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The Strategic Value of HRD in Lean Strategy Implementation

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Central to the relevance of HRD is the inclusion of HRD professionals and functions in organizational strategy. Understanding how HRD units and professionals contribute to or hinder organizational strategy is important for the field. We describe an organizational case in which a systemic strategic initiative involving "Lean strategy" is deployed and the specific contributions by HRD. We also highlight and provide themes from both extant general strategy and Lean strategy literature and key findings from thematic analysis from multilevel organizational interview data. An empirically derived model framing the strategic value of HRD in Lean strategy implementation is provided. These findings highlight HRD contributions for organizations involved in strategy implementation.

Strategy and strategic implementation are central to organizational success and longevity (Beer & Eisenstat, 2000). However, extant literature and anecdotal evidence from human resource development (HRD) and management indicate that HRD is often excluded from central roles related to strategy formulation and implementation (Becker & Huselid, 2006). Despite literature and testimony hailing the importance of HRD for human capital growth and deployment (Swanson & Holton, 2009) and the importance of HRD-related knowledge and processes for organizational success, scant literature is available detailing how management utilizes and assimilates HRD for organizational strategy implementation.

Organizations often adopt strategies such as Lean to improve structural factors (e.g., operational processes) and cultural factors (e.g., shared vision) and achieve business performance.

Womack and Jones (1996) popularized Lean as an approach for creating customer value. All processes and intermediate steps are identified to improve cost, timeliness, value, and, delivery of products or services. Thus, Lean posits a determined focus toward continuous improvement of organizational processes and procedures to create "perfect value" for customers (lei.org). For the

purpose of this study, we define Lean as an organizational strategy for enhancing operational and organizational performance (Womack & Jones, 1996).

Organizational strategies exploit tangible (e.g., technology, products, and services) as well as intangible resources and capabilities (e.g., human resources, creation of a learning culture, leadership) in the organization. Strategies that exploit intangible resources such as the effective utilization of HRD initiatives are more likely to be sources of competitive advantage rather than those that do not because these strategies are path dependent, socially complex, and causally ambiguous (Barney, 1991; Itami & Roehl, 1987). Intangible resources are costly and difficult to imitate, and therefore translate into unique sources of competitive advantage for organizations (Ray, Barney, & Muhanna, 2004).

The success of strategy implementation is tightly linked to organizational learning, performance, and longevity. Organizational human capital literature suggests that the effective utilization of HRD is critical; however, there is little to no research elaborating on factors promoting or hindering the role of HRD in the implementation of organizational strategy. This study examines the role of HRD in strategy implementation through the lens of a qualitative case study of an organization engaged in Lean strategy implementation.

Purpose Statement

The purpose of this study is to identify the role and value of HRD in shaping and influencing strategy implementation. We do so by focusing on the implementation of Lean strategy. We elaborate on the broader issue of HRD alignment with strategy through the examination of a case organization undergoing Lean implementation. Lean strategy is an appropriate intervention on which to focus, as it is widely utilized in a variety of organizational contexts and demands a systemic focus and strategic development of the overall organization. The practical implications from this qualitative case study can inform managers and scholar-practitioners regarding the role, importance, and value of HRD in strategy implementation.

Lean literature, specifically focusing on factors that facilitate and hinder implementation, is reviewed with an emphasis on operations and manufacturing management. A thorough search in HRD journals revealed both a lack of literature on strategy implementation and, more specifically, on the use of Lean strategy. Therefore, we expanded the scope of the review to include strategy implementation literature from the management sciences and identified areas of commonalities and distinctions with Lean strategy. The thematic analysis derived from this comprehensive review helped identify current gaps in research connecting HRD and strategy implementation with an emphasis on Lean. We reframed Beer and Eisenstat's (2000) strategy implementation model to emphasize the systemic nature of interactions between facilitating

and hindering factors that influence Lean strategy outcomes. This reframed model served as the conceptual framework for the study. In the subsequent section, the method used for conducting the study is described. Then, the findings related to aspects of the focal organization are detailed, including major factors influencing Lean strategy and the value of HRD in the strategy implementation process. In the final section of the study, we discuss implications, conclusions, and recommendations for HRD research and practice.

Review of Literature

Emerging from the total quality management (TQM) movement of the early 1980s, Lean strategy first gained global prominence in the automobile industry in the early 1990s. Several industries (e.g., health care, information technology [IT], construction, banking, etc.) have since adopted Lean principles, practices, tools, and techniques. The key words *HRD, strategy implementation,* and *Lean strategy* were used to conduct the search in three databases—Google Scholar, EBSCO, and Psych Info—and yielded articles in Lean strategy and strategy implementation literature. A review of the extant literature revealed extensive focus on the practice of Lean tools and techniques (e.g., Soderquist & Motwani, 1999; White, Ojha, & Kuo, 2009; Womack & Jones, 1996). This literature brought to light the application of various Lean practices and their effect on operational performance. Scholars and practitioners also shared strong agreement on the effect of Lean strategy on organizational performance—although empirical support for this claim has remained inconclusive. Furthermore, understanding the process of implementing Lean strategy from an organizational perspective has received limited empirical support. In addition to addressing this gap, our review also exposed the need for examining the sustainability of Lean strategy implementation over time.

Recognizing the value of Lean in achieving organizational performance, scholars attempted to understand essential factors supporting and hindering Lean strategy implementation (e.g., Achanga, Shehab, Roy, & Nelder, 2006; Motwani, Kumar, & Antony, 2004; Soderquist & Motwani, 1999; Riis, Mikkelsen, & Andersen, 2008; White, Ojha, & Kuo, 2009). Available research suggests the importance of (1) embedded ecological characteristics such as market structure, competition, and customers; (2) internal mechanisms such as employee involvement and teamwork (Scherrer-Rathje, Boyle, & Deflorin, 2009); (3) adoption of systemic perspectives (White, Ojha, & Kuo, 2009); (4) long-term focus and the application of the right combination of tools at the shop floor (Abdulmalek & Rajgopal, 2007; Storch & Lim, 1999); (5) communication and training initiatives (Scherrer-Rathje, Boyle, & Deflorin, 2009; Soderquist & Motwani, 1999); and (6) partnerships with key stakeholders (Riis, Mikkelsen, & Andersen, 2008). This research is significant as it provides valuable information regarding the capabilities, processes, and key human

resources that are beneficial to the successful implementation of Lean strategy. Despite this progress, current approaches examining factors that influence Lean strategy offer scope for improvement in several ways, presented below.

The strategy implementation literature in the management sciences also identifies factors that share common (e.g., structure and flexibility) and distinctive (e.g., leadership) characteristics from the Lean literature (Ghobadian & Gallear, 2001; Yusof & Aspinwall, 2000). Developed from investigations of different types of strategies, the "non-Lean" strategy implementation literature broadens our understanding of the factors and their unique combinations in facilitating successful implementation experiences in organizations.

Commonalities

We noted several commonalities in the factors identified by both of the aforementioned bodies of literature. Scholars in Lean and strategy implementation literature agree that industry characteristics such as presence of competitors, market structure, and customer demand, set the "right" context for adoption and the implementation of strategy (Gupta & Govindarajan, 1984; Lorange, 1998). The role of leadership and commitment to the implementation process was another common factor. For example, the lack of senior management commitment was a significant element affecting implementation (Douglas & Judge, 2001).

Facilitating communication and training at all levels in the organization was particularly significant in managing resistance to change (Scherrer-Rathje, Boyle, & Deflorin, 2009; Soderquist & Motwani, 1999). Furthermore, training helped organizations develop core competencies in relation to the content of the strategy (White, Ojha, & Kuo, 2009). Employees were trained in cross-functional teams and problem-solving techniques. Formal and informal channels facilitated collaboration and enhanced sharing of knowledge through cross-functional interfaces (Riis, Mikkelsen, & Andersen, 2008). These cross-functional collaborations integrated marketing, purchase, and operations involvement toward the achievement of strategic goals (Motwani, Kumar, & Antony, 2004). In fact, Helper and Kiehl (2004) reported the lack of collaboration as a hindering factor in Lean implementation. Flexible organic structures were found to better support employee involvement, empowerment, teamwork, coordination, and continuous, incremental execution of strategy. Finally, long-term focused measures (Bhasin & Burcher, 2006), adoption of systems-level perspective (Valerdi, Nightingale, & Blackburn, 2008), and the development of formal strategic plans were more likely descriptors of implementation success.

Distinctions

The comparative analysis of strategy implementation and Lean literature yielded six distinctive factors. The strategy implementation literature suggests

tracing different phases in the implementation process (Ghobadian & Gallear, 2001). In a similar fashion, the Lean literature advises a gradual and sequential introduction and consistent application of Lean tools, but the timing of their introduction and application is not specified.

The emphasis of identified Lean-related research focuses primarily on operational process improvement. Furthermore, the Lean literature also emphasizes external partnership, alliances through supplier and customer development, and channel alignment, to ensure stabilized demand patterns, improved organizational efficiency, effectiveness, productivity, and quality (Brau, Fawcett, & Morgan, 2007). Thus, the Lean characteristic demands a partnership-focused approach (external and internal stakeholders) toward enhancing performance improvement. The strategy implementation literature, however, examines internal conditions of the organization in terms of distribution systems, layers of product ranges (Lorange, 1998), processes, cost competiveness, business growth opportunities, turf battles, and a culture of innovation depending on the nature and content of the strategy (Dellana & Hauser, 1999; Douglas & Judge, 2001; Shea & Howell, 1998). The strategy implementation literature also highlights the importance of aligning strategic initiatives based on the nature and content of strategy. For example, organizational structures, networks, and procedures consistent with the nature and content of the chosen strategy help reduce conflicts (Hrebiniak, 2006). In addition, decentralization or the nature of corporate control over a strategic business unit (SBU) was another influencing factor (Ford & Slocum, 1977; Vancil & Buddrus, 1979). This literature also expresses the importance of capital investments for enhancing strategy implementation capability (Bower, 1970). Not all of these factors are mentioned in the Lean literature. In fact, potential changes to the existing structure, disruptions in formal structure, and networks that are likely to trigger resistance have not merited sufficient attention in the Lean literature. Recognizing these risks is crucial knowledge for generating successful Lean strategy outcomes.

The Lean literature also does not identify specific leadership characteristics that are important for successful implementation. For example, how leaders determine Lean implementation procedures, delegate responsibility, and measure accountability for decisions are not reported in available Lean literature. In contrast, the strategy implementation literature describes leadership characteristics such as risk taking, tolerance for ambiguity, functional background of the leader in relation to the strategy being implemented, internal locus of control, and leading the implementation effort from the front. These characteristics offer greater explanatory power to the role of top leadership in facilitating successful Lean implementation. Finally, the Lean literature places employee involvement and autonomy at the heart of the shop floor improvement process. This perspective is not overtly evident from the strategy implementation literature. The value of including nonmanagerial employees received limited empirical support in the strategy implementation literature.

The limited empirical support emphasized mechanisms for supporting open communication of the strategy with employees, excluding their involvement in shaping the strategy implementation process.

The review identified commonalities and differences, which point to the need for more research specifically as it relates to better understanding the factors that facilitate/hinder Lean implementation and the role/value of HRD. The commonalities and differences emerging from the thematic analysis revealed current weakness as well as gaps in the research in understanding the role of HRD and its value in strategy implementation. We conclude that research on factors facilitating Lean implementation, the role for HRD, and value in shaping strategic development of the overall organization are relatively underexplored areas. Taken together, these areas point to ways organizations can recognize factors that contribute to or harm strategy implementation. We also reason that organizations taking full advantage of HRD systems, practices, and policies are more likely to generate superior strategy implementation outcomes.
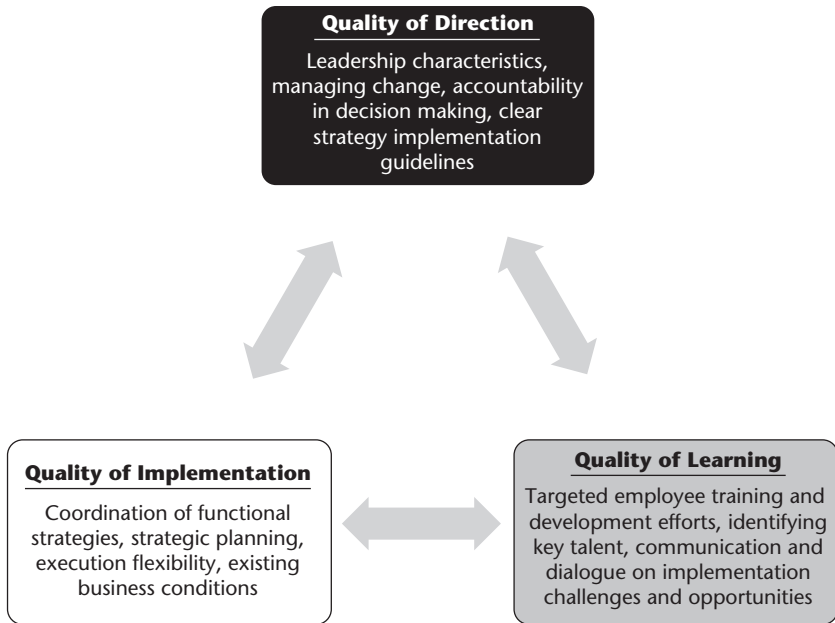
Conceptual Framework

Instead of producing an ad hoc list of factors that facilitate or impede Lean strategy outcomes, we identified similarities and differences from Lean-specific and general strategy implementation literature. Several studies from both bodies of literature advocate for whole systems perspective (Beer & Eisenstat, 2000; Brenes, Mena, & Molina, 2007; Higgins, 2005; Noble & Mokwa, 1999; Okumus, 2001; Qi, 2005; Skivington & Daft, 1991). Guided by this common theme, we introduce a conceptual model to organize the factors in three broad categories: quality of direction, quality of learning, and quality of implementation (Beer & Eisenstat, 2000). The synergistic interaction among the three categories provides a helpful framework for understanding the factors that contribute to and hinder Lean implementation.

Beer and Eisenstat (2000) present these categories as critical organizational "levers" or "strategic levers" influencing implementation success (Douglas & Judge, 2001; Hackman & Wageman, 1995). We reframed the model to enhance its applicability to Lean strategy and focused on three critical lever supports. These three aspects underscore the systemic impact of Lean and their synergistic effect on strategy implementation outcomes. Figure 1 represents the interaction among the three critical levers in enhancing the success of strategy implementation. Factors influencing the strategy implementation process (both facilitating and hindering) were grouped into one of the three categories in the refined and enhanced model of strategy implementation. These levers are expanded in the following section (see Figure 1 for the conceptual framework).

Quality of Direction. The role of leadership in prioritizing resources among implementation activities (Lorange, 1998; Rho, Park, & Yu, 2001) and

Figure 1. Conceptual Model for Understanding the Synergistic Interactions Among Three Critical Strategy Implementation Levers (Selected examples of factors that shape the quality of organizational strategy implementation efforts are provided under each lever.)

Quality of Direction
Leadership characteristics, managing change, accountability in decision making, clear strategy implementation guidelines

Quality of Implementation
Coordination of functional strategies, strategic planning, execution flexibility, existing business conditions

Quality of Learning
Targeted employee training and development efforts, identifying key talent, communication and dialogue on implementation challenges and opportunities

allocation of people in key positions (Lorange, 1998) were important factors facilitating the quality of direction. In addition, leadership characteristics such as risk taking, tolerance for ambiguity (Gupta & Govindarajan, 1984), functional background of the leader in relation to the strategy being implemented (Bower, 1970; Gupta & Govindarajan, 1984; Hitt, Ireland, & Palia, 1982), internal locus of control (Gupta & Govindarajan, 1984; Miller & Toulouse, 1986), and leading implementation efforts from the front (Huq & Martin, 2000; Lorange, 1998) showcase evidence of the quality of direction. We categorized long-term focus and external partnerships identified from the Lean literature under this section as they stressed the role of top management.

In contrast, conflicting priorities (Beer & Eisenstat, 2000), lack of commitment (Douglas & Judge, 2001), unclear responsibility or accountability for implementation decisions (Hrebiniak, 2006), and vague strategy guidelines or lack of implementation models (Beer & Eisenstat, 2000; Hrebiniak, 2006) hindered the quality of direction. Moreover, the inability to manage change and resistance to change (Child & Smith, 1987; Hrebiniak, 2006) due to disruption of existing social networks were "expensive and time consuming"

(Tata & Prasad, 1998, p. 709). Ineffective leadership exercised by the senior executive team, including a laissez-faire leadership style, hindered the quality of direction and success of strategy implementation.

Quality of Learning. Quality of learning underscored the importance of facilitating organizational learning as a critical lever in strategy execution. We found targeted employee training and development efforts, identifying key human resources (Huq & Martin, 2000; Lakhe & Mohanty, 1994; Lorange, 1998), encouraging open communication, adequate dialogue with employees on implementation success and challenges (Beer & Eisenstat, 2000), and involvement of operating line members in improvement projects teams (Lorange, 1998) as representative of the quality of learning. Training and communication were identified as contributing factors, whereas the lack of crucial knowledge was reported as a hindrance under this lever from the Lean literature.

Quality of Implementation. Beer and Eisenstat (2000) define quality of strategy implementation as the integration of functional strategies (marketing, HR, finance, operations). In addition, other scholars outline two areas as positively shaping the quality of strategy implementation. These were (1) the development of an integrated plan of achieving the strategic change process and (2) maintaining incremental execution flexibility (Lorange, 1998; Tata & Prasad, 1998). In keeping with this logic, Tata and Prasad (1998) suggest that flexible-oriented organic structures have a stronger effect on strategic implementation capability than TQM practices such as employee involvement, empowerment, and teamwork. Several scholars emphasized horizontal coordination across departments and extending the implementation scope to the entire organization as additional facilitating factors (Burdett, 1994; Deming, 1986; Pulat, 1994). A high level of strategic implementation capability was also reported through the systematic development of core competency. Necessary conditions, mechanisms, tools, and internal partnerships from the Lean literature were regrouped in this category as they significantly influenced the strategy implementation process. In contrast, poor coordination across functions, inadequate information sharing between individuals and business units (Doyle, 1992; Hrebiniak, 2006), and an ineffective top-down approach hindered the quality of strategy implementation. Prior to the implementation of the current study, extant literatures failed to address the value of HRD in strategy implementation. We suggest the limited empirical support on the role of HRD in shaping and influencing strategy implementation as a gap in the existing research. The ability of firms to recognize the value of HRD and its purposeful application is critical for strategy implementation success. Firms must consider the strategic value of HRD as they begin to implement strategic initiatives such as Lean.

Research Questions

We identify the potential value of HRD noting that key human resource decisions, leadership characteristics, team and cross-functional collaboration, and

employee involvement initiatives are relevant to all firms involved in any type of strategy implementation, including Lean. We posit that the success of strategy implementation is contingent on how firms assimilate and utilize HRD. In addition, we contribute to the literature regarding how leaders and managers can achieve superior strategy implementation outcomes. The following research questions guided our investigation:

1. Do and how do the three critical levers—quality of direction, quality of implementation, and quality of learning—manifest themselves in Lean strategy implementation?
2. What are the facilitating or hindering factors that influence Lean strategy implementation in organizations?
3. What is the role for HRD in shaping and influencing an organizational implementation of Lean strategy?

A key point in investigating factors influencing strategy implementation is to gain an understanding of non-HRD-related organizational opportunities and challenges. Gaining this perspective contextualizes our inquiry on the role of HRD in shaping and influencing the strategy implementation process. Indeed, this perspective helps to reduce potential bias in exaggerating the role of HRD and provides alternative explanations regarding how organizations assimilate and utilize HRD and enhance strategy implementation. Furthermore, focusing on Lean as one of the more prevalent organizational strategies, we elaborate on the nature of HRD alignment with strategy within a specific organizational context. Through the examination of Lean strategy and HRD, we simultaneously maintain focus on HRD alignment and strategy beyond Lean organizations. Thus, the study identified perceptions of top or near-the-top managers on the perceived value of HRD on strategy implementation, specifically Lean.

Research Design

The qualitative case study method as proposed by Yin (1994, 2009) and Eisenhardt (1989) was utilized to develop micro-level perspectives of the HRD role in a single case study of a strategic business unit (SBU) undergoing large-scale Lean transformation (elaboration regarding SBU context is provided later). The case study describes a "rich, detailed story" answering the "how" and "why" forms of research questions on contemporary situations or events (Yin, 2009). Eisenhardt (1989) observed case study as an appropriate methodology for understanding a specific phenomenon in complex real-life situations. We adopted case study research as an appropriate methodological fit for understanding how organizations implement strategy and why very few report successful outcomes. Given that the SBU was the sole manufacturing facility for the case organization undergoing Lean implementation, the case study methodology helped us to understand how the SBU implemented

strategy and why SBU was able to report successful outcomes. In doing so, we were able to trace the role and extent of HRD influence on strategy implementation.

The SBU was involved in several projects with a university-industry research consortium of which the primary researcher was a member. The SBU president consented to a request for providing access to the organization. The timing of the request was particularly significant for the organization. The SBU president's statement of support elaborated on the opportunity at hand for the primary researcher to examine the aforementioned research questions. The president noted, "The junction of Lean and HR is happening right now in our SBU. If you are interested in continuing the discussions, we would be happy to support the project."

Case Background

As the sole processing facility, the SBU was vital to the growth and success of the case organization. The case organization was involved in automotive distributorship and part sales for a global automotive company. Exclusive distributorship ties with a global automotive manufacturing company guaranteed steady demand and market for the company. The corporate control over the SBU was decentralized. Thus, the decision to adopt and implement Lean strategy was viewed as an SBU initiative. The corporate office played a supporting role in strategy implementation.

The industry and environment in which the SBU operated provided a nearly ideal setting for the selection of Lean strategy. The formal engagement with Lean implementation offered several opportunities to exploit the vantage relationship with the global auto-manufacturing company and access to excellent Lean practices. Further, an employee-centered culture already existed in the SBU. In fact, the hourly associates benefited from industry best policies, benefits, and practices. Thus, the existing culture, operating industry environment (automotive), and strong alliance with external suppliers and manufacturer was a "textbook" context for the formal introduction of Lean as the foundational strategy for the SBU.

A major outcome of the strategy was identifying and mapping SBU business capabilities, where direct and indirect functional processes, including HRD, were charted. All existing processes and outcomes were outlined and documented. The process capabilities mapping helped identify, define, and prioritize process and product outcomes that were important to the overall performance of SBU. Process mapping the entire SBU operations helped in identifying critical and noncritical procedures that are foundational elements of Lean strategy. Initiatives for individuals, teams (departments/functions), workflow improvements, and organizational-level interventions were additionally introduced to reinforce and improve organizational performance.

Data Collection

As recommended by Yin (1994, 2009), we relied on three sources of evidence: interviews, archival records, and observations. The human resource (HR) department served as the initial point of contact in setting up site-based interviews and observations. The interview questions were developed from previous Lean implementation experiences drawn from research and practice. To enhance reliability, the primary researcher shared the case study protocol in advance with the SBU president and the HR department for feedback and approval. The case study protocol was approved with no revisions to the content and on condition that proprietary information would not be shared with external audiences.

The initial interview list consisted of nine senior-level managers who volunteered to participate in the study. The criteria for data collection had to be "specific and beyond purposeful" (Rocco, 2003, p. 377) to ensure that the sampling approach covered all the key stakeholders involved in Lean implementation. The primary researcher developed rapport with executives during the initial round of interviews. These executives then helped the primary researcher gain access to the top management, to whom they directly reported. In addition, the primary researcher also utilized site visits to interact with team supervisors, shift managers, and informal shop floor leaders. The persistent engagement with the research project combined with support from the SBU president led to participation of key informants.

A total of 21 stakeholders charged with the execution of Lean strategy at different levels in the organization were interviewed in a formal sit-down meeting that lasted between 45 and 90 minutes. Additional shop floor interviews were accomplished while walking around the facility with the floor supervisors. These shop floor interviews were included under observations, as some of the recorded interview data were drowned in the hustle and bustle of shop floor activities. The primary researcher also participated in production meetings (tactical) as well as Lean-related planning meetings (strategic) involving different stakeholders. The data collection process covered all senior executives, including the president of the SBU. We achieved methodological triangulation of data by obtaining a wide range of perspectives covering top or near-the-top executives of the SBU, including the president, regarding the impact of Lean strategy through interviews, participation in meetings, shop floor observations, and documents (presentations, implementation-related timelines, planning materials). We thus corroborated and verified the interview data with additional sources of data.

Data Analysis

During the process of data collection and analysis, several major themes emerged. These themes were further refined and modified as more interviews and observations were completed. As emphasized by Moustakas (1990), the

primary researcher returned "again and again to the data to check the depictions of the experience to determine whether the qualities of constituents that have been derived from the data embrace the necessary and sufficient meanings" (p. 33). This process helped in "achieving a valid depiction of the experience being investigated" (p. 33). In addition, we established trustworthiness by demonstrating four characteristics: credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985).

In order to establish credibility, prolonged engagement, persistent observation (45- to 90-minute interviews), follow-up e-mail messages to ensure accuracy of data, triangulation (interviews, documents, observations), peer debriefing (members of university-industry research consortium), and member checks were conducted to reduce potential bias in the data analysis, interpretation, and study findings. The 21 interview participants and observations allowed for maximizing the potential for common and divergent data, which enhanced the transferability of findings to other contexts. Detailed interview notes, presentations, and other material enhanced dependability of the study if it were to be replicated with similar subjects and contexts (Lincoln & Guba, 1985). Member checking was conducted at two different times of the research project. Interview transcripts were sent to interviewees for verification and accuracy of data. Key informants also reviewed initial drafts of the case study report to confirm validity of the data analysis.

Major themes were organized under the three critical levers from our conceptual model. We identified linkages between categories to develop a logical chain of evidence (Miles & Huberman, 1994). We used the causal map approach, as recommended by Miles and Huberman (1994) to describe the Lean implementation process in the SBU. The causal map helped in pattern matching the findings from the comprehensive literature review and the emergent results of the case (Figure 2). In addition, this visual representation was particularly fruitful in crafting explanations for diverse audiences (such as consortium members, SBU informants, research and practitioner conferences). Rocco's (2003) criteria for writing and reporting the qualitative case study was also utilized, including meaningful elaborations on the significance and implication of the study and attention to the overall organization of the case report.

Findings

The analysis revealed three major findings that find partial support in the literature. We discuss each finding as they relate to strategy implementation. In our refined model, three critical organizational levers—quality of direction, quality of learning, and quality of implementation—helped in the assessment of strategy implementation in the SBU. The synergistic interactions among the three levers enhance strategy implementation and influence SBU performance. We found that focusing on a single implementation lever in isolation provides for an insufficient understanding and inadequate deployment of strategy

implementation. This finding also suggests that HRD-related factors must be tightly coupled with the three critical levers for effective strategy implementation. The second finding identified factors influencing Lean strategy implementation. Top management commitment and targeted acquisition and retention of Lean talent emerged as significant factors facilitating the quality of Lean implementation in the SBU. In contrast, high turnover among specific employee groups (e.g., hourly employees) emerged as a hindering factor. The third and final finding shed light on the role of HRD in shaping and influencing Lean implementation. We found limited support for the role and value of HRD in the Lean strategy and strategy implementation literature. We begin this section by examining factors contributing to and hindering Lean implementation.

Developing and Sustaining Lean Strategy

Lean was espoused and enacted strongly in the SBU; a very narrow gap separated the rhetoric and reality of strategy implementation at the SBU. The effect of the planned Lean strategy initiatives resulted in the development of a Lean performance culture at the SBU.

Figure 2 is a causal map displaying a network of interconnected Lean strategy initiatives. This emergent framework helped categorize our findings under three critical organizational levers (Beer & Eisenstat, 2000). The *quality of direction* shows evidence of top management role and commitment in strategy implementation, inclusion of shop floor leaders, and selection of HRD initiatives specific for Lean. *Quality of learning* describes learning initiatives such as multiskilling, new-hire orientation, and consistent communication of Lean to all SBU employees. Finally, *quality of implementation* describes the translation of strategic Lean goals into concrete performance improvement solutions such as process mapping, waste reduction, and quality improvement through interdepartmental collaboration. The supporting data from the interviews uncovered interconnected pathways of management and HRD initiatives, which catalyze and sustain strategic development of the organization.

Quality of Direction. Top management commitment propelled, with relative ease, the implementation and integration of Lean in SBU. Once fully implemented, Lean drove every aspect of SBU performance. A complete overhaul of existing workflow targeted alignment of the business processes. Senior leadership role and commitment in strategy implementation led to the introduction of several Lean initiatives in the SBU. The senior manager (Site Transformation) described top management's role in the SBU:

> Lean is being driven more from the president level right now, and it is filtered down to the next layer, which is the senior manager level. The president of the business and top-level leadership team speaking Lean language backs it. That's when the culture started to change.

Figure 2. The Strategic Value of HRD in Lean Strategy Implementation
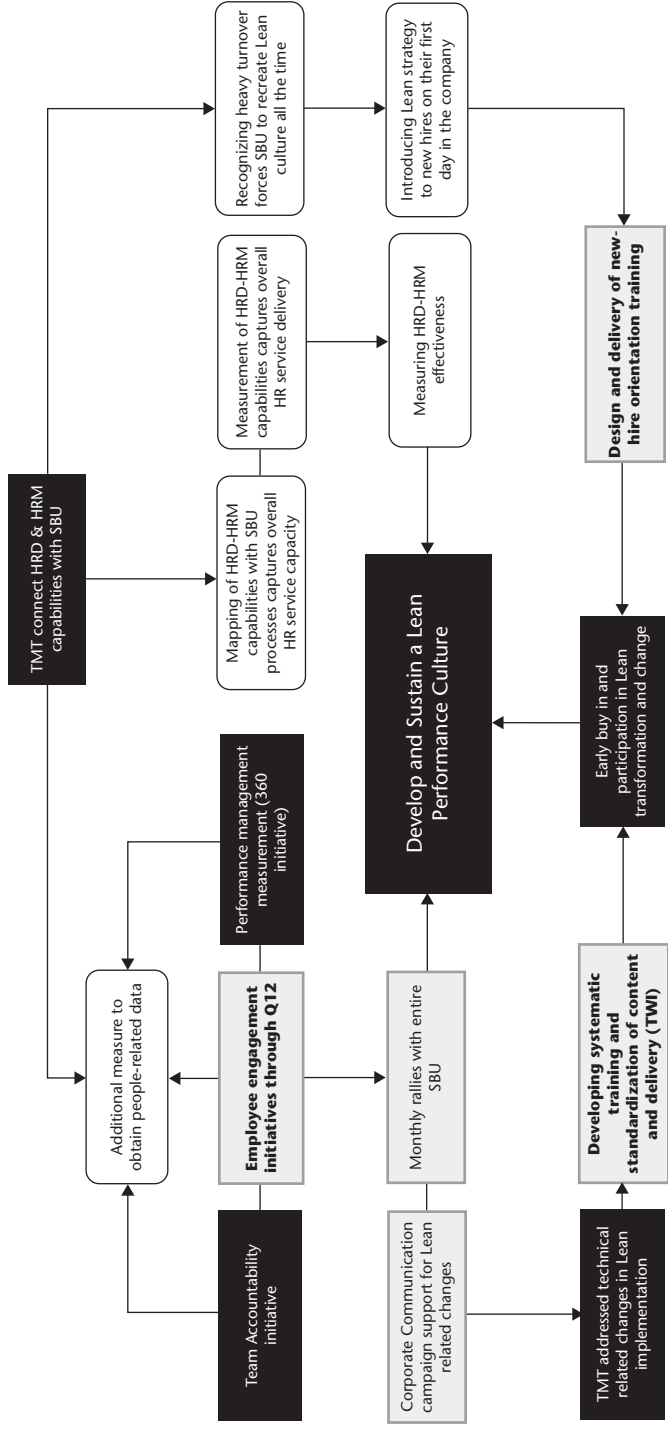
The director (Operations) recognized the importance of gaining buy-in from informal leaders on the shop floor. He attributed the relatively smooth Lean implementation as due largely to the involvement of informal leaders. Organizational designation and hierarchy at the SBU did not necessarily legitimize these leaders. The senior leadership carefully nurtured and developed rapport with shop floor employees. Involving informal leaders and gaining their buy-in was crucial for developing and improving existing shop floor practices.

> I listen not to the "real leaders" but the "informal leaders." When I find a real good skeptic, I agree with them—even if it's all screwed up, it's messed up I [still] agree with [the informal leaders]. I say, "You are so good at finding the problems in these things; I want you on my team." Now, [I] watch their demeanor [change]. You capture their mind, spirit, and their willingness. Then, I contract with them.

Formal and informal leadership in the organization were committed to the strategy implementation process. The inclusion and participation of informal leaders at the shop floor is an important factor that is widely acknowledged in the practitioner literature, although this has not attracted sufficient attention in the academic literature.

The leadership was also committed in gaining early buy-in to Lean implementation. A new 360-degree performance management measurement was introduced to reinforce a high-performing executive culture. In addition, SBU had introduced team accountability initiatives to measure the effectiveness of departments and project teams. At the individual level, an employee engagement survey was introduced. The preceding examples show evidence of leadership commitment in developing people and analyzing the data collected through these initiatives to improve the implementation process. The leadership team was thus instrumental in the development of a Lean performance culture.

Quality of Learning. A highly engaged workforce was a primary goal of Lean strategy implementation. As identified earlier, the leadership team introduced annual employee engagement surveys to facilitate communication with the workforce. The HR specialist noted: "The initiative [engagement survey results] was off and on for the last two years. The initiative has seen ups and downs over the last couple of years as employees continue to experience changes at the workplace as a result of Lean initiatives." Despite regular communication, employees perceived these changes to be "drastic," and their views were reflected in the engagement survey responses. The HR specialist continued: "It will be interesting to see when we continue to make changes and, if we conduct an engagement survey this time next year, what they [associates] are going to say about a lot of these changes."

The engagement survey results were shared with the workforce. Consequently, the communication of the results provided a forum for recognizing and managing resistance to change.

The new-hire orientation program was introduced as a major initiative aimed toward turnover reduction. The development of systematic training for shop floor employees, standardization of content, and delivery of training under the TWI (Training Within Industry) emphasized leadership commitment in facilitating learning at the organizational, team, and individual level. For example, new hourly associates underwent an initial six-hour introduction to the company. This was a major shift from past practice, where hourly associates were "thrown directly into the shop floor." According to the HR manager:

> We go over values, policies, benefits, and specialize in perks, go into the specifics of SBU, attendance, dress code, and, of course, new-hire paperwork. We end with a DVD on mission, history, and how they [the manufacturer] became global. We are going to extend it with a harassment class. So the associates are very well informed in terms of our expectations. There won't be any reason for the associates to not feel they are embraced, informed, and trained to go out and do their job.

This systematic program design and delivery introduced Lean tools and techniques and emphasized strategy implementation as foundational to how the SBU was organized. The new-hire orientation program helped gain early buy-in, participation, and involvement in Lean strategy from new hires. A separate communication team also developed communication plans as the SBU underwent Lean implementation efforts. The success of the communication efforts was evident even at the hourly associate level. According to the HR specialist, the hourly associates could now "understand the gist [Lean] because it is communicated so much." As a result, the management was able to address technical-related changes in the Lean implementation, based on the feedback the SBU received from the communication initiatives. For example, the shop floor improvement plan underwent revisions based on employee feedback. The communication initiatives facilitated involvement of full-time and hourly employees in the implementation process. The SBU thus facilitated inclusion and participation at different levels. This, in turn, affected the quality of Lean implementation. We found employee involvement and participation to be a contributing factor in strategy implementation.

Quality of Implementation. The tight coupling of strategic Lean goals with operational activities in mapping every functional process to the overall SBU business capability emerged as the strongest indicator of the third critical lever—quality of implementation. The results indicated improved audit scores bettering the manufacturer's internal audit scores on quality performance. The director (Operations) elaborated:

> I remember walking in here, two and half years ago. One of our courtesy audits was a 55/100. Now an average [manufacturer] facility or facilities average 91. It was embarrassing. I looked around the room and the only people that owned it was the quality department. They felt very upset. Individuals that had a very specific hit felt badly; the ones that did not have a specific hit just pointed out the ones who did. It was not healthy. In today's organization, we all feel the hit and we all celebrate the win. Our last audit was a 97. Last year's average [for the manufacturer] was 93.

Quality, thus, is a shared responsibility across different functions. Cross-functional collaboration between functions facilitated greater integration of processes and procedures. The director (Operations) recalled, "Before, the burden of quality fell upon the quality department. That is not very Lean. Now the burden of quality falls back onto the entire workforce, and guess who celebrates success. Everyone!" The mapping of process capabilities of all functions also established performance effectiveness measures for department managers. SBU processes were value streamed and mapped, and metrics were developed to measure key activities. Lean increased opportunities for cross-departmental integration and interlinked metrics associated with each department to the overall SBU. Through process mapping, Lean strategy enabled the interconnection of individual, department, and SBU outcomes. A visual display of the interconnections communicated the shared vision and mission of the SBU.

Factors Influencing Lean Strategy Implementation

Our second major finding revealed several facilitating and one hindering factor influencing Lean implementation in the SBU. The first facilitating factor discusses shared professional commitment of the management team.

Shared Professional Commitment. Several newly hired senior and middle management executives were certified in Lean Six Sigma and Black Belt. The management team also had extensive experiences implementing Lean in the automotive industry. This shared professional commitment to Lean implementation created a strong social identity and was found to be a facilitating factor. This professionally well-defined managerial group strengthened top leadership commitment and middle-management involvement in Lean implementation. The SBU also invested in adding Lean talent to its bench strength. It did so by hiring managers who had successfully implemented Lean in other organizations. The senior manager (Quality) shared insights in this regard:

> Whereas some of the individuals you have met, for example, my boss TK, DB, and I—we all worked in automotive. TK has 20 years' work experience in Lean, DB has 10 years'; I have 15 years' automotive experience. Therefore, we are all involved with Lean manufacturing. When new folks like us come in with Lean manufacturing experience, we bring our own ideas.

The newly acquired senior-level managers were exposed to Lean in other companies where they had experienced the benefits of Lean. The senior manager of the Transformation Project corroborated:

> The good part about the SBU is they are bringing on people with Six Sigma experience. Four other people from the GE facility (newly recruited in SBU) were certified in Green belt, Black belt, and Master Black belt. Therefore, when I say change in culture, you start to infuse current culture with knowledge of how to implement these things. So people like me and others in the organization who are certified, with experience, have been able to start helping people understand how to use the methodologies and, implement programs.

We found evidence of this facilitating factor in the strategy implementation literature, which advocates for talent acquisition in relation to the content of strategy being implemented. Moreover, the newly recruited managers shared similar demographic characteristics in terms of age, tenure in the organization (less than five years), functional background, prior experience (working for General Electric, Inc.), and education. The Lean implementation literature has not been adequately addressed building Lean bench strength through talent acquisition. This is a new finding from our study.

Other Facilitating Factors. We found the influence of external environment as a necessary condition in the selection, formulation, and implementation of Lean strategy in SBU. SBU benefited from the distributor relationship with the global manufacturer in terms of culture, philosophy, and access to Lean best practices. Our study also identified several mechanisms that supported Lean strategy implementation and effect on organizational performance. For example, workflow initiatives such as reorganizing work processes, buildings, teams, and reporting relationships were key mechanisms adopted at SBU.

These initiatives transformed organizational structure and the physical layout of SBU. Flexibility, improvization, continuous improvement, and learning became the norm. "Organizing" workflow initiatives were seen as the "becoming" of a Lean SBU. Organizational actions were continuously and incrementally adjusted to facilitate Lean transformation. These transformations due to the introduction of Lean tools, techniques, and practices corroborate with the findings from the extant literature. A proportion of actions simultaneously focused on utilization of existing resources (e.g., SBU workforce, buildings) and exploration of innovative ideas (e.g., employee suggestions). New routine and nonroutine activities emerged as the organization underwent Lean transformation.

Hindering Factors. SBU was also challenged with high turnover, specifically with newly hired hourly employees. According to the director (Operations), high turnover in the workforce created unevenness in operational

performance ("maintaining continuity and, of process understanding, quality and productivity"), which in turn reduced organizational effectiveness. Reducing turnover helped in the maintenance of *performance homogeneity*. Said differently, high turnover team and individual performances outcomes caused performance variability within employee groups that experienced high turnover. This was perceived to inhibit the momentum of strategy implementation. For example, high turnover of hourly employees reduced the quality of operational performance. The senior manager (Operations) noted turnover reduction as an important initiative for maintaining the momentum of Lean transformation. The HRD involvement with Lean was similarly significant, which we present in the following section.

Role and Strategic Value of HRD

HRD staff involved in Lean transformation gained valuable organizational level perspectives as they were exposed to operational aspects of the business for the first time. Lean implementation offered avenues for HRD to assess capabilities and examine interconnections with internal customers. HRD provided critical support to management in the development of a Lean SBU prototype and was included in the strategy implementation process. While management and HRD at the SBU were involved with local process improvement and workflow efforts, corporate HRD developed communication campaigns on impending changes in work such as the constitution of work groups and shift operations. In addition, corporate HRD was responsible for strategic HRD processes such as management development and organizational development initiatives to support Lean implementation. New-hire orientation, development of training needs assessment, skill development and evaluation, communication initiatives, and climate assessment were several programs that were revamped and customized. Some operations-related initiatives such as problem-solving work groups also placed new emphasis on innovation and process improvement at the hourly associate level. In the process, the existing work behaviors and values were adapted to support strategy implementation.

Corporate HRD facilitated several HRD initiatives under the direction of the SBU leadership. These areas such as the 360-degree appraisal, team accountability, and communication campaign initiatives helped Lean implementation. The local HRD team in the SBU was responsible for developing new-hire orientation, revamping employee-related training, and facilitating the Q12 survey for capturing employee engagement data. HRD initiatives supported people processes for shaping the culture, as Lean values became more ingrained in the awareness and work behaviors of employees.

The HRD role in Lean implementation was a high priority for the SBU. The president elaborated on two important HRD aspects. These aspects highlight the important contribution of HRD in developing sound and successful strategies for Lean implementation. According to him, the first aspect deals with training of employees: "in-depth training of the people, co-coordinating

with the Human Resources side of the business, to start to teach a language to the people who knew nothing about Lean, like some simple terms such as Kaizen." The second HRD element related to hiring practices was injecting new talent into the business:

> Talent that had a more sophisticated approach to blend people who had the operational knowledge but maybe didn't know higher-level data-mining activities. So that they could say, what does the data really tell and, how do we analyze [the data] to get the real message of how the business is running and all of that. And we really worked hard for a year to do those things, and obviously continue to learn from the last four years.

Acquiring Levels of Lean Competence

The strategy of acquiring successful Lean leaders jump-started superior performance at the SBU. The hiring strategy was one of the approaches for upgrading Lean talent in addition to management development (e.g., skill development, training, and exposure to Lean). Corporate HRD played a key role in hiring Lean talent at senior levels for SBU. The local HRD team supported the hiring of the workforce. The local HRD team was additionally involved in developing customized Lean-related training. Of direct relevance to the current analysis is that HRD involvement builds Lean bench strength, enhances communication regarding Lean in the SBU, improves engagement through employee suggestion programs, and facilitates systematic training on Lean concepts and targeted turnover reduction.

Discussion

The findings underscore the systemic impact of Lean on operational and organizational performance. Our findings identified contributing and hindering factors to strategy implementation, specific to Lean, which we categorized under three major themes: quality of direction, quality of implementation, and quality of learning helped in the assessment of strategy implementation in SBU. As reported in the extant literature, we found strong evidence on the importance of leadership commitment and involvement of middle managers in strategy implementation. These factors significantly influenced Lean implementation as well. We found top management commitment and social identity (shared managerial characteristics) as significant facilitating factors, which have received limited support in Lean and strategy implementation literature. In contrast, high turnover among hourly employees emerged as a hindering factor. Reducing turnover among hourly employees has not received adequate attention (in comparison to turnover of full-time employees) and is a potential area for future research. The third and final finding shed light on the strategic value of HRD in shaping Lean implementation specifically to the

hiring strategy, management development, and new-hire orientation for hourly employees. In addition, we identified several other HRD initiatives (see Figure 2). Thus, we were able to identify additional factors and expand our understanding of their influence on not only Lean strategy but also the overall strategic development of the organization.

The idea of developing a causal map (Figure 2) from the qualitative data was motivated by Beer and Eisenstat's (2000) model, which identified six implementation barriers. Even though this focus on Beer and Eisenstat's (2000) model came at the end of writing our case report, it was useful as we simultaneously focused our analysis on identifying factors that influence strategy implementation, communicate the synergistic interactions of three organizational levers, demonstrate the systemic impact of HRD alignment with Lean strategy, and extend the findings beyond Lean organizations. The reframed model served as a road map for organizing commonalities and distinctions in Lean and strategy implementation literatures. The refined conceptual model forced us to reexamine Lean from the lens of strategy implementation. In the process, we were able to identify overlooked factors and expand our understanding of the factors that influence not only Lean strategy but also the overall strategic development of the organization. Thus, the reframed conceptual model helped narrow our research focus and identify gaps connecting HRD, Lean, and strategy implementation literature.

The conceptual model was useful in our data analysis phase, as it compelled us to view the data from the lenses of Lean (operations and manufacturing literature) and strategy implementation (management sciences) literature. In categorizing the emerging themes from the case analysis, the conceptual framework was, once again, useful in developing our results in four additional ways. When organizations recognize the factors that contribute or impede the implementation process, they are more likely to initiate actions that enhance strategic decision-making process. We were also able to link HRD initiatives at multiple organizational levels. Our findings established the role of management in stipulating the extent of HRD involvement in Lean implementation. Finally, the causal map (see Figure 2) exposed process and systemic aspects of strategy implementation and thus offer theoretical insights into the emergent nature of the strategy implementation process.

The use of the qualitative case study design helped us to take advantage of these established themes from the literature and sharpened our focus on the unique features emerging from the case study. These comparisons raised the theoretical level of the case study (Eisenhardt, 1989). The qualitative methodology helped in identifying the emergent nature of relationships among different stakeholders and the influence of organizational factors such as leadership, structure, and culture on Lean strategy implementation. Thus, the qualitative methodology was helpful in understanding why dynamic interactions and decisions among stakeholders enable successful strategy implementation outcomes in this case study. We found limited utilization of qualitative

methodology in Lean strategy and strategy implementation literature. Although the case study approach was useful, we found generalizability of the findings in the conventional sense to be a limitation—this is a shared epistemological principle common to the majority of qualitative inquiries. The wider application of our findings to other organizational settings is thus limited. Case study research also relies on individual judgments of researchers in data analysis and interpretation and may not fully reflect the complexity of the case study.

Conclusions

Lean implementation efforts successfully integrated HRD systems, practices, and policies. Micro-level perspectives of strategy implementation process indicate a central role for HRD in organizations. The role and value of HRD initiatives enhanced the likelihood of success in Lean implementation. The implementation capability was significantly more effective when management efforts assimilated and utilized HRD policies, practices, and systems. The close alignment of operational and HRD practices enhanced the overall implementation efforts in the SBU. We argue this as a notable contribution in the research and practice of HRD in organizations. We go further and suggest that inconsistency in the application of HRD practices produces a weak strategy implementation-performance relationship.

Despite the central role for HRD and value of HRD activities in Lean implementation, HRD enacted a supporting role facilitating employee-related initiatives, sharing people management data (such as turnover), and designing new hire orientation interventions that enhanced the value and role for HRD in the implementation process. The HRD role and involvement was further enhanced when HRD processes (routine and strategic) were mapped with other departments in the SBU. The process mapping of the entire SBU was particularly helpful in tracking the performance of HRD initiatives with respect to timeliness, cost, and quality of service. The causal map illustrated in Figure 2 departs from Beer and Eisenstat's (2000) model as we adopt a constructivist view to identify HRD-specific programs that support Lean strategy—involving corporate and SBU-level HR teams and how top management interpretations of HRD help in the development of a strategically aligned HRD.

Lean and strategy implementation literature and HRD literature (particularly within organization development) established the importance of management commitment. Strong leadership at the top echelons of the SBU ensured that Lean strategy implementation was fully decentralized at the SBU, with limited corporate control. Several capital investment decisions (for example, additional manufacturing facility) proposed by the SBU were accepted by the corporate office. Furthermore, the top management was instrumental in integrating HRD systems, practices, and policies at all phases of the strategy—formulation, planning, implementation, and evaluation. The role of the top

management and commitment in the implementation process appears to be a significant factor for success. The evidence from the case study seems to suggest the importance of involving leadership at other levels of the organization—middle management and the shop floor. Informal and formal leadership roles are likely to ensure strategy implementation success. In terms of leadership characteristics, despite prolonged engagement with study informants, we were not able to assess leadership characteristics in a meaningful way. This is a limitation of the study.

Our conclusions confirm the strategic role and value of HRD in the process of implementing Lean as a firm-level strategy. In terms of their actual involvement, we found that HRD executives played a role, but did not lead the strategy implementation process. The implications for HRD research and practice are further elaborated upon in the next section.

Implications for HRD Practice and Research

For HRD and functional managers involved in strategy implementation, this case study has both practical implications and research implications involving integration of key findings within the current study and formation of future studies.

Future Directions for HRD Research

Prior to the current study, previous literature has not explored the value of HRD in either general strategy implementation, or Lean strategy implementation. Some scholars in the strategy implementation literature found indirect support for the importance of key human resources in leading change. We recommend future research on the HRD and strategy implementation linkage more systematically examine ways in which organizations increase HRD involvement for effective strategy implementation. One limitation of our study was the noninclusion of hourly employees. Qualitative research designs would be particularly useful for understanding how different employee groups (e.g., full-time employees, hourly employees, leadership team, middle-level executives) engage and respond to the challenges involved in the implementation of all types of strategies, including Lean. There is also a need to address organizational members' adaptation to Lean-related change. As Short et al. (2003) stated, it is important that HRD researchers focus on "delivering and measuring outcomes, thinking and working systematically, with a sounder theoretical base" (p. 242). In order to do so, we must extend the current findings to further elaborate on the ways organizations have successfully implemented strategy in a holistic manner—that includes HRD—and further elaborate on factors hindering HRD inclusion in strategy implementation. Additional qualitative case studies in examining the Lean strategy implementation with a central focus on HRD would offer further support for our findings.

Studies employing quantitative research designs would extend the generalizablity of the study's findings to organizations from nonmanufacturing contexts involved in the implementation of strategies other than Lean. The creation of some type of quantitative assessment from an HRD perspective would enable practitioners to determine potential pitfalls during the strategy implementation process (in terms of the perceived presence or absence of supporting/hindering mechanisms). Lean implementation studies also need to shift their scholarly focus from examining application and impact of Lean and quality-related tools on operational performance. Literature on the inclusion of HRD during the strategy formulation phase is even more limited. We urge HRD scholars to push the envelope for understanding the intersection of HRD and management in the formulation and implementation phase.

Implications for HRD Practice

Organizations are most likely to initiate actions when they are able to recognize the factors that contribute or harm the implementation process. Thus, understanding the contextual influence of the organizational culture and structure, as outlined earlier, will support the anticipation and reduction of potential barriers to implementation. The recognition of organizational-level implementation opportunities and challenges enhances the overall quality of strategic decision making.

Both functional and HR/HRD manager capacities to focus on long-term, systemic, and process-based perspectives can be enhanced by attending to the key issues outlined in this study. HR/HRD managers must recognize their critical role in acquiring and developing talent to build the momentum and commitment for successful strategy implementation outcomes. HR/HRD managers need to recognize and elevate the role of informal leaders for managing change and resistance to change. Involvement in turnover reduction is another example for linking HRD contributions to organizational performance. These recommendations offer concrete ways in which HR/HRD managers can earn and keep a seat at the table with senior leadership.

Study participants and related study findings suggest different ways in which HRD-related roles can be elevated and specific competencies HRD professionals may need to be valued contributors to Lean strategy implementation. For example, several competencies emerge from this study with significant relevance to HRD practitioners. HRD practitioners need to understand the strategic goals of the organization, must demonstrate their capacities, establish credibility regarding their operations-related understanding, should emphasize and validate value-added HRD-related approaches, and take overtly aligned actions toward achieving organizational objectives. Unfortunately, these competencies appear to be rarely taught in HRD or HRM programs—as was brought to the primary researcher's attention by the SBU president. These findings are also relevant because they address an occasional

narrative within HRD regarding the vulnerability of HRD practices within organizations. Short, Bing, and Kehrhahn (2003) raised concerns about HRD's being "left on the sidelines." Our findings suggest that HRD professionals who are part of organizational strategic intervention have an opportunity to extend and opportunity for mutual benefit toward shared management interests. The case explored herein provides support toward these ends.

References

Abdulmalek, F. A., & Rajgopal, J. (2007). Analyzing the benefits of Lean manufacturing and value stream mapping via simulation: A process sector case study. *International Journal of Production Economics, 107*(1), 223–236. doi: 10.1016/j.ijpe.2006.09.009

Achanga, P., Shehab, E., Roy, R., & Nelder, G. (2006). Critical success factors for lean implementation within SMEs. *Journal of Manufacturing Technology Management, 17*(4), 460–471. doi: 10.1108/17410380610662889

Barney, J. B. (1991). Special theory forum: The resource-based model of the firm: Origins, implications, and prospects. *Journal of Management, 17*(1), 99–120.

Becker, B. E., & Huselid, M. A. (2006). Strategic human resources management: Where do we go from here? *Journal of Management*, *32*(6), 898–925.

Beer, M., & Eisenstat, R. A. (2000). The silent killers of strategy implementation and learning. *Sloan Management Review, 41*(4), 29–40.

Bhasin, S., & Burcher, P. (2006). Lean viewed as a philosophy. *Journal of Manufacturing Technology Management, 17*(1), 56–72. doi: 10.1108/17410380610639506

Bower, J. L. (1970). *Managing the resource allocation process: A study of corporate planning and investment.* Boston, MA: Harvard Business School Press.

Brau, J. C., Fawcett, S. E., & Morgan, L. (2007). An empirical analysis of the financial impact of supply chain management on small firms. *Journal of Entrepreneurial Finance, 12*(1), 56–81.

Brenes, E. R., Mena, M., & Molina, G. E. (2008). Key success factors for strategy implementation in Latin America. *Journal of Business Research, 61*(6), 590–598.

Burdett, J. O. (1994). TQM and re-engineering: The battle for the organization of tomorrow. *TQM Magazine, 6*(2), 7–13. doi: 10.1108/09544789410053957

Child, J., & Smith, C. (1987). The context and process of organizational transformation—Cadbury limited in its sector. *Journal of Management Studies, 24*(6), 565–593. doi: 10.1111/j.1467-6486.1987.tb00464.x

Dellana, S., & Hauser, R. (1999). Toward defining the quality culture. *Engineering Management Journal, 11*(2), 11–16. doi: 10.1016/S1098-3015(11)70958-5

Deming, W. E. (1986). *Out of the crisis.* Cambridge, MA: Massachusetts Institute of Technology, Center for Advanced Engineering Study.

Douglas, T. J., & Judge W. Q., Jr. (2001). Total quality management implementation and competitive advantage: The role of structural control and exploration. *Academy of Management Journal*, *44*, 158–169. doi: 10.2307/3069343

Doyle, K. (1992). Who's killing total quality? *Incentive, 166*(8), 12–19.

Eisenhardt, K. M. (1989). Making fast strategic decisions in high-velocity environments. *Academy of Management Journal*, *14*, 543–576. doi: 10.2307/256434

Ford, J. D., & Slocum J. W., Jr. (1977). Size, technology, environment and the structure of organizations. *Academy of Management Review, 2*(4), 561–575. doi: 10.54651977.4406731

Ghobadian, A., & Gallear, D. (2001). TQM implementation: An empirical examination and proposed generic model. *Omega, 29*(4), 343–359. doi: 10.1016/S0305-0483(01)00030-5

Gupta, A. K., & Govindarajan, V. (1984). Business unit strategy, managerial characteristics, and business unit effectiveness at strategy implementation. *Academy of Management Journal*, 25–41. doi: 10.2307/255955

Hackman, J. R., & Wageman, R. (1995). Total quality management: Empirical, conceptual, and practical issues. *Administrative Science Quarterly*, 309–342. doi: 10.2307/2393640

Helper, S., & Kiehl, J. (2004). Developing supplier capabilities: Market and non-market approaches. *Industry and Innovation, 11*(1–2), 89–107. doi: 10.1080/1366271042000200466

Higgins, J. M. (2005). The eight 'S's of successful strategy execution. *Journal of Change Management, 5*, 3–13.

Hitt, M. A., Ireland, R. D., & Palia, K. (1982). Industrial firms' grand strategy and functional importance: Moderating effects of technology and uncertainty. *Academy of Management Journal, 3*, 265–298. doi: 10.2307/255990

Hrebiniak, L. G. (2006). Obstacles to effective strategy implementation. *Organizational Dynamics, 35*(1), 12–31. doi: 10.1016/j.orgdyn.2005.12.001

Huq, Z., & Martin, T. N. (2000). Workforce cultural factors in TQM/CQI implementation in hospitals. *Health Care Management Review, 25*(3), 80.

Itami, H., & Roehl, T. W. (1987). *Mobilizing invisible assets*. Cambridge, MA: Harvard University Press.

Lakhe, R., & Mohanty, R. (1994). Total quality management: Concepts, evolution and acceptability in developing economies. *International Journal of Quality & Reliability Management, 11*(9), 9–33. doi: 10.1108/02656719410074279

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry* (Vol. 75). Thousand Oaks, CA: Sage.

Lorange, P. (1998). Strategy implementation: The new realities. *Long Range Planning, 31*(1), 18–29. doi: 10.1016/S0024-6301(97)00087-3

Miles, M., & Huberman, A. M. (1994). *A qualitative data analysis: An expanded sourcebook*. Thousand Oaks, CA: Sage.

Miller, D., & Toulouse, J. M. (1986). Chief executive personality and corporate strategy and structure in small firms. *Management Science*, 1389–1409. doi: 10.1287/mnsc.32.11.1389

Motwani, J., Kumar, A., & Antony, J. (2004). A business process change framework for examining the implementation of Six Sigma: A case study of Dow Chemicals. *TQM Magazine, 16*(4), 273–283. doi: 10.1108/09544780410541927

Moustakas, C. (1990). *Heuristic research: Design, methodology, and applications*. Newbury Park, CA: Sage.

Noble, C. H., & Mokwa, M. P. (1999). Implementing marketing strategies: Developing and testing a managerial theory. *Journal of Marketing , 63*(4), 57–73.

Okumus, F. (2001). Towards a strategy implementation framework. *International Journal of Contemporary Hospitality Management, 13*(7), 327–338.

Pulat, B. M. (1994). Total quality management: A framework for application in manufacturing. *TQM Magazine, 6*(1), 44–49. doi: 10.1108/09544789410052769

Qi, H. (2005). Strategy implementation: The impact of demographic characteristics on the level of support received by middle managers. *Management International Review, 45*(1), 45–70.

Ray, G., Barney, J. B., & Muhanna, W. A. (2004). Capabilities, business processes, and competitive advantage: Choosing the dependent variable in empirical tests of the resource-based view. *Strategic Management Journal, 25*(1), 23–37. doi: 10.1002/smj.366

Rho, B. H., Park, K., & Yu, Y. M. (2001). An international comparison of the effect of manufacturing strategy-implementation gap on business performance. *International Journal of Production Economics, 70*(1), 89–97.

Riis, J., Mikkelsen, H., & Andersen, J. (2008). Orchestrating lean implementation. *Lean Business Systems and Beyond, 257*, 285–293. doi: 10.1007/978-0-387-77249-3_30

Rocco, T. (2003). Shaping the future: Writing up the method on qualitative studies. *Human Resource Development Quarterly, 14*, 343–349.

Scherrer-Rathje, M., Boyle, T. A., & Deflorin, P. (2009). Lean, take two! Reflections from the second attempt at lean implementation. *Business Horizons, 52*(1), 79–88. doi: 10.1016/j.bushor.2008.08.004

Shea, C. M., & Howell, J. M. (1998). Organizational antecedents to the successful implementation of total quality management: A social cognitive perspective. *Journal of Quality Management, 3*(1), 3–24. doi: 10.1016/S1084-8568(99)80101-1

Short, D. C., Bing, J. W., & Kehrhahn, M. T. (2003). Will human resource development survive? *Human Resource Development Quarterly, 14*(3), 239–243.

Skivington, J. E., & Daft, R. L. (1991). A study of organizational "framework" and "process" modalities for the implementation of business-level strategic decisions. *Journal of Management Studies, 28*(1), 45–68.

Soderquist, K., & Motwani, J. (1999). Quality issues in lean production implementation: A case study of a French automotive supplier. *Total Quality Management, 10*(8), 1107–1122. doi: 10.1080/0954412997091

Storch, R. L., & Lim, S. (1999). Improving flow to achieve lean manufacturing in shipbuilding. *Production Planning & Control, 10*(2), 127–137. doi: 10.1080/095372899233280

Swanson, R. A., & Holton, E. F., III. (2009). *Foundations of human resource development* (2nd ed.). San Francisco, CA: Berrett-Koehler.

Tata, J., & Prasad, S. (1998). Cultural and structural constraints on total quality management implementation. *Total Quality Management, 9*(8), 703–710.

Valerdi, R., Nightingale, D., & Blackburn, C. (2008). Enterprises as systems: Context, boundaries, and practical implications. *Information, Knowledge, Systems Management, 7*(4), 377–399.

Vancil, R. F., & Buddrus, L. E. (1979). *Decentralization, managerial ambiguity by design: A research study and report.* Homewood, IL: Dow Jones-Irwin.

White, R. E., Ojha, D., & Kuo, C. C. (2009). A competitive progression perspective of JIT systems: Evidence from early US implementations. *International Journal of Production Research, 48*(20), 6103–6124.

Womack, J. P., & Jones, D. T. (1996). *Lean thinking: Banish waste and create wealth in your corporation.* New York, NY: Simon & Schuster.

Yin, R. K. (1994). *Case study research: Design and methods* (Applied Social Research Methods Series, 5, 2nd ed.). Thousand Oaks, CA: Sage.

Yin, R. K. (2009). *Case study research: Design and methods* (Applied Social Research Methods Series, 5, 4th ed.). Thousand Oaks, CA: Sage.

Yusof, S. M., & Aspinwall, E. (2000). Total quality management implementation frameworks: Comparison and review. *Total Quality Management, 11*(3), 281–294. doi: 10.1080/0954412006801

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