



# Managing digital business platforms: A continued exercise in balancing renewal and refinement



Ramiro Montealegre <sup>a,\*</sup>, Kishen Iyengar <sup>b</sup>

<sup>a</sup> *Leeds School of Business, University of Colorado at Boulder, 419 UCB, Boulder, CO 80309, U.S.A.*

<sup>b</sup> *College of Business, Northern Illinois University, DeKalb, IL 60115, U.S.A.*

## KEYWORDS

Digital business platforms;  
Organizational capabilities;  
Ambidexterity;  
Renewal and refinement;  
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**Abstract** Central to the evolution of a digital business platform is the organization's ability to balance exploration (renewal) and exploitation (refinement) simultaneously. Drawing on prior research—including digital platforms, contradictory tensions, and organizational ambidexterity—and our own experience investigating digital business platforms in organizations, this article provides insights into how executives can manage this evolution successfully. More specifically, we present a framework recognizing three pairs of organizational capabilities (i.e., identifying-nourishing, expanding-legitimizing, and augmenting-embedding) that enable balancing renewal and refinement of the platform over time. We close by providing critical managerial practices that executives can use in anticipating, adjusting, and evaluating the evolution of a digital business platform over time, including its initiation, development, and growth.

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## 1. Digital business platforms: Their disruptive power and contradictory logic

Digital platforms are increasingly found within and across organizations today, and they are profoundly changing the strategic context, the

structure of competition, the conduct of business (see [Accenture, 2016](#); [Bughin et al., 2019](#); [Zhu & Iansiti, 2019](#)). Because there are several types of digital platforms ([Subramaniam et al., 2019](#)), we chose to focus on an increasingly important group of platforms: digital business platforms. This type of platform—typically created and owned by a single business or entity—is an ecosystem comprised of people, data, processes, and things connected by the shared use of technologies that

\* Corresponding author

E-mail addresses: [ramiro.montealegre@colorado.edu](mailto:ramiro.montealegre@colorado.edu) (R. Montealegre), [kiyengar@niu.edu](mailto:kiyengar@niu.edu) (K. Iyengar)

go beyond the scope of a single system (Henfridsson & Bygstad, 2013; Yoo; Henfridsson, & Lyytinen, 2010). They provide interfaces with and among multiple groups of actors, including providers of complementary services and assets that enable collaboration and provide mutually beneficial results to all parties involved. Thus, digital business platforms have been referred to as today's most influential changes for companies (de Reuver et al., 2018; Parker et al., 2016; Tan et al., 2015), as they spawn services that are radically changing existent ways of working, disrupting internal ecosystems, and shaping company structures.

Building digital business platforms takes a long time—often spanning decades rather than a few years—and requires substantial financial investments and careful coordination of the standards that define key interfaces and interactions among parties involved. These platforms are also path-dependent. That is, they evolve. Their evolution is not just about the identification of the next service, function, resource set, or technology to be supported, or a one-time project that can be scripted perfectly in advance, but an ongoing, complex, and dynamic process.

In an era of constant change and rapid advances in digital technology (e.g., computing power, data storage, networks), managing the evolution of digital platforms creates unique challenges for executives. What makes this challenge singular is that executives are continuously confronted with contradictory imperatives (Chen, 2017). For example:

- A digital business platform needs to remain stable in order to form a solid foundation for further enrollment, but it also needs to be sufficiently flexible to support seemingly unbounded growth; and
- A digital business platform seeks centralized control (using the platform to standardize, reduce variations, and tie closer the existing processes), but, at the same time, it should enable autonomy for the organization, allowing it to focus on empowering users to improve the platform itself, innovating processes, and conduct experiments for continuous improvements.

Prior research on digital platform evolution has highlighted its complexity, which frequently translates into contradictory imperatives related to goals and priorities as well as demands in terms of what these platforms should do and achieve

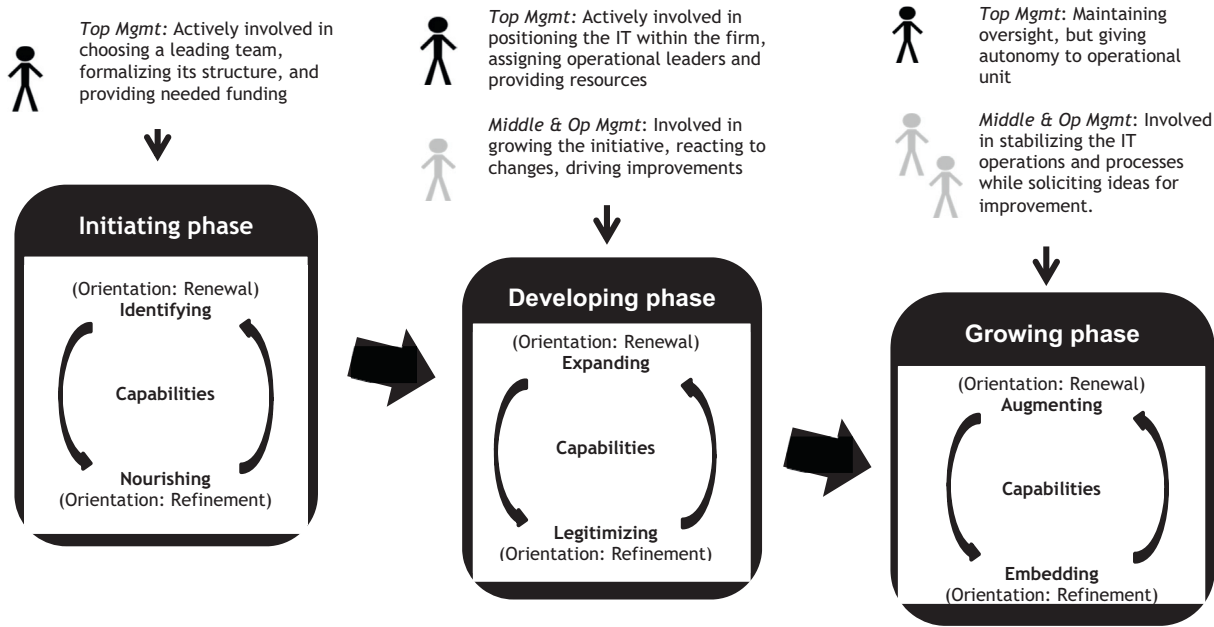
(Jiang et al., 2014; Ribbers; Schoo, 2002; Ribes; Finholt, 2009; Weill & Ross, 2009). Thus, executives need to decide whether to join others in embracing a new digital platform and learn how to keep renewing and refining it over time, all while coming to terms with the contradictory logic of the evolution of these platforms. When an organization exercises too much control over the digital platform, it runs the risk of driving away stakeholders. When an organization does not exercise any control, the platform becomes too varied and fragmented and it becomes less useful for the stakeholders.

Central to managing a digital business platform evolution that is rife with contradictory imperatives is the organization's ability to balance renewal (exploration) and refinement (exploitation) simultaneously over time—what James March (1991) identified as ambidexterity. *Renewal* refers to building new capabilities and includes things captured by experimentation, play, flexibility, discovery, and innovation. *Refinement* refers to leveraging the existing capabilities of the organization and includes efficiency, production, implementation, and execution. Thus, the objective of this article is to provide insights into specific capabilities that can help executives make decisions and take effective actions during a platform evolution. More specifically, we suggest that three pairs of organizational capabilities (i.e., identifying-nourishing, expanding-legitimizing, augmenting-embedding) enable the ambidexterity that allows the organization to attend to renewal and refinement in the evolution of the digital platform. In the face of the near-constant change and innovative pressures in the current business environment, understanding these capabilities is essential. We offer recommendations for executives, including specific managerial practices they can use in evaluating and guiding the balancing act of renewing and refining a digital business platform over time—including initiating, developing, and growing such a platform.

## 2. Evolution of digital business platform: A framework for balancing its renewal and refinement

Drawing on prior research—including digital platforms, contradictory tensions, and organizational ambidexterity—and our own experience investigating digital business platforms in organizations, we develop a framework for understanding ambidexterity in the evolution of such platforms (Figure 1). The framework presents three distinct

Figure 1. Framework for balancing renewal and refinement in the evolution of the digital business platform



phases of a digital platform evolution: initiating, developing, and growing. It is important to recognize the phase since the capabilities pertinent in one phase are not ubiquitous in their effectiveness. The framework recognizes three pairs of key capabilities (identifying-nourishing, expanding-legitimizing, and augmenting-embedding) that contribute to balancing renewal and refinement of a digital platform over time. Next, we detail the three phases of this framework and the associated capabilities enabling renewal and refinement.

### 2.1. Initiating phase

The initiating phase encompasses the activities performed while deciding to introduce a new digital platform in the organization. The emphasis is on learning and identifying the digital platform charter while understanding its strategic potential within the firm and not letting it become a distraction that could drain resources. The first condition during the initiating phase is to have a general awareness of the new platform and its perceived potential impact to solve a business need or opportunity of sufficient proportion to capture the attention of a sponsor group.

During the initiating phase, top management is the driving force behind the technological initiative and is actively involved in identifying and nourishing it while also assessing its drawbacks. This involves seeking out people both inside and

outside the organization who already have experience with the new technology and help articulate the vision. At the same time, top management also needs to build a team with the required competencies, set goals, offer support, nurture resources, and provide motivation through a stretching intent and by pushing people to achieve it and having trust in them.

Having a dedicated corporate team is useful because it enables knowledge to be absorbed at the top of the organization in a unified way, allows the team to manage the nurturing resources close to the locus of change, and shields the team from the rest of the organization. It enables the team to pursue renewal and refinement simultaneously, through activities that involve understanding the characteristics of the technology, assessing potential drawbacks, and reflecting on the needs of the various stakeholders. At the same time, they will also be evaluating existing providers of core and complementary technologies and services as well as planning and steering the charter definition of the new digital platform (Benner & Tushman, 2003).

According to our research, a pair of capabilities is critical in balancing renewal and refinement of the platform in this phase. These capabilities are:

1. Identifying (i.e., the ability to recognize and establish the value of the digital platform to

the firm as well as the potential drawbacks); and

2. Nourishing (i.e., the ability to give the embryonic digital platform protection by providing the resources and support required).

These capabilities create a virtuous cycle as the search for a new digital platform and business opportunities is fostered and new knowledge is shared internally as well as externally to the firm. At the same time, the new digital platform is nurtured and protected during this embryonic phase.

## 2.2. Developing phase

Prompted by an increased understanding of the digital platform potential, the developing phase encompasses expanding its scope and exerting influence over a broad spectrum of the enterprise. In the developing phase, the focus is on advancing the digital platform, typically a prototype or a limited solution, to evaluate its impact on a reduced domain. If the platform begins to yield benefits, potentially valuable innovations are added while its existing functionality is preserved, and leaders are encouraged to expand their efforts.

During this phase, top management plays an important role in managing the transition from a differentiated corporate team to two separate operational units. It is actively involved not only in carefully selecting and assigning the operational leaders for both operational units but also in positioning the digital platform within the firm, facilitating the knowledge and resource flow, and granting subordinates sufficient autonomy to keep the platform evolving.

In the developing phase, the structure supporting the digital platform shifts from the differentiated corporate team to two independent operational units. One of these units is responsible for continued learning and finding creative ways to expand the technology, drive change, and make improvements, while the other focuses on designing effective processes, reacting to operational challenges, and managing the relationships with providers of the core and complementary technologies and services. It can be beneficial to establish independent units configured to pursue either renewal or refinement according to the specific requirements of each unit's task environment. The structural separation creates pragmatic boundaries so that units can focus on renewal or refinement, while protecting them from being

affected by the rest of the organization (Carlile, 2004).

Our research found that a pair of capabilities is critical in balancing renewal and refinement of the platform in the developing phase. These capabilities are:

1. Expanding (i.e., the ability to increase the functionality and extend the use of the digital platform); and
2. Legitimizing (i.e., the ability to give a functional space to the digital platform within the firm and under operational rules and standards).

These capabilities create a virtuous cycle as the digital platform develops further and its scope expands, while at the same time it receives a functional space within the firm's operational rules and standards.

## 2.3. Growing phase

As the digital platform matures and more people become involved, its use begins to fall into patterns. By the growing phase, there is a high consensus about the benefits of the digital platform, and a shared understanding of what it can offer is well disseminated across the organization. Some understanding is ingrained in the platform itself and some is ingrained in the structures, routines, and prescribed practices.

During this phase, top management's role is to maintain oversight. Even though it is not as involved as in previous phases, top management relies on structural mechanisms to create a sense of accountability and track progress and to accommodate the needs of the stakeholders involved. Given the increased complexity arising from the growth of the digital platform and the structural arrangements to support it, middle managers are involved in stabilizing the platform operation and installing reliable processes while simultaneously accommodating stakeholders' competing needs and goals. Furthermore, as the digital platform becomes firmly established in the firm and the fear over whether it will be adopted has dissipated, middle management engages in shared activities and builds teams of operational managers with varied complementary capabilities: tasks complementarities (e.g., defining and assigning clear functional roles for the sub-units), expertise complementarities (e.g., teams made up of members with differing levels of training and experience through their various positions and

**Table 1. Managerial practices that executives can use in evaluating and guiding the evolution of a digital business platform**

Evolution Phase	Supporting Capabilities	Action Items
Initiating	Identifying capability	<ul style="list-style-type: none"> <li>• Identify members of the firm with the required business and technical knowledge to create a task group to investigate further</li> <li>• Assess where the knowledge about similar digital platforms reside inside/outside the company</li> <li>• Absorb new knowledge as a group</li> </ul>
	Nourishing capability	<ul style="list-style-type: none"> <li>• Crystalize the objective of the digital platform</li> <li>• Assess the required technical competence in the company; If not available, establish the plan to get it from outside</li> <li>• Establish the initial funding to support the platform</li> </ul>
Developing	Expanding capability	<ul style="list-style-type: none"> <li>• Analyze how the digital platform initiative can benefit from establishing two independent organizational units, one pursuing renewal and the other pursuing refinement</li> <li>• Define the goal, role, and responsibility of the renewal organizational unit</li> <li>• Encourage people, especially users, to envision improvements to the platform</li> <li>• Examine technologies or services found outside the company can be added to the platform</li> </ul>
	Legitimizing capability	<ul style="list-style-type: none"> <li>• Define the goal, role, and responsibility of the refinement organizational unit</li> <li>• Communicate to the rest of the company that the digital platform is part of the day-to-day operation under operational rules and standards</li> <li>• Examine how to better leverage and co-opt existing technology and services inside or outside the firm</li> <li>• Legitimize and give a functional space to initiatives made by some offices and affiliates to be used by the whole firm</li> <li>• Secure the resources needed to support the day-to-day operation of the digital platform</li> </ul>
Growing	Augmenting capability	<ul style="list-style-type: none"> <li>• Continuously scan the business and technological environment to identify new functionality to be included in the digital platform</li> <li>• Evaluate if the platform is accommodating the needs of the multiple stakeholders involved, and analyze how to augment flexibility by increasing stakeholders' involvement</li> <li>• Establish structural mechanisms—such as cooperation activities transfer of employees, cross-unit committees, creation of companywide resources to support platform upgrades—to leverage the expertise of individuals, continuously keep knowledge circulating, and ensure cross-fertilization between business units</li> </ul>

*(continued on next page)*

Table 1 (continued)

Evolution Phase	Supporting Capabilities	Action Items
	Embedding capability	<ul style="list-style-type: none"> <li>Given the growth of the digital platform complexity, make sure the platform's operation is stable/reliable</li> <li>Invest in stabilizing the digital platform users' base</li> <li>Assess whether the technological infrastructure is appropriate to refine the digital platform</li> <li>Evaluate if the funding model is adequate and stable to firmly embed the digital platform in day-to-day routines</li> </ul>

roles), and social complementarities (e.g., arising from the different skills and personalities of the team members). These complementarities help increase the variety of skills required to provide the flexibility necessary to explore different ways of delivering the digital platform more efficiently and to drive value. At the same time, they also provide more stability for the operation of the platform, facilitate cooperation, support efficient decision-making processes, and focus everyone on common objectives.

No business unit in an organization has all the internal capabilities necessary to manage a successful digital platform, especially when it is making rapid technological advances. This creates a demand for specific knowledge and resources from other business units. In the growing phase, the structural arrangement (two separate operational business units) that led the digital platform in the developing phase naturally outgrows its ability to only use employees from those units to interpret, integrate, and engage in coherent renewal and refinement activities. Cooperating in technology activities, transferring employees between departments, creating company-wide funding to support the digital platform, and establishing cross-unit committees are examples of structural mechanisms that leverage the expertise of individuals, keep knowledge circulating continuously, and ensure cross-fertilization between business units. These strategies also help keep the platform from becoming inflexible and outdated and help managers to consider how the future can or may be different from the past.

Based on our research, the pair of capabilities critical to balancing renewal and refinement of the platform in this phase are:

1. Augmenting (i.e., the ability to make the digital platform produce better results while increasing stakeholders' involvement); and

2. Embedding (i.e., the ability to fix the digital platform deeply within the firm and making it an integral part of operations).

These capabilities create a virtuous cycle to keep the digital platform fresh and support new value while embedding the digital platform even further within the firm and making it an integral part of the firm's operations.

### 3. How executives can foster the capabilities needed in each of the three phases

Our research reveals the importance of understanding the broader contexts in which digital business platforms are developed and managing the capabilities that help to balance renewal and refinement activities at each phase of a platform evolution, instead of thinking about ambidexterity as a one-approach-fits-all fix (Kunisch et al., 2019). Thus, based on our framework for balancing renewal and refinement, we offer recommendations for executives, including specific managerial practices for fostering the capabilities that enable the ambidexterity needed at each phase of the digital platform evolution. We illustrate these recommendations by following the experience of RE/MAX—a leading global real estate franchise firm—and its effort to establish a digital business platform, MainStreet, to support its associates. These recommendations, together with the pertinent actions, are included in Table 1.

#### 3.1. Recommendations for the initiating phase

In the initiating phase, executives need to foster the ability to recognize and establish the value of the digital platform to the firm as well as the

potential drawback. Critical renewal-oriented activities during this phase include:

- Identifying members of the company with complementary knowledge;
- Assessing the relevant knowledge needed about the platform; and
- Absorbing new knowledge as a group.

At RE/MAX in early 1998, several brokers and agents raised the idea of creating a digital business platform. Although they perceived its potential benefits, RE/MAX lacked the expertise and technical infrastructure to support it. Dave Liniger, RE/MAX founder and CEO, worried that such an investment would be a cash drain for the company and an attention diversion for associates, but he agreed to look into it. Liniger followed through by asking his director of IT, Bruce Benham, and the manager of the IT User Support group, Kristi Graning, to examine the possibilities. As one RE/MAX officer recalled: "Liniger chose his early explorations and members of the team carefully, knowing how critical it was to get accurate scouting reports of the terrain ahead." Rather than just jumping onto the internet bandwagon, this team began investigating the competitive situation and assessing the technology's business value for the firm. They flew around the country over the next few months, attended meetings as a team, shared ideas, assessed challenges, and set adoption objectives. The corporate team met every day for several months to work on this initiative specifically. It became a large part of a few people's jobs, instead of a small part of many people's jobs. The team became a forum that examined digital infrastructure characteristics, reflected on the needs of associates, assessed existing practices and cross-functional processes and systems, and planned for the new initiative. Top management did not begin with a grand plan of where RE/MAX was heading when the decision was made to investigate the potential of using the internet within the firm. The corporate team articulated and described the immediate steps that were manageable, and it was this articulation that set a force into action (Oliver, 1997).

In this initiating phase, executives also need to advance the firm's ability to give the embryonic digital platform protection by providing the support needed (i.e., nourishing capability). They need to seize and develop its potential to meet a particular business need while avoiding draining resources in supporting it. Critical refining-

oriented activities in this phase include crystalizing the objective of the digital platform, assessing the required technological competence, and establishing the initial funding to support the platform. At RE/MAX, as an understanding of the technology increased and the existing resource constraints became clearer, the corporate team realized that it would require far more resources than the firm could provide. The stretch—the mismatch between resources, expertise, and aspirations—was a crucial problem faced by this team in protecting the embryonic digital platform. Given that the firm did not have all the skills and expertise required to set up the digital platform, it had to acquire them through outsourcing.

### 3.2. Recommendations for the developing phase

In the developing phase, executives should nurture the ability to increase the functionality and extend the use of the digital platform. Critical renewal-oriented activities in this phase include those that relate to analyzing how this digital platform initiative can benefit from establishing two independent organizational units, one that pursues renewal and another that pursue refinement. The unit pursuing renewal should focus on gaining new insights and recognizing complementary technologies and services from inside and outside the firm. At RE/MAX, two separate units were created and each reported to corporate IT: the eBusiness unit and IT department. The eBusiness unit focused on technological renewal activities to better support agents and brokers. During this phase, this unit infused innovations from outside partners and service providers by expanding MainStreet. MainStreet added the following services: breaking news, company information, online discussion threads, chat areas, and a library for documents, forms, and training materials. The eBusiness unit devoted an important part of its planning to evaluating initiatives developed at different affiliates so that the unit could improve MainStreet.

In this phase, it is important to ensure the digital platform becomes a formal part of the firm's day-to-day work and its operational rules and standards. Critical refinement-oriented activities include:

- Defining the goal, role, and responsibility of the refinement organizational unit;
- Communicating to the rest of the organization that the digital platform is part of day-to-day operations;

- Leveraging and co-opting technology from inside and outside the firm to expand the platform;
- Legitimizing initiatives made by some offices and affiliates to be used by the whole firm; and
- Securing funding to support the development of the platform.

At RE/MAX, the IT department—which was engaged in exploitative activities—became responsible for overseeing application development, systems administration, business analytics, quality assurance, network operations, infrastructure, data center operations, network security, and desktop support. This department made MainStreet the hub of RE/MAX's existing IT applications aimed at supporting the productivity of its agents. For example, in December 2006, the company integrated RE/MAX Design Center into MainStreet, legitimizing an IT application that was originally developed at three of its affiliates: RE/MAX of New Jersey, California, and Hawaii. This service offered a full suite of online marketing tools available exclusively through RE/MAX MainStreet. During this phase, headquarters provided the funding needed to develop the digital platform.

### 3.3. Recommendations for the growing phase

In this phase, since the digital platform is entrenched in the organization, executives must foster the ability to keep growing the functionality of the digital platform to produce even better results and involve key individuals, especially those with various stakes in the platform's continued success. Critical renewal-oriented activities in this phase include:

- Scanning the environment to identify new functionality to be included in the digital platform;
- Evaluating if the platform is accommodating the needs of the multiple stakeholders involved; and
- Establishing structural mechanisms—such as cooperation activities transfer of employees, cross-unit committees, creation of companywide resources to support platform upgrades—to leverage the expertise of individuals, continuously keep knowledge circulating, and ensure cross-fertilization between business units.

These activities facilitate the circulation of new knowledge, produce better results, and extract further value from the platform. By augmenting the sources of relevant knowledge and fostering collaboration and better understanding, organizations ultimately strengthen and fuel the growth of their digital platform (Henfridsson & Bygstad, 2013). At RE/MAX, recognizing the strategic importance of MainStreet for RE/MAX and its associates, top management created a VP of Emerging Technologies position responsible for identifying and exploring new long-term IT trends. The executive that took that position explained:

Twice a year there is a formal process in which ideas are solicited from both within and outside the company. These suggestions help identify disruptive technologies, new business models, and attractive new markets. This effort typically results in several hundreds of ideas... These are scrutinized and reduced and small teams are formed to do a more detailed strategic analysis. Based on these findings, I will then begin to socialize promising ideas among senior executives and broker owners, to determine acceptance. Once ideas have passed this test, we will do a dive to properly understand the market opportunity.

At the same time, in the growing phase, executives need to promote the ability to embed the digital platform deeply within the firm and make sure it is an integral part of operations. The focus of the refining-oriented activities is on making sure the platform's operation is stable and reliable, investing in stabilizing the digital platform users' base, and assessing whether the technological infrastructure is appropriate to refine the digital platform. The consequence of a positive feedback loop provided by these actions is that the rate of assimilation increases (Bikhchandani et al., 1992). To further integrate the digital platform and the business, it is critical during this phase to stabilize the business model, including the sources of funding to sustain and grow the digital platform (Teece et al., 1997).

At RE/MAX, as MainStreet became more complex, top management decided that it was to be financed by the franchisees as part of the RE/MAX's national advertising fund. This created an economic incentive for the IT-focused staff at RE/MAX. This scheme was also helpful in securing financial support even during the downturn in the real estate industry. Top management at RE/MAX recognized that MainStreet needed to be managed

in-house in order for the platform to grow further, become integrated with other company operations, improve the efficiency of business operations, and maintain a strong connection with its associates. RE/MAX contracted external consultants to help insource the development, operation, and maintenance of MainStreet. It also selected and acquired a specialized technology and business model to provide MainStreet services in-house.

#### 4. Summary

Given today's dramatic and rapid advancements in digital technology (e.g., computing power, data storage, and networks), organizations face the challenge of interconnecting system collectives rather than stand-alone information systems. The importance of digital business platforms will only increase (Subramaniam et al., 2019; Zhu & Iansiti, 2019). Firms can now design and control multiple digital technologies or subsystems using the same tools that in the past would have required different tools. Nearly every business environment today is pressuring firms to at least consider adopting a digital business platform. Executives must prepare their organizations to recognize the value of digital business platforms, yet just jumping on a digital platform's bandwagon without understanding the unique circumstances of the firm is irresponsible and risky.

In this article, we provide insights that can help executives prepare to continuously balance the renewal and refinement of their digital business platform over time. The role of executives is to (1) understand the phases of the evolution of the platforms and (2) act according to these phases as organizational capability catalysts. The framework advanced here underpin the organizational capabilities that enable balancing renewal and refinement of the platform over time. It reveals the importance of understanding the broader context and managing organizational capabilities that contribute to ambidexterity at each phase of its evolution. Our research-based recommendations (see Table 1), together with the framework, can help executives in anticipating, adjusting, or evaluating the evolution of a digital platform during its initiating, developing, and growing phases.

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