CONCLUSION

Seeing Abundant Ecosystem Opportunities Amidst Scarce Resources

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The most successful businesses of the past made the best use of capital, talent, time, attention, and other scarce resources to deliver superior customer value. The most successful ones of the future, too, will use these scarce resources judiciously. However, they will not let their thinking be hemmed in by these real resource constraints. Instead, their leaders will change the rules of the game.

Consider the example of Amazon.com. In the early 1990s, before Amazon's launch, general merchandise retail chains believed they had to match Walmart's super-efficient supply chain and purchasing clout to rival its everyday low pricing, product assortment, and product availability. Lacking sufficient capital, talent, time, and other resources, many retailers tried, only to give up and fold.

But in competing against Walmart, Amazon played a different game. It began by taking orders only online in 1995, for items that most general merchandise chains lacked depth in

assortment (books), and eventually by having limitless products available (the 'shelf space' of its website is infinitely expandable).

Amazon changed the rules. It played a different retail game. By taking orders on its website, it showed it didn't need stores to get customers. Access to customers was no longer scarce, and not limited by the capital required to spread stores across the country. In fact, customer access was abundant (through the Web). So was shelf space; it was infinite. Amazon eventually added other products to its book line, becoming 'the everything store,' as Brad Stone referred to it in his biography on the company[111]. And in its early years Amazon even minimized inventory. After a customer ordered a book on Amazon's website, the company would receive it from the publisher or another entity, and then put it in its building before sending it to that customer. Thus, at first, Amazon did not have to make huge investments in warehouses. Those would come later.

Companies such as Amazon, Google, and Facebook changed the game about how companies in an industry could operate in a digital world. They did so by believing their opportunities were abundant, and that the traditional constraints of capital, talent, and time would be less important—if they changed the rules of competition and tapped into the digital ecosystems that have been emerging rapidly since the turn of the century.

[111] "The Everything Store," by Brad Stone, published by Little Brown. Accessed Aug. 21, 2019.
https://www.littlebrown.com/titles/brad-stone/the-everything-store/9780316219259/

These companies didn't allow those scarce resources to narrow their thinking about what customers truly valued and how they could deliver that value. Facebook and Google, for example, believed they could dominate the world of online advertising—even without the publishing, broadcasting, and other expensive content that the media world thought was necessary to capture consumers' 'eyeballs' and marketers' ads. For Facebook and Google, the users of their services would provide the content—for free.

The need to spend heavily on media content to attract advertisers was the old media playbook. In the new digital media playbook that Google, Facebook, and other online powerhouses have written, spending scarce capital on creating content was no longer relevant in the new media digital ecosystem. That capital could go elsewhere.

Digital Ecosystems Are Where the Opportunities Can Be Found

Amazon, Facebook, and Google took advantage of a digital ecosystem backbone that emerged in the early 1990s—the World Wide Web. Without the web, these companies wouldn't exist. Every large company today has similar opportunities to redefine how they create value for customers, and for which customers they create that value. The opportunities to build blockbuster enterprises are abundant.

But, those companies must think about their opportunities in the new context of digital ecosystems. If they don't actively participate in these digital ecosystems, they won't be able to identify and pursue these abundant opportunities.

To be sure, the resources of capital, talent, time, and attention are still scarce resources. That hasn't changed. There is only so much capital a company can consume before its balance sheet starts weakening. There is only so much talent to go around, especially in now-essential areas for which the supply of expertise greatly trails demand. (Count data science and artificial intelligence in as especially talent-constrained labor markets.) Leaders of every company have limited bandwidth to focus their time and attention. As Peter Drucker once said, "Time is the scarcest resource, and unless it is managed nothing else can be managed."

But leaders of established companies can get around those constraints by playing differently—by tapping into the digital ecosystems in which they play. Some, like Delta Air Lines, are already doing it. Its story is highly instructive.

How Delta Has Tapped into the Aviation Digital Ecosystem

Delta is the world's second-largest airline by revenue ($44 billion). The Atlanta-based company spends about $500 million of its $5 billion annual R&D budget on digital innovation[112]. Flight cancellations—particularly those that are manageable (due to maintenance issues) rather than weather-related—damage customer satisfaction, airlines' reputations, and profits.

After it bought Northwest Airlines in 2008, Delta quickly began seeing a marked increase in flight cancellations from aircraft problems. That spawned customer dissatisfaction. By 2010, Delta had 6,000 flight cancellations due to maintenance problems. Aircrafts that need new parts and must be grounded cost airlines huge amounts of revenue and profit. Trying to solve the aircraft maintenance problem used to require drawing on the scarce resources of capital and infrastructure for market access (i.e., parts warehouses and distribution).

[112] Interview with Delta Air Lines CO Ed Bastian, The Code Conference, June 28, 2019. Accessed July 24, 2019. https://www.vox.com/recode/2019/6/28/18864117/delta-ed-bastian-kara-swisher-jason-del-rey-interview-code-conference-flying-airport-unions-planes

By 2018, that data (and the analytics software that sees patterns in it) had reduced Delta flight cancellations by 99%—to 60.

Delta began creating an internal digital ecosystem of aircraft maintenance to solve the problem. Since then it has been using engine data (generated by digital sensors) to better predict when those engines would need work. By 2018, that data (and the analytics software that sees patterns in it) had reduced Delta flight cancellations by 99%—to 60. "No airline in the world can talk to that in terms of those types of numbers," said CEO Ed Bastian[113]. As Bastian says, "Digital changes the game entirely." The airline's annual profits grew six-fold between 2014 and 2018 (to $3.9 billion), and revenue increased 10%. And Delta's stock price has nearly doubled in just the last two years[114].

But Delta isn't done. It expanded its digital ecosystem in 2018 by becoming the first major U.S. airline to invest in aircraft manufacturer Airbus' digital ecosystem for tracking aircraft performance (Skywise)[115].

Delta sees abundant opportunities for improving aircraft availability and, thus, customer satisfaction. It also sees ways to tap other digital ecosystems and ecosystem partners to make it easier for passengers to navigate through airport terminals with far less hassle, and to coordinate other aspects of the travelers' journey. "We are at a revitalization of the industry," Bastian said. "Our goal is to make travel something that customers don't have to endure, but something that is magical[116]."

[113] Interview with Delta Air Lines CO Ed Bastian, The Code Conference, June 28, 2019. Accessed July 24, 2019. https://www.vox.com/recode/2019/6/28/18864117/delta-ed-bastian-kara-swisher-jason-del-rey-interview-code-conference-flying-airport-unions-planes

[114] MarketWatch statistics. Accessed July 31, 2019. https://www.marketwatch.com/investing/stock/dal/financials

[115] Delta Air Lines web page, Oct. 15, 2018. Accessed Aug. 20, 2019. https://news.delta.com/delta-seeks-100-percent-reliability-predictive-maintenance-technology

[116] Forbes, Jan. 20, 2019. Accessed Aug. 20, 2019. https://www.forbes.com/sites/shephyken/2019/01/20/delta-were-ready-when-you-are/#5d7b2a6853e6

Digital Leaders Think Very Differently About the Future

From their business decisions and their public discussions with shareholders, the press and investment analysts, leaders like Delta CEO Bastian, Facebook CEO Jeff Zuckerberg, and Amazon CEO Jeff Bezos appear to view business in a digital world very differently than many of their peers. They look for inventive ways to work around historical resource constraints.
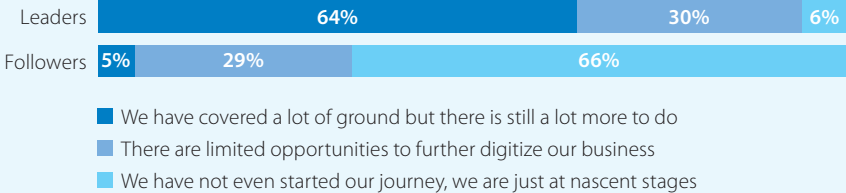
They embrace digital data, analytics, and the digital ecosystem of players that can collaborate to provide competitive advantage.

New TCS research shows that leaders of the more digitally successful companies this decade are far more likely than the least digitally successful firms to see their digital business opportunities over the next decade as abundant. The most digitally successful companies of the more than 1,000 surveyed have lots to brag about. Nearly two-thirds (63%) of their 2018 revenue was from digital businesses, products, or services. In contrast, the digital followers said 38% of their revenue last year was from those sources.

In fact, the digital leaders' optimism about the next decade's digital future is virtually the opposite of the followers' mindset. Some 94% of the digital leaders said either that although their companies had achieved substantial digital success, there was still room to do much more—or that they felt they were still at the beginning stages of their digital transformation, despite accomplishing so much this decade.

The digital followers, by contrast, appear to be constrained by believing that capital, talent, market access, and other scarce resources are squarely in their way. In two-thirds (66%) of them, top management sees limited opportunities to further digitize their businesses. In only 29% did executives view their companies to be at a nascent state of digital change.

Digital Leaders vs. Digital Followers:
How They View Future Opportunities to Digitize the Business

Leaders	64%　　30%　　6%
Followers	5%　29%　66%

■ We have covered a lot of ground but there is still a lot more to do
■ There are limited opportunities to further digitize our business
■ We have not even started our journey, we are just at nascent stages

Figure 23: Leadership Views on Digitizing Business

Only 6% of the digital leaders believe their future digitize opportunities are limited vs. 66% of digital followers. Those are immensely different mindsets about the digital future at the top of these companies.

The vast digital business opportunities of the next decade are available to leaders who believe the abundance of data, computing power, and market access they can get by tapping into digital ecosystems can overcome any deficiencies in capital, talent, and market infrastructure. These leaders also know their companies need to fully connect with other players in the digital ecosystems that will reshape their businesses over the next decade.

Little will stop these leaders from creating the next decade's Amazon, Google, and Facebook. It will be exciting to watch, and help, these leaders change the game.