) allow for improvisation due to their "semi-structure", and c) limit errors through a preliminary plan. These "articulated" heuristics help a firm to select and execute the most value-laden opportunities from a large set of available opportunities (Bingham et al., 2007; Davis et al., 2009). The semi-structure nature of the heuristics also allows for flexibility in addressing emerging opportunities while remaining true to a firm's strategy (Brown and Eisenhardt, 1997; Burgelman, 1996; Rindova and Kotha, 2001).

Our measures of dynamic strategic planning conform to this notion of heuristics of opportunity-capture which are encompassed in three aspects of dynamic strategic planning - direction, value, and flex points (Dibrell et al., 2007). Table A2 provides correspondence between DSP dimensions and corresponding heuristics.

Direction represents the intended strategy of an organization. The two heuristics that correspond to Direction are that 1) an organization's employees should be clear about organizational strategy and goals, and 2) an organization's employees should have collective ownership of action and accountability of outcomes of their actions. The two dimensions of dynamic strategic planning - clarity of vision and shared responsibility - together represent the commitment of an organization towards its strategic goals and the decision to move towards the goals through information sharing, collective learning, and accountability. Clarity of vision encompasses procedural heuristics as it aids problem-solving through defined goals and the knowledge needed to achieve that goal (Bingham et al., 2007). Shared responsibility incorporates temporal heuristics as it synchronizes learning and action within an organization through an emphasis on collective responsibility and freedom for experimentation.

Value represents a firm using the knowledge of its core strengths to select the key opportunities existing in its value chain. Value is manifested in the two heuristics of dynamic strategic planning 1) an organization's employees should have an understanding of its core capability, and 2) the organization should be able to select of strategic targets. While the strategic targets represent the opportunities in the value chain that have the potential to contribute the greatest value; core capabilities allow a firm to capture the existing strategic opportunities. Core capabilities aligned with existing strategic targets are necessary for a firm to extract the greatest value from its value chain. Selection of strategic targets dimension reflects the selection heuristics as it provides the rules for choosing an opportunity by narrowing down the range of available options. Narrowing of options provides focus and reduces wasted effort on unproductive opportunities thus promoting stability in the planning process. Understanding of core capabilities dimension of dynamic strategic planning reflects procedural heuristics as it provides guidance based on the past actions of a firm and the efficacy of the firm in executing that action. Core capabilities specify behaviors that are likely to prove helpful during process execution and increase the chances of success. Therefore, understanding of core capabilities promotes stability by providing the necessary knowledge needed for focusing attention, structuring action, and elimination of errors.

Flex points represent the strategic actions to cope with the changing environment. Flex points related heuristics within dynamic strategic planning emphasize that a firm should modify its actions based on emerging opportunities. Taking action represents the ability of the firm to adapt its strategy to fit changing circumstances without losing sight of the strategy's overall purpose. Taking action dimension encompasses temporal heuristics as they provide the rules for the pace, sequence, and synchronization of effort for opportunity capture in the changing environment (Bingham et al., 2007). Taking action related adaptation is accomplished by synchronizing the effort of key people in the firm in the discussions of a firm's strategies and soliciting their thoughts on the best way to implement them. An example would be "the empowerment of lower-level managers to call top management team members to discuss quickly evolving opportunities or threats" (Dibrell et al., 2007, p. 29). Therefore, the temporal heuristics encompassed in taking action "allows firm members to entrain with the environment, and thus reassess their efforts and the competitive landscape at regular time intervals" (Bingham et al., 2007, p.33).

*Operational capabilities* construct has been conceptualized as a first order multi-dimensional construct with reflective indicators based on previous studies (Rosezweig et al., 2003; Nassimbeni, 2003).

*Financial performance* construct has been operationalized based on Chen and Paulraj (2004). This construct is a unidimensional construct with reflective indicators namely, pre-tax return on assets, return on investments, and return on sales.

#### 4.1.2. Pretesting & pilot

Survey items were pre-tested with Q-sort technique to improve the quality of the questionnaire. We used 12 MBA students who had the requisite experience in making strategic decisions in their industries. This was ensured using screening questions about their involvement in the strategic decision-making process ("Have you worked full time in a manufacturing organization?" And "were you involved in the strategic planning process?").

In each round of item sorting, the judges were asked to place an item with the construct it best represented. The convergent and discriminant validity of the constructs were established using overall placement ratio (OPR) (Moore and Benbasat, 1991). OPR provides the level of item misclassification and can be used as a guide to refine or delete items and construct definitions. All the item-placement ratios are above the suggested cut-off of 70% and indicate adequate convergent and discriminant validity for the constructs.

Next, to check the psychometric properties of our scale, we did a pilot with 55 upper-level managers in manufacturing firms. As the sample was not large enough to test the model, we calculated the reliability statistic for each scale individually. The reliability statistic (Cronbach's  $\alpha$ ) for each scale was above the cut-off of 0.7. Thus, we had sufficient confidence in the reliability of measures for each construct. To reduce the length of the survey instrument, and improve the quality of responses obtained, the three strongest items based on factor loadings were chosen to measure each construct. The survey questionnaire in the Appendix specifies items that were eliminated (Dillman, 2000).

#### 4.1.3. Final sample characteristics and data screening

The sample was drawn from Dunn and Bradstreet's North American Million Dollar database. The database provides information on approximately 1,600,000 U.S. and Canadian leading public and private businesses. The database is comprised of industries with sales of one million dollars or more, or 20 + employees, or branches with 50 + employees. The database provides detailed information about a firm. Company information includes industry information with up to 24 individual 8-digit SICs, size criteria (employees and annual sales), type of ownership, and principal executives with biographies. Some of the target industries include electronics and communication, apparel, computer and computer peripherals, automobile, machine tools, among others.

We further narrowed the sample frame by sampling manufacturing firms with a single location and those with more than 100 employees. Single location firms were targeted to eliminate confounding effects of dissimilar culture and different ways of working in different business units of a larger firm. Furthermore, sampling firms with more than 100 employees should avoid sampling “Mom and Pop” businesses.

A top-level manager at a business location will be the most informed respondent in providing informed responses to the strategic level questions about the business unit. The target respondents for the survey were high-level managers having knowledge of strategic issues of the supply chain as this research deals with strategic matters. The typical titles were supply chain manager, VP supply chain, production planning manager, materials manager, VP operations, etc. As mentioned earlier D&B’s Million Dollar database was used to obtain the sample for this study. We contacted 1260 individuals and received 267 responses for our final data collection effort. We received 11 questionnaires with missing data. For those with missing data, only a few questions were left unanswered. Therefore, missing data was not a significant issue for our study and missing values were replaced using expectation maximization (EM) imputation. We also screened the data for outliers and non-normality neither of which was a significant issue for our study.

The sample details are presented in Tables 2 and 3. The sample is mainly comprised of small to mid-sized firms. The distribution of industry is presented in Table 4. All of the industry strata are adequately represented and the representation ranges from approximately 3%–7% of the total sample size of 267. The response rate obtained for this study is 21.19% (267/1260). This response rate is considered adequate as it is above the suggested cut-off of 20% (Malhotra and Grover, 1998).

4.1.4. Test of non - response bias

To assess non-response bias, early (184) and late respondents (83) were compared using ANOVA’s for each of the key variables in the study. For all variables: sales amount, employee count, financial performance, environmental turbulence, disaster immunity, innovation, product quality, delivery reliability, process flexibility, and cost leadership, we did not find any significant difference at the 0.05 level, suggesting non-response bias is not a significant concern for this study. We also tested the non-response bias by comparing the sales amount and employees count variables between a random sample of 100 respondents and 100 non-respondents from our population pool of 1260 firms (Yan and Azadegan, 2017). No significant differences were found indicating absence non-response bias.

4.1.5. Reliability and validity analysis

We determined the reliabilities, convergent and discriminant validity for the constructs scales using confirmatory factor analysis (CFA). All items were loaded on their respective factors. Table 5 shows the range of confirmatory factor loadings of each item along with the reliability statistic of each scale. It is evident from the results that all factor loadings were above the suggested cutoff of 0.7 hence all of the scales have adequate reliabilities.

We also used Fornell and Larcker’s (1981) analysis of convergent and discriminant validity. The AVE (average variance extracted) for each construct was above the suggested cut-off of 0.5 which provides evidence of convergent validity (Table 6). Moreover, the square root of the AVE for each construct was greater than all the inter-construct correlations, which provides evidence of discriminant validity (Hair et al., 2010).

Next, we conducted the omnibus test of discriminant validity (Table 7). In this test, two models—Model A and Model B—were compared. Model A had all the items load on their respective factor and the factors were freely correlated. Model B also had all the items loading on their respective factors but in this model, the factors were modeled as perfectly correlated. The chi-square difference between the two models was 89.503 ( $\Delta df = 3$ ) which was significant ( $p\text{-value} = 0.000$ ). Moreover, other fit indices were much worse for Model B. Thus, we found that

Table 2  
Number of employees.

Number of Employees	Frequency	%	Cumulative %
100–200	212	79.40	79.40
201–300	24	8.99	88.39
301–400	12	4.49	92.88
401–500	7	2.62	95.51
501–600	4	1.50	97.00
601–700	3	1.12	98.13
701–800	4	1.50	99.63
801–900	1	0.37	100.00
<b>Total</b>	<b>267</b>	<b>100</b>	

Table 3  
Company sales.

Sales in Million US Dollars	Frequency	%	Cumulative %
≥ 0 AND ≤ 1	1	0.37	0.37
>1 AND ≤ 5	15	5.62	5.99
>5 AND ≤ 10	53	19.85	25.84
>10 AND ≤ 50	169	63.3	89.14
>50 AND ≤ 100	25	9.36	98.5
>100 AND ≤ 200	1	0.37	98.88
>200 AND ≤ 300	1	0.37	99.25
>300	2	0.75	100
<b>Total</b>	<b>267</b>	<b>100</b>	

the single factor model was not appropriate while the multiple-factor model was appropriate. Therefore, we concluded that the factors show discriminant validity.

To further assess discriminant validity among the constructs, we did the pair-wise comparison of individual factor models. In this analysis, we compared the fixed and free models of selected factor pairs. The fixed model had the correlation between the selected factor-pair fixed to 1; in the free model, the factors were freely correlated. Table 8 reports the chi-square difference between fixed and free models. The chi-square differences were highly significant, ( $p < 0.001$ ), indicating discriminant validity among constructs.

4.1.6. Factorial validity

Dynamic strategic planning was conceptualized as a second-order multidimensional construct while operational capabilities were conceptualized as first-order multidimensional construct. Both,

Table 4  
Industry composition.

INDUSTRY	Frequency	%
Apparel Manufacturing	9	3%
Beverage and Tobacco Product Manufacturing	8	3%
Chemical Manufacturing	19	7%
Computer and Electronic Product Manufacturing	19	7%
Electrical Equipment, Appliance and Component Manufacturing	11	4%
Fabricated Metal Product Manufacturing	17	6%
Food Manufacturing	13	5%
Furniture and Related Product Manufacturing	10	4%
Leather and Allied Product Manufacturing	7	3%
Machinery Manufacturing	17	6%
Miscellaneous Manufacturing	18	7%
Nonmetallic Mineral Product Manufacturing	9	3%
Paper Manufacturing	8	3%
Petroleum and Coal Products Manufacturing	9	3%
Plastics and Rubber Products Manufacturing	16	6%
Primary Metal Manufacturing	16	6%
Printing and Related Support Activities	15	6%
Textile Mills	8	3%
Textile Product Mills	9	3%
Transportation Equipment Manufacturing	18	7%
Wood Product Manufacturing	11	4%
<b>Total</b>	<b>267</b>	<b>100%</b>

Dynamic strategic planning and operational capabilities constructs exhibit excellent fit indices indicating factorial validity (see Table 9).

#### 4.1.7. Method bias

Based on the guidelines provided by Podsakoff et al. (2003), we separated the criterion and predictor variable in the survey instrument by placing them at different places in the questionnaire rather than adjacent to each other. We also used scales with different anchor points also to address the issue of common method bias.

The statistical remedy we used for controlling and identifying the effect of common method bias was the Lindell and Whitney (2001) marker variable method. With this method, a marker variable (see Appendix) was introduced in the structural model and is modeled to cause all the observed variables. To assess the impact of common method bias, the model with the marker variable was compared to the same model without it. If the chi-square was significantly different for the two models, it would indicate the presence of common method bias. It should be noted here that the chi-square fit indices are sensitive to sample sizes, hence in addition to chi-square difference test, researchers also encourage testing of the differences in CFI (Byrne, 2006; Cheung and Rensvold, 2002; Little, 1997). The difference in CFI should be less than 0.01 (Cheung and Rensvold, 2002). The analysis presented in Table 10 shows that common method bias does not have a significant effect. The CFI difference was below the cut-off value of 0.01. Even though the chi-square difference is significant for the marker variable test the other fit indices were remarkably close. Consequently, we can conclude that common method variance did not have a significant influence on the structural model.

Finally, we compared the loading of items on their respective factor to the loading of the items on the common method factor in the marker variable model. The loadings on the factors were much higher than the loadings on the method factor. The average absolute loading on the respective factors was 0.841 and that on the marker variable was 0.098. Thus, the method loadings are much lower than the loadings on the respective factors indicating a non-significant influence of method bias. As the method factor was not significant, we did not include the marker variable in the structural model used to evaluate our hypotheses.

The list of scale items is presented in the Appendix.

#### 4.1.8. Nomological validity tests

Table 11 presents the fit indices for the hypothesized structural model. All of the fit indices indicate a good fit for the structural model (Kline, 2005). Additionally, the chi-square per degree of freedom for the structural model is 2.333, which is well below the cut-off of 3 (Kline, 2005), indicating a good fit. Therefore, the overall fit evidence suggests that the structural model fits the data quite well.

The direct effects of this model are given in Fig. 2. All of the direct effects from DSP to the OC dimensions were significant. Moreover, the relationship between FINP and four OC dimensions - DI, INNO, CL, and

DR - were positive and significant. On the other hand, contrary to expectations, the relationship between FINP and two OC dimensions - PQ and PF - were not significant. The nature of the relationship for each proposed path was as expected except for the relationship between Dynamic strategic planning and financial performance. This relationship was hypothesized to be positive, however, the evidence suggests that the relationship is negative though not significant ( $\beta = -0.241$ ,  $p = 0.071$ ) (i.e. Dynamic strategic planning is not directly related to financial performance).

We also analyzed the indirect effect using bootstrap analysis suggested by Preacher and Hayes (2004). The indirect effect of DSP on financial performance was highly significant ( $\beta = -0.695$ ,  $p \leq 0.000$ ).

## 5. Discussion and concluding remarks

The purpose of this research was to propose a scale for Dynamic strategic planning and explore its nomological validity using operational capabilities as a mediator. We proposed and tested a psychometrically validated measure of Dynamic strategic planning informed by dynamic capabilities and planning flexibility frameworks. The measure of Dynamic strategic planning could be useful for future research. The primary theoretical contribution of our study therefore relates to the influence of Dynamic strategic planning on both the process and financial performance of an organization. We hypothesized that Dynamic strategic planning would positively influence financial performance and operational capabilities. The results suggest that Dynamic strategic planning enhances firm performance through operations capability. However, improvement in Dynamic strategic planning does not have any direct positive effect on financial performance. Rather, the firm level pay-offs from Dynamic strategic planning seem to appear only because of improvements in operational capabilities. This finding parallels the conclusions and arguments from other related studies in firm value (Melville et al., 2004) which suggest that improved financial performance often results from improvements in underlying processes. Additionally, it corresponds to the dominant logic that dynamic capabilities have an indirect effect on financial performance via improvement in operational routines (Zott, 2003).

The direct weak-negative influence of Dynamic strategic planning on performance and its positive influence through operational capabilities can be understood through prior works on strategic planning. The weak but direct-negative association of Dynamic strategic planning with performance can be explained through three main reasons. First, Dynamic strategic planning may negatively influence the level and direction of activities that would limit synergies and efficacy of resource bundles, resulting in a direct negative association with performance limiting the effects of resource bundling and competencies on performance (Dodgson, 1993). Dynamic strategic planning may negatively influence the ability to use past learning and integration. Second, Dynamic strategic planning may increase the uncertainty and risk in firm activities, perhaps resulting in a double whammy where a firm may not be able to respond to changing environment despite dynamic planning. Third, changing the strategic plan frequently may increase mistakes and increase inconsistencies in routines and activities and lower coordination.

The positive mediation effect can also be explained by three reasons. First, by leveraging Dynamic strategic planning through operational capabilities, knowledge and resources could be interpreted through more relevant and complete templates of knowledge to develop a more informed planning based response to environmental changes. Compared to other capabilities that may have a larger intangible component (e.g., R&D, marketing), operational capabilities provide a better infrastructure to improve governance and control under Dynamic strategic planning. Second, routinized operational capabilities allow for fewer errors and provide the necessary traction for Dynamic strategic planning activities that require more frequent adjustments. Third, operational capabilities provide a stable infrastructure for creative and non-

**Table 5**  
Factor loadings and reliabilities.

Construct	Factor Loadings	Reliability
Dynamic Strategic Planning (DSP)	0.980–0.910	0.971
Operational capabilities (OC)	0.875–0.678	0.895
Selecting Strategic Targets (SST)	0.875–0.864	0.902
Understanding of Core Capabilities (UCC)	0.886–0.841	0.898
Clarity of Vision (COV)	0.895–0.853	0.909
Shared Responsibility (SR)	0.860–0.872	0.891
Taking Action (TA)	0.924–0.825	0.901
Innovation (INNO)	0.882–0.830	0.898
Product Quality (PQ)	0.924–0.825	0.915
Delivery Reliability (DR)	0.807–0.799	0.784
Disaster Immunity (DI)	0.828–0.737	0.823
Cost Leadership (CL)	0.912–0.759	0.866
Process Flexibility (PF)	0.820–0.832	0.864
Financial Performance (FINP)	0.906–0.857	0.918

**Table 6**  
Composite reliability (CR), correlations and average variance explained.

	CR	AVE	DSP	INNO	PQ	DR	DI	CL	PF	FINP
DSP	0.971	0.870	0.933							
INNO	0.899	0.747	0.607	0.864						
PQ	0.915	0.782	0.661	0.481	0.884					
DR	0.784	0.645	0.646	0.455	0.754	0.803				
DI	0.825	0.611	0.575	0.605	0.458	0.657	0.782			
CL	0.867	0.686	0.449	0.468	0.303	0.553	0.686	0.828		
PF	0.864	0.680	0.584	0.581	0.533	0.771	0.723	0.637	0.824	
FINP	0.918	0.788	0.498	0.661	0.479	0.586	0.696	0.535	0.582	0.888

Note: Square-root of AVE is provided on the diagonal.

**Table 7**  
Omnibus test of Discriminant Validity.

	$\chi^2$	Df	CFI	RMSEA	SRMR	$\Delta\chi^2$	$\Delta df$	P-VAL
Model A	916.191	527	0.951	0.053	0.044	156.217	27	0.000
Model B	1072.408	554	0.935	0.059	0.068			

**Table 8**  
Fixed and free model chi-square difference.

	DSP	OC	FINP
DSP			
OC	128.200***		
FINP	80.500***	116.882***	

\*\*\*p ≤ 0.000.

**Table 9**  
Factorial validity.

Construct	$\chi^2$	df	CFI	RMSEA	SRMR
Dynamic strategic planning	163	84	0.979	0.60	0.025
Operational capabilities	181	104	0.974	0.53	0.039

conventional ideas to be explored in a stable set of operational routines.

Another finding was that the relationships between the two OC dimensions - product quality and process flexibility - with financial performance were not significant. Slater et al.'s (2006) research on strategic orientation provides some insight into this result. They provide four strategic orientation that encompass pertinent operational capabilities (Table 12). First, prospectors who primarily look to find or develop new product align with the operational capability of innovation. Second, analyzers look to protect the core and the markets through operational capabilities like delivery reliability and disaster immunity. Third, low-cost defenders who use low-cost product and services for competing. Fourth, the differentiated defenders who use superior product or service quality for competing align with the operational capability of quality. It seems that our results indicate that while the strategic orientation of prospectors, analyzers, and low-cost defenders had a significant effect on performance for our sample, the differentiated defenders did not have a significant influence on performance. A plausible reason for this result could be that our sample did not have sufficient sample size for the differentiated defenders to find the significance of the effect.

The negative effect of Dynamic strategic planning on performance but a positive effect through operational capabilities can also be

**Table 10**  
Marker Variable test.

Model	$\chi^2$	df	CFI	RMSEA	SRMR	$\Delta\chi^2$	$\Delta df$	P-VAL
Measurement model with marker variable	966	554	0.949	0.053	0.044	52	27	0.000
Measurement model without marker variable	916	527	0.951	0.053	0.044			

explained using Rosenzweig and Roth's (2004) law of operational physics. If a firm improves its quality, it reduces the variation in its production system. The reduced variance allows the firm to deliver products more reliably. Similarly, process flexibility allows a firm to adjust to variations in its environment like quality problems, disruptions, or demand variations thus positively affecting the quality of the product being produced as well as improving its disaster immunity. Therefore, each dimension of operational capabilities constructs works synergistically with the other dimensions to improve the level of operational capabilities of a firm. Consequently, simultaneous efforts towards the improvement of each dimension of operational capabilities are needed to maximize the positive impact of operational capabilities driven by Dynamic strategic planning.

As previously noted, scant attention has been paid to the important Dynamic strategic planning in successful organizations. This study responds directly to the calls of researchers (Priem and Butler, 2001) using resource-based-view, for identifying non-imitable sources of competitive advantage that are not themselves casually ambiguous to the parties enjoying them. By examining how strategic knowledge-based Dynamic strategic planning shapes or deforms both process (OC) and financial performance, this research takes one significant, albeit a small, step towards outlining such non-imitable sources. The essence of our argument is that knowledge-based capabilities, like Dynamic strategic planning, provide valuable, rare, inimitable and non-substitutable (VRIN) resources and insights, which are not accessible to other organizations, leading to competitive advantage. Thus, in a broader sense, we respond to the most fundamental strategic question pertaining to how firms create value.

5.1. Managerial insights

Our results suggest that managers should rely on Dynamic strategic

**Table 11**  
Fit of the hypothesized structural model.

Model	$\chi^2$	df	CFI	RMSEA	SRMR
Structural model	1210	543	0.917	0.068	0.082

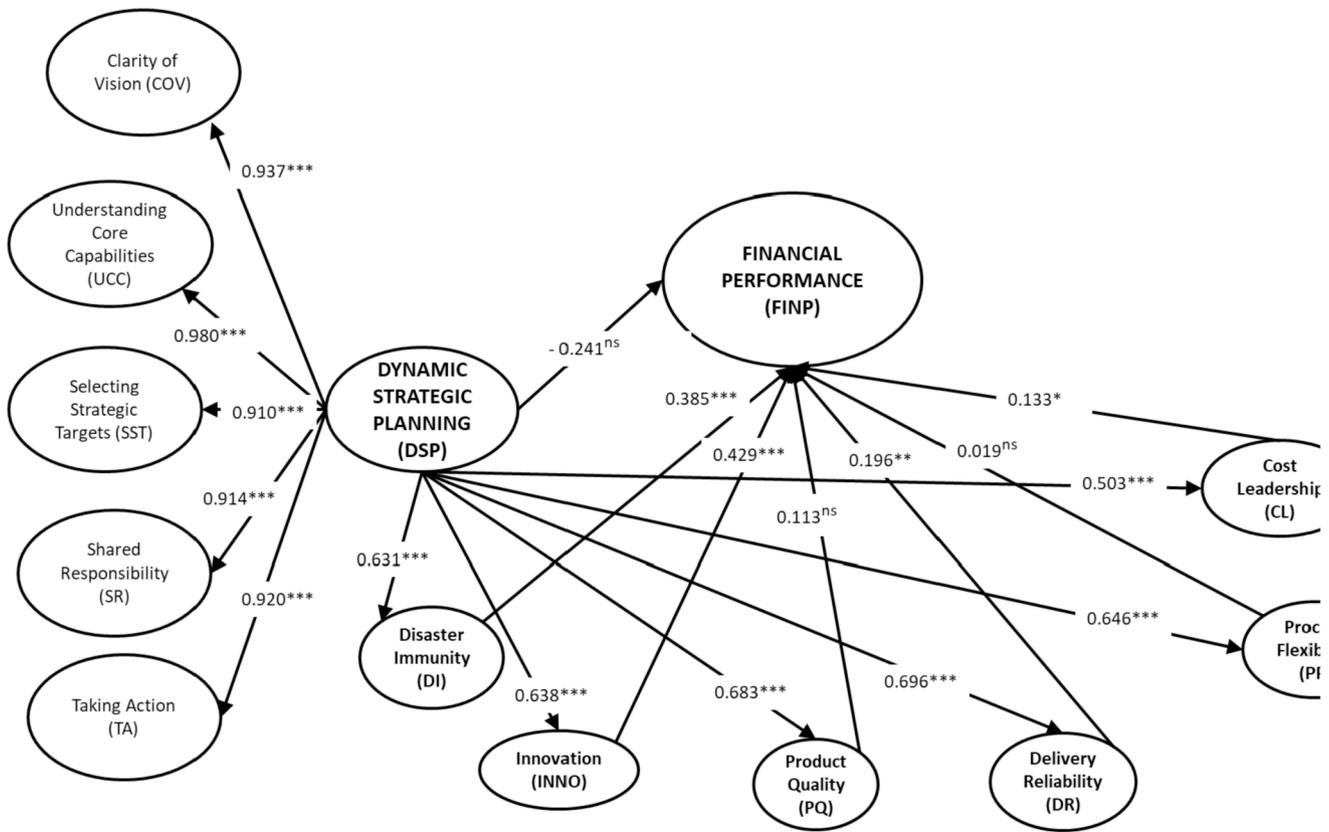


Fig. 2. Research Model with Path Loadings. \*\*\*p ≤ 0.001; \*p ≤ 0.05.

**Table 12**  
Strategic orientation and operational capabilities.

Strategic orientation	Purpose	Operational capability
Prospectors	Find or develop new product	innovation
Analyzers	Protecting the core products and markets	disaster immunity, delivery reliability
Low cost defenders	Use low costs for competing	cost leadership
Differentiated defenders	Use superior service/product quality for competing	product quality, process flexibility

planning by being strategically sensitive, gaining commitment, and reallocating or reconfiguring resources to respond to emerging opportunities. The first planning capability that managers need to emphasize is to create a strategically sensitive organization – i.e. one that is capable of identifying the opportunities present in the environment. Central to this proposition is the requirement that management needs to be aware of both the spectrum of opportunities that exist (i.e. have knowledge of the market) as well as ones that can be profitably pursued. One approach to identifying available opportunities is to create a bottom-up projected organization (Hyvari, 2006). As Andreas Kramvic, president and CEO of Honeywell performance materials suggests, business units have sharper knowledge of how to invest resources than corporate entities do because they are often directly dealing with the market. Honeywell performance materials, for instance, uses a systematic process known as Business Decision Week (BDW) where key business unit employees are bought together to suggest and share potential opportunities. In the early ‘90s, Oticon, the Dutch hearing aid manufacturer, successfully adopted a similar bottom-up strategy. Employees who had firsthand knowledge of the market were organized as teams and encouraged to share ideas regarding opportunities that could be exploited (Foss, 1996).

Important in this process of strategic selection of opportunities is both an understanding of where the corporation plans to be – i.e. Clarity

of vision – as well as an impassioned adherence to this vision based on the criteria used to select potential projects and the core capabilities of the organization. To clarify, at Honeywell Performance Materials, BDW strives to have a common vocabulary and a common set of metrics so that business leaders can fully understand how engineering resources are being applied every month. The objective is to reach the most critical objectives identified by Honeywell more efficiently. Business unit leaders are encouraged to suggest potential opportunities using this common vocabulary so different opportunities maybe cross-compared and ones with the most profit potential may be identified and pursued. The key issue at hand is that business unit managers are likely to overstate the importance of their own proposal, highlight issues that raise the value of the proposal and gloss over those that reduce their proposal’s attractiveness. The suggested approach to managing this problem and the one followed at Honeywell is to segregate decision-making or project selection rights. For instance, all proposals are forwarded and reviewed by an independent executive team that makes dispassionate decisions about project selection based on key pieces of information requested by the committee.

Finally, Dynamic strategic planning as a means to help to identify and to select opportunities is valuable only in so far as managers have the resources to invest and bring the projects to completion. To ensure that resources are fluid, corporations need to be both in control of the resource base as well and have the willingness to reallocate resources. Generally, there are plenty of opportunities to reallocate capital. For instance, there might be projects that are under-performing but continue to be funded due to strategic inertia (Doz and Kosonen, 2008). At Honeywell, Kramvic and his colleagues make it a point to perform a frequent evaluation of all projects and determine whether to divest or make further investments based on detailed evaluation of the returns. Not only does this approach help increase transparency about project capital funding (and thus increase commitment) but it also helps in freeing precious capital resources and reallocating them to activities that

are likely to yield greater payoffs. Zara, a leading Spanish retailer, has managed to increase its resource fluidity by adopting a similar strategy. With its business plan that is considered unique in the fashion industry, Zara limits marketing and advertising expenditure and instead diverts it to activities that allow sensing of market needs. Based on the early indications of consumer interests, Zara releases small batches of new designs to each of its stores. Through gradual, small investments, Zara avoids placing all its bets on a few designs, which can lock up capital and create resource rigidities.

Collectively these strategies offer some practical ways through which corporations may leverage Dynamic strategic planning. Both organizations mentioned here have been market leaders for extended periods of time. While the success of Zara is well known, Honeywell too has managed to record double-digit margin improvements in each of the six years from 2005 onwards.

## 5.2. Limitations and future research

Any research has limitations as does our research. The first limitation relates to the generalizability of the study. The data collected in this study is from single location firms, thus, the findings of the study cannot be generalized to multi-location firms or strategic business units. Furthermore, as we collected data for single location firms, the vast majority of firms were small to mid-sized firms. It should be noted that

though our sampling scheme limits the generalizability of the study, this approach strengthened the validity of the findings. A second limitation of the study is that the financial performance measure is self-reported. We were not able to collect objective performance data as our unit of analysis was a strategic business unit (SBU) and objective performance data exists at the firm level (e.g. COMPUSTAT). Third, we used single respondents for collecting data. Due to the use of single respondents, we cannot completely partial out the effect of common method bias. The validation of unit of analysis could have been undertaken, if we had more than two respondents, using agreement indices (such as rwg) or reliability indices (such as ICC2) which provide measures at the higher level (level 2) based on the lower level (level 1) scores. This should be addressed in future studies. Finally, this study was a cross-sectional research design that limits the ability to establish causality using cross-sectional data. A variety of future research opportunities can be explored based on this research. The influence of organizational culture has been suggested to affect the way a firm conducts business. Future studies should explore the kind of culture that would “best-fit” the continuously changing environment in which a firm using Dynamic strategic planning operates. Additionally, the effect of the business context on the value of Dynamic strategic planning capability is of interest. A more in-depth investigation of how firms with Dynamic strategic planning gain and sustain competitive advantage is also needed.

## APPENDIX

### SURVEY QUESTIONS

DYNAMIC STRATEGIC PLANNING (5-point Likert scale-Strongly disagree, Neutral, Strongly agree).  
CLARITY OF VISION

Please respond to items 1–4 with respect to the clarity of vision in your business unit.

1. We are proud of what we are trying to achieve as a business unit (COV\_1). a
2. We have a clear sense of purpose and use it to guide our decisions in running the business (COV\_2).
3. We find it easy to explain our overall goals and their importance clearly and effectively to others (COV\_3).
4. We have a high level of agreement about the principles that should guide our behavior in conducting our business unit’s operations (COV\_4).

### UNDERSTANDING OF CORE CAPABILITIES

Please respond to items 5–8 with respect to the understanding of core capabilities in your business unit.

5. We can describe the special skills, knowledge, and know-how that comprise our greatest strengths and that we rely on to maintain our competitive advantage (UCC\_1).
6. When allocating funds for process improvement, we are able to identify those processes that are most likely to add value to our products in the eyes of our clients (UCC\_2).
7. We have a good understanding of which skills and knowledge are most critical to providing results that are important to our clients (UCC\_3).
8. We are well aware of our business unit’s reputation among our clients and what we are best known for in the marketplace (UCC\_4).<sup>a</sup>

### SELECTION OF STRATEGIC TARGETS

Please respond to items 9–12 with respect to the selection of strategic targets in your business unit.

9. We are able to identify the market/client segments that place a high value on the product attributes we provide (SST\_1).
10. We know which of our business unit’s core capabilities are most important in creating value for existing or new market/client segments (SST\_2).
11. We know which competencies and processes we need to enhance or develop to better serve our targeted client segments (SST\_3).
12. We have in place the processes for identifying and developing products that provide a good match-up between our firm’s capabilities and market opportunities (SST\_4).<sup>a</sup>

### SHARED RESPONSIBILITY

Please respond to items 13–16 with respect to the sharing of responsibility in your business unit.

13. We keep our clients fully involved in the planning and execution of projects and stress the importance of their role in getting results (SR\_1).<sup>a</sup>
14. We ask people on our project teams to treat mistakes as opportunities for learning and improving rather than as occasions for placing blame (SR\_2).

15. We provide easy access to information of interest to our clients and to the people we work with (SR\_3).
16. We encourage people on our project teams, including the client and his or her staff, to behave as though each of us is responsible for the final results of the total project, rather than just for the part we have been assigned (SR\_4).

**TAKING ACTION**

Please respond to items 17–20 with respect to the action orientation of your business unit.

17. We frequently discuss with the people we work with the kinds of actions needed to best carry out the business unit's strategy (TA\_1).<sup>a</sup>
18. We make sure the people we work with are familiar with our strategy and its purpose (TA\_2).
19. We are able to adapt our strategy to fit changing circumstances without losing sight of the strategy's overall purpose (TA\_3).
20. We involve the key people we work with in discussions of our strategies and solicit their thoughts on the best way to implement them (TA\_4).

OPERATIONAL CAPABILITIES (5 point Likert scale – Far behind the competitor, At par with competitors, Far ahead of competitors).

**INNOVATION**

How does your business unit compare with your competitors on the below mentioned capabilities with respect to innovation (Items: 21–24)?

21. How does your business unit's ability to develop new materials at a high rate compare with your competitors (INNO\_1)?
22. How does your business unit's ability to develop new features in your existing products at a high rate compare with your competitors (INNO\_2)?
23. How does your business unit's ability to develop new production technology at a high rate compare with your competitors (INNO\_3)?
24. How does your business unit's ability to develop new working methods at a high rate compare with your competitors (INNO\_4)?<sup>a</sup>

**QUALITY**

How does your business unit compare with your competitors on the below mentioned capabilities with respect to product quality (Items: 25–29)?

25. How does your business unit's ability to provide a high level of conformance quality compare with your competitors (PQ\_1)?<sup>a</sup>
26. How does your business unit's ability to manufacture products of high level of durability compare with your competitors (PQ\_2)?
27. How does your business unit's ability to provide a high level of product reliability compare with your competitors (PQ\_3)?<sup>a</sup>
28. How does your business unit's ability to provide products with high level of performance compare with your competitors (PQ\_4)?
29. How does your overall product quality as perceived by the customer compare with your competitors (PQ\_5)?

**DELIVERY RELIABILITY**

How does your business unit compare with your competitors on the below mentioned capabilities with respect to delivery reliability ((Items: 30–31)?

30. How does your business unit's ability to reliably deliver products on time compare with your competitors (DR\_1)?
31. How does your business unit's ability to promptly handle customer complaints compare with your competitors (DR\_2)?

**PROCESS FLEXIBILITY**

How does your business unit compare with your competitors on the below mentioned capabilities with respect to process flexibility (Items: 32–35)?

32. How does your business unit's ability to rapidly change product mix compare with your competitors (PF\_1)?
33. How does your business unit's ability to rapidly change production volumes compare with your competitors (PF\_2)?
34. How does your business unit's ability to manufacture broad product mix within same facilities compare with your competitors (PF\_3)?
35. How does your business unit's ability to rapidly handle custom orders compare with your competitors (PF\_4)?<sup>a</sup>

**COST LEADERSHIP**

How does your business unit compare with your competitors on the below mentioned capabilities with respect to cost leadership (Items: 36–38)?

36. How does your business unit's ability to offer lower priced products compare with your competitors (CL\_1)?
37. How does your business unit's ability to manufacture products at lower internal costs compare with your competitors (CL\_2)?
38. How does your business unit's ability to reduce overhead costs compare with your competitors (CL\_3)?

**DISASTER IMMUNITY**

How does your business unit compare with your competitors on the below mentioned capabilities with respect to disaster immunity (Items: 39–42)?

39. How does your business unit's ability to recover quickly from disasters compare with your competitors (DI\_1)?
40. How does your business unit's ability to minimize the impact of disasters compare with your competitors (DI\_2)?
41. How does your business unit's ability to avoid disasters compare with your competitors (DI\_3)?
42. How does your business unit's ability to emerge from disasters at a very small cost compare with your competitors (DI\_4)?<sup>a</sup>

FINANCIAL PERFORMANCE (5 point Likert scale – Far behind the competitor, At par with competitors, Far ahead of competitors).

How does your business unit compare with your competitors on the below mentioned financial objectives (Items: 43–45)? (5 point likert scale – Far behind the competitor, at par with competitors, Far ahead of competitors).

- 43. How does your business unit’s return on investment compare with your competitors (FINP\_1)?
- 44. How does your business unit’s profits as a percent of sales compare with your competitors (FINP\_2)?
- 45. How does your net income before tax compare with your competitors (FINP\_3)?

**MARKER** (7 point Likert Scale – Strongly Disagree, Neutral, Strongly Agree).  
Please respond to the (Item: 46) about your personal life.

46. I waste too much of my leisure time sleeping (MARKER).

<sup>a</sup>This item was not included in the final questionnaire.  
<sup>a</sup>This item was not included in the final questionnaire.

**Table A1**  
Dynamic strategic planning and flexibility potential

Component of flexibility potential of a planning system (Van Wezel et al., 2006)	A Dimension of Dynamic strategic planning	Optimizing Mechanism
<b>Action volume and reactivity:</b> The actions a system has available to change its state and the potential speed of changes.	Understanding of core capabilities	Understanding of core capabilities is crucial to understanding the actions a firm has its disposal to respond to the changing environment. Each core capability represents a set of actions a firm can effectively execute.
<b>Loss measure:</b> The loss of goodwill due to not reacting properly.	Selecting strategic targets	Selecting strategic targets reduces the chances of losing the goodwill of the most important clients in the event of a failure.
<b>The uncertainty of the environment:</b> The medium-term (or short-term) occurrence of a change and the possible consequences one has to face if the system does not adjust to that change are both uncertain	Shared responsibility	Shared responsibility allows people to take bold action in an uncertain environment improving the chances of adjusting to external change.
<b>Planning and communication ability:</b> A better plan (i.e., closer to the optimum) will improve flexibility, as will better forecasting procedures.	Clarity of vision	Clarity of vision implies reduced ambiguity about the goals to be achieved. Planning and communication are consequently improved allowing employees to develop plans that optimize A firm’s performance while adapting to the changing environment.
<b>Implementability:</b> The deviation between the plan and its implementation.	Taking action	Implementation focus allows a firm to adapt to the external environment without losing focus of the overall business strategy of a firm.

**Table A2**  
Dynamic Strategic Planning and Capability Heuristics

Characteristics of Dynamic Strategic Planning (DSP)	DSP Dimensions	Examples of Heuristics represented
<b>Direction</b> - The intended strategy of an organization	a. Clarity of vision	1. Have a clear sense of strategic purpose and use it to guide decisions in improving the strategic advantage 2. Be able to explain an organization’s overall goals and their importance clearly and effectively to stakeholders 3. Have an agreement about the principles that should guide behavior in conducting strategic and tactical activities
	b. Shared responsibility	1. Treat mistakes as opportunities for learning and improving rather than as occasions for placing blame 2. Provide easy access to information of interest to clients and to the stakeholders, one works with 3. Behave as though each employee is responsible for the final results of the total project
<b>Value</b> – Assessment of a firms strengths and opportunities for enhancing competitive advantage	a. Understanding of core capabilities	1. Be able to describe the special skills, knowledge, and know-how that comprise an organization’s greatest strengths 2. Be able to identify those processes that are most likely to add value to an organization’s products in the eyes of the clients 3. Have the understanding of which skills and knowledge are most critical to providing the results that are important to clients
	b. Selecting strategic targets	1. Be able to identify the market/client segments that place a high value on the product attributes an organization provides 2. Know which of a business unit’s core capabilities are most important in creating value for existing or new market/client segments 3. Know which competencies and processes an organization needs to enhance or develop to better serve their targeted client segments
<b>Flex points</b> – Adaptive strategic actions to cope with changing environment	a. Taking action	1. Be able to adapt the organizational strategy to fit changing circumstances without losing sight of the overall purpose of a firm’s strategy’s 2. Involve the key people in discussions of strategies and solicit their thoughts on the best way to implement them

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