Dynamic ambidexterity: How innovators manage exploration and exploitation

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Abstract Firms must excel at both exploration and exploitation to ensure long-term survival and prosperity. However, firms often have difficulties in doing so because they have to accommodate the contradictory logics of exploration and exploitation. This article examines the logics of exploration and exploitation, evaluates the difficulties of accommodating both logics, and identifies dynamic ambidexterity as a new way to overcome these difficulties. To achieve dynamic ambidexterity, firms need to support structural ambidexterity at the corporate level, contextual ambidexterity at the business-unit level, and sequential ambidexterity at the project level. I believe that the notion of dynamic ambidexterity and its managerial practices can help firms manage exploration and exploitation and ensure long-term survival and prosperity.

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1. The innovator’s dilemma: Another look

Disruptive change often causes firms to stumble and fall (Christensen, 1997). Such was the case of Disney Animation Studios. In the era of hand-drawn animation, Disney created such culture-defining films as Snow White and the Seven Dwarfs, Beauty and the Beast, and The Lion King. Disney excelled at hand-drawn animation, but it struggled to adapt to computer animation. It was Pixar, not Disney, that released the world’s first computer-animated feature film in 1995, at which point computer animation started to disrupt hand-drawn animation. Despite this shift within the animation industry, Disney only managed to release its first partially computer-animated feature film in 2000 and its first fully computer-animated feature film in 2005. In fact, after the release of The Lion King in 1994, Disney’s animation empire declined.

To reverse its decline, Disney had to acquire Pixar in 2006 and let Pixar’s leadership team take over the management of Disney Animation. Since then, the new leadership team has implemented a new set of managerial practices to revive Disney Animation,
enabling its resurgence with a number of new computer-animated films, including Frozen, Big Hero 6, and Zootopia. Disney’s story shows that firms, even the most successful ones, can fail to respond to disruptive change. More importantly, it also suggests that in the face of disruption, firms can take measures to reverse their decline, develop new capabilities, and seize new opportunities (Catmull, 2014; Steward, 2005).

To meet the challenge of disruptive change, firms need both to explore and exploit (March, 1991). They exploit existing information and capabilities to ensure short-term success and explore new information and possibilities to achieve long-term prosperity. However, even well-managed firms often succeed at exploitation but fail at exploration (Christensen, 1991; Cooper & Schendel, 1976; March, 1991). They excel at exploiting existing technologies and markets while often missing out on new technologies and markets. Innovators often face a dilemma—the dilemma of how to avoid missing out on new opportunities while existing ones need attention.

In this article, I take a new look at the innovator’s dilemma, the root cause of which is not that firms disregard new opportunities but that they mismanage exploration. Exploration and exploitation follow different logics and call for different managerial practices. But the logic of exploitation too often overshadows the logic of exploration in firms, resulting in the mismanagement of exploration. One way to resolve the innovator’s dilemma is through organizational ambidexterity: building organizational capabilities to accommodate contradictory logics. Prior research has proposed many ways to achieve organizational ambidexterity, and each has its merits and limits. In this article, I propose a new form of ambidexterity—dynamic ambidexterity—which builds on existing forms and mitigates their limits. Dynamic ambidexterity achieves structural ambidexterity at the corporate level by dedicating some business units to exploitation and others to exploration. It achieves contextual ambidexterity at the business-unit level by creating an organizational context in which employees within each business unit are encouraged to explore and exploit. It achieves sequential ambidexterity at the project level by matching projects at different stages to business units with different characteristics. I believe that dynamic ambidexterity represents a comprehensive solution to the management of exploration and exploitation.

In this article, I will investigate the nature and characteristics of dynamic ambidexterity. In the next section, I will start with a brief discussion of the contradictory logics of exploration and exploitation, followed by an overview of the challenges of achieving organizational ambidexterity.

2. The logics of exploration and exploitation

A logic is the means by which managers conceptualize a business and make critical decisions about the business (Prahalad & Bettis, 1986). The logics of exploration and exploitation are contradictory in the sense that they represent different conceptions of businesses and call for divergent managerial practices (Besharov & Smith, 2014). In this section, we will examine the nature of these two logics.

2.1. The logic of exploitation

Exploitation focuses on utilizing what firms have already known (March, 1991). An exploitative orientation relies on the assumption that the firm has complete information about external opportunities and internal capabilities. Exploitative firms expect to work within well-established problem-solution frameworks, under which problems and solutions can be clearly defined. Organizational attention is focused on existing businesses or existing ways of doing businesses and on employing available information and capabilities to achieve short-term organizational goals and market positions. Exploitation involves low levels of uncertainty and has high rates of success.

Most well-managed firms are good at exploitation (March, 1991). They strive for short-term successes, which require them to deliver reliable revenues and profits (Govindarajan & Trimble, 2010). As such, ongoing operations are optimized to improve organizational performance, creating further pressures for future performance. The pressure to deliver consistent and reliable results focuses organizational attention on improving reliability, efficiency, and control. In this way, exploitative firms have designed and shaped their managerial practices to fit the logic of exploitation.

2.2. The logic of exploration

Unlike exploitation, exploration focuses on discovering what is yet to be known (March, 1991). Exploratory business investigates new businesses or new ways of doing businesses. An exploratory orientation suggests that a firm may not have complete information about all possible opportunities, so it needs to sense and seize new opportunities (Teece, 2007). Exploration centers on the belief that firms
may have not yet reached their maximum capabilities, so they need to stretch their existing capabilities (Wang & Chen, 2015), transform existing capabilities (Teece, 2007), or develop new capabilities (Capron & Mitchell, 2009). Unlike exploitation, exploration consumes resources in the short run and its returns are uncertain, distant, and delayed (Arend & Chen, 2012). It creates new possibilities, but it often produces early failures and results in temporary performance declines. Exploration involves high levels of uncertainty and has low rates of success.

While many well-managed firms may be successful at exploitation, many of these are also poor at exploration (Christensen, 1997; Christensen & Raynor, 2003). They are well-managed, so they focus their attention on what is creating the most value and focus less attention on what is not creating value. Because exploration rarely creates immediate value, there is good reason to focus less attention on it. Moreover, well-managed firms often want breakthroughs but do not tolerate early failures. However, the tolerance for early failures is exactly what is needed for exploration. Exploration usually starts out as early failures and disappointments, and not every early failure will lead to a breakthrough. Early on, firms often cannot distinguish productive early failures from unproductive ones. In trying to avoid failures, they may also eliminate productive steps and give up on opportunities to produce breakthroughs. To excel at exploration, firms need to understand the logic of exploration and manage it accordingly.

3. Toward dynamic ambidexterity

The best way to accommodate the contradictory logics of exploration and exploitation is through organizational ambidexterity, which O’Reilly and Tushman (2013, p. 324) describe as:

The ability of an organization to both explore and exploit—to compete in mature technologies and markets where efficiency, control, and incremental improvement are prized and to also compete in new technologies and markets where flexibility, autonomy, and experimentation are needed.

There are many different forms of organizational ambidexterity. In this section, I will evaluate these different forms and identify their respective limits. I will then propose a new form of ambidexterity—dynamic ambidexterity—which combines insights and practices from all three forms of ambidexterity. I believe that dynamic ambidexterity represents a comprehensive solution to the innovator’s dilemma.

3.1. Contextual ambidexterity and its limits

Contextual ambidexterity may be used to pursue exploration and exploitation by creating an organizational context within which employees can freely choose to explore or exploit (Birkinshaw & Gibson, 2004; Gibson & Birkinshaw, 2004). Contextual ambidexterity enables employees to carry out exploration without restricting certain time periods or business units to exploration, therefore allowing exploration to emerge in unintended ways (Adner & Levinthal, 2008).

Alphabet, previously Google, provides an example of integrated contextual ambidexterity. Google has created an organizational context in which engineers are tasked with the mission to organize the world’s information. Moreover, engineers are given 20% free time to pursue exploratory projects of their own choosing. As a result, engineers do not need to wait for approval to carry out exploration. Many side projects have turned out to be successful ventures (Schmidt & Rosenberg, 2014). Here, we see the usefulness of contextual ambidexterity in facilitating exploration and exploitation.

However, contextual ambidexterity has its limits. Contextual ambidexterity involves the assumption that a single organizational context can enable both exploration and exploitation to prosper, while exploration and exploitation may prosper in different organizational contexts. When new initiatives are not radically different from a firm’s core businesses, contextual ambidexterity can enable exploratory initiatives to emerge in the existing organizational context. When new initiatives are radically different from the core, however, contextual ambidexterity may not work. Therefore, it is not practical to expect a single organizational context to support both exploration and exploitation.

Consider Alphabet again. Although engineers in the core businesses are given the freedom to pursue exploration and have initiated many successful exploratory initiatives, Alphabet has discovered that it has to create a separate unit, X, to incubate and pursue moonshot projects. Therefore, contextual ambidexterity, although helpful, does not represent a complete solution to the pursuit of ambidexterity.
3.2. Sequential ambidexterity and its limits

Sequential ambidexterity enables exploration and exploitation through temporal separation (Boumgarden, Nickerson, & Zenger, 2012). This type of ambidexterity is based on the idea that firms can focus their attention on exploitation during some periods of time and on exploration during other periods of time. Temporal separation enables firms to achieve focus at a very specific period of time and to achieve ambidexterity over a longer period of time.

Sequential ambidexterity can be effective at the project level. A project usually evolves from an exploration stage, in which the project is searching for a viable business model, to an exploitation stage, in which the project has found a viable business model and is focused on its execution (Blank, 2013). Sequential ambidexterity allows firms to use different managerial practices to manage projects at different stages.

However, sequential ambidexterity also has its limits. Although effective at the project level, sequential ambidexterity is problematic at the organizational level. To achieve sequential ambidexterity at the organizational level, firms need to switch back and forth between modes of exploration and exploitation and reconfigure strategies, structures, and processes accordingly. Such changes can cause dislocation in firms and may even destroy core organizational capabilities (Christensen & Overdorf, 2000). If firms switch between modes too often, they may not be able to survive in the short run, let alone the long run. Therefore, sequential ambidexterity, although essential at the project level, can be problematic at the organizational level.

3.3. Structural ambidexterity and its limits

Structural ambidexterity puts exploration and exploitation into structurally separated business units that are then coordinated by top managers (O’Reilly & Tushman, 2004, 2016; Tushman & O’Reilly, 1996). It allows exploitation to be localized to some business units, exploration to be confined to other business units, and coordination to be achieved by top managers. It also allows different business units to use different strategies, structures, and processes. It is the most promising and practical solution to the pursuit of organizational ambidexterity.

Again, I point to Alphabet’s example. Alphabet now has many subsidiaries, each with different strategies, structures, and processes. Of particular interest to us are two subsidiaries: the new Google and the new X. Google is now focused on exploiting the core businesses, such as search ads and Android, while X is focused on incubating moonshot projects, such as self-driving cars and Project Loon. By separating exploration and exploitation into different subsidiaries, Alphabet lets different subsidiaries focus on different businesses while achieving excellence in both exploration and exploitation at the corporate level.

Although promising and practical, structural ambidexterity places enormous job demands on top executives. It requires top executives to manage different units with different structures, create new units when needed, intervene in these units selectively, and coordinate different units to achieve organizational ambidexterity. However, top executives face many constraints and limitations that may prevent them from achieving ambidexterity. They can become the bottleneck of structural ambidexterity and cause structural ambidexterity to fail.

3.4. Toward dynamic ambidexterity

Each form of organizational ambidexterity has its advantages and disadvantages. Each is useful but incomplete. I propose a new form of ambidexterity—dynamic ambidexterity—which utilizes all three forms of ambidexterity at different organizational levels.

First, dynamic ambidexterity utilizes structural ambidexterity at the corporate level. As in the case of Alphabet, a dynamically ambidextrous firm should have business units exploiting existing opportunities and business units exploring radically new opportunities. It should also allow exploration and exploitation units to have different strategies, structures, and processes.

Second, dynamic ambidexterity recognizes the value of contextual ambidexterity at the business-unit level. By creating an organizational context in which employees at each business unit are encouraged to explore, firms allow new ideas and new initiatives to emerge in unintended ways. Contextual ambidexterity at the business-unit level addresses the bottleneck of structural ambidexterity at the corporate level.

Third, dynamic ambidexterity utilizes sequential ambidexterity at the project level. New exploratory initiatives are incubated in dedicated exploration units, within which new initiatives search for viable business models. After finding a viable business model, an exploratory initiative may become an exploitative project and graduate from the
exploration unit. It may then find its home in an existing business unit or require the establishment of a new business unit. Sequential ambidexterity at the project level complements structural ambidexterity at the corporate level.

Dynamic ambidexterity combines insights and practices from all three forms of ambidexterity, enabling firms to realize the benefits of different forms of ambidexterity and mitigate their respective limitations. It allows firms to accommodate the contradictory logics of exploration and exploitation and excel at both.

4. How dynamically ambidextrous firms manage exploration and exploitation

To make dynamic ambidexterity work, firms need to implement a set of strategies, structures, and processes that suit the logics of exploration and exploitation and support all three forms of ambidexterity. In this section, I will examine managerial practices that help implement and sustain dynamic ambidexterity.

4.1. Strategy: Deliberate vs. emergent

To achieve dynamic ambidexterity, firms should use different strategies to manage exploration and exploitation (Burgelman, 2002; Mintzberg & Waters, 1985). Deliberate strategies should guide management of exploitation and emergent strategies should guide exploration management. In the pursuit of exploitation, firms can rely on deliberate strategies to realize strategic directions. Guided by these easily identifiable strategic directions, firms can clarify priorities and allocate resources to key strategic initiatives. This enables them to pursue strategic goals effectively (Mintzberg & Waters, 1985) and to generate innovations that are consistent with established strategic directions (Song & Chen, 2014). However, deliberate strategies may impede the exploration of new strategic possibilities (Burgelman, 2002).

To create new possibilities, dynamically ambidextrous firms should rely on emergent strategies to guide exploration. In the pursuit of exploration, firms should not impose strategic directions on new initiatives. Instead, firms should explore different possibilities and wait for strategic directions to emerge (Mintzberg, 1978). Small bets on multiple explorations will allow firms to increase the odds of a successful breakthrough, which can then be recognized and incorporated into a firm’s intended strategies (Burgelman, 1991; Mintzberg, 1978).

Therefore, firms seeking dynamic ambidexterity should carefully craft their strategies to manage exploration and exploitation and to support structural, contextual, and sequential ambidexterity. Deliberate strategies in exploitation units and emergent strategies in exploration units will facilitate structural ambidexterity. Contextual ambidexterity can be likewise facilitated at the business-unit level by having ambitious and ambiguous goals for their business units to encourage exploration and exploitation. Using different strategies to guide projects at different stages will facilitate sequential ambidexterity at the project level.

4.2. Structure: Mechanistic vs. organic

In order to be dynamically ambidextrous, firms must use different organizational structures to manage exploration and exploitation. Exploitation units should be managed through mechanistic structures and exploration units through organic structures. Mechanistic structures usually have high levels of formalization and standardization and well-established patterns of specialization and coordination (Schilling, 2016). Mechanistic structures rely on well-established routines to carry out actions and facilitate coordination, enabling exploitation units to achieve efficiency, reliability, and effectiveness. The problem with mechanistic structures is not that they cannot facilitate innovation (Song & Chen, 2014). Instead, they facilitate only certain patterns of specialization and coordination (Henderson & Clark, 1990) and thus impede exploration, which requires the development of new patterns.

To facilitate new patterns of specialization and coordination, dynamically ambidextrous firms will use organic structures to manage their exploration units. They must try not to impose preexisting structures on exploration units. Instead, they should allow exploration units to have low levels of formalization and standardization so that exploratory initiatives can gradually discover appropriate patterns of specialization and coordination. In the absence of clear structures, exploration units can coordinate organizational actions through organizational redundancy, that is, overlapping information and responsibilities (Nonaka, 1994; Song & Chen, 2014). Exploration units should wait for effective patterns of specialization and coordination to emerge and then gradually recognize and formalize those patterns.

In the case of Alphabet, the company achieves structural ambidexterity using mechanistic structures to manage some functions (e.g., sales, legal, and finance) and organic structures to manage other functions, such as engineering and research
(Schilling, 2016). Alphabet also uses mechanistic structures in more exploitative business units and organic structures in more exploratory business units. To facilitate contextual ambidexterity at the business level, Alphabet allows employees in exploitative functions and units to organize organically to pursue side projects. Additionally, Alphabet facilitates sequential ambidexterity at the project level. It incubates moonshot projects in X, which uses organic structures to coordinate exploration. Once a moonshot project matures, it may graduate from X and find its home either in an established unit or in a new unit. For example, Google Watch was incubated in X to explore wearable technologies; it graduated from X in 2013 and now is part of Android. Google Life Sciences, which was radically different from Alphabet’s core businesses, was incubated in X to explore proactive ways to manage healthcare; it graduated from X in 2015 and became Verily, a subsidiary of Alphabet.

4.3. Incentive: Pay for performance vs. tolerance for early failure

Dynamically ambidextrous firms will use different incentive structures to motivate exploration and exploitation (Ederer & Manso, 2013; Manso, 2011). Firms should motivate exploitation through pay for performance. Pay for performance links compensation to measurable outcomes and therefore motivates employees to pursue organizational goals and improve organizational performance. Dynamically ambidextrous firms will have implemented pay for performance in a number of ways, including piece rates, commission, and profit sharing. Pay for performance is usually effective in motivating exploitation.

Pay for performance, however, may impede exploration (Ederer & Manso, 2013; Manso, 2011). It motivates employees to pursue pre-specified goals but discourages the exploration of new possibilities, especially those that are not directly linked to existing goals. In his popular TED talk, Dan Pink (2009) advised firms not to reward exploration because rewards crowd out intrinsic motivation and impede exploration. It is true that pay for performance fails to motivate exploration. However, other carefully crafted incentive structures can work (Ederer & Manso, 2013; Manso, 2011).

To motivate exploration, dynamically ambidextrous firms can adopt incentive structures that tolerate early failures and reward long-term successes (Ederer & Manso, 2013; Manso, 2011). Exploration often results in early failures, which may jeopardize career prospects in bureaucratic organizations (Jackall, 2010). Effort should be made to protect people’s wages and prospects, especially when exploration leads to early disappointments. In Alphabet’s X, early failures are not only tolerated but celebrated. For instance, when a moonshot project fails, engineers on the project are rewarded by recognition, bonuses, vacations, and new projects. To celebrate early failures is to reduce aversion to failures and to motivate people to take major risks. In addition to tolerating early failures, dynamically ambidextrous firms should reward long-term successes. Rewards for long-term successes focus organizational attention on ambitious goals and major opportunities. In this regard, Alphabet has never shied away from rewarding its people. For example, it routinely has rewarded employees with stock grants, stock options, bonuses, perks, and trips to Hawaii (Bock, 2015). I believe that other firms should include similar features in their incentive structures.

Firms should focus closely on how they craft their incentive structures in order to develop dynamic ambidexterity throughout corporate tiers. To facilitate structural ambidexterity, they primarily should use pay for performance in their exploitation units and tolerance for early failures and reward for long-term successes in their exploration units. To facilitate contextual ambidexterity, these firms should implement tolerance for early failures even in their exploitation units to encourage employees to explore. To facilitate sequential ambidexterity, they must use different incentive structures to manage projects at different stages.

4.4. Process: Execution vs. search

Dynamically ambidextrous firms will manage exploratory and exploitative projects by different processes. Exploitative projects, which usually draw on existing information and capabilities to solve well-defined problems, can be managed by execution-oriented processes, such as the stage-gate process (Cooper, 1990) and the waterfall process (Boehm, 1988). Firms can define the success criteria for exploitative projects and map the roads to success. They can plan for these projects by first specifying the requirements of these projects and then using execution-oriented processes to move projects from specification toward design, development, test, and launch. Execution-oriented processes can be very helpful in managing exploitation and enabling firms to achieve efficiency and effectiveness. The problem with execution-oriented processes is not that they cannot guide innovation (Cooper, 2008) and instead demand the full specifications of a project at the front end, which may not be practical for the management of exploration.
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Exploratory projects acquire new information and capabilities to explore new opportunities. Dynamic ambidextrous firms should manage exploratory projects through search-oriented processes, such as the effectuation approach (Sarasvathy, 2008), the lean startup method (Ries, 2011), the design sprint (Knapp, Zeratsky, & Kowitz, 2016), and the agile process (Rubin, 2012). These firms should recognize the difficulties of defining success criteria for exploratory projects and of mapping the roads to success, and therefore they should try not to specify the full requirements for these projects right at the beginning. Instead, they should rely on search-oriented processes to specify and implement projects incrementally and iteratively. They will likely use prototypes and probes to interact with customers and gather feedback from the markets to reduce uncertainties and to improve their understandings. Experimentation and feedback provides opportunities to identify what is working and what is not working and to search for viable business models. These search-oriented processes can be very helpful in facilitating exploration.

It is also important to note that the criteria used to evaluate the progress of exploration and exploitation can be very different. Exploitation can be evaluated using traditional financial metrics (Christensen, Kaufman, & Shih, 2008; Christensen & van Bever, 2014) because firms may be able to calculate the returns on investment for exploitative projects. Exploratory projects, however, cannot be evaluated using traditional financial metrics because such metrics may underestimate the value of exploration (Christensen et al., 2008; Christensen & van Bever, 2014). The progress of exploration needs to be evaluated by internal learning and validation and by external user interest and engagement (Croll & Yoskovitz, 2013; Ries, 2011). For exploratory projects, early disappointments are unavoidable, but they have to improve at a reasonable rate; otherwise, they may remain permanent failures.

In other words, firms also need to address processes specifically at each level of dynamic ambidexterity. To achieve structural ambidexterity, they must use execution-oriented processes in exploitation units and search-oriented processes in exploration units. To achieve contextual ambidexterity, they will allow employees in each business unit to try different processes. To achieve sequential ambidexterity, projects should be managed at the exploration stage through search-oriented processes and projects at the exploitation stages through execution-oriented processes.

4.5. Customer involvement: Mainstream customers vs. lead users

Firms should understand that customers have different characteristics; some are innovative, while others are conservative (Rogers, 2003). In order to develop dynamic ambidexterity, firms should try to involve mainstream customers in their exploitative projects and lead users in their exploratory projects (Moore, 2014). Exploitative projects often aim to address existing market demands. In the pursuit of exploitation, firms should work with mainstream customers because such customers usually know how to satisfy existing demands. These firms will listen to mainstream customers and rely on customer feedback and opinions to guide exploration (Zhou, Yim, & Tse, 2005). Working with mainstream customers to collect market intelligence allows firms to exploit existing market demands (Kohli & Jaworski, 1990; Narver & Slater, 1990). Therefore, mainstream customers are very helpful in guiding exploitation.

Exploratory projects often aim to address latent market demands. Whether firms should engage with customers in exploratory projects is highly debated. For example, Steve Jobs famously said that “customers don’t know what they want until we’ve shown them” (Isaacson, 2011, p. 143), implying that firms should not listen to their customers. It is true that exploration does not benefit from listening to mainstream customers. However, there are some customers who experience market needs ahead of mainstream customers and can help identify latent market demands (von Hippel, 2005). These customers are called lead users and have been shown to play important roles in facilitating exploration (von Hippel, 1986). Therefore, the question is not whether firms should listen to their customers but whether firms can effectively identify and co-opt lead users. Identifying and co-opting lead users can be challenging, but equally rewarding.

Involving different types of customers in exploration and exploitation will enable firms to more intentionally foster dynamic ambidexterity where it is needed. Structural ambidexterity will be achieved at the corporate level by working with mainstream customers in their exploitation units and with lead users in their exploration units. To facilitate contextual ambidexterity, firms should allow employees to work with different customers if necessary. To achieve sequential ambidexterity, they should work with lead users for projects at the exploration stage and with mainstream customers for projects at the exploitation stage.
4.6. Supply chain: Efficient vs. responsive

Dynamically ambidextrous firms will use different supply chains for exploration and exploitation. Responsive supply chains are “distinguished by short production lead-times, low set-up costs, and small batch sizes,” while efficient supply chains are “distinguished by longer production lead-times, high set-up costs, and larger batch sizes” (Randall, Morgan, & Morton, 2003, p. 430). For exploitative projects with well-defined features and predictable demands, firms should adopt efficient supply chains. Suppliers with the lowest possible cost and the highest possible quality are used to minimize costs and maximize quality (Fisher, 1997). The management of the supply chains is focused on efficiency, cost, and quality (Fisher, 1997; Lee, 2002).

For exploratory projects with changing product features and unpredictable product demands, firms adopt responsive supply chains. Responsive supply chains allow for adaption to changes in product features and demands (Fisher, 1997), encouraging the selection of the most responsive suppliers, even if they need to incur higher costs. The management of the supply chains should be focused on flexibility and responsiveness (Fisher, 1997; Lee, 2002).

Dynamically ambidextrous firms will craft their supply chains intentionally to support the parallel goals of exploration and exploitation. They achieve structural ambidexterity at the corporate level by having efficient supply chains for their exploitation units and responsive supply chains for their exploration units. They achieve contextual ambidexterity at the business-unit level by allowing employees to explore and try different supply chains for different projects. They achieve sequential ambidexterity at the project level by adopting responsive supply chains for projects at the exploration stage and efficient supply chains for projects at the exploitation stage.

4.7. Acquisition: Integration vs. autonomy

To facilitate exploration and exploitation, firms sometimes need to acquire other companies to gain control of critical resources and to develop new capabilities (Christensen, Alton, Rising, & Waldeck, 2011). Some acquisitions are exploitative, while others are exploratory. Exploitative acquisitions aim to complement core businesses. For the purpose of exploitation, firms can acquire other companies to gain control of critical resources and processes, which can help improve core businesses. To realize economies of scale and scope, firms have to integrate acquired companies with existing businesses quickly and effectively (Chandler, 1990).

Exploratory acquisitions aim to develop new businesses. To explore new businesses effectively, firms may acquire companies better suited than they are to the exploration of new businesses. The autonomy of the acquired firms must be protected, allowing them to have their own strategies, structures, and processes. Premature integration with the acquired firms is avoided because integration may dissolve the acquired firms and destroy their capacities for exploration.

Alphabet, for example, has acquired some 200 companies to date (Geis, 2015). In 2003, Alphabet acquired Applied Semantics, which offered contextual advertising on third-party content websites. This acquisition was exploitative in nature because Applied Semantics complemented the company’s core business, advertising. Alphabet integrated with Applied Semantics quickly to strengthen its advertising business. In 2005, Alphabet acquired Android to explore new businesses in mobile computing. This acquisition was exploratory in nature, and Alphabet gave Android substantial autonomy. Gradually, mobile computing became Alphabet’s core business, and Android became part of Google. Another exploratory acquisition was Nest, which was acquired in 2014 to explore smart-home technologies and opportunities. Because of its exploratory nature, it remains as an independent subsidiary within Alphabet.

Acquisition management also affects every aspect of a firm’s ambidexterity. To achieve structural ambidexterity, firms should give autonomy to exploratory acquisitions but demand tight integration in exploitative acquisitions. To achieve contextual ambidexterity, firms must allow business units to pursue both exploratory and exploitative acquisitions. To achieve sequential ambidexterity, they should evolve the strategies for acquisition and integration as the nature of businesses evolves.

5. To be or not to be

Dynamic ambidexterity accommodates the contradictory logics of exploration and exploitation and helps ensure long-run organizational survival and prosperity. However, it also demands considerable hard work. To achieve dynamic ambidexterity, firms have to support structural ambidexterity at the corporate level, contextual ambidexterity at the business-unit level, and sequential ambidexterity at
the project level. Do the benefits of dynamic ambidexterity really outweigh its costs?

In the long run, the answer is clearly yes. Dynamic ambidexterity mitigates the limitations of existing forms of ambidexterity and builds organizational capabilities to explore and exploit, enabling firms to address disruptive threats and resolve the innovator’s dilemma. In the face of disruption, dynamic ambidexterity is worth the required effort.

In the short run, however, dynamic ambidexterity may appear to be a bad investment. Dynamic ambidexterity often consumes resources and incurs costs in the short run. Moreover, it may lead to potential contradictions and conflicts in firms because it uses different managerial practices to cater to different logics. To be or not to be? I believe that this is a false dilemma. In the face of ever-impending disruption, firms have to build organizational capabilities to explore and exploit, even if they need to sacrifice short-term efficiency and endure potential internal conflicts.

6. Conclusion

Exploration and exploitation are both critical to the long-run survival and prosperity of firms. Dynamic ambidexterity recognizes the contradictory logics of exploration and exploitation and uses different managerial practices to manage them accordingly. It builds on contextual, sequential, and structural ambidexterity to develop a comprehensive solution to the innovator’s dilemma. In this article, I have identified a set of managerial practices to help implement and sustain dynamic ambidexterity. I understand the challenges of achieving dynamic ambidexterity and respect managers who can address these challenges well. The management of exploration and exploitation requires extraordinary skills and commitment, and the pursuit of dynamic ambidexterity may be a never-ending journey. I hope that this article can play a useful role in advancing the nature and practice of dynamic ambidexterity.

References


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