



Exploiting the Flying Wheels between Corporate Resilience and Performance

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iCite Working Paper 2022-052

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Abstract

Andy Grove, then CEO of Intel, concluded that “(...) bad companies are destroyed by crises, great companies are improved by them”^[1], after the company solved the flow bug of its flagship Pentium microprocessor, and went on to redesign its Intel Inside program to dominate the market. More than ever, corporate leaders may also feel the need for resilience, given the broad array of turbulence, but the twist, as Grove said, is that leaders should exploit the complementarities between resilience and performance. This flying wheel is half the journey between turning a bad or great company, we find in our analysis of large corporations during the covid-19 pandemic

1.Introduction

Ask management what her main objective is, -she will say value creation. Strategy scholars have further guided the ideal roadmap to this objective from two extremes. Porter (1980) would describe how management should build mobility barriers around the industry external forces. The resource-based view and its dynamic capabilities extension would further add that long-term performance also requires exploitation of firm-specific assets and capabilities (Hawanini et la, 2003, or Rumelt, 1991; and Teece etl, 1997). Ultimately, value creation is a mix of both perspectives, with scholars settling for the case that firm effects slightly outweigh the ones from the external environment (Esho and Verhoef, 2020).

Profitability value aside, the current flurry of turbulence (*lasting covid-19, the Russian-Ukrainian war, rising inflation along the planet over-heating*) has made management aware of the additional requirement to absorb, and rebound quickly from, major shocks. This mandate is called *resilience* [2], but a challenge not to be overlooked: 20% of corporations typically exit either through bankruptcy or absorption during a crisis (Gulati, et al, 2010). Further, in this research, we find that more than 65% of surviving companies were still struggling to *rebound* to their pre-crisis state of affairs, 18 months into the covid-19 pandemic.

There is to date no robust view of how performance and resilience are related. But the extent to which they are is evidently crucial for managers if they want to better build their

corporation to last and excel. The danger would however be to blend both terms. An example that shows how different they are is when common antecedents may play in opposite directions. For example, a corporation's size often *increases* long-term performance through economies of scale, *but hampers* agility during major crises, limiting resilience (Cheong and Hoang, 2021). During the covid-19 crisis, small restaurant companies were quick to provide home delivery of food and other goods to the neighbors, while large chains were retrenching. Large pharma also got bypassed by agile biotech firms for the quick discovery of a vaccine that would take down Covid³.

Still, finding the flying wheels between how performance and resilience reinforce each other, directly or indirectly,, through common antecedents, will be a great blessing, and a signal that there is no dilemma but an active reinforcing twin mandate of resilience and performance that great management should pursuit during turbulent times. When we have tried to assess those synergies in our research of thousands of large companies, we first have found that resilience and performance share a *common set* of first-order capability drivers: essentially capabilities such as innovation, agility, twin transformation of digitization and sustainability, as well as ecosystem play. Consider innovation: scholars have proven many times that radical innovation builds long-term performance (Rubera and Kirca, 2012). Yet innovation often hinges upon innovative problem-solving capabilities that become very handy for resilience when crises hit (Hamel and Valikangas, 2003).

Equally important, and independently of capabilities, resilience and performance may directly *complement each other* , e.g. firms may have learn new tricks during resilience, that will help a bounce forward and increase long-term performance trajectory , -exactly as how Intel, after the 1984 FDIV flow incident, installed new process to engage its customers

through co-creation of processors, helping them to improve quality and limit use case default, in turn locking the market in their favor to help secure a *lasting and strong* corporation. The opposite is also true, that previous performance eases the resilience journey: in fact, profit persistence is an established fact and a direct consequence of the ability of firms to sustain rents. One may thus anticipate that extra rents build organizational slack and control over ecosystems, that may help firms to retrench or persevere until crisis weakens.

Taking together, those “flying wheels” we find, go to explain *almost half the difference between good and bad performers* in a period of turbulent times like the covid-19 pandemic. But those flying wheels are currently only fully exploited by 20% of companies in our sample. This calls for managers to better work on the twin objectives of resilience and performance. After all, Andy Grove may have understood that “a good crisis should not be wasted”.

2. Performance and resilience during the pandemic: the empirical evidence

2.1. About the research

The full research was designed to analyze performance and resilience during the pandemic of large global companies worldwide (revenue above \$5 billion) (Bughin et al., 2021). The sample was stratified to be representative of industry mix in core countries such as US, UK, France, Germany, or China. The final sample includes 4100 top management respondents (one per firm) and answers are GDP-weighted to reflect the importance of economic activity by country.

The online research and its questionnaire were developed by Accenture Research by the end of 2020 and included about 50 questions regarding capabilities and actions of

companies to cope with covid-19, as well as their profit trajectory and strategy priorities outside of the pandemic. Given the survey method, risks of bias exist. To limit noisy answers, respondents were allowed to skip questions they felt not competent to answer, so the final sample is 2950 respondents. Tests of common variance have not identified a risk of common answers bias.^[4]

Our research had to list a set of first-order capability drivers that can be of high relevance for either or both performance and resilience. Based on scholar works' meta-analysis, we selected five: innovation, agility, ecosystem play, digital and sustainability maturity. Following the earthquake in Christchurch, Battisti and Deakins (2017) show that *agility* and *ecosystem* play were critical to restore performance. In their study of SMBs in the case of covid-19, Dyduch et al. (2021) conclude that resilient and performing SMBs were combining financing, the *ability to innovate*, extensive *agility*, and the *ability to use modern technology/IT systems*. Cheema-Fox et al. (2020) and Pastor et al. (2020) conclude that investors are preferring corporate stocks of more sustainable companies. Ollagnier et al. (2021) have coined the term of *twin transformation*, of the capability of a firm to leverage digitization to accelerate the use of *sustainability* practices, as a resilient strategy during covid-19

2.2. Resilience and performance in numbers

The corporation in our sample had generated above 7 USD billion revenue by 2019, had grown at 5,5% a year in the last 3 years pre-covid, for an operating margin of 7,1%. Profit is path-dependent, with 40% of profit spilling over the next year, or in line with meta-research on profit persistence (Hirsch,2018).

Major turbulence such as the pandemic may make companies dramatically deviate from this profitability path and recovering the same level of profitability as before major crises takes time, at least around 18-24 months (Barnichon, et al. 2018). The most notable group of large companies making up the US S&P 500 has reached the pre-covid earnings 16 months later by July 2021. When we examine the answers from our sample, the crisis, and associated lockdowns, have led the average firm to *lose half of its operating profit* in the first six months of the pandemic. Only one out of five has recovered the same level of pre-crisis profit after one year, and 30% has reached back the same profit level 18 months after the crisis.

But the main challenge of a crisis is to *fill* for the missed growth opportunities during the crisis. This often takes *a multiple of the time* it takes to be resilient, as this requires a corporation to use the crisis for reinvention of a more profitable growth. Previous crises had shown that only one publicly quoted company out of 10 had managed to fill the gap after 3 years (Gulati et al., 2010). Macro-economically, the post 2008 crisis has only closed the GDP activity gap after 10 years (Barnichon, et al. 2018).

Our sample shows that 70% of resilient corporations, -thus 21% of the total sample- would be able to fill the gap in 2 years post resilience by the end of 2023. On the contrary, only 9% of the non-resilient firms, or 6% of the total firms, would manage to erase the stigma of the crisis by the same time. Otherwise stated, crisis is building a major performance bifurcation, between resilient and non-resilient firms

2.3. First-order capabilities

We find that on average, corporations are poorly exploiting the first order capabilities that could support both resilience and/ or performance. Only 40% has a high metabolism of

actions and flexibility to cope with the pandemic. 27% of firms had scaled up sustainable plans, such as green energy transition; half has invested in cloud automation and AI at scale, and innovation budget is overwhelmingly biased towards incremental (as opposed to radical) innovation. Resilient and performing companies seem to have invested more in those capabilities.

3. Uncovering the flying wheel between resilience and performance: the statistical evidence

To get more substance into how resilience and performance relate to each other, we resort to estimate a model of performance dynamics, where, for each industry and region, the corporate profit by end of 2021 is driven by profit before crisis (so that we have a view of profit trajectory), as well as by its extent of exploitation of each first-order capabilities, -but controlling whether the firm has been resilient or not. In turn the later is driven by same set of capabilities, a perception of the crisis shape (that proxies the posture of actions during the crisis), and controlling for past profit [\[5\]](#). The estimation has led to the following insights.

1. **Best companies exploit a wide range of *capabilities* to drive *both resilience as well as performance*.** Consider the case of Walgreens[\[6\]](#), a drugstore brand before covid -19. It used the pandemic to expand its offering on grocery and personal care that remained in demand during the crisis. Walgreens further innovated in its own grocery products, repositioned its brand as more “well-being” oriented, and used digital expertise to expand its online platform. It also has built an

ecosystem of partnerships, e.g., delivery with Postmates, to ensure profitable execution of its expansion strategy. As another case example, Schneider Electric^[7] has been focusing on ecosystem activities and twin transformation. Two years before the covid-19 stroke, the company had launched its digital IOT platform, with Senseye, and had been launching an AI-based digital retail energy forecasting service in partnership with Danfoss. With covid, Schneider has doubled down on those platforms, capturing the increased need for more sustainable living during lockdown and post-covid, and working experiences for faster and more accurate merchandising traceability ^[8].

2. Capabilities, albeit with different weights, improve performance as well as resilience. The dynamic capabilities framework has originally been developed to explain long-term performance, but right so, in the context of turbulent times (Teece et al.1997); in fact we found that dynamic capabilities explain twice more about difference in resilience than in performance during the pandemic crisis across sectors. Agility is essentially more, (but not exclusively) relevant for resilience, while ecosystem, increasingly for performance^[9]. As an example of the former, mobile application stores like Apple or Google Play actively recruited games, health, and fitness apps during covid, which more than compensated for the drop in mobility apps. While the mix re-equilibrated post covid, both stores have managed to boost global app revenues by more than 20% higher than pre-covid, through an active shift to more sticky subscription apps, and to business applications.

3. Innovation is the casebook of capabilities affecting *jointly* performance and resilience, especially when innovation is systematic, even disruptive.

Consider a company such as LVMH, whose story is rooted in innovation led by its

portfolio of 70 brands. Louis Vuitton organized a hackathon as a world first in the luxury industry. Guerlain imagined the first ever personalized lipstick case and digital radio for perfume lovers. The brand Sephora had deployed an Innovation Lab, while launching the e-commerce platform 24S, in partnership with Zalando during the pandemic crisis. When the crisis hit, LVMH was the first to convert its perfume factory to produce hand sanitizer for French health facilities in a matter of days, and dramatically expanded its digital offering to support the continuity of its operations, while expanding its innovation awards through webcast ceremonies (Dovbischuk, 2022). Meanwhile, LVMH also recentered its brands to exploit time under lockdown to further boost innovations in most of its units, leading to notably high successful products, such as the *1854* canvas and The Lady Dior bag in Leather; in Perfumes: the Fenty Skin, developed with Rihanna, or still in Jewelry, the Bulgari's Serpenti Viper launch. As a result, LVMH doubled its annual revenue growth in 2021 compared to pre-covid, and its profit was 70% higher last year than in 2019, leading LVMH to more than fill the performance gap due to the crisis less than 18 months into the pandemic.

4. **Digitization is an enabler.** One is fully aware of how digitization has supported resilience during covid, as digitization has been a substitute to direct human social exchanges. But digitization, while a table stake, is not *enough to differentiate long term*. Digitization must be strategic, by capturing new growth options enabled by new business models (Van Zeebroeck et al, 2021).

5. **On top of capabilities, corporate performance and resilience act as complement.** Our study reveals that, outside the loop of capabilities, profit pre-covid boosts resilience, while, in turn, resilience supports performance. Being more

performant pre-covid, at *same* capabilities, makes it 15% more likely to be resilient 18 months after the pandemic hit. For instance, large, better profitable, food companies had exploited slack in terms of financial capacity, robust logistics and terms of cooperation in supply chains to better mitigate shock impacts in the food industry (Merkle et al., 2021). Regarding the second loop, resilience often has built new learning, such as employee collaboration, new methods of work, etc, that have been of additional value beyond capabilities studied for higher performing forward.

Putting those complementarities (common capability and loops resilience-performance) together, generates an important flying wheel, *explaining 50% of* the difference between a high and low performer. In fact, taking the pro-forma company of USD 7 billion pre-covid revenue for an operating profit of 550 million USD, the flying wheel alone explains 220 million of post covid 2021 profit difference between the top and bottom 25% of the firms.

4. Conclusions and Managerial implications

Resilience and performance, while related concepts, should not be confused, as the risk is also to miss how they complement each other for the best future of a corporation. Their complementarity has two sources, a common source of first order capabilities such as innovation, or twin transformation, and a strategic complementarity where past performance helps alleviate the adverse effects of the crisis, and resilience may build new strengths for firms to exploit to bounce forward, and beyond their past established value trajectories.

Those findings have also clear managerial implications. First, firms need to go beyond tracing performance (however excellent) to include resilience. Firms need to do this especially when they sense that major risks may make them largely exposed.

Second, they need to excel on the capabilities such as agility, innovation, etc. as those are supporting long-term performance, while also being of direct help if firms need to test resilience under major risky situations.

In general, best performing firms tend to exploit the capabilities broadly, as they may also support each other. Digitization helps support the scalability of ecosystems, and successful innovations in terms of business models; agility allows to reallocate resources and to support more disruptive innovations, and orchestrate ecosystems, etc. Managers must do a quick diagnostic of how skilled they are in those capabilities and close the gap.

Finally, companies should recognize that each ingredient may carry a different strategy premium according to industry context. In automotive, the dominant play is now about the development of a mobility ecosystem around sustainability. Utilities are to catch up on digitization and pivot towards much stronger sustainability practices.

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^[1] [Pentium FDIV: The processor bug that shook the world | TechRadar](#)

^[2] In management, resilience is term borrowed at the intersection of engineering, psychotherapy and social psychology (Ruttner, 1990). Hollnagel and others (2006) were some of the first to synthesize the concept for engineering.

^[3] They however used their distribution scale to partner with biotech firms and get a share of the market

^[4] We also checked whether survey responses were representative at aggregate level. For example, about 1/3 of companies were not expected to be returning profit in our sample by sept 2021, - in line with World Bank that less than half of companies should be profit making from the impact of covid-19 in 2020.

^[5] In practice, this is based on the following reduced form of operating profit: (1) $Profit_{2021} = a + b \cdot Profit_{2019} + (d \cdot RI) \cdot Profit_{2019} + e \cdot CAP + (f \cdot RI) \cdot CAP + j \cdot E + u$, where u is a random term, a is a constant, all Greek letters are to be estimated, E is a vector of controls (we use firm size, main industry and region), and CAP is a vector of the five capabilities drivers discussed here before. RI is the predicted value of resilience, $R = 1$ (0

otherwise) if the firm is resilient. RI is instrumented by how the firm anticipates the shape of its industry recovery as either (V, U, W, L) shape. $d > 0$ means that past performance leads to resilience, while $f > 0$ means resilience drives performance; $e=f$ means that drivers have the same impact. Equation (1) was estimated with additional firm control, such as size, organizational status, headquarters location, etc.

^[6] [Drugstore disruption: CVS, Walgreens and Rite Aid have a new playbook \(cnbc.com\)](#)

^[7] [Exchange: Energy Management & Automation Digital Platform | By Schneider Electric \(se.com\)](#)

^[8] The actual link between resilience and performance is industry dependent. For example, innovation is the main factor for resilience and long-term performance in automotive, as innovation disruption reflects the current strategic shift towards electric and connected vehicles in automotive. But innovations by OEMs, e.g. by providing online MVPs of new car models during covid, helped companies to anticipate a production load during covid times, and not to shut down.

^[9] Ecosystem play has become more pervasive during the pandemic because digitization has enabled the creation of business models like platforms that exploit loose ties among firms, see Björkdahl, (2020).



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