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Introduction

The Dell company (“Dell”) is a case study in bringing and surviving disruption. Dell’s entry into computer manufacturing disrupted the industry in the 1980s. But Dell almost collapsed when a shift in demand and technology hit the economy in the 1990s and 2010s. Dell learned the hard way how to adapt to changing circumstances. Today, Dell supplies a portfolio of products that bears little resemblance to the one of its origins.

In his book “Play Nice But Win” (“the book”), founder Michael Dell takes us on a journey from his years of early enthusiasm for computer technology to the creation and management of a billion-dollar business.

In this short review, we derive policy insights from the book. We start with an overview of the computer industry when Dell entered, and how its outlook irreversibly changed.¹ We then focus on how Dell managed two waves of technological and market disruption. The book’s perspectives offer good insights into dynamic competition. In our opinion, what helped Dell to survive are “dynamic capabilities”. We close with a few reflections on competition policy in a context of uncertainty and rapidly changing markets.²

The early computer industry and Dell’s disruptive entry

The clock is set in 1952. IBM has developed the industry standard for computers.³ Far from a lazy monopolist, IBM does not rest on its laurels, but is continuously innovating to develop new standards for complementary products and services, such as the System/360 computer and the personal computer.⁴

¹ This section is inspired by Martin Campbell-Kelly and Daniel D. Garcia-Swartz, *From Mainframes to Smartphones: A History of the International Computer Industry* (Harvard University Press 2015).

² At this point, we add a note of caution. Although Dell describes certain failures of his company extensively, one should be aware that this book is written by the founder and CEO of a current public company that will react sensitively to changes in its stock price. Therefore, a cynical reader might say that from time to time, and particularly towards the end, the book reads a bit like a prospectus. In other words, we are confident that it does not contain outright lies, but the light in which the company’s history is presented might be favourably adjusted.

³ Martin Campbell-Kelly and Daniel D. Garcia-Swartz, *From Mainframes to Smartphones: A History of the International Computer Industry* (Harvard University Press 2015), chapter 2.

⁴ *ibid*, chapter 4.

This context leaves a simple choice to IBM competitors: produce compatible computers and compete on price and performance or try to develop incompatible alternatives to IBM's standard.⁵ In other words, competitors could live in IBM's ecosystem or build their own. Household names like Compaq followed the first option.⁶ Other firms, like Apple, adopted the second strategy. In both cases, the early years of the computer industry were marked by competition between highly differentiated products.⁷

Like Compaq, Dell belongs to the first group. In the beginning of the 1980s, Dell's business model consists of customizing and upgrading IBM computers with a mark-up. A core part of its competitive edge comes from distribution: Dell undercuts market prices thanks to delivery via UPS, which means no retailer can add mark-ups along the sales chain.

In the late 1980s, Dell trials a new competitive strategy. Thanks to its first technological breakthrough – the prototyping of Dell's first own PC and the design of its motherboard in 1986 – Dell can now purchase parts directly from Asian manufacturers rather than from American retailers, thereby drastically reducing production costs.⁸

The new strategy is a massive win. Within a year, Dell sells to every possible PC customer, including businesses, government, medical, and educational institutions. But as revenue keeps increasing, Dell's growth in the late 1980s requires more capital to hire, innovate, and cut supply chain costs. Michael Dell decides to take the company public in 1988. The effect is immediate: in 1989, Dell's revenue is 257 million USD. In 1993, Dell's revenue crosses the 2 billion USD mark.

The first challenge: surviving growth

The rapid growth experienced by Dell creates its own challenges. With more than 5,000 employees, Dell struggles to avoid miss-hiring and to maintain a healthy corporate culture: “[W]hen your revenues and profits and stock price are growing, it's easy to lose sight of the greater purpose of what you're doing”.⁹ Besides, Dell trails behind in server products and lags in the market for laptops.¹⁰ While competing PC manufacturers make 20 to 30% of their revenue from notebooks, Dell peaks at 6%. To make matters worse, in 1994, Dell has to recall 17,000 notebooks due to an engineering fault. These setbacks lead Dell to report its first quarterly loss in the same year.

⁵ *ibid.*

⁶ *ibid.*, chapter 7. This option entails purchasing essential components from Microsoft and Intel, and competing with IBM 'clones' on the basis of price and performance.

⁷ *ibid.*, chapter 1.

⁸ Additionally, the company offered better service through free on-site service and support for their computers.

⁹ Michael Dell and James Kaplan, *Play Nice But Win: A CEO's Journey from Founder to Leader* (Portfolio 2021) 234.

¹⁰ Rival Compaq dominates these segments.

Typical of a dynamic capabilities response, Dell overcomes hardship with several changes. Dell ends sales through retailers and refocuses on the direct sales model that explained its initial success. It also opens its own retail website to catch up with the rise of e-commerce. And the company makes sizable investments in R&D to develop more competitive servers and laptops.

The second challenge: surviving market change

The next decade is marked by a bigger wave of technological disruption. Until now, Dell displays a unique business model consisting of direct sales of upgraded and customized computers. This ‘build-to-order’ model has generated fast and significant growth.

But the build-to-order model is becoming obsolete with the emergence of a new era of computing. Consumer demand is shifting from desktop PCs to laptops and tablets, which are more difficult to customize. And customers are favouring integrated solutions that bundle hardware and software.¹¹

The tectonic shifts recall the predictions popularized by Christensen’s famous ‘innovator’s dilemma’.¹² Shifts arising from the low end of the industry catch incumbent Dell unprepared. Dell does not offer hardware and software bundles. Conscious that it lags behind, Dell fills the holes below the waterline with a ‘buy’ (not a ‘build’) strategy. Between 2007 and 2012, Dell acquires several firms that provided data storage, systems management, and clouds, as well as multiple software and IT security companies.

But PC sales keep sinking. And Dell’s attempt to enter the tablet and smartphone market between 2007 and 2012 is a failure. Consumers continue to associate Dell’s brand with PCs. By 2013, Dell’s revenues fall short of expectations by several hundred million dollars. Dell announces a dividend cut from \$2,13 to \$1,70.

For a second time, Michael Dell realizes that the company needs a transformative pivot. The company, however, is public. Stock markets tend to be conservative towards strategic change. In a bold move illustrative of dynamic capabilities, Michael Dell takes the company private. Here’s Dell vision: “[If I] could buy back all the stock, our transformation as a company could proceed without the tyranny, the ever-ticking shot clock, of a quarterly earnings report. Going private would open up the possibility of dramatically accelerating the growth of the company”.¹³ In 2013, Dell shares are no longer on the stock exchange.

¹¹ And, in the cases of the business-to-business market, data centers.

¹² Clayton Christensen, *The Innovator’s Dilemma: When New Technologies Cause Great Firms to Fail* (Harvard Business Review Press 1997).

¹³ Michael Dell and James Kaplan, *Play Nice But Win: A CEO’s Journey from Founder to Leader* (Portfolio 2021) 8.

Detecting dynamic capabilities, or lack thereof

The book is as much a description of a firm lacking dynamic capability as one of a firm leveraging dynamic capability. Dynamic capabilities allow a company to respond quickly to changes in its environment by ‘sensing’ opportunities and threats, ‘seizing’ or countering them, and constantly ‘adapting’ its systems and processes.¹⁴

The book tells a story of missing dynamic capabilities when it pictures Dell trying to improve existing products while industry fundamentals are undergoing a sea change. Instead of developing the tablets and laptops that consumers demand, Dell focuses on extending the battery life of its existing offerings, which is the textbook example of managerial myopia.¹⁵

By contrast, the book recounts a story of living dynamic capabilities when it describes Dell’s financial transformation. Wall Street’s obsession with quarterly dividends rewards short-termism and risk-aversion.¹⁶ This does not sit well with the long-term investments required in technology-intensive industries like computer hardware and software.¹⁷ Michael Dell ‘sensed’ that transforming Dell from a public into a private company would pave the way to a new phase of innovation. More recently, Elon Musk came close to the same extremity when he considered taking Tesla private.¹⁸ His acquisition of Twitter seems to be motivated by similar reasons.

Concretely, privatization enabled Dell to ‘seize’ new commercial, corporate, and R&D opportunities. In the business-to-business market, Dell embraced all-in-one business solutions, including data centres, client systems, security, software systems, storage, servers, and networking. In the consumer-facing market, Dell initiated a wide-ranging process of diversification. Additionally, Dell invested in the transition to providing all-in-one solutions to small businesses.

A case study for competition policy?

The Dell story vividly illustrates the reality of dynamic competition in the computer industry. It describes the terminal risk faced by firms that approach dynamic competition

¹⁴ David J. Teece, Gary Pisano and Amy Shuen, ‘Dynamic Capabilities and Strategic Management’ (1997) 18 *Strategic Management Journal* 509.

¹⁵ Shaker A. Zahra and Sherry S. Chaples, ‘Blind Spots in Competitive Analysis’ (1993) 7(2) *The Academy of Management Executive* 9.

¹⁶ Literature on discounting shows that decisions that yield short-term profits are often preferred over those that lead to long-term profits, even if the long-term profits are bigger, see e.g. Bryan Prest ‘Discounting 101’ (*Resources for the Future*, 16 January 2020) <<https://www.rff.org/publications/explainers/discounting-101/>>.

¹⁷ Richard Gilbert, *Innovation Matters: Competition Policy for the High-Technology Economy* (MIT Press 2020).

¹⁸ Dana Hull, ‘Musk Says His Tweet About Taking Tesla Private Was “Entirely Truthful”’ (*Bloomberg*, 2 February 2022) <<https://www.bloomberg.com/news/articles/2022-02-02/musk-calls-infamous-take-tesla-private-tweet-entirely-truthful>>.

with ordinary capabilities. Several insights about market dynamics are relevant to competition policy.

First, in dynamic markets, incumbency is as much a liability as a source of anticompetitive opportunity. The Dell example shows that a firm with a large market position cannot be sure to sit comfortably at the top of the industry for decades. By relying too much on its established business model, Dell underestimated changes in the competitive environment and evolving consumer preferences. These events take time to materialize. In Dell's case, it took more than a decade to erode Dell's leadership. Sometimes, the discount factor of competition authorities is too high to place confidence in future disruption.¹⁹ But in other cases, like this one, competition authorities might allow themselves to think that competitive dynamics are strong enough to allay hypothetical concerns arising from superficially observable indicators like control of a dominant market share.

Second, in dynamic markets, deep uncertainty is the principle, not the exception. Upshot? As Niels Bohr reportedly quipped: "It's hard to make predictions, especially about the future".²⁰ How should competition law and policymakers react to deep uncertainty is the hard question. On the one hand, risks of lock-in to inferior technology, path dependence, and winner takes all effects advise competition policy intervention.²¹ On the other hand, the (private) costs of errors of commission in complex environments suggest that incumbents will fail to react to strategic uncertainty, counselling against competition policy intervention.²² At any rate, uncertainty demands a humble approach to policymaking, one that acknowledges the limits of prediction.

Third, the Dell story suggests that competition agencies' current 'killer acquisition' paranoia might be an overcorrection. M&A in technology-driven industries are a source of dynamic capabilities creation, not just of competition and innovation destruction. In 2016, Dell acquired EMC/VMWare, a firm specialised in virtualisation. Worth \$67 billion, it was arguably the largest tech acquisitions at the time. Virtualisation allows users to employ two different operating systems on the same physical computer. The EMC/VMWare acquisition allowed Dell to sell integrated IT infrastructure products. Dell clearly saw merger efficiencies: "*Both companies [...] had proven innovation engines; together, we would have more scale, a better supply chain, and most importantly, more commercial customers – giving EMC Dell greater go-to-market reach than any other tech*

¹⁹ Alexandre de Stree and Pierre Larouche, 'Disruptive Innovation and Competition Policy Enforcement' (2015) OECD Working Paper DAF/COMP/GF(2015)7.

²⁰ 'It's Difficult to Make Predictions, Especially About the Future' (*Quote Investigator*, 20 October 2013) <<https://quoteinvestigator.com/2013/10/20/no-predict/>>.

²¹ Nicolas Petit and Thibault Schrepel, 'Complexity-Minded Antitrust' (2022) DCI Working Paper #3, available at <<https://www.dynamiccompetition.com/publications/>>.

²² Drew Fudenberg and David K. Levine, 'Intervention with Limited Information' (2022) 51 *International Journal of Game Theory* 379.

company in the world".²³ Today, the merger is widely considered as a success in terms of value creation. In 2021, VMWare was subject to a spinoff (in perhaps another example of dynamic financial transformation), but both companies continue to cooperate closely.²⁴

Finally, competition policy should equip itself to understand better the process of technological innovation, operational reorganisation, and corporate transformation. Modern competition policy focuses on output, price, and quality, which are static attributes. They can be measured relatively easily. But the dynamics of long-term business change are much harder to apprehend, at least with the tools currently available. The book clearly illustrates the benefits of deep company transformation and a deliberate strategy to engage in dynamic competition. Dell is substantially better off today than a decade ago because its products are more in line with business and private customers' needs and the industry's state of the art. We need new tools in competition policy that allow us to detect *firm-level and firm-specific processes* that are manifest of dynamic capabilities, and that promote socially beneficial dynamic competition. We are not there yet.

²³ Michael Dell and James Kaplan, *Play Nice But Win: A CEO's Journey from Founder to Leader* (Portfolio 2021) 274.

²⁴ Ron Miller and Alex Wilhelm, 'Dell is spinning out VMware in a deal expected to generate over \$9B for the company' (*TechCrunch*, 14 April 2021) <<https://techcrunch.com/2021/04/14/dell-is-spinning-out-vmware-in-a-deal-expected-to-generate-over-9b-for-the-company/>>.