Digital Business Strategies and the Duality of IT

Sunil Mithas and Ritu Agarwal, University of Maryland
Hugh Courtney, Northeastern University

It’s becoming increasingly important for companies to have a digital business strategy, given the current global information economy. Yet what drives these strategies and how they differ from more conventional ones remain a mystery for most managers.

The Duality of IT

There’s a duality to IT that creates dilemmas for business leaders. This duality, manifest in the following five forms, gives IT the power to reshape the strategic agenda of organizations.

First, IT enables both sustaining and disruptive innovation. Thus, a key strategic issue for digital business strategists is deciding whether to leverage IT to attempt to shape their environment, or to use IT to adapt to the environment instead. At the same time, IT advances facilitate horizontal aggregation, so investments in IT infrastructure can be leveraged across multiple product lines, geographic markets, and customer segments. In other words, IT has tended to drive both disaggregation (especially throughout the vertical value chain) and aggregation (especially horizontally) at the same time. The choice facing digital business strategists then is how best to exploit IT capabilities to both “aggregate” and “disaggregate” the firm.

Second, IT often creates new opportunities to fundamentally reshape markets while at the same time enabling faster and more efficient adaptation. Thus, a key strategic issue for digital business strategists is deciding whether to make the first move in leveraging IT-enabled opportunities or to be a fast follower, free riding on the pioneering costs and risks borne by the first mover. Note that this strategic issue is related to, but distinct from, the issue of deciding whether to shape or adapt to the environment, because a “shaper” doesn’t have to be a first mover.

Fourth, IT advances have dramatically reduced transaction costs and the economics of organizing business activities, pointing to a need to rethink conventional transaction costs and other “theory of the firm” concepts in strategic management. In particular, IT lets firms monitor partners and collaborate virtually, driving vertical disaggregation in many industries. At the same time, IT advances facilitate horizontal aggregation, so investments in IT infrastructure can be leveraged across multiple product lines, geographic markets, and customer segments. In other words, IT has tended to drive both disaggregation (especially throughout the vertical value chain) and aggregation (especially horizontally) at the same time. The choice facing digital business strategists then is how best to exploit IT capabilities to both “aggregate” and “disaggregate” the firm.

Finally, the rapid pace of IT-enabled change overall creates immense uncertainty for business strategists while providing powerful new tools and data sources to better understand that uncertainty and the range and relative likelihood of alternative outcomes.

A digital business strategy should help determine how to manage these five elements of duality by outlining plans for exploiting the strengths of IT, mitigating its threats, and using digital uncertainty as a competitive advantage.

Dealing with Digital Uncertainty

Although uncertainty can be viewed from many perspectives (in terms of regulatory requirements, customer preferences, the competition,
and technological advances) and at multiple levels (firm, industry, economy, and so on), our focus here is on digital uncertainty arising from two main forces: the actions of firms and their competitors, and the emergence of new technologies. This doesn’t imply that other sources of uncertainty are irrelevant. However, the space for digital moves and uncertainties within a firm’s control has significantly expanded with the increased privatization of business and globalization of economies, without attendant changes in the firm’s strategic approaches.

Conventional approaches to strategy, including some of the more recent ones, treat environmental factors such as digital uncertainty as exogenous forces. IT challenges this assumption, because firms can use IT to proactively shape the environment in their favor, as manifest in the actions of Amazon.com in the book retailing industry and Netflix in the movie rental industry. Firms that exploit IT can use it as a lever to create digital “eddies” or “turbulence” in their competitive environment, thereby benefiting from that turbulence by throwing their competitors in disarray. Conversely, firms that understand the dynamics of such digital moves are better prepared to deal with new sources of digital uncertainty than those who react to such digital uncertainties reflexively. Management of digital uncertainty is likely to assume even more importance as such uncertainties become ubiquitous due to growing IT investments and the digitization of products, services, and business processes.

**Key Components of a Digital Business Strategy**

A digital business strategy differs from conventional business strategies in at least four ways.

**Thrive on Digital Uncertainty**

With a conventional business strategy, firms often react to or accept competitive uncertainty as given. A digital business strategy is about using digital uncertainty to your advantage. Smart strategists don’t take the levels of residual digital uncertainties as given and immutable. They recognize that entrants and incumbents can manage uncertainty to their advantage through appropriate investments in digital infrastructure and technologies.

For example, when MIT and Harvard entered the online education certificate market with their edX venture, they created significant uncertainty for both traditional online powers, such as the University of Phoenix, and the elite universities that compete with MIT and Harvard for traditional students and faculty. The impact of the edX venture, on one level, created new uncertainty for all players as it fundamentally reshaped the competitive dynamics in higher education. At the same time, the venture lifted the long-term prospects of the entire market, because it represented one of the first major moves in the online space by traditional university powerhouses.

**Focus on a New Game**

The conventional business strategy is to effectively play the current game in a “red ocean” of known markets. The digital business strategy, however, is about creating a new game or “a blue ocean.”

It’s about anticipating and creating the future and imagining new competitive moves, while conventional strategy tools tend to focus more on competitive positions in existing industry spaces, or based on current products and offerings. Consider Amazon.com, which started as a pure online book retailer in 1994 but has continually morphed its business model, making strategic forays into music, video, electronics, kitchen items, and cloud computing server space.

**Continuously Search for New Sources of Competitive Advantage**

While the conventional business strategy is about leveraging current sources of competitive advantage, a digital business strategy should define new sources of competitive advantage using information-based strategies. In doing so, it turns conventional sources of competitive advantage into sources of liability for competitors. Amazon.com made the physical assets of book retailers—such as large bookstores and ownership of an impressive physical inventory of books—strategically irrelevant and even a liability by substituting information for inventories. Consequently, Amazon’s virtual inventory was significantly larger than that of any single store of its competitors.

**Pursue Multiple Goals Simultaneously**

The conventional strategy is to make relatively rigid commitments to a few big bets that are revisited infrequently, but the digital business strategy is about developing dynamic capabilities in real time, often through multiple simultaneous IT-enabled experiments. A digital business strategy focuses on the development of operational, improvisational, and dynamic capabilities (such as customer-, process-, and performance-management capabilities). Often these capabilities require significant investments in IT infrastructure to pursue ambidextrous strategies that allow firms to focus on seemingly conflicting goals at the same time.
(such as revenue growth versus cost reduction).

The good news is that such investments are profitable and value-adding for firms, and research shows that investments in IT are more attractive from a profitability perspective than investments in R&D or advertising. Companies with a digital business strategy conduct multiple experiments to learn about their customers and retain the ability to change course at short notice. These dynamic capabilities and the associated flexibility helps companies avoid committing to just one or two options.

IT thus opens up new possibilities while letting a company continue its pursuit of other possibilities that were part of the conventional business strategy and its toolkit.

**Practical Implications**

Managers must understand the duality inherent in IT before they can choose an appropriate digital business strategy. They need to start questioning their conventional-strategy concepts and toolkits, which focus on tradeoffs without recognizing that IT can, at times, help overcome the tradeoffs altogether. For example, IT can help firms pursue both revenue growth and cost reduction, or higher quality and lower costs—things that a purist approach to conventional strategy might not consider.

The notion of a digital business strategy also has implications for the role of corporate boards in discharging their responsibility—as a steward to ensure that the firm is held accountable not only for its acts of commission but also for acts of omission such as moving too late in the digital space, as Blockbuster might have done. Recent failures at Yahoo (to vet the CEO’s resume), MF Global (to account for hundreds of millions of dollars that went missing), and JP Morgan (to avoid losing billions of dollars in bad bets) suggest there’s significant room for improvement in governance in top echelons of decision-making structures. In all three cases, the boards might be faulted for not demanding the information necessary to properly understand the companies’ risks, make key hiring decisions, and fully perform their fiduciary duties.

Companies also need to incorporate a bottom-up perspective in strategy formulation by using more sophisticated tools, such as prediction markets. Such tools might help guard against the temptation to rely too much on executive judgment, which can be limited in breadth or simply off the mark. To illustrate, consider Jeff Bezos, who has made many astute digital strategic moves, yet remarked in a 2006 interview, “I guarantee that five years from now, no one will want to be a social-networking company.”

The role of IT in transforming societies and business has significant implications for how senior managers need to approach their business strategy and management of IT resources. Confronting the duality, managers must understand how digital business strategy differs from conventional business strategy to proactively shape and manage digital uncertainty.

**References**


**Sunil Mithas** is an associate professor in the Robert H. Smith School of Business at the University of Maryland and a member of IT Professional’s editorial board. His research focuses on the strategic management and impact of information technology resources. He is the author of *Digital Intelligence: What Every Smart Manager Must Have for Success in an Information Age* (Pine-planet, 2012). Contact him at smithas@rhsmith.umd.edu.

**Ritu Agarwal** is the Dean’s Professor of Information Systems in the Robert H. Smith School of Business, University of Maryland. Her research interests include IT-enabled transformations in healthcare and other sectors, the impact of IT on organizations, and IT in organization design. Contact her at ragarwal@rhsmith.umd.edu.

**Hugh Courtney** is professor and dean of the College of Business Administration at Northeastern University. His research interests include strategy and competitive dynamics in uncertain environments. Contact him at h.courtney@neu.edu.