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The best response to digital disruption

By Jacques Bughin and Nicolas van Zeebroeck

Companies that adopt bold offensive strategies in the face of industry digitization will come out the winners, write Jacques Bughin and Nicolas van Zeebroeck in *MIT Sloan Management Review*.

The imperative of digital transformation is an insistent buzz in the ears of managers everywhere, in virtually every industry, even the most unexpected.

Consider the business of funeral homes. Few industries are more sensitive, more personal, and more in need of a human touch than the business of arranging funeral services for a loved one. But a study of funeral providers in Berlin, Germany, describes what happened when impersonal yet less expensive options crept up on this market.[1] Aggressive digital entrants overturned a long-held nonaggression pact between traditional funeral homes and unleashed an unprecedented wave of competition in the late 1990s. Discount online providers used search engine optimization to build dominant market positions, leaving incumbents with little choice but to respond by going online themselves to compete against both digital entrants and each other on pricing — rather than on reputation and relationships.

Few executives would argue that digitization's disruptive influence is growing — and growing rapidly. But surprisingly little empirical evidence has captured either the magnitude of digital disruption or how incumbents are reacting on a broad scale.

Leaders know they have a problem — and know they must react to that problem — but they have little guidance to determine the right course of action.

In a bid to help address the gap, McKinsey & Co. undertook a global survey of C-suite executives to capture how digitization unfolds across industries and how incumbents are responding. (See "About the Research," p. 82.) With some notable and important exceptions, the answer is: "Not well." Among the insights that emerged from the survey:

- Across countries, digitization has a significant negative impact on the profits of incumbents through two loop effects: digital entrants competing with incumbents through disruptive models, and incumbents responding to disruption and creating more intense competition with each other.
- These two loop effects suggest that organizations should go on the offensive: A successful digital strategy built on a scale larger than that of the rest of the industry yields the largest returns and may offset the full competitive impact of digitization.
- Our research further suggests companies should consider at least two dimensions when devising the type of bold reactions needed to compete: (1) concentrating on new customer segments rather than exclusively on current customers, and (2) focusing on new ways to resegment the market, instead of relying solely on cost cutting and labor saving through automation.

Few companies are responding appropriately to digital disruption, according to our findings. While 90% of companies indicated that they are engaged in some form of digitization, only 16% said their companies have responded with a bold strategy and at scale. Likewise, only 30% of companies are focusing on new ways to bundle demand or resegment their market. The good news is if your company has yet to fully and adequately engage with digital disruption or has begun going down a path that is not yielding positive results, it's not alone. Thus, leaders in most industries still have a window for putting a bold digital strategy in place. But it may not stay open long.

Two loops of disruption

Digitization is a multidimensional concept. It can manifest as automation in the supply chain; a new distribution or customer engagement platform; a virtualized or dematerialized product; or a strategic shift from product-based to service-based offerings. Taking all these developments into account, our survey indicates that on average 35% of companies' revenues worldwide are digitized.

Full digitization for incumbents on any particular dimension, however, remains exceptional: For instance, only 5% of respondents perceive their product as fundamentally digital, and only 6% reported that all their major business processes are highly digitized.

Given the relatively nascent stages of digitization these figures indicate, some leaders may assume that they have plenty of time to get their digital acts together — or that they can proceed cautiously. That assumption is dangerous. New digital entrants have already seized a significant share of revenue across regions and industries — 17% on average, according to our findings, leaving only 83% to the incumbents.

Successful new entrants pose dual threats: They pull industries in new digital directions while gaining a huge head start in reaping the benefits from the new models they are creating. This forces incumbents into a race to catch up. While digital entrants hold 17% of total global revenue, they have 47% of digital revenue. Indeed, in some more digitized sectors, digital entrants already have the upper hand. In the telecommunications sector, entrants command 56% of the digitized portion of the market. In financial services, the split is 50-50.

The first loop: Digital entrants challenge incumbents

Digitally enabled entrants are creating new competitive dynamics that threaten the bottom lines of incumbents — and doing so with great speed. Consider that 18 months after the introduction of the Google Maps Navigation app for smartphones in 2009, as much as 85% of the market capitalization of the top makers of stand-alone GPS devices had evaporated.[2]

Or consider the banking industry, which faces threats from multiple digital entrants. For example, in China, Alibaba Group Holdings Ltd., China's e-commerce giant, became the country's biggest seller of money market funds in just seven months.[3] In

October 2016, Facebook Inc. obtained a license from the Central Bank of Ireland that enables the social media company to issue e-money and provide payment services such as credit transfers to customers in all 28 European Union member states.[4] Likewise, Google Inc.'s Gmail service now lets users send money as an email attachment.

Even when the effects are not as profound as in the examples above, the dynamic hurts. Attackers don't simply take market share — they also often put pressure on price, alter customer behavior, and change how value is distributed among industry players.

To estimate the impact of digital entrants, we used multiple econometric equations that linked company growth with digitization and corrected for incumbents' responses. We found that globally, digital disruption is shaving 30% off incumbent revenue growth and 25% off growth in earnings before interest and taxes (EBIT).

While digital entrants boost the size of an industry by increasing latent demand by roughly 0.5% a year, they also aggressively steal share from incumbents via new business models, roughly displacing 2 points of year-on-year growth on average. Further, digital entrants challenge the level of competitiveness in an industry, depleting revenue yield per unit sold by 2% a year. At first glance, the price effect may appear modest, but it directly affects the margins of incumbent companies. With a profit rate of 10%, a 2% drop represents a 20% reduction in profitability.

We find that the more digitally advanced an industry is, the larger the negative impact on incumbents that don't act.[5] In the high-tech sector, for instance, we observed that the negative impact on the revenue growth trajectory of incumbents that do not respond to digital disruption is four times the average found across sectors. The impact in retail and transport is 50% higher than the average. In contrast, in manufacturing, the effect is only 60% of the average.

Our analysis further suggests that digital disruption hurts slower-growing companies the most. The bottom 25% of companies in terms of growth are experiencing three times greater reduction in annual revenue at the hands of digital disruption than the top quartile.

The second loop: Beware the red queen

While most executives intuitively understand the pain inflicted on incumbents by digital entrants in the first loop of digitization, the second loop — how legacy companies react to each other — can hurt just as much. In fact, we contend that incumbent responses to digital disruption can trigger "Red Queen" competition[6] in which legacy companies engage in aggressive imitation — first in response to digital entrants and then in response to one another — in a self-reinforcing process. (This kind of competition is named for the Red Queen, a character in Lewis Carroll's Through the Looking-Glass, who engages in a foot race in which competitors run hard just to stay in the same place.)

For a prototypical example of Red Queen competition, consider the digital tit-for-tat that has permeated the battle between United Parcel Service Inc. and FedEx Corp. for the overnight package-delivery market. Over the years, when one of the two companies launched a digital innovation such as handheld devices for delivery information, online parcel tracking, or a complete web shipping service, the other added a similar feature not long thereafter. As the competitors responded to moves with countermoves, innovation increasingly gave way to imitation.[7]

Now, think again about how online entrants have forced changes in the way traditional funeral homes market and sell their services. Such changes in competitive behavior are prevalent in many industries. In financial services, for example, as mobile banking made significant inroads and set a new standard and price level for payment services, incumbent banks had to react by reducing or eliminating fees. Following the entry of multiple financial technology startups, Deutsche Bank AG launched an advertising campaign in Belgium comparing banks to supermarkets, asking "What would happen if your supermarket behaved like your bank does?" The ad shows a cashier charging customers not only for their purchases but also for printing the receipt, for using the conveyor belt, and for not having a loyalty card. The spot concludes: "You wouldn't accept unnecessary charges from your supermarket. Why accept them from your bank? Switch now to Deutschebank.be." When effective changes by the competition put other incumbents in reactive mode, the pressure to follow suit with revenue-reducing moves can be immense.

The automotive industry offers another illustration. As online entrants such as Zipcar, BlaBlaCar, and Uber Technologies Inc. introduced new business models based on car sharing, auto manufacturers took notice and started investing in similar ventures, considerably expanding the reach and credibility of this emerging part of the market. In 2008, Daimler AG tested a car-sharing service called car2go with its employees in

Ulm, Germany. By the end of 2016, the service, now available to the wider public, was operating more than 14,000 vehicles across 30 cities in Europe, the United States, and China. In 2011, BMW Group partnered with Sixt AG to launch a similar service called DriveNow (introduced as ReachNow in the United States in 2016). In October 2016, BMW's digital platform had about 4,000 BMW and Mini vehicles in operation across 12 cities and was already reported to be profitable.[8] In December 2016, Volkswagen Group announced the creation of MOIA, a new Volkswagen company that will develop mobility services.

Earlier last year, General Motors Co. launched a similar initiative called Maven, and Paris-based PSA Group named its own mobility car-sharing service Free2Move. Meanwhile, Ford Motor Co. purchased San Francisco based shuttle-van startup Chariot Transit Inc. for a reported price of about $65 million. The proliferation of digital ventures launched by incumbents increases the competitive pressure on emerging mobility models and compromises their profitability. In an attempt to gain economies of scale, Daimler and BMW are said to be investigating the potential merger of their respective initiatives, car2go and DriveNow.[9]

Incumbents need to be careful when they find themselves in Red Queen competition, as the effect is substantial. In our econometric research, we estimated the total effect of digital disruption on company growth trajectories and then assessed the share of the depressive effect attributable to the first and second loops respectively. The results indicated that the two loops contribute more or less equally to the erosion of incumbents' revenue and profit margins. Digital new entrants and Red Queen competitors each shave some 30% off revenue and profit growth of incumbents on average across industries, compared with the picture of a world without digitization.

Bold responses required

Our research suggests that the average company has reacted poorly to both loops of digital disruption. Measuring reactions to digitization on two dimensions, we find that the average company has neither sufficiently adapted its corporate strategy to address the new realities of competition nor engaged in a digital transformation at scale.

Two-thirds of the executives in our survey said their companies have not made any fundamental changes to their corporate strategy, while only one in five companies has engaged in a significant transformation of its business portfolio. Moreover, our survey

finds that even among companies engaging in a digital strategy, few are doing it in alignment with their broader business and corporate strategies. Only 25% of C-suite executives said their companies have fully integrated their digital and corporate strategies.

We divided company responses to digital disruption into four categories: weak, medium, semi-bold, and bold. Each company has been assigned to one of these categories according to the intensity of its strategic response (from "no or ad hoc responses" to "changes to the long-term corporate strategy") and level of investments in digital technology relative to its competitors (from "significantly underinvesting" to "significantly overinvesting").

Of the companies in our sample, 22% have made a weak response and 28% a medium response. Thirty-four percent have adopted what we characterize as a semi-bold response by adopting either a bold strategy or by overinvesting in digital. The remaining 16% of companies surveyed have developed what we label a bold digital strategy at scale.

Taking both the intensity of the response and the degree of integration into account, we find that barely 8% have both responded offensively and integrated their digital strategy fully into the corporate strategy. This is a huge missed opportunity: Our analysis suggests that only a successful response that is both bold and integrated fully can yield revenue and profit trajectories that are higher post-digitization than pre-digitization.

To understand why requires us to go back to the logic of the two loops. Any reaction to digital pressure is likely to be matched by Red Queen competition of the same magnitude. That means companies need to act more boldly than the average incumbent if they wish to outperform their industry. And the reaction must be more than simply bold: It should be appropriate in the face of digital entrants. Because digital entry is usually disruptive, the incumbent must also be disruptive — and quickly — to both limit the loss of competitive ground against digital newcomers and take advantage of other incumbents that are slow to respond.

We arrived at this conclusion by assessing the impact on revenue from different strategic reactions. In doing so, three clear messages emerged:

Incumbent companies are usually better off reacting than not reacting. Digital initiatives tend to exploit latent demand in an industry, creating a positive market expansion effect. For example, people may spend more time watching videos or listening to music because online delivery is more accessible, or they may be more likely to buy an extra product online because the seller recommends it based on previous purchases. However, this benefit from digital initiatives is compensated for by the depressive effect of the two loops, and, as a result, the net effect of digital reactions tends to be very modest overall.

On average, bold, at-scale responses pay off twice as much as semi-bold reactions and three times as much as medium reactions. There is some variation by industry, but it is not dramatic. In telecom and high tech, for instance, bold, at-scale reactions have 2.5 times greater payoff than medium reactions. In manufacturing, it is 2.2 times greater, and in retail and media, it is 1.9 times greater. Given that we estimated a medium reaction is worth 1.5 points of EBIT growth a year and about 2 points in revenue growth per year, the effect of a successful bold, at-scale move is roughly 4.5 points in EBIT and 6 points in revenue — the same positive payoff as the original negative impact of digital entry.

To do better than just break even on digital disruption, companies must also integrate digital strategy into their corporate strategy. Companies whose responses met our criteria for being both bold and integrated produced 3 to 4 points more annual revenue growth and the same EBIT growth as before digitization.

Three Opportunities

Our research finds that only a small minority of companies are successfully undertaking a digital transformation consistent with a bold corporate strategy. But among these companies, three clear tactics emerge:

1. Develop new customer segments. It is a prerequisite for success that companies focus on developing new customer segments rather than just defending existing business lines through cost cutting, automation, or service improvements for existing customers. Medialaan NV, a leading free-toair video broadcaster in Belgium, spotted the inevitable shift in video consumption by youngsters to platforms such as Netflix or YouTube. In a bold response, Medialaan bought Mobile Vikings, a mobile virtual operator with attractive data plans. The strategy: Transform itself into the leading

online social video platform for Flemish teenagers. Medialaan not only has diversified its revenue base to include data plans but also has been able to reengage with a lost segment — the teens — and now advertises its television programs to them more effectively. It is one of the few traditional broadcast companies to grow its TV audience in the youth segment.

2. Introduce new business models. Innovative companies are experimenting with business models intended to disrupt their own legacy strategies. Earlier this century, Schibsted Media Group of Oslo, Norway, observed something that most media companies saw in their newspaper businesses: Print classified advertising was beginning to dry up. Rather than sit idly and witness the erosion of one of its most important revenue streams, Schibsted pulled the rug right out from under its own feet by moving its entire classified business to a free online marketplace. Today, more than 80% of the group's earnings come from commissions on sales from its consumer e-commerce platform.[10]

3. Redefine the value chain. When digital entrants started threatening its payment services business, Commonwealth Bank of Australia (CBA) chose to face the disrupters head-on. Instead of focusing exclusively on payment services, it developed Pi, an open payments platform that hosts an ecosystem of applications and devices for merchants. The platform is open to third-party developers, and the bank developed for itself an Android-based point-of-sales terminal called Albert, which is fully integrated with the Pi payments platform. Equipped with a card reader and an integrated printer, Albert can be extended with dedicated apps, enabling it to do much more than process payments. Among the first adopters was Earthling Investments Pty. Ltd. of North Adelaide, South Australia, owner of wholesale fuel distributor Mogas Regional Pty. Ltd., also based in North Adelaide. The company is using Albert at its fuel stations to process customer transactions, manage their payments, and receive sales data faster.[11] Although the platform and its ecosystem contribute to the disruption of the traditional banking valueadd chain, it also positions CBA to compete with digital entrants. Similarly, while the mortgage side of the banking business is being disrupted by online search and home-financing platforms, CBA updated its digital value chain through an augmented-reality app that gives customers the ability to read a property's sales history and community information by pointing their iPhone camera at the residence. When they have found a property that they wish to buy, users can then file a loan application directly in the app, thus positioning CBA strongly against digital and incumbent competitors alike.

Digital disruption is unavoidable, and companies need to react. Those that do not — or that do so in a half-hearted way — are likely to take a major hit on revenue and profits. Those that respond boldly, at scale, and in a way that is fully embedded in their corporate strategy will be positioned to steal revenue and profits from the laggards and emerge from disruption with higher trajectories in both areas.

About the research

McKinsey & Co. recently launched a major survey of C-suite executives on the topic of digitization. The survey captured responses from 2,000 traditional companies in more than 60 countries, from an original panel of more than 15,000 companies. The panel is maintained externally for McKinsey by London-based research company Kantar TNS. It is confidential, with an easy opt-out option to ensure the quality of responses. Survey questions covered companies' growth in revenue and earnings before interest and taxes (EBIT); return on investment from digital initiatives; share of revenue linked to digitization and digital capabilities captured in absolute terms and versus the competition; executives' perceptions of digital disruption; the focus of digital strategy; the scale of digital investment; digital capabilities; the organization of digital strategy; typical organizational challenges; and the degree of management support.[i] This new research leverages this data set to formally analyze the link between the performance of companies, their digital transformation programs, and the dynamics of reaction among companies following digitization. It uses a battery of econometric tests, including fixed effects and instrumental regression techniques, to inform how incumbents should best respond to digitization forces.[ii]

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1. M. Wenzel, D. Wagner, H.-T. Wagner, and J. Koch, "Digitization and Path Disruption: An Examination in the Funeral Industry," European Conference on Information Systems 2015 completed research papers, Paper 199, http://aisel.aisnet.org/ecis2015_cr/199/.
2. L. Downes and P. Nunes, "Big Bang Disruption: Strategy in the Age of Devastating Innovation" (New York: Portfolio, 2014), pp. 16-18.
3. W. Busch and J.P. Moreno, "Banks' New Competitors: Starbucks, Google, and Alibaba," *Harvard Business Review*, Feb. 20, 2014, www.hbr.org.
4. S. O'Hear, "Facebook Just Secured an E-Money License in Ireland, Paving the Way for Messenger Payments in Europe," TechCrunch, Dec. 7, 2016, www.techcrunch.com.

5. The negative impact on incumbents increases as digitization spreads and deepens. This digital intensity factor was identified by Andrew McAfee and Erik Brynjolfsson of MIT in 2008. See A. McAfee and E. Brynjolfsson, "Investing in the IT That Makes a Competitive Difference," Harvard Business Review 86, no. 7 (July-August 2008): 98-107.
6. A similarly named scientific hypothesis ("the Red Queen hypothesis") was put forth in 1973 by Leigh Van Valen to propose an explanation for biological evolution and extinction of species. See L. Van Valen, "A New Evolutionary Law," Evolutionary Theory 1 (1973): 1-30. The Red Queen concept was subsequently applied to organizational strategy by William P. Barnett and Morten T. Hansen. See W.P. Barnett and M.T. Hansen, "The Red Queen in Organizational Evolution," Strategic Management Journal 17, issue S1 (summer 1996): 139-157.
7. A. Dutta, H. Lee, and M. Yasai-Ardekani, "Digital Systems and Competitive Responsiveness: The Dynamics of IT Business Value," Information & Management 51, no. 6 (September 2014): 762-773.
8. D. Guilford, "BMW's DriveNow Is Profitable Now," Automotive News, Oct. 3, 2016, autonews.com.
9. "Daimler, BMW Aim to Merge Their Carsharing Services: Manager Magazin," Reuters, Dec. 15, 2016, www.reuters.com.
10. C. Bradley and C. O'Toole, "An Incumbent's Guide to Digital Disruption," McKinsey Quarterly, May 2016, www.mckinsey.com.
11. B. Connolly, "CBA to Shake Up Payments With 'Albert' Launch," CIO, March 31, 2015, www.cio.com.au.
12. J. Bughin, L. LaBerge, and A. Mellbye, "The Case for Digital Reinvention," McKinsey Quarterly, February 2017, www.mckinsey.com.
13. J. Bughin and N. van Zeebroeck, "The Case for Offensive Strategies in Response to Digital Disruption," Université libre de Bruxelles, iCite working paper number WP021-2017, www.solvay.edu/sites/upload/files/WP021-2017.pdf.

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