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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.<sup>1</sup> 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 (see “About the Research”) to capture how digitization unfolds across industries and how incumbents are responding. With some notable and important exceptions, the answer is: “Not well.”

## About the Research

McKinsey & Co. recently launched a major survey on digitization of C-suite executives around the globe, capturing 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' revenue and earnings before interest and taxes (EBIT) growth; return on investment from digital initiatives; share of revenue linked to digitization and digital capabilities captured in absolute terms and versus the competition; companies' 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. <sup>i</sup> This new research leverages this dataset to formally analyze the link between the performance of companies, their digital-transformational 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 be responding to digitization forces. <sup>ii</sup>

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 digital strategy built on a larger scale than 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 re-segment 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 that 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 re-segment 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 the right digital strategy in place. But it will not stay open long.

## The Two-Loop Disruption of Digitization

Digitization is a multidimensional concept. It can manifest as an automated 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.<sup>2</sup> 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 business processes are fully 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. This assumption is mistaken. In less than a decade, 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.

New entrants are dangerous dual threats: They pull industries into 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 “only” 17% of total global revenue, they own 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: Incumbents Feel the Hurt of Digital Entrants

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 navigation apps for smartphones in 2007, 85% of the market capitalization of the top makers of stand-alone GPS devices had evaporated.<sup>3</sup> Alibaba Group Holdings Ltd., China's e-commerce giant, built a loan portfolio of \$16 billion in less than three years and became China's biggest seller of money market funds in just seven months.<sup>4</sup> In the United Kingdom, the share of mortgage lending commanded by digital players outside the top six U.K. mortgage lenders jumped from 17% in 2011 to 29% only two years later.

And the threats just keep piling up: For example, 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.<sup>5</sup> Likewise, Google Inc.'s Gmail service now lets users request and send money to anyone 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 adequately for

incumbents' responses. We found that globally, digital disruption is shaving 30% off incumbent revenue growth and 25% off the growth in earnings before interest and taxes (EBIT).

The advantage of econometrics is that it can sort out multiple effects. 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. 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.<sup>6</sup> 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 — digital Darwinism is fact. The bottom 25% of companies based on 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<sup>7</sup> 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.

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. UPS had lagged behind FedEx in its use of IT when it made a large investment in 1989 to pioneer the use of handheld devices for delivery acquisition. FedEx introduced its own version in 1993 and brought online parcel tracking to the market the following year. Six months later, UPS did the same. Similarly, when UPS launched a complete web shipping service, FedEx introduced a copycat within a year. As the competitors responded to moves with countermoves, innovation increasingly gave way to imitation.<sup>8</sup>

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 food bill but also for renting the shopping cart, 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 on Deutschebank.be.” When effective changes by the competition put other incumbents in reactionary mode, the pressure to follow suit with revenue-reducing moves can be immense.

The automotive industry offers another showcase. As online entrants such as Zipcar, BlaBlaCar, and Uber Technologies 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 for its employees called car2go 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.<sup>9</sup> In December 2016, Volkswagen Group announced the creation of its 13th brand, called MOIA, which will host VW’s own mobility services. Its first initiative will be an Uber-like service that will launch in Moscow in partnership with an Israeli startup called Gett Inc. Earlier last year, General Motors Co. launched a

similar initiative called Maven, and French PSA Group named its own mobility car-sharing service Free2Move. Meanwhile, Ford Motor Co. purchased a San Francisco-based shuttle-van startup Chariot Transit Inc. for \$65 million. The proliferation of digital ventures launched by incumbents increases the competitive pressure on emerging mobility models and compromises their profitability. To that end, Daimler and BMW are said to be investigating the potential merger of their respective initiatives, car2go and DriveNow, in an attempt to attain economies of scale.<sup>10</sup>

Incumbents clearly 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 showed 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 a world without digitization.

## Bold Responses Required

Our research indicates 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 companies in our survey said they have not made any fundamental changes to their corporate strategy, while only one in five has engaged in a significant transformation of their business portfolios. Moreover, our survey finds that even among companies that are engaging in a digital strategy, few are doing it in alignment with their broader business and corporate strategies. Only 25% of companies said they 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 had developed what we labeled as 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 bold *and* integrated response ensures that revenue and profit trajectories will be 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 must 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 incomers 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 always better off reacting than not reacting.** Digital initiatives tend to exploit latent demand in any 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 by the depressive effect of the two loops and, as a result, the net effect of digital reactions tends to be very modest overall — and insufficient to restore growth.
- **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 bold, at-scale move is roughly 4.5 points in EBIT and 6 points in revenue — exactly 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 for Going on the Offensive

Our research finds that only a small minority of companies are successfully undertaking a digital transformation consistent with a bold, offensive 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 defending existing business lines through cost-cutting, automation, or service improvements for existing customers. Medialaan NV, a leading free-to-air video broadcaster in Belgium, spotted the inevitable shift in video consumption by youngsters to over-the-top 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
- 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. In some countries such as France, Schibsted's online marketplace is larger than the original online attacker, eBay Inc. <sup>11</sup>
- 3. Redefine the value chain.** When digital entrants started threatening its payment services business, Commonwealth Bank of Australia (CBA) chose to face the disruptors 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 early adopters is 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.<sup>12</sup> Although the platform and its ecosystem contribute to the disruption of the traditional banking value-add 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 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.

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