Leading Strategic Renewal: Proactive Punctuated Change through Innovation Streams and Disciplined Learning

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April 11, 2013,

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This paper focuses on leading proactive punctuated change. Based on our extended involvement with IBM between 1999 and 2008, we suggest that proactive punctuated change can be effectively managed through an engineered social process designed and led by the senior leadership team. Where reactive punctuated change is driven by crisis conditions, the motivation and energy required to lead proactive punctuated change is rooted in an overarching aspiration coupled with a strategic challenge to both explore into new domains as well as exploit existing capabilities. The challenge to simultaneously explore and exploit provides the logic, tension, and space for experimentation that helps an extended management community collectively learn how to execute strategic organizational renewal. This change process involves disciplined conversations, actions, and associated learning by the senior team, diffusing these learning capabilities to their extended senior leadership team, and over time to the larger leadership community.

Leading punctuated change is one of the most important and least understood challenges to the modern firm and its leaders (Agarwal and Helfat, 2009)[1]. After decades of research, the mechanisms and dynamics of systemic change are still not well understood. However, as environments shift sharply, punctuated change is an inherent aspect of organizational evolution (Tushman and Romanelli, 1985; Romanelli and Tushman, 1994; Pettigrew, 1985; Adner, 2012; Tripsas, 2009; Eggars and Kaplan, 2009). Leading punctuated change is particularly problematic as those capabilities associated with exploiting a particular strategy are also associated with organizational inertia. Any strategic change must deal with the power and politics, organizational processes, and capabilities associated with historically rooted inertia both within the firm and its institutional context (e.g., Greenwood and Suddaby, 2006; Miller, 1994; Benner, 2007; Pfeffer, 1992). As such, leading proactive change is particularly problematic for incumbents (Nadler and Tushman, 1997; Collins and Hansen, 2011).

While we know much about the content of strategic change (e.g., Weick and Quinn, 1999; Hambrick et al., 1998; Barnett and Carroll, 1995), we know much less about the process by which punctuated change is executed (Spillane, Halverson, and Diamond, 2004; Greenwood and Hinings, 2006). Although management scholars have labeled types of change (e.g., strategic, rhythmic, punctuated, transformational, divergent, or, discontinuous) and offered check lists for leading change (e.g., form a guiding coalition, shared commitments, create a burning platform, maintain control during the change process) (Brown and Eisenhardt, 1997; Kotter, 1995; Beer, 2009; Nadler and Tushman, 1997; Tushman and O'Reilly, 1997; Collins and Hansen, 2011), we know very little about the actual process and mechanisms by which incumbents

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[1] By punctuated change we mean integrated shifts in a firm's architecture; its structure, critical tasks and interdependencies, competencies, and culture (see O'Reilly and Tushman, 2008). Where punctuated changes may or may not involve strategic shifts, proactive punctuated changes are rooted in strategic change.

execute either reactive or proactive punctuated change (see Joseph and Ocasio, 2012 for an exception).

Empirically, most punctuated changes are reactive; they are initiated under crisis conditions. Based on our work at IBM between 1999 and 2008, we suggest that proactive punctuated change (what we label as "strategic renewal") can be effectively managed through an engineered social process designed, owned, and led by the leader and his/her senior team. This change process involves disciplined conversations and associated learning by the senior team, building and shaping an extended senior team, and then diffusing the ownership and energy of change to a larger community of leaders. While reactive punctuated change is motivated by crisis conditions, the motivation and energy required to lead proactive punctuated change is grounded in a compelling overarching aspiration and a strategic challenge to both explore into new domains as well as exploit existing capabilities. The challenge to simultaneously explore and exploit provides the logic, tension, and space for experimentation that helps an engaged managerial community collectively learn how to execute proactive punctuated change.

The drivers of proactive versus reactive change are fundamentally different. Consider the change process employed by Carlos Ghosn at Nissan and Ingrid Johnson in Nedbank's Business and Retail Banking sectors. In 1999, Carlos Ghosn was recruited from Michelin to lead a turnaround at Nissan. After a 3-month diagnostic period, Ghosn identified nine core roots causes of Nissan's inability to compete against other automotive firms. Anchored on an aspiration to "renew Nissan", Ghosn set up nine cross functional teams (CFTs) to gather detailed data on the roots of these issues and to craft systemic interventions based on these data. These teams were led by a pilot (a well respected mid-level manager) and composed of other mid level managers from around the firm who had expertise for the particular performance gap (e.g., innovation or quality).

These cross functional teams reported to two senior vice-presidents who co-owned this issue and provided access and support for their CFT's. These teams were given three months to do their diagnostic work and come up with recommended solutions. These CFTs teams reported back to Ghosn and his senor team who then

made the choices about specific interventions with clear deadlines and measurable outcomes. The "Nissan Renewal Plan" was publically announced after this nine-month period with personal commitments from Ghosn and his team to execute these changes over the subsequent 18 months. Ghosn had used this top down/bottom up change process in his prior work at Michelin. This change process not only produced a set of systemic changes for Nissan owned by Nissan's managerial community, it also unleashed energy in Nissan's middle level community to actually recreate Nissan.

Similarly, in 2005, Ingrid Johnson was recruited from outside Nedbank's Business Banking unit (n= 2000) to lead a turnaround. Johnson clarified Business Banking's strategy, articulated an emotionally engaging aspiration, and rebuilt the unit's organization architecture over a six-month period. After initial resistance from powerful leaders, Johnson replaced those leaders and built a senior team that owned and was enthusiastic about Business Banking's new strategy and architecture. Johnson then decentralized the implementation of the changes to her 50 geographic areas.

Empowered and inspired by Johnson and her team's modeling and coaching, problem solving training, and a common problem solving language, these integrated changes led to punctuated changes in each geography as well as throughout Business Banking and to a dramatic performance turnaround over a four-year period. Johnson then employed this process of change when she was promoted to lead the transformation of Nedbank's Retail Bank (n=20,000). While Retail Banking was an order of magnitude larger that Retail Banking, Johnson was able to execute the change even more rapidly using the same top down/bottom up process. The major difference in this latter effort was that Johnson learned to intervene on resistant members of her top team earlier in the change effort.

In both the Nissan and Nedbank examples, new leaders employed a personal recipe for leading reactive punctuated change. These recipes were similar; they involved quick, comprehensive diagnoses, clear strategies and inspiring aspirations, reconstituted senior teams, fact-based conversations in the senior team on root causes, and decentralized diagnoses and actions supported and evaluated by the

senior team. Such decentralized action and managed conversations led to joint learning regarding the specifics of the change effort and triggered engaged communities that were able to take advantage of latent energy throughout Nissan and Nedbank.

But is it possible to initiate punctuated change without such crises? We suggest that proactive punctuated changes employ similar top down/bottom up engineered social processes. But instead of crises triggering proactive punctuated changes, these changes are triggered instead by strategic shifts based on exploratory innovation. Where exploitative innovation can be executed from within the firm's current architecture, we argue that exploratory innovation must be executed through a fundamentally different architecture. If a firm is to both explore and exploit, it must be able to initiate both incremental as well as proactive punctuated change. We will use IBM between 1999 and 2008 (the latter portion of Lou Gerstner's tenure and the early phase of the Sam Palmisano's tenure) as a case in point of proactive punctuated change driven by the mandate of growth through innovation.

We focus here on strategic renewal in incumbent firms. Our paper is based on a multi-year relationship between the authors; two professors and one retired senior IBM executive (now a professor). We bolster and contrast ideas from IBM with our experiences in a range of other organizations. We suggest that firms learn how to execute proactive punctuated change through sustained experimentation and disciplined learning associated with innovation streams. This learning is initiated, owned, and modeled by the senior team and is then diffused throughout the firm's community of leaders.

While incremental change can be managed from the bottom up, learning associated with punctuated change must be designed, owned, and energized by the senior team. While the impetus for system-wide change is initiated by the senior team, the execution of the change is through an extended social movement energized by an overarching aspiration (or identity), a common problem solving language, and carried throughout the firm by an extended set of leaders who collectively initiate, talk about, and learn about innovation and associated change in

their local domains (see also Barley and Tolbert, 1997; Ramarajan, McGinn, and Kolb, 2013; Scott and Davis, 2007; Spillane et al 2004; Eggers and Kaplan, 2009; Groysberg and Slind, 2012; Sull and Spinosa, 2007; Battilana and Casciaro, 2012; Prokesch, 2009).

We suggest that strategic renewal is not an event, a set of steps, or a program, but an engineered social process anchored on an overarching aspiration and strategic intent that unfold and adapt over time. This process is rooted in a series of concrete strategic challenges to the status quo (either performance gaps or strategic opportunities) at the unit (i.e., business unit, function, geography, market) and/or corporate level. These challenges uncover idiosyncratic root causes at the unit level as well as more systemic root causes at the firm level. Guided by a series of strategic challenges articulated by the CEO, a common language and problem-solving tools, and disciplined follow-up, the extended management team collectively learns how to lead innovation and change. This learning is grounded in their collective experiences and conversations in solving real strategic challenges (see also Beer, 2009; Collins and Hansen, 2011; Ramarajan, et al, 2013; Joseph and Ocasio, 2012).

Guided, energized, and monitored by a core senior team, such unit and cross unit interventions engender learning about innovation and change across the managerial community. Over time, the firm develops a cadre of leaders who collectively develop a shared knowledge of leading innovation and change through their own experiences. As a result, experimentation and change (and the associated dissatisfaction with the status quo) become the new behavioral standards for the extended management team. We describe a process of organizational learning about strategic change that is initiated and sustained by senior leaders but is informed and guided by bottom-up data about systemic corporate issues. Such co-created social movements are empowered by a common aspiration, a common language and problem solving approach, and a series of managed conversations and associated commitments, actions, and structured follow-up that collectively drive strategic renewal.

Innovation Streams, Organization Architectures, and Types of Organizational Change

There are fundamentally four different types of organizational change. These contrasting types of change are associated with different innovation types and contrasting approaches to leading change. A firm's ability to thrive over time is based on its ability to create streams of innovation; to exploit existing strategies and to explore into new spaces (e.g., Raisch et al., 2009; Gupta et al., 2006). But the organizational architecture required to exploit today's strategy is fundamentally different and inconsistent with the architecture required to explore (Tushman and O'Reilly, 1997). For example LEGO's ability to thrive over time is based on its ability to not only execute their traditional wood and plastic bricks, but also to innovate into fundamentally different types of toys (e.g., more robotic, software driven toys) (Hatch and Schultz, 2008). Similarly, an advertising agency like Ogilvy & Mather must not only be able to execute global ad campaigns through traditional advertising methods but must also be able to learn how to do advertising and media in web-enabled contexts. Finally, the FBI post September 11 had to continue its law enforcement mandate even as it learned how to counter terrorism.

Ambidextrous designs, both at the corporate and business unit level of analysis, permit firms to execute against their current strategies (i.e., exploit) as well as permit firms to experiment and explore new spaces (O'Reilly and Tushman, 2008, 2011; Tushman et al., 2010). Because the organizational architectures for exploration are so different from exploitation, innovation streams are inherently associated with the need for organizational change. But, these changes take place in the context of the incumbent's history and associated social, structural, community, and senior team inertia (Benner, 2007; Tripsas, 2009; Tushman and Romanelli, 1985). These inertial forces for stability, rooted in the need to exploit the extant strategy, run counter to the external challenges of exploration. Thus the streams of innovation so important for the evolution of Ogilvy & Mather, LEGO, or the FBI, trigger a range of inertial forces that actively resist the organizational changes required to explore. Innovation streams are inherently associated with the

paradoxical requirements of both incremental as well as punctuated change. Because of these inertial forces, most punctuated changes are initiated under crisis conditions (e.g., Sull, 1999; Tripsas and Gavetti, 2000; Christensen, 1997; Tushman and O'Reilly, 1997).

To illustrate the four types of organizational change, consider the following:

Punctuated vs incremental change: Some organizational changes are in service of the firm's existing strategy and are associated with changes in the firm's critical tasks, processes, competences, culture, or structure. These incremental changes are associated with exploitative innovation and are within the firm's existing architecture. Punctuated changes, in contrast, are integrated changes throughout the firm's entire architecture. These systemic changes are associated with concurrent shifts in the firm's critical tasks, structure, competencies, culture, processes, and, frequently, involve changes within the senior team (Tushman and Romanelli, 1985; Siggelkow, 2001). For example, improved law enforcement at the FBI is associated with incremental change, while the changes associated with executing counter-terrorism efforts are associated with punctuated change at the FBI (i.e., shifts in structure, capabilities, processes, and culture). As both strategies are important for FBI Director Mueller, he and his organization have to be skilled at both incremental as well as punctuated change (see Figure 1).

Reactive vs Proactive: Independent of the change's magnitude, some organizational changes are initiated in response to external changes and/or performance crises. The FBI's transformation after 9/11 was inherently a reactive change. IBM's reactive change in 1993 was triggered by a profound performance crisis. Similarly, the punctuated changes at Nissan, Nedbank, LEGO, and Ogilvy & Mather, were all reactive changes triggered by a crisis. In contrast, other changes are initiated to forestall a possible future performance gap. These proactive changes take place in the context of the firm's history and are absent any current performance gap. For example, the proactive changes initiated by Analog Devices, Ciba Vision, Misys, or at the Ball Corporation were targeted to shifting the innovation space in the analog device, eye care, healthcare services, and container

domains before others (Govidarajan and Trimble, 2005; Smith, Binns, and Tushman, 2010; O'Reilly and Tushman, 2011).

Because proactive change is not associated with an obvious crisis, these changes are more difficult to motivate, fund, and lead. While it may be strategically important to implement such changes, they are often hampered by underfunding and the dynamic conservatism associated with the status quo. For example, inertial dynamics hindered Kodak, Xerox, and Firestone from leveraging their technological expertise to explore digital imaging and radial tires respectively (e.g., Gilbert, 2006; Tripsas and Gavetti, 2000; Tripsas, 2009; Eggers and Kaplan, 2009; Benner, 2007; Sull, 1999).

These two dimensions lead to four contrasting types of organizational change (see Figure 1) (Nadler and Tushman, 1990). Organizational changes that are incremental and proactive we label *tuning*. These anticipatory changes are within the context of the firm's existing strategy and current architecture and are associated with continuous improvement. Incremental changes that are initiated in the context of performance gaps we label *problem-solving*. With this type of change, adjustments are made to the firm's architecture based on a root cause analysis. Those misaligned aspects of the firm's structure, culture, competences, or processes are brought back to alignment (e.g., Tushman and O'Reilly, 1997; Nadler and Tushman, 1997).

Punctuated changes initiated proactively we label *strategic renewals*, while those punctuated changes initiated reactively we label *re-inventions.* Strategic renewals build on and extend a firm's identity and core values even as they are triggered by a shift in strategy. In contrast, re-inventions may not be associated with strategic change but are always associated with shifts in a firm's identity and culture. For example, the system-wide changes initiated by Lou Gerstner at IBM in the financial crisis of early 1990's involved the re-invention of IBM (Gerstner, 2002). In contrast, the subsequent system-wide changes initiated by Sam Palmisano in early 2000 are an example of a strategic renewal triggered not by a financial crisis, but by an innovation inspired mandate (Harreld, et al., 2007). Similarly, the strategic renewals at Analog Devices, Misys, the Ball Corporation and Ciba Vision

were proactive shifts in strategy and associated organization architectures based on in exploratory innovation (O'Reilly and Tushman, 2011; Tushman et al., 2010).

What are the performance consequences of these types of organizational change? Proactive change, if well timed and executed, is associated with better performance than reactive change (O'Reilly and Tushman, 2008; Collins and Hansen, 2011). The magnitude of the firm's change is contingent on its context. If contexts change incrementally, then so too can firms. In contrast, if the environment is changing in discontinuous ways, either because of competition, legal or political shifts, technology, or crises, so too must the firm (e.g., Miles and Cameron, 1982; Meyer et al., 1993; Romanelli and Tushman, 1994). While incremental change associated with exploitative innovation can be managed from the bottom up, punctuated changes associated with exploratory innovation must be actively managed by the senior team. Without strong senior team ownership and support, both reactive as well as proactive punctuated change trigger resistance from extant structures, roles, competences, identities, and cultures (Sull, 1999; Tripsas, 2009, in press).

Given the importance of innovation streams and the associated ability to build capabilities to explore as well as exploit, research suggests that:

Punctuated changes are necessary. As environments are characterized by both incremental and discontinuous shifts, firms evolve through incremental as well as punctuated change. Because of the discontinuous nature of environmental change, firms cannot get to the future solely through continuous improvement via problem solving or tuning. Rather, firms survive through periods of incremental change that are, in turn, broken by punctuated change (Boumgarden, Nickerson, and Zenger, 2012; Gulati and Puranam, 2009; Miller, 1993; Meyer, Brooks, and Goes, 1990; Romanelli and Tushman, 1994). The issue for the senior team is when to initiate the punctuated change, the content of the change (i.e., the nature of the exploratory innovation or shift in strategy), and the methods used to implement the punctuated change itself.

Re-inventions are easier to motivate but are riskier than strategic renewals. Because re-inventions are initiated under crisis conditions, they are

easier to motivate than strategic renewals. Ghosn's, Johnson's, and Gerstner's burning platforms provided legitimacy for system-wide change. But because re-inventions are initiated under time and fiscal constraints associated with crises, they are inherently riskier than re-orientations. Further, because re-inventions are initiated under crisis conditions, they are frequently associated with threats to the firm's identity as well as threats to the firm's embedded culture and core values. Thus the re-inventions at LEGO, IBM, and the FBI were all made more risky because the new leaders had to lead changes in these firms' fundamental core values and associated identities (e.g., Glynn, 2000).

Strategic renewals are associated with greater success than re-inventions. While more difficult to motivate, strategic renewals are associated with greater success than re-orientations as the firm has the luxury of time, resources (since there is no performance gap), and strategic clarity. Renewals give the senior team time to shape the firm's culture, identity, and values in service of exploratory innovation. Further, since proactive changes are typically initiated from a position of strength, the firm has the time and resources to engage internal as well as external stakeholders. As the changes are initiated in the absence of crisis, these changes must be energized by an emotionally engaging aspiration. For example, Ciba Vision's strategic renewal in eye-care solutions was motivated by the aspiration of "healthy eyes for life" (O'Reilly and Tushman, 2011).

But strategic renewals are also associated with risk. These punctuated changes are initiated in the absence of crisis; they are predicated on the notion that there will be a crisis in the future if the firm does not initiate exploratory innovation now. In turbulent contexts, not to execute exploratory innovation is associated with failure. Yet not all exploratory innovations will be successful. The benefit of an ambidextrous design is that it permits senior teams to experiment and learn about the future in a way that buffers the firm's exploitative core. Such learning by experimenting provides the senior team the data to make more effective strategic bets than their competition. Further, because these innovations are initiated from a position of strength, the senior team has time to experiment and learn from mistakes (Tushman et al., 2010).

Punctuated changes are typically initiated by new top management teams. Because incremental changes occur within the firm's current architecture, these changes can be motivated by the existing leadership team and can be delegated in a bottom-up change process. In contrast, because of inertial forces from the firm's history, the senior team must lead punctuated change. But because of inertial dynamics in senior teams, most punctuated changes are initiated by significant executive succession (e.g., Eggers and Kaplan, 2009; Romanelli and Tushman, 1994; Tripsas and Gavetti, 2000). Further, as punctuated change involves a shift in the definition and capabilities of effective leadership, such changes may trigger significant turnover in the senior team (Virany, Tushman, and Romanelli, 1992; Boeker, 1989). Thus the reactive punctuated change at IBM was associated with a new, externally recruited CEO. Similarly, LEGO, Nissan, and Nedbank were only able to break out of their inertia after severe performance crises triggered external leadership succession.

While most strategic renewals are executed by new senior teams, the most extraordinary firms are led by intact teams who themselves initiate proactive punctuated change. These extraordinary senior teams are able to retain their ability to be anchored to the firm's identity even as they are able to retain their freshness to act as if they are young teams. For example, at Analog Devices, Ray Stata and his executive team led their firm through several strategic renewals. Similarly, at the Ball Corporation, John Fisher and his senior team led Ball through several periods of exploration and exploitation anchored by the overarching identity of Ball as the "world's greatest container company". This aspiration and a senior team that retained its ability to debate, look externally, and attend to conflict permitted it to exploit its glass jar business even as it explored into metal cans and later to plastic containers.

Where much has been written about incremental change and reactive punctuated change, we focus on the role of leaders and their senior teams in leading strategic renewal--proactive punctuated change. We suggest that successful strategic renewals are motivated by an engaging aspiration and the pursuit of exploratory as well as exploitative innovation. These innovation streams are driven

by an engaged senior leader and associated senior team, an extended senior team, and, in turn, decentralizing the change to the larger managerial community (e.g., Greenwood and Hinings, 2006; Joseph and Ocasio, 2012; Hambrick, Nadler, and Tushman, 1998; Nadler and Tushman, 1990). Proactive punctuated change can be executed through local interventions and associated community learning about innovation and change that is top down as well as bottom up (see also Nonaka, 2008; Spillane et al, 2004; Prokesch, 2009; Ramarajan et al, 2013; Sull and Spinosa, 2007).

Strategic Renewal at IBM (1999-2008)

Strategy Formulation at IBM.

In 1993, Lou Gerstner took over as the CEO of IBM. He was externally recruited to re-invent IBM. What once was the most admired firm in the world was reeling from both financial and competitive failure. Despite much effort, John Akers, Gerstner's predecessor had failed to turnaround IBM; its stock price was the lowest it had been in 10 years, 60 thousand jobs had been lost, and the financial press called for the firm to be broken up into its components. An integrated series of strategic, leadership, organizational, and cultural actions initiated by Gerstner helped turn IBM around. By 1998, the firm had returned to financial stability even as IBM built its services and software businesses. Much has been written about this transformation (what we have labeled a re-invention) (see Gerstner, 2002). We focus here on the subsequent strategic renewal of IBM initiated in 1999, late in Gerstner's tenure, and continued through 2008, the first half of Sam Palmisano's tenure.

Unlike the financial crisis that Gerstner inherited in 1993, the renewal initiated in 1999 was motivated by Gerstner's observation that IBM's growth had leveled off. While IBM had been turned around financially in the initial phase of Gerstner's tenure, he felt it now had a growth crisis rooted in the firm's inability to take advantage of a series of breakthroughs developed in its laboratories. IBM's strategy group documented 29 distinct business opportunities based on

technologies developed within the firm, that it failed to commercialize. For example, IBM had been the first mover in routers, web infrastructure, voice recognition, RFID, and pervasive computing only to lose to competitors like Cisco, Akamai, Nuance, among others. By 1999, the consequences of such missed opportunities were that IBM's growth had stalled (see Harreld et al., 2007). The fact that IBM had led its industry (and the world) in patents had not been translated into sustainable growth.

Gerstner challenged Bruce Harreld, his senior vice-president of strategy, to get at the roots of this growth issue. Harreld and four of his colleagues did an analysis of this corporate-wide innovation gap. Six fundamental root causes emerged: existing management systems focused energy on the short term, the firm was preoccupied with current customers and existing offerings, the IBM business model emphasized profit and sustained EPS improvement rather than higher price/earnings, the firm's market insight analytics were inadequate for embryonic markets, the firm lacked processes for hosting new businesses, and even after new businesses were funded, most failed in execution. IBM's intense efforts to re-invent itself between 1993 and 1999 had a dark side. It had become a "disciplined machine" for short-term performance (i.e., exploitation), but had stunted its ability to innovate and grow through exploratory activities.

With these data, Gerstner asked Harreld to rethink IBM's strategic formulation process such that it was fact-based, strategically informed, growth oriented, and had a disciplined approach to execution. As importantly, Gerstner insisted that the strategy process be owned by general managers (as opposed to their staffs) (see Harreld et al., 2007). Harreld and his team, collaborating with Tushman and O'Reilly, developed the IBM Business Leadership Model (see Figure 2). The Business Leadership Model and its use by senior executives pushed general mangers to focus on either strategic performance gaps (e.g., underperformance to plans or customer expectations) or strategic opportunities (e.g., proactive shifts in business models).

Rather than the typical formalistic yearly review, the new strategic planning process engaged general managers in disciplined conversations with their strategy colleagues on the nature of their performance and/or opportunity gaps. These

conversations focused on strategic insights, based on fact-based analyses of market insights, innovation streams and associated alternative business models, along with a careful analysis of execution options (the implications of various business models on the units' critical tasks, structure, culture, processes, competencies, and leadership behaviors). Under this revised strategic planning process, the role of Harreld's strategy team shifted from yearly evaluation to on-going conversations, based on jointly developed data, about innovation streams, new business models, and associated leadership capabilities and organizational architectures (this process of corporate/business unit interaction is similar to that described by Joseph and Ocasio (2012) at GE).

Strategic Leadership Forums and *Emerging Business Opportunities.*

To enact this new strategic planning process with its emphasis on maintaining the firm's ability to exploit existing strategies even as it emphasized exploring opportunities to leverage IBM's technological capabilities, Harreld initiated two related but distinct interventions. Strategic Leadership Forums (SLF's) were intensive workshops to engage both strategic and operational issues within and across IBM's business units. In these workshops, intact teams learned to employ the business leadership model and to explore the relations between streams of innovation (exploration and exploitation), senior team behaviors, ambidextrous designs, and change management. These SLF's had an extra edge as they were followed up with 30, 60, and 90 days reviews initiated through Harreld's office. Emerging Business Opportunities (EBO's) were a series of efforts to strategically explore at the corporate level. EBO's were initially built to explicitly take advantage of cross-line-of-business opportunities, for example creating the life science and pervasive computing businesses (O'Reilly, Harreld & Tushman, 2009).

SLF's and EBO's involved every area of IBM (i.e., functions, geographies, and business units) and its most senior leaders in a series of experiments designed to both enhance the on-going cadence of IBM's "disciplined machine" even as these efforts worked to "trick the disciplined organization" to explore into new strategic spaces (see Harreld et al., 2007). The SLF's and the EBO's were corporate

interventions employed between 2000 and 2008. As the outputs of these experiments began to have an impact on functional, geographic, business unit, and corporate outcomes, the SLF's and EBO's developed a reputation for impact and senior team involvement and, in turn, generated their own momentum.

These experiments on exploratory innovation and leading punctuated change were executed throughout the firm over an eight-year period. The SLF's and EBO's involved more than 5000 of IBM's senior executives; some executives returned to more than five SLF's as their strategies shifted or as they moved within the firm. These experiments were associated with extensive communication within and across levels, functions, geographies, and business units that focused on learning about and co-creating innovation and punctuated change. Because these workshops involved corporate executives, unit leaders, and their direct reports, the nature of this learning about punctuated change was both top down as well as bottom up. These extended leadership teams taught each other how to execute punctuated change through action, and associated reflection and conversations, at the business unit, functional, geography, and corporate levels of analysis. Over time these approaches to problem solving and innovation shifted from Harreld's direct management to decentralized ownership and action throughout the firm.

Initial SLF's and EBO's (2000-2002). The nature of the SLF's and EBO's shifted over time as IBM learned how to employ these interventions. Between 2000 and 2002, Harreld sponsored seven SLF's involving 34 intact teams. The initial SLF's were composed of sponsors and senior teams that Harreld felt would be a supportive community to help launch and co-create the SLF's. These sponsors also had performance or opportunity gaps that if progress were made, these interventions would be visible and impactful to the firm. For example, Paul Horn, then head of IBM's research community, worked on technology transfer issues for IBM Research, while Janet Perna and John Swainson brought their teams to work on major strategic issues in database management and in the Websphere business units respectively. In this initial phase, one SLF was entirely dedicated to EBO's. Five early EBO initiatives (e.g., Life Sciences with Carol Kovac's team and Chris

King's Network Processor EBO) were brought together to both work on their unique EBO challenges as well as to share learning and co-create an EBO process.

With the active involvement of Harreld's strategy team, the initial 34 business owners, and the two external faculty, early SLF's evolved into the following structure and process. Structurally, each SLF had corporate strategy and a group senior vice-president as sponsors. Such dual senior sponsorship ensured that strategic performance or opportunity gaps were selected and that intact teams and appropriate other individuals joined the workshop. SLF's were funded both by Harreld's organization as well as by the sponsoring line executive's organization. The SLF's were 3.5 days in duration and held in non-IBM settings. In these initial workshops, external faculty presented content on the challenges of dynamic capabilities, the IBM Business Model, strategic innovation and change, structural ambidexterity, culture, and leading change. The content sessions used non-IBM cases. The faculty modeled the process of disciplined problem solving through the cases and set up the challenges of building organizations that could simultaneously exploit existing capabilities even as they explored into new domains. The outputs of these SLF's were jointly developed diagnoses of the gaps as well as preliminary interventions to address these root causes. These action plans were discussed and critiqued in the SLF by the full community. Commitments made by the business owners and their teams were then reviewed and followed up by Harreld's strategy team.

The process of the SLF's evolved during these first two years (see Figure 3). By the end of 2002, Harreld and this early SLF community converged on replicable methodology. Each SLF had between three and seven intact teams (roughly 90 individuals), each with a unique performance or opportunity gap. These teams were supplemented with other individuals who had relevant expertise for their gap. The teams met before the workshop to gather their own data on the unit's strategic situation and craft a clear gap statement. These pre-SLF meeting were facilitated by a strategy person from Harreld's group as well as by an organizational effectiveness professional from the HR community. Teams came to

SLF's primed on the nature of the issues to be discussed and armed with data on the strategic importance of their performance/opportunity gaps.

Over each 3.5 day workshop, each team spent 17 hours working their unique gap. In the non-academic sessions, each team did their own diagnostic work that led, in turn, to their own set of action plans and commitments. While each team did their own work, each day the teams reported back to the full community. These report backs, moderated by the executive sponsors, helped raise the level of work as each group got immediate feedback from the corporate sponsors as well as from their peers in other teams. As participants heard multiple presentations, the SLF communities were able to uncover system-wide root causes and as well as possible system-wide actions. Each evening, the sponsors, faculty, and business owners met to debrief and make course corrections so material and processes remained customized to each group. Finally, the process of articulating next steps and follow up were built into the SLF methodology. Business owners were responsible for implementing their proposed actions. Their SLF facilitators assisted their implementation. Finally, business owners held structured follow up sessions with Harreld's strategy colleagues as well as their respective sponsors.

These SLF processes created a context for multiple types of learning. Learning at the unit level was initiated by top down strategic challenges along with intensive cross-firm and cross-level dialog on the roots of these challenges. As each SLF had multiple teams, the report back sessions encouraged communication across these extended communities. These community discussions surfaced a range of system-wide root causes of IBM's innovation performance gap. Thus, if several teams independently arrived at similar root causes, that convergence indicated a system-level root cause. Each SLF then generated insight for action at both the local as well as corporate levels of analysis. The SLF process generated learning that was co-created by multiple areas and levels in the firm. The SLF and EBO processes generated collectively owned insights on innovation and change at both the unit and the corporate levels of analysis.

SLF and EBO Reviews (2002). After this initial set of seven SLF's, O'Reilly and Tushman (assisted by a Graduate School of Education School student) did an SLF assessment. This review indicated that participants valued the business leadership framework and the common language employed to both develop provocative strategies and to build organizations capable of executing those strategies. Participants appreciated the framework's attention to innovation challenges of exploitation and exploration as well as its emphasis on the role of contrasting cultures in driving execution and innovation (see Tushman et al., 2007). Participants were struck at the complex interdependencies across the firm and outside the firm. They were also struck with the luxury and leverage of bringing the right actors together, sponsored and pushed by corporate executives, to intensely discuss and grapple together with strategic issues. One of the most consistent observations was the importance of senior teams jointly owning their unit's strategy and having a hand in crafting their gaps, diagnoses, and action plans. They also noted the luxury of dedicated time and the ability to work together on strategic issues as intact teams with their relevant corporate executives (see Tushman et al., 2007).

This SLF review also generated a set of system-wide observations that were used to shape subsequent SLF's. Participants observed that while most of the firm's strategic opportunities involved cross-IBM interdependencies, the firm was organized and measured from a line-of-business, country, or functional point of view. Participants observed that the firm was optimized to exploit existing business but under-organized and managed for exploratory opportunities. Participants observed that "light-weight teams were given heavy weight strategic opportunities". Participants also focused on the role of culture in stunting exploratory innovation at IBM. They observed that a culture of risk aversion and incremental change, the power of finance, a process mentality, low tolerance for mistakes, and little cross line of business trust all colluded to diminish innovations that crossed firm boundaries. In contrast, the culture of collaboration, teamwork, and high expectations they experienced in the SLF was the kind of culture they felt could enhance innovation across the firm.

Finally this interim review suggested a range of issues associated with the action-planning phase of the SLF's. Participants and faculty observed that across these initial SLF's, even though the root cause analysis often called for punctuated change, the proposed interventions were typically incremental in nature. Further, where actions on structure, roles, incentives, and processes were well specified, they were weak in dealing with cultural barriers and weaker still in focusing on the role of the senior team as root cause of the performance gaps.

An interim review was also done for the EBO's. Harreld, his strategy colleagues, and the initial EBO leaders developed a set of best practices for EBO's going forward. This EBO design team learned that those EBO's with joint line and staff senior support and funding, that had seasoned EBO leaders, dedicated measures and milestones, disciplined reviews focusing more on strategy and emerging customer requirements than on financial measures, and had strict graduation criteria were more impactful that those EBO's without these factors. These initial EBO experiments also required the CEO's support in signaling the importance of EBO's to prospective EBO leaders and to skeptical line/functional managers (see Harreld et al., 2007).

SLF's and EBO's, 2002-2008. These evaluation data suggested an emerging set of best practices in executing SLF's and EBO's. They also indicated that the SLF's and the EBO's were gaining traction in terms of organizational outcomes and credibility with influential senior executives across the firm. These data also indicated the power of SLF's to create the space and conditions for disciplined conversations about strategy and execution, the role of senior teams in driving change, and on the power of jointly developed and publically communicated diagnoses and action plans. These data also indicated there were a range of systemic factors hindering exploratory innovation and the associated execution of punctuated change within and across units.

These lessons on innovation and punctuated change overlapped with the promotion of Sam Palmisano to CEO in 2002. Palmisano articulated a growth

agenda for IBM and his intention to have IBM'ers reinvigorate their heritage of "restless self-renewal". Palmisano also called IBM'ers to "re-invent itself again…even as it retained its distinct identity". Building on the firm's shared values of "client success, innovation that matters, and trust and personal responsibility", Palmisano suggested, "if there is one thing that IBM'ers agree on, it's that ours can be the greatest firm in the world"[2].

This energy by the new CEO for growth, innovation, cultural change, and renewal reinforced the importance of the SLF and EBO workshops. The SLF's and EBO's were tools to execute Palmisano's aspiration and the firm's new values. Armed with data from two years of experience with SLF's and EBO's and the CEO's call for growth and renewal, the next set of SLF's were more themed in nature. Between 2002 and 2005, 21 more SLF's were hosted involving 150 teams and 2500 executives. The themes included EBO's, technology, growth, industry standards, and cross-line-of-business integration. During this period, for example, three separate EBO-dedicated SLF's were hosted involving 14 EBO's. These dedicated SLF's helped Harreld, his team, and an extended set of IBM leaders, learn how to execute EBO's across the corporation. By 2005, 80% of the top 50 IBM executives either attended or hosted an SLF (including Palmisano). During this period, more that 60% of the top 300 executives attended at least one SLF. As positions changed and challenges shifted during this period, many senior executives volunteered to attend multiple SLF's.

By 2005, the SLF's and EBO's were no longer experimental programs or workshops. The language and methods of the business leadership model with its emphasis on gaps, disciplined problem solving, senior team responsibilities to re-invent their units through exploitation as well as exploration, and the power of conversations leading to disciplined action were well diffused through the senior team. Important leaders volunteered for both EBO's as well as SLF's. By 2005, SLF's were seen an important tool to lead innovation and change in the firm. Further, EBO's were seen as a legitimate career step. Indeed, high potential leaders had to

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[2] These values emerged from a "values jam" that involved 50,000 IBM'ers.

demonstrate their ability to exploit through IBM's disciplined processes and cadences as well as effectively explore into new strategic spaces.

Given the demonstrated power of the methodology and the associated power of conversations, action, and follow-up, these SLF workshops shifted from Harreld's direct sponsorship and were decentralized to the functions, geographies, and business units. Similarly, once the methodology was developed and tested at the corporate level, the logic of EBO's was decentralized into the functions, regions, and business units (Harreld et al., 2007). Over this period, more than 180 EBO's were in place across IBM's functions, regions, and business units. By 2005, EBO's alone had contributed more than $15 billion dollars in incremental IBM growth and were a more effective growth instrument than acquisitions (Harreld, et al., 2007; O'Reilly et al., 2009).

By 2008, 40 SLF sessions were run in this decentralized fashion involving more than 5000 IBM executives. The SLF's were institutionalized throughout the firm and led by middle level managers who were able to leverage their more senior leaders to support and model leading punctuated change. This process of decentralizing SLF and EBO's throughout the firm broadened the reach of senior leaders, developed leadership throughout the firm, and extended the language and orientation of the business leadership model more extensively (see Figure 4). For example, in IBM China, Henry Chow used the SLF methodology to engage his colleagues on accelerating growth in inland China. The EBO's and SLF's were associated with IBM's enhanced performance during this period (see Table 1).

Leading Proactive Punctuated Change at IBM

Between 1999 and 2008, IBM renewed itself from a disciplined machine that excelled in line-of-business, incremental innovation to a firm that sustained its short-term targets even as it explored fundamentally different domains. This ability to lead proactive punctuated change was institutionalized throughout the firm; within functions (e.g., R&D), geographies (e.g., China or India), business units (e.g., Tivoli or Lotus), and across business units (e.g., Life Sciences or Pervasive

Computing). This strategic renewal was executed through a series of punctuated changes within each area and level of the firm.

During this nine-year period, the 180 EBO experiments and the 40 SLF workshops involving more than 150 intact teams created the material where more than 5000 senior leaders learned about leading change in their own domains, helped others in their domains, and raised a set of system-wide issues that hindered IBM's ability to explore and exploit. Corporate executives used these data to discuss and take action at the system level to support the more local functional, geographic, business unit, and cross-business unit punctuated change. During this period, IBM's executive leaders and its extended leadership team collectively learned and co-created a set of tools to more effectively lead punctuated change. These set of interrelated interventions led, as a whole, to the strategic renewal of IBM.

It may be that punctuated change at the corporate level (either proactive or reactive) can be effectively executed through collective learning that is induced by senior leaders executing punctuated change within the firm's component units. Such learning about punctuated change is supported by a process, context, language, and a set of tools where leaders and their teams both execute change and simultaneously learn from other teams about what helps and hinders punctuated change. Such experience-based conversations help an extended leadership community learn about leading punctuated change both at the unit level as well as at the corporate level. The impact of this senior team learning about leading punctuated change is then institutionalized as these leaders teach and coach their subordinates in leading punctuated change (see Figure 4).

This firm-wide strategic renewal was energized and legitimized by the new CEO who articulated an emotionally engaging vision for the firm (one that was built on IBM's roots) and a new set of values even as he articulated a growth opportunity gap. This proactive transformation was enacted through a set of experiments (i.e., SLF's and EBO's) that were constructed by Harreld and his colleagues, that led, in turn, to an ever increasing set of senior leaders who learned to lead punctuated change by their own work in their teams and by sharing best (and worst) practices with their peers and corporate executives in highly engineered social settings. This

renewal was executed in a highly top down fashion even as the learning was actually done in a decentralized fashion. In effect, the IBM senior executive team created a proactive "burning platform" for change that captivated the hearts and minds of the extended organization. Further, as the SLF and EBO's involved substantial time for conversation and collective learning, the extended team was able to give feedback on those systemic corporate issues that needed to be changed if the re-orientation was to be executed. Thus, the IBM executive team and its extended senior team collectively co-created IBM's re-orientation through a combination of top down and well as bottom up leadership actions (see also Joseph and Ocasio, 2012; Nonaka, 2008).

Institutionalizing Innovation and Punctuated Change at IBM. The impetus for the post-2002 renewal at IBM was Palmisano's aspiration articulated in 2002 and 2003 "that IBM can be a great company" and the new set of IBM values induced through the values jam. The new CEO observed that IBM had grown by "restless self renewal" and could grow again based on innovation ("We create innovative technologies, and we help our customers apply them to transform what they do and how they do it"). Palmisano anchored this post-Gerstner re-orientation on the core identity of IBM as an innovator and IBM'ers as restless innovators (see Figure 4).

Palmisano enabled and empowered such innovation and re-orientation by further extending and supporting the strategy process Gerstner and Harreld had created. By 2002, Harreld and his strategy colleagues had already gathered data on those factors that helped versus hindered the SLF's and the EBO's. Over the last phase of Gerstner's tenure, the SLF's and EBO's had evolved into a learning and change process that had traction, generated results, and had helped create a culture among senior line and staff executives of collaboration, joint accountability, and teamwork, and a language around disciplined problem solving and leading innovation and change. These SLF and EBO's were each experimental trials where participants and teams learned from their successes and failures and importantly, Harreld and his corporate colleagues learned from these experiments. Anchored by

Palmisano's aspiration for IBM, his growth and innovation mandate, and revised values for the firm, the SLF's and EBO's were accelerated and focused post 2002.

In the context of this strategic renewal articulated and energized by Palmisano, Harreld and his colleagues initiated themed and non-themed SLF's[3]. The content on the IBM Business Leadership Model, gaps, exploration and exploitation, ambidexterity were constantly updated and appropriate faculty were recruited for themed SLF's (e.g., growth and standards setting workshops). The SLF and EBO processes involving senior line and staff ownership and funding, the construction of intact teams, facilitation, follow-up, conversations within work groups as well as between work groups, and between the community and the corporate executives were further honed.

During this Palmisano supported SLF/EBO phase, a critical mass of senior line and staff executives were involved in more than 20 SLF's. Palmisano and Harreld built a senior team that was rewarded, coached, measured, and structured around their involvement and support of these SLF's and EBO's. Thus both senior line and staff managers were assessed on their ability to exploit their existing domains even as they were pushed in these workshops to explore into new domains.

These workshops had an impact in every domain of the corporation and, as senior executives learned together about proactive punctuated change, this critical mass of senior executives then provided the energy to decentralize the EBO's and SLF's from the corporate level to countries, functions, business units. By 2005, most of the top 300 senior executives had been to one (or more) SLF or EBO. Between 2005 and 2008, these structured conversations on problem solving, innovation and change were decentralized in more than 40 SLF sessions and 180 EBO experiments. By 2008, these methods, language and co-creation had touched more than 5000 executives. These actions to decentralize the locus and ownership of change were

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[3] For example, themed SLF's were devoted to EBO's, industry standards, or to a strategic issue (like growth or cross line of business collaboration). Non-themed issues were dedicated to business unit, functional, or geographic performance or opportunity gaps.

driven even deeper into the firm through the use if idea jams (see Soske and Conger, 2010). This decentralized phase of learning to lead punctuated change was supported by senior leaders but driven by middle-level executives who led change by teaching what they had learned from their executives. This cadre of middle manages enacting change in their local domains was crucial in institutionalizing change at IBM.

Over this nine-year period, IBM was able to execute Palmisano's aspiration to renew the firm. This re-orientation was not a top down, integrated change effort. Rather, it was top down in energy and aspiration, in the articulation of an innovation rooted performance gap, and an inspiring sense of what IBM and IBM'ers could be. Palmisano's aspirations were empowered by several highly structured workshops, initially initiated and structured by Harreld's strategy group, where intact teams learned specific tools, languages, and skills for their specific strategic change effort. These workshops were not voluntary; they were driven from the top of the firm. Yet at these SLF and EBO's, intact teams with two corporate sponsors (and associated facilitators) worked on their own root cause analysis and action planning. Moreover, since every SLF and EBO had multiple teams working simultaneously, these teams were able to experiment and learn from each other, hold each other accountable, and generate system-wide root causes that the sponsors took as action items (see Figure 5).

This combination of top down as well as bottom up learning about punctuated change started at IBM's most senior level, gained traction and adherents, and was, in turn, decentralized throughout the firm. These SLF's and EBO's were socially engineered experiments to help intact teams talk among themselves and with each other about those factors that help and hinder innovation and punctuated change. These teams were able to learn about their idiosyncratic issues even as they were able to induce a set of more systematic issues for their executives to grapple with. Such co-created experimentation and learning, such decentralized as well as centralized actions, such cascaded employment of SLF's and EBO's, and such an extended social movement, together led to the renewal of IBM by 2008. As importantly, by 2008 the culture of the firm had shifted from a closed,

incremental, disciplined and risk averse culture to one of discipline as well as cross unit collaboration, innovation, speed, urgency, customer focus, and joint accountability[4].

Leading Strategic Renewal

Leading punctuated change through innovation, experimentation and disciplined learning is not unique to IBM (see also Gulati and Puranam, 2009; Groysberg and Slind, 2012; Sull and Spinosa, 2007; Eggers and Kaplan, 2009; Prokesch, 2009). Our experience in a range of firms in a set of industries and countries suggest that there are multiple interrelated determinants of leading proactive punctuated change (see O'Reilly and Tushman, 2011; Tushman et al., 2010; Binns, Smith, and Tushman, 2010). Our experiences at General Dynamics, Lexus Nexis, Nedbank, Conzerv, Zensar, Misys, DelaRue, and Cisneros suggest the following important lessons:

Senior management ownership and support is crucial. Without the most senior leaders on board, punctuated change gets bogged down by powerful forces associated with the status quo. Punctuated change requires the active, unequivocal support and involvement of the firm's senior leadership team. At Nedbank, Ingrid Johnson's re-invention of business banking only gained traction after she personally focused her attention on institutionalizing change throughout her organization and made significant changes in her senior team.

Senior Management Aspiration and Identity. Punctuated changes require an emotionally engaging vision or aspiration. Without Ghosn's aspiration to "renew Nissan", without Ingrid Johnson's aspiration to "re-invent Business Banking at Nedbank", or Ganesh Natarajan's aspiration to make Zensar "among India's top IT services firms", these executives would not have engaged the

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[4] After 2006, this process of leading system-wide change was reinforced by the Integration and Values Team. The top 300 executives from across the firm worked on a set of IBM-wide issues defined by the CEO (see Soske and Conger, 2010 for more detail).

energy of their employees to execute punctuated change. This appeal to aspirations, emotion, and organizational identity is particularly important in executing proactive punctuated change. Palmisano's aspiration to make IBM again "a great firm" or Bradley's aspiration at Ciba Vision for "Healthy Eyes For Life" helped unleash energy throughout these firms to lead innovation streams and, in turn, proactive punctuated change.

Extending Senior Teams and Institutionalizing Change. Senior leaders cannot lead change by themselves. Line management must eventually own and be engaged in the change effort. Punctuated change requires a social movement. Such a movement starts at the top, engages the top management team, and then engages an extended senior leadership team, and in turn, institutionalizes change throughout the firm. Senior leaders must be rewarded (or punished) and measured on their ability to manage punctuated change and to coach their subordinates in leading punctuated change. Johnson was only able to get traction on her re-invention effort only after she made dramatic changes to her top team and involved her extended team through a series of "pause and reflect" sessions led by Johnson throughout business banking.

A Context for Experimentation, Learning, and Co-creation. Leading punctuated change across a firm is rooted in an extended team learning how to lead and co-create change. This community learning is facilitated by a context, structured process, set of tools, and a common problem solving language. These workshops are most effective when held in a neutral location where participants are not interrupted and focus their full attention to the issues. Such workshops must have both content on innovation, organizations, and change as well as a disciplined process by which participants learn from each other, from external resources, from their work group colleagues who are also working on their own issues, and from their more senior sponsors. These workshops are essentially experiments on learning how to execute punctuated change.

Senior Team Sponsored Workshops and Follow-Up. These workshops must be managed by a senior leader. Without such senior governance in problem selection, team staffing, and finding co-sponsors, the workshops are less

effective. The senior sponsors must create a context where teams can talk candidly about the real issues. Importantly, process must be built to follow-up and monitor progress against commitments made at these workshops. Further, as so much systemic learning about change is generated at each workshop, the senior leader and his/her team have to integrate this learning and initiate appropriate change at the corporate level.

Our experience is that when combined, all these factors create a context where organizations can learn how to execute punctuated change through experimentation and associated disciplined learning. Such top down and bottom up learning creates a context where peers, subordinates, and senior leaders co-learn and co-create change in their firms in a way that fits their unique contexts (see also Joseph and Ocasio, 2012; Spillane et al., 2002). We have found when any of these aspects of learning about punctuated change is absent, the change is stalled or less well executed (see also Tushman, et al., 2007; O'Reilly and Tushman, 2011).

<u>Exploratory Innovation is a Catalyst for Strategic Renewal</u>. Where proactive punctuated change can be managed with the same underlying processes as reactive punctuated change, its motivation is fundamentally different. In the absence of a crisis, the press of growth through exploratory as well as exploitative innovation is a powerful and concrete way to initiate strategic renewal. As exploratory innovation is associated with a shift in strategy, it is also associated with system-wide organizational change. If ambidextrous organizational designs are able to host both exploitative as well as exploratory innovation, these designs are a powerful tool to create the context for proactive punctuated change. Further, the press of growth through exploration and exploitation push leaders to attend to contradictory strategies simultaneously; the need to explore and exploit as well as to manage incremental as well as punctuated change. At IBM, the ability to be an ambidextrous leader, to manage incremental innovation and change as well as learn to lead exploratory innovation and associated punctuated change, became a criteria for promotion to senior leadership (see also similar ideas at GE, Prokesch, 2009).

Our experience at IBM and in a range of other firms is that leading innovation and associated punctuated change is less about steps and phases, but more about dialog, participation, conversations, and commitments leaders and their teams make to each other in service of executing their own local change efforts (see also Sull and Spinosa, 2007; Beer, 2009; Spillane et al., 2002). This learning by doing and sharing this learning in the larger community helps create the social movement so central to punctuated change. This community learning must be energized by the senior leader's aspiration and strategic intent and facilitated by space and time (ie workshops), a common language, and problem solving tools. These workshops must be composed of real teams with their relevant sponsors and facilitated by a climate of data-driven problem solving. These workshops must, in turn, drive action and associated follow-up.

Through such disciplined workshops, firms learn how to execute innovation and punctuated change through systematic experimentation and associated disciplined reflection and learning about what works well and what gets in the way. Because punctuated change in incumbent firms must deal with strong inertial forces, this learning about punctuated change must be initiated, energized, and modeled by the senior team and then diffused throughout the firm. Ambidextrous designs provide a structure within which firms can both explore via punctuated change and exploit via incremental change. Further, these organizational designs challenge leaders to build firms and their own capabilities such that they can attend to the contradictory requirements of leading exploitative as well as exploratory innovation.

While punctuated change must be initiated from the top, it is actually executed through an extended social movement architected by senior leaders and carried through the firm by an ever more extended set of leaders who collectively initiate, reflect, and learn about leading change in their local domains. Infused by the senior executive's aspiration and empowered by a common language and the context to do real diagnoses and action, local interventions and associated learning about change is shared in larger communities. Over time, an extended community has learned how to co-create innovation and punctuated change. Thus, firm-wide

change is executed through both top down aspirations of innovation and punctuated change and bottom up local interventions and associated community learning.

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Figure1
Types of Organizational Change

	Incremental (Exploitation)	**Punctuated (Exploration)**
Reactive (Performance Gap)	Problem Solving FBI: Crime	Re-Invention Lego, O & M, IBM: Early Gerstner era FBI: Counter-Terrorism Nissan, Nedbank, Kodak, Xerox
Proactive (Opportunity Gap)	Tuning TQM	Strategic Renewal Analog Devices, Misys, Ball, Ciba Vision, IBM: Late Gerstner, early Palmisano

Figure 2
IBM Business Leadership Model
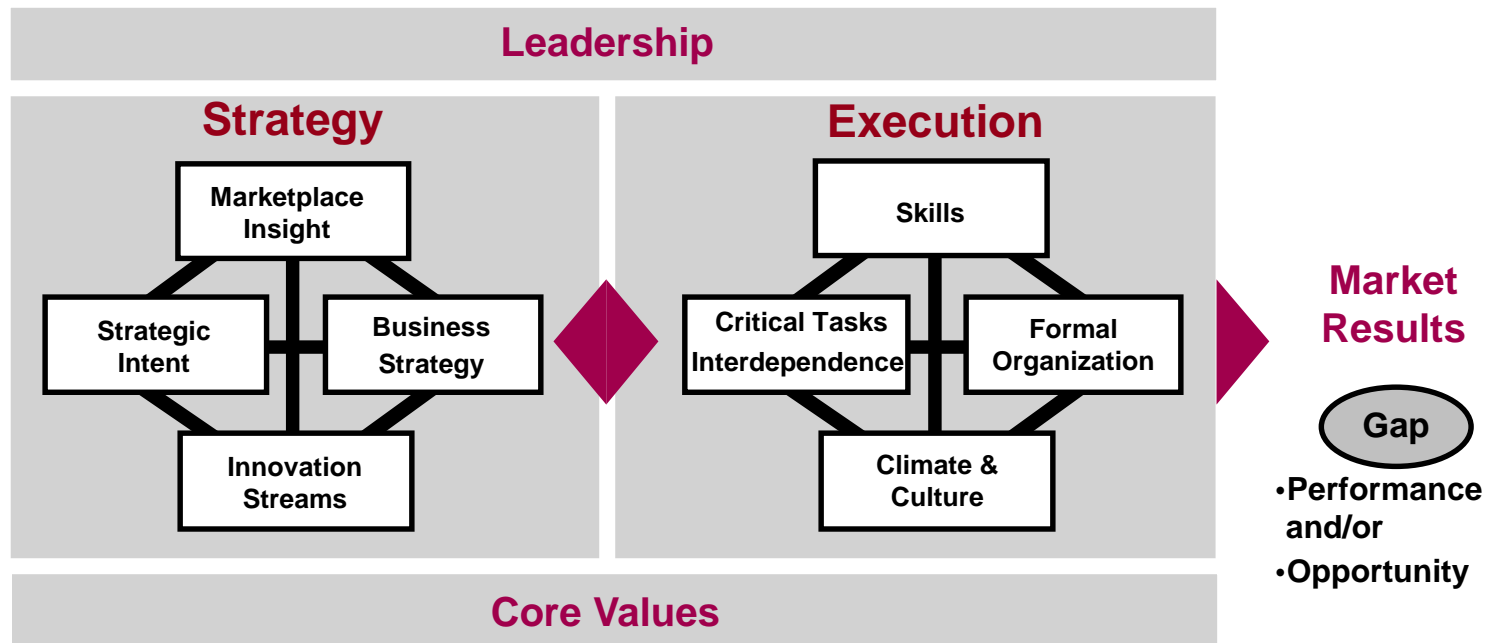
Adapted from Harreld, O'Reilly, and Tushman, 2007

Figure 3
SLF and EBO Process: Top Down and Bottom Up Dialog and Learning
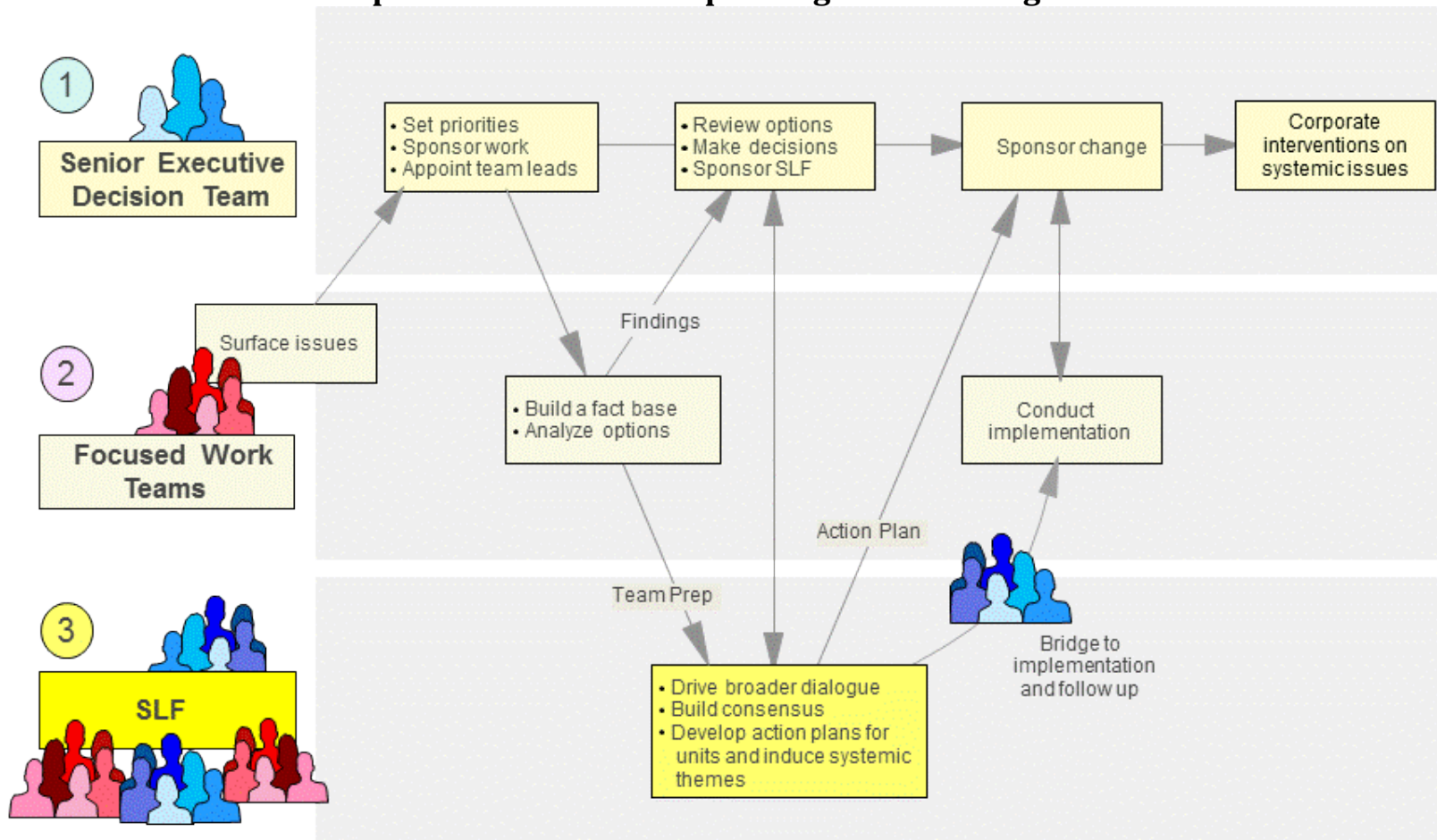
(Adapted from IBM document)

Figure 4
Institutionalizing Punctuated Change at IBM

Institutionalized Leadership (2005-2008): Leverage Senior Team, Leaders as Teachers, Modeling Leadership

Extended Senior Team (2002-2005): structure, culture, roles, rewards, measures

"Re-Invent IBM..." —Palmisano

SLF's / EBO's

Scaled and Themed;
Build Critical Mass
via extended teams by:
Functions,
Geography,
Business Unit,
Cross-business Unit

CEO and Senior Executive Design Team (1999-2002):
- Envision
- Energize
- Enable
- Champion

7 SLF's; 34 Teams - Experimentation, reflection, codification

150 Teams
18 EBO's and 21 SLF's
By 2004, 2500 executives involved (60% of top 300 and 80% top 30 execs)

N= 5,000   Decentralized by: Functions   180 EBO's
                              Geographies   40 SLF's
                              Business Units

Figure 5
Strategic Renewal at IBM (1999-2008)

Top Down Challenge and Executive Sponsorship
- High Expectations; Substantive and Symbolic Involvement
- Fact based dialog and conversations across communities
- Idiosyncratic root causes
- Action and follow-up
- Learning about leading change shared across units

EBO's and SLF's
- Joint Executive Sponsorship
- Growth and Innovation Focused
- Intact Teams by:
  - Country
  - Business unit,
  - Functions
  - Cross-unit
- Gaps, Diagnosis, and Action
- Common Language

Punctuated Change at unit level 1999 to 2008 By 2008, strategic renewal at IBM level

Bottom Up Systemic Themes
- Community dialog on common root causes
- Common culture, metrics, interdependencies, leader behaviors
- Systemic, integrated action owned by corporate executives

Gerstner's Innovation Challenge; Palmisano's Aspiration to Reinvent IBM

Table 1
SLF's, EBO's, and IBM Performance

	2002	2005	2010
Cum. No. of SLF's	7	23	40
No. of Executive Participants	350	1800	5000
No. of EBO's	7	23	180
EBO Revenues (as % of IBM Total)	6	19	24
IBM Revenues ($Billion)	81.2	91.1	99.9
Gross Margin (%)	36.6	40.1	46.1
Earnings per Share ($, diluted)	2.43	4.91	11.52

Source: IBM