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# What is next for Korea after initial success in containing COVID-19 crisis

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In this article, we analyze the success of Korean government's immediate responses and make recommendations for Korean companies to leverage the crisis as an opportunity and fully utilize their potential.

**Executive Summary**

**Problem**
The Korean government has managed to respond swiftly and effectively to control and limit as much as possible the immediate effects of the COVID-19 crisis. Meanwhile, Korean companies' mid-to-long term strategy to survive and thrive post COVID-19 remains unclear.

**Why it happens?**
A key success factor in Korea's immediate crisis response is national consensus and the populace accepting responsibility to take actions early. The government also provided guidance on the required selective changes for the economy in the aftermath. However, Korean businesses' short executive tenure, lack of collaboration and over-reliance on component imports make them vulnerable and hinder their full potential.

**Why it happens?**
While the scale and scope of COVID-19 are unprecedented, some of the required selective changes for Korean economy such as digitization and supply chain restructuring should already start earlier. Korean government and businesses should learn from other countries on how to foster collaboration in the business community and leveraging Industry 4.0 to accelerate these necessary and overdue transformations.

The Korean government reacted swiftly to COVID-19 with massive efforts in testing, contact tracing and implementing quarantine policies to bring down infection rates rapidly. For the economy, the Korean government also provided short-term reliefs through subsidies and other financial assistance and announced the Korean New Deal for the post-COVID-19 era. However, there is room for improvement on digitalization and supply chain restructuring for Korean businesses to emerge viably post-crisis.

## Korea's concerted efforts to contain COVID-19 illustrate national consensus and commitment

Similar to individual crisis management, the first factor that enables a nation to emerge from a crisis successfully is an early nationwide acknowledgement that the country is in one [1]. The story of how Korea contained COVID-19 illustrates well how different players in society cooperate to achieve a common goal under the coordination of the government.

At its peak, 3 430 cases were identified with 32 deaths on 2 March 2020. However, the number of confirmed COVID-19 cases was halved within two weeks. While COVID-19 infection cases have soared in other countries by the thousands daily, South Korea had COVID-19 under control. South Korea is one of the few countries which managed to flatten the curve of new infections in such a short period.

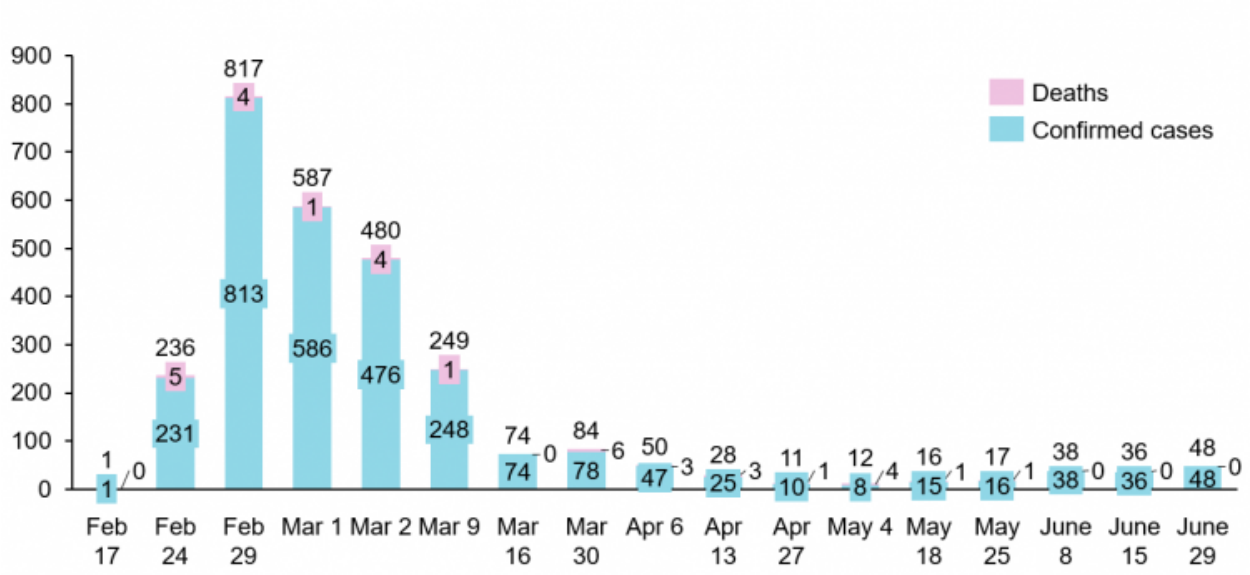



Figure 1. Number of daily confirmed COVID-19 cases in South Korea [2].

The South Korean government reacted swiftly with transparency by reporting every case confirmed, quarantined, released from quarantine, and deceased. They also implemented an extensive screening strategy supported with a rapid testing method and a mandatory 14-day-quarantine policy for all incoming travelers. South Korea's capability to test, track, and manage infected people has become a role model to battle COVID-19 outbreaks.[3] Korean companies cooperated with the government quite well, turning to remote working to prevent further infection right after the outbreak. For instance, SK Telecom was the earliest Korean company to implement remote working, which continued for 40 days. Furthermore, Korean citizens voluntarily started social distancing, wore masks, and locked themselves at home during weekends even before the government announced social distancing on 22 March 2020. The transparent communication strategy helped create a national consensus on the urgency to act while the seamless collaboration of the government, companies, and citizens helped Korean win the COVID-19 battle.

**Korean government leads the nation viably through the crisis with both subsidies and structural changes**

In addition to rapid responses to contain the spread of the virus, the Korean government also

took responsibility to respond quickly to foster businesses' resilience in the short and mid-term, especially for small and medium enterprises (SMEs). According to the Korean Federation of SMEs, Korean SMEs were struggling throughout Q1 2020, particularly in the service and import/export sectors with 61.1% of SMEs impacted, 42.1% expected to be out of business in 3 months and 70.1% in 6 months out of 407 SMEs surveyed as of late March 2020.[4] The government responded with support both in the form of supplementary budgets for affected businesses, households, as well as policy adjustments.

According to the IMF, the Korean government passed three supplementary budgets from March to July 2020, totaling an increase of more than 40TKRW, equivalent to almost 29BEUR. In addition to more funds needed for disease control, the additional budget is distributed to help companies keep employees on payroll, support households especially young people for housing and financing needs as well as to the development of digital and green industries.[4]

An overview of policy responses to support SMEs gathered by the OECD shows that the most widely used instruments in response to the pandemic are income and profit tax deferrals, loan guarantees, direct lending to SMEs, and wage subsidies which bring immediate reliefs in the short to mid-term. However, the Korean government did not provide income and profit tax deferrals to SMEs while supporting loan guarantees and wage subsidiaries. In addition, they introduced the broadest structural support to spur the development of new market, digitalization, innovation, and capability development. This policy choice, in our opinion, is more beneficial for the economy in the long run with more lasting impact.

| | Labor | | | Deferral | | | | | Financial instruments | | | Structural policies | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (Partial) redundancies | Wage subsidies | Self-employed | Income/ corporate tax | Value Added Tax (VAT) | Social security and pension contributions | Rent/utilities/ local tax | Debt moratorium | Loan guarantees | Direct lending to SMEs | Grants and subsidies | New markets | Teleworking/ digitalization | Innovation | Training and redeployment |
| Korea | | ✓ | ✓ | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| China | | ✓ | | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | ✓ |
| Vietnam | | | | ✓ | | | ✓ | | | | | | | | |
| Japan | | ✓ | | ✓ | | | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |

Figure 2. Overview of SME policy responses in response to COVID-19 in selected countries (OECD) [4].

## Korean New Deal manifests the government's vision to spur Korea's next leap forward post-crisis

According to Jared Diamond (2019), implementing selective changes, separating what needs to stay and what needs to change to adjust a nation's conditions to the new circumstances post-crisis is one of the most important mechanisms for a country to emerge stronger after a crisis. In the Korean COVID-19 story, that choice is manifested with the "Korean New Deal" announced by the government on 14 July 2020, a development policy package that goes beyond temporary financial reliefs.

The Korean New Deal is a national development program focusing on supporting digitalization with data infrastructure, artificial intelligence (AI), and cybersecurity, as well as promoting the green economy sector for climate change response. Korean government plans

to layout 114TKRW, or 81BEUR, until 2025 for New Deal projects in addition to another 45TKRW, or 32BEUR, invested by local provincial and municipal governments.[5] The selective change that underpins the Korean New Deal is to reduce the economy's reliance on conglomerates, or "chaebols", by supporting SMEs to create new jobs in new frontier markets such as digital and environmentally friendly products and services. These changes and offerings have become even more timely after the crisis. On the digital front, the government sorted out 28 large projects to accelerate the development of data infrastructure, use of AI and 5G networks, platforms for remote services, and digitalization of public infrastructure, for example, by installing sensors on roads for collecting traffic data. More specifically, the government established a 1TKRW 'Smart Korea Fund' for the digital sector, announced its plan to train 100 000 new AI and software talents and launched 7 AI flagship projects that will support the integration of AI into areas such as manufacturing quality control, energy efficiency, or customs operations. On the green economy front, the government is planning to spend 73.4TKRW, or 52BEUR on eco-friendly projects, including energy-saving houses, public buildings, and electric cars.

While we think that the Korean government has moved in the right direction, laying the foundation and making the right selective changes to reduce reliance on conglomerates for future growth by promoting digitalization and the development of "untact" or contactless and eco-friendly products and services, it seems that Korean companies are still unsure how to take advantage of such opportunities to fuel their much needed transformation.

### Korean businesses are lagging in digital transformation – the US provides a good model in fostering collaboration across sectors to accelerate commercialization of technologies

As the need to digitalize becomes even more urgent in the post-COVID world, we find that Korean businesses have room to catch up especially in applying digital technologies to develop new products and services. While the Korean government has shown timely support with infrastructure development, policy adjustment, and funding, Korean businesses should look to other countries to learn how to turn resources and strategic intentions into concrete actions.

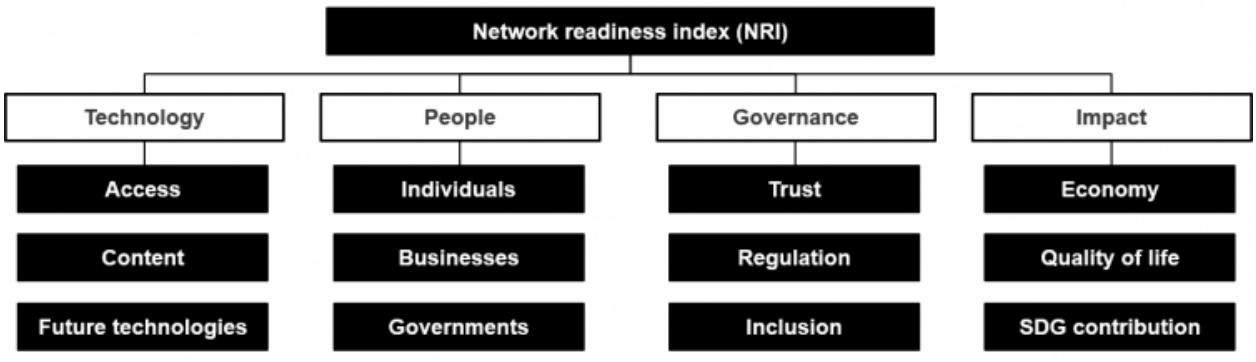



Figure 3. The NRI* 2019 model [6].

The Network Readiness Index (NRI)*, originally administered by the World Economic Forum since 2000 and World Information Technology & Services Alliance since 2019, renders a holistic view of the multi-faceted impact of ICT on society and the development of nations through analyzing individuals/society, businesses, and government digitalization readiness as well as elements of ICT applications [6].

| Network readiness index (NRI) | Rank (out of 121) | Score |
|---|---|---|
| **South Korea NRI overall** | **17** | **73.84** |
| **A. Technology pillar** | **23** | **67.93** |
| 1st-sub-pillar: access | 20 | 84.47 |
| 2nd sub-pillar: content | 43 | 53.89 |
| 3rd sub-pillar: future technologies | 12 | 65.44 |
| **B. People pillar** | **3** | **76.43** |
| 1st-sub-pillar: individuals | 10 | 71.90 |
| 2nd sub-pillar: businesses | 10 | 71.20 |
| 3rd sub-pillar: governments | 1 | 86.18 |
| **C. Governance pillar** | **25** | **77.07** |
| 1st-sub-pillar: trust | 30 | 73.75 |
| 2nd sub-pillar: regulation | 27 | 77.92 |
| 3rd sub-pillar: inclusion | 19 | 79.55 |
| **D. Impact pillar** | **14** | **73.94** |
| 1st-sub-pillar: economy | 2 | 69.37 |
| 2nd sub-pillar: quality of life | 64 | 61.36 |
| 3rd sub-pillar: SDB contribution | 32 | 91.08 |

Figure 4: NRI South Korea (Korea, Republic of) in detail [6].

In the latest report, South Korea is ranked 17th overall with a particularly strong performance (3rd rank) in the People pillar, which measures the usage and skills in digital technologies among individuals, businesses, and governments. More interesting is that even though the Korean government tops the ranking in the People pillar with strengths in government online services, publication and use of open data as well as government's R&D expenditure, Korean businesses' lower performance especially in firms having an online presence, relevant digital skills and expertise, and staff training lowers Korea's overall ranking.

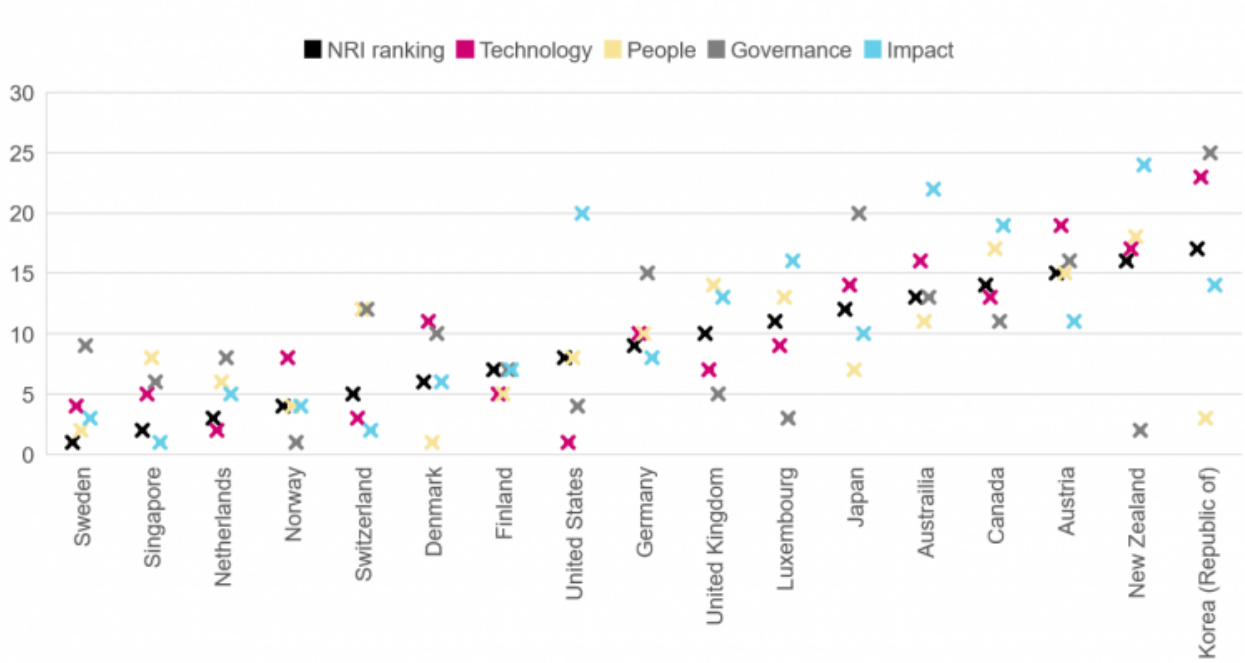



Figure 5. The NRI 2019 rankings per pillar [6].

Moreover, the top ten NRI countries show top performances in all the four pillars while South Korea is further behind (23rd) in the Technology dimension where the US has been leading especially in developing future proof technologies and producing digital content. This finding is appalling given that Korean businesses ranked 2nd in R&D expenditure. We posit that this is because while Korean firms individually have great technological stocks, their top management with usually short tenure often lacks the long-term vision and motivation to foster collaboration with external partners to speed up internal transformation and drive the commercialization of digital technologies. According to a 2016 survey by a Seoul-based research firm, the average CEO tenure in South Korea is about 2.5 years, which is half of their US counterparts where external partnership and collaboration is much more active.[7] In the US, 258 members of multi-national companies such as AT&T, Cisco, GE, IBM, and Intel have joined an industrial internet consortium (IIC) to cooperate with national institutions to commercially develop the use of interconnected machines and devices. IIC helps members, vendors, system scientists, and researchers to share and achieve tangible results to accelerate digital transformation across companies.[8]

Other than accelerating digitalization, Korean companies have also been facing another impending issues in reorganizing their role in the Global Value Chain (GVC) exacerbated by the pandemic, while the Korean government considers the pandemic as an opportunity to strengthen Korea's position in the GVC.

**Coronavirus accelerates long term shifts in supply chain and Korea perceives it as an opportunity**

In response to a rapidly changing business environment imposed by the pandemic, the Korean government perceives this downturn as an opportunity to encourage Korean firms to increase localization and attract global firms to source high-tech components in Korea. Meanwhile, Korean companies are now facing a difficult decision for its own supply chain

whether to bring back factories to Korea or to move them from one to another – a trend that has already started but exacerbated by COVID-19.

Since Korea is highly involved in the global backward value chain, Korean firms are particularly more vulnerable than other countries such as the US and Japan in case of disruptions in the supply chain of raw inputs and intermediary components for its export-oriented manufacturing industry. Earlier in mid-2019 during a trade war with Japan that disrupted the shipping of many key components from Japan in high-tech sectors such as electronics, chemicals and advanced materials, the need to reduce Korean firms' reliance on foreign parts and components has become even more crucial and urgent. Since then, the Korean government started to introduce tax breaks and administrative reforms to incentivize collaboration between Korean conglomerates and small suppliers to accelerate localization of high-tech part and component production. [9] This need to restructure Korean firms' global supply chain strategy proves to be even more important as recently, COVID-19 has forced Korean car manufacturers to slow down manufacturing due to the disruption of parts supplies from China.

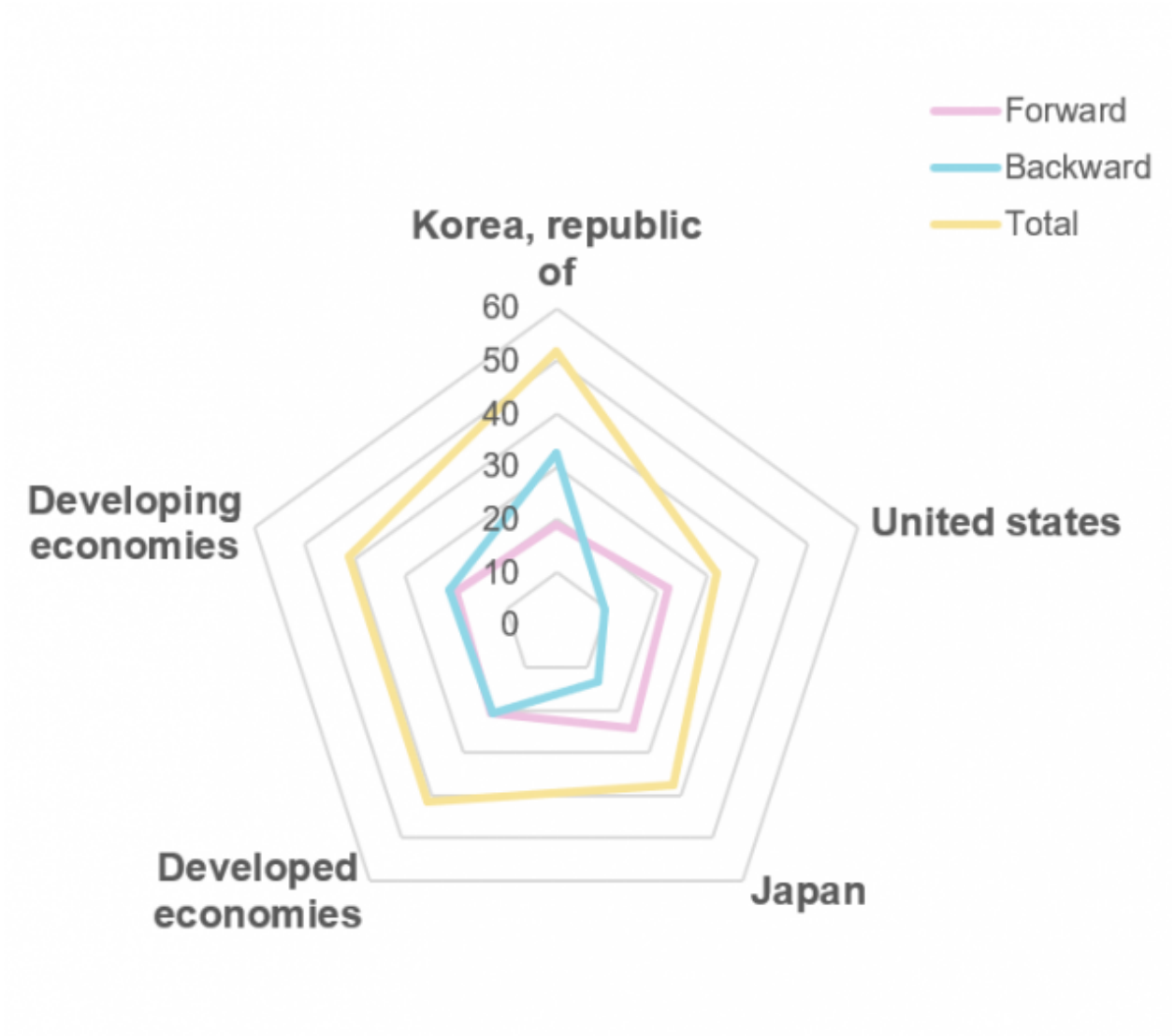



Figure 6. Participation in global value chains (GVCs) (% share in total gross exports) (WTO) [10].

Although Korea may not compete with China and other countries with regard to price, its

successful containment of COVD-19 without the need to lock down the economy has raised confidence in the resilience and agility of the Korean supply chain. While the global pandemic has prompted more countries to bring factories home in a so-called re-shoring strategy, the realignment of the supply chain could favor South Korea as companies look for more secure sourcing of parts. Sung Yun-mo, South Korea's trade, industry, and energy minister, commented that attracting factory relocation from global and Korean conglomerates can be Korea's opportunity. The minister said, "The pandemic is an opportunity for South Korea to consolidate its position as a control tower in Asia supplying core parts and materials".[11]

However, it should be noted that supply re-allocation is only part of global companies' strategies in improving the agility and flexibility of its global supply chain, as recent events have shown that relying on any single country, be it for cost, technology or other competitiveness, can prove to be too risky. Leveraging industry 4.0 technologies such as automation with robots and 3D printing is the other major trend in re-shaping the dynamics in the global supply chain in a bid to move from cost competitiveness to risk competitiveness.[12] [13] Automation is particularly relevant for Korea, as a study by the International Federation of Robotics and OECD showed that a higher robotization rate correlates with a stronger decline in backward GVC participation – a goal that Korea has been seeking. Given that Korea is already among the countries with a high stock of industrial robots, it has the fundamental infrastructure and resources required to consolidate its position in the new global value chain landscape. However, this is only possible given that Korean companies learn to leverage both the current resources and opportunities to digitally transform the ways their businesses operate as argued in the previous section.

How the Korean government, businesses, and individuals successfully collaborate to manage the COVID-19 crisis illustrates many success factors in Jared Diamond's (2019) framework on how countries can overcome national crisis. They range from instilling a national consensus that one's nation is in crisis to taking responsibility to do something and delineate the national problems that need to be solved by setting the direction for the needed changes post-crisis. That key needed change in the case of Korea is to accelerate the digitalization of Korean businesses, especially in leveraging Industrial 4.0 technologies to create new products and services and enhance the resilience of their supply chain. To achieve that, Korean business leaders should look to other countries on models to foster external collaboration to build a stronger national ecosystem to accelerate the needed transformation. It may also be high time that Korean businesses re-thought its governance structure to increase the tenure of the top management to enable more long-term vision setting and strategy execution.

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