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COVID-19 AND CORPORATE STRATEGIES IN THE U.S. AND CHINA: A SEISMIC EVENT DEMANDING CHANGE AND ACTION FROM TOP EXECUTIVES

SIX SIGNIFICANT FINDINGS

ABSTRACT

Seismic events have a way of disrupting our focus, our thinking, and even how we assess what is going to drive future success. This can be true at a societal level, and it is often far clearer and more immediate when we investigate the daily decisions made inside key parts of corporations.

The period of the COVID-19 pandemic is one such seismic, global moment with major impact, especially notable when we examine the two largest global economies, the U.S. and China. Looking inside the mindsets of technology and executive leadership in large industry sectors such as telecommunications, healthcare, automotive, aerospace, and industrial products can help us understand how leaders are thinking about where they might refocus, accelerate, or delay investments.

In a digitally transforming world where 97.5% of corporations, prior to COVID-19, were focusing on becoming digitally vital and future-ready companies, understanding how an event of this proportion affects the way leaders think may give us insight into which corporations will thrive in the future and which ones could still struggle. As we grapple with a COVID-19–shocked world, the comparison between the U.S. and China allows us to see how similar or dissimilar our reactions and thinking are compared to those of leaders from the world's two largest economies.

The Wind River® study surveyed 400 executives. Online research was conducted from April 12 to April 20, 2020, for respondents in the U.S. and from April 16 to April 23, 2020, for respondents in China.

The survey comprised senior management at the C-suite and VP level (33%), senior management (41%), and departmental management (26%). The executives came from companies with more than $1B (45%), at least $100M–$1B (47%), and $10M–$100M (8%). Respondents had to influence a range of technology areas (applications and device development). The technology areas included 15% robotics, 21% instrumentation, 39% DevOps, 51% cybersecurity, and 63% network security and data centers.

The survey examined current attitudes regarding a number of questions, including:

- What are corporate leaders and leaders in DevOps, security, and embedded development areas telling us about their confidence levels right now, three months in the future, and in a year's time?
- How is COVID-19 changing projects and customer deliverables?
- How is COVID-19 changing perspectives on work from home, the convergence of IT and embedded development, measurements for success, and even how we manage future best practices in working habits?
- Are corporations currently in survival mode or has COVID-19 spurred an increase around digital transformation of the corporation?
- Has COVID-19 driven a perceived change in the roles of certain technical leaders?
- How is COVID-19 changing the status of certain development initiatives in terms of speed, focus, and investments? For example, IoT and device development, 5G, container development?
- Does COVID-19 offer an opportunity to transform development focus around technologies and concepts such as containers for hybrid cloud development, 5G and the edge, AI machine and deep learning projects, and digitally transforming technologies?
- Has COVID-19 slowed down or accelerated key strategy areas for DevOps and leadership in these corporations?

The analysis in this report is approximately 10% of the available information. If you are a leader in the development functions of any of these industries, contact inquiries@windriver.com for a personal briefing.

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EXECUTIVE SUMMARY

There are six key conclusions from the research that will be of interest to leaders in technology and to senior executives in industries including telecommunications, industrial/manufacturing, automotive, healthcare, and aviation/aerospace in the U.S. and China. Given that each geography has experienced very different COVID-19 conditions, the findings provide an interesting pandemic-related analysis of what leaders are thinking, designing, and committing to regarding specific investments, skills, and technologies.

- **Finding 1:** COVID-19 is driving diverging perspectives as enterprises decide which technologies to focus on. Those with a desire to digitally transform are placing **50%+** extra focus on key investment areas such as 5G, containers, and cloud native.

- **Finding 2:** A general sense of current, near-future, and longer-term optimism is still strong, with China more optimistic over the next **12** months, after which leaders in both markets show similar views. The U.S. shows more current optimism in being able to deliver on customer needs.

- **Finding 3:** COVID-19 has caused **90%** of enterprises to undergo some change in business processes. That means that very few enterprises have escaped some level of impact on processes or customer-related deliverables, and most see the need for deeper investments.

- **Finding 4:** Top leadership (C-suite) and executives in DevOps, IoT, and DevSecOps see increased importance in their roles as their enterprises exit the COVID-19 pandemic. This ranges from 60%+ in the U.S. to 73%+ in China. Workloads have been more strained in China, yet the desire to shift to a new working norm is clearer in the U.S.

- **Finding 5:** There are stark differences in actions taken based on a leader's view of what their main priority should be: simply survive or transform their enterprise while in the midst of the COVID-19 pandemic. This is true of both U.S. and Chinese leadership.

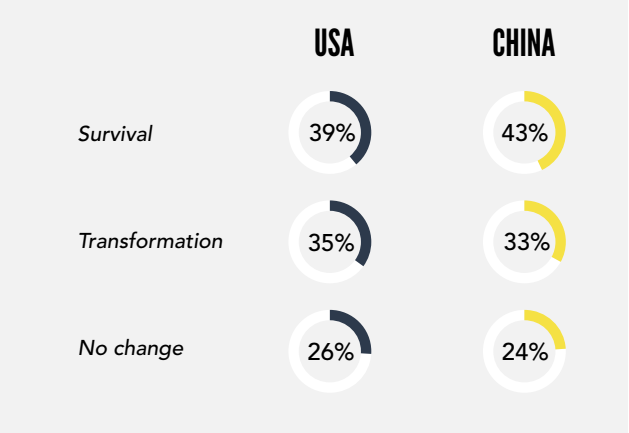
- **Finding 6:** Trends around the journey to open source and the convergence of IT and DevOps are pronounced within the C-suite in both the U.S. and China, which indicates that the core components for the digital transformation of the technology backbone for these enterprises is well understood by the C-suite. In five of the six technologies surveyed among U.S. executives, and in all six categories for executives in China, those enterprises focused on transforming digitally are investing more in growth than the other two thirds of enterprises.

FINDING 1

Leaders follow one of three core strategies, which affects how they view technology investment for a digitally transformed future.

Leaders in the U.S. and China are nearly equally split over what the best response to this pandemic is for them right now: survive, transform, or make no change. Depending on where your own organization is, it might be worth thinking about what peers are focused on. The tables below show the significant differences in optimism that exist, and how those differences affect the investment focus.

Q: *Thinking about the state of software applications and overall development operations, how, if at all, has COVID-19 changed your organization's focus? By survival, we mean not losing ground on current DevOps and by transformation, we mean creating new and/or modifying existing businesses processes, culture, and customer experiences.*



Source: Survey on the Impact of COVID-19, Wind River 2020

Among those enterprises focusing more on transformation because of COVID-19, the propensity to increase or stay with investments in key technology areas shows how the mindset about the present and preparing for the future is driving a laser-like focus on these technologies. If your organization is focusing on digital transformation during the COVID-19 pandemic, then you are more likely than your peers to thrive afterward.

The following table shows the percentage likelihood for U.S. enterprises that are focusing on transformation during COVID-19 (in comparison to their peers who are focused on survival) to see key technology areas as worthy of increased investment as they prepare for a digitally transformed post–COVID-19 world.

U.S. enterprises focusing on transformation during the COVID-19 pandemic:

TECHNOLOGY FOCUS	INCREASED FOCUS COMPARED TO 'SURVIVING' COMPANIES
5G	179%
App development for the cloud	133%
Container-based development	173%
IoT development	122%
AI developments	134%
Other digital transformation initiatives	159%

Source: Survey on the Impact of COVID-19, Wind River 2020

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FINDING 2

The general sense of current, near-future, and longer-term optimism is still strong, with China more optimistic as leaders look 12 months ahead, after which time leaders in both markets have similar views. The U.S. leads in current optimism on being able to deliver on customer needs.

The 12 to 16 weeks' difference in experiencing the peak of the first wave of COVID-19 translates to a 32% difference in current overall levels of optimism between peers in each geography (which come closer to evening out when looking a year ahead). However, as the bottom table shows, the longer-term perspectives (from three months to as much as a year out) regarding the ability to solve customer needs reveal significantly more optimism in the U.S. than China, even given the time difference in the COVID-19 peak in each geography. U.S. leaders are twice as optimistic about the ability to deliver to customer needs in the next three months compared to their peers in China.

Q: *What, in your opinion, is your senior management team's general outlook, today and one year from now, regarding business outcomes for the organization? Select one. Business outcomes could include sales, stock price (if applicable), product launches, etc.*

Source: Survey on the Impact of COVID-19, Wind River 2020

Q: *What is your senior management team's general outlook for the organization regarding meeting customer demands (now to 3 months and a year from now)?*

Organizations that see a significant negative impact on meeting customer demands	Now	3 months	1 year
USA	45%	50%	72%
CHINA	94%	92%	89%

Source: Survey on the Impact of COVID-19, Wind River 2020

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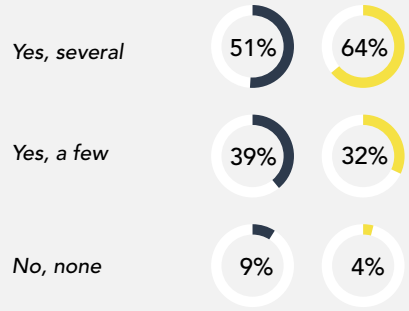
FINDING 3

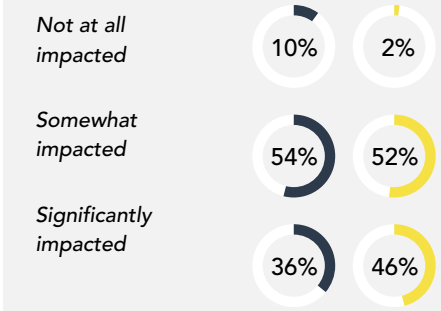
COVID-19 has caused some changes in business processes among 90% of enterprises. That means that very few enterprises have escaped some level of impact on processes or customer-related deliverables, and most see the need for deeper investments.

We can see that both economies are at different stages of experiencing the COVID-19 pandemic, and that difference accounts for the increased sense in China of major processes disruption and significant impact on customer-related deliverables. It is noteworthy that perceived issues with supply chain disruption are significantly higher at the most extreme level in the U.S. versus in China, where imports to the supply chain are a much lower percentage of the GDP.

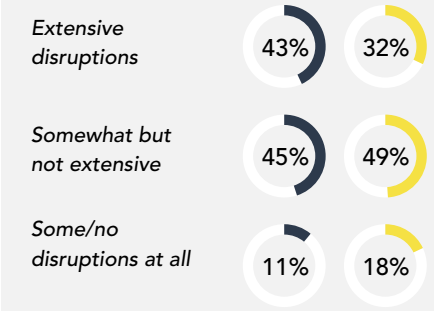
Q: *Aside from the migration of staff working from home while the "stay at home" measures are in place for non-essential employees, has your company's business process changed relating to internal project or customer deliverables?*



Q: *Has the ability to meet customer demands of your company been impacted by COVID-19? Select one.*



Q: *How, if at all, has your current supply chain been disrupted due to the challenges in delivery brought forth due to COVID-19? Select one.*



Source: Survey on the Impact of COVID-19, Wind River 2020

There is a clear understanding and very similar attitude among peers in both countries that a wide range of strategic, skill-based technology investment needs will change because of COVID-19. The responses about everything from 5G to digital transformation focus show a noticeable, almost shocking level of acceleration in investments coming after this phase of the pandemic:

Q: *Please review the following statements and indicate how much each resonates with you (somewhat and very much agree, on a scale of four).*

TACTICAL CHANGES	USA	CHINA
Re-skilling	84%	79%
Accelerating new business models	83%	89%
More agile app development	82%	86%
Refocus around customers	82%	89%
Real-time data and feedback	80%	89%
Changing the way we design apps	75%	88%
Getting more DX focus	71%	85%
How to look at 5G as an accelerator	69%	85%

Source: Survey on the Impact of COVID-19, Wind River 2020

FINDING 4

Top leadership (C-suite) and executives in DevOps, IoT, and DevSecOps see increased importance in their roles as their enterprises exit the COVID-19 pandemic, ranging from 60%+ in the U.S. to 73%+ in China. Workloads have been more strained in China, yet the desire to shift to a new working norm is clearer in the U.S.

There is a clear recognition among leaders that the post-pandemic world will require transformative focus and skills, even though only a third of the respondents actually believe that their organizations are focusing on a digitally transformative strategy. The perceived sense of increased workloads because of COVID-19 has been more heavily experienced in China than in the U.S. (76% compared to 50%). This may be because of China's longer experience with COVID-19 and its impact on processes and customer needs.

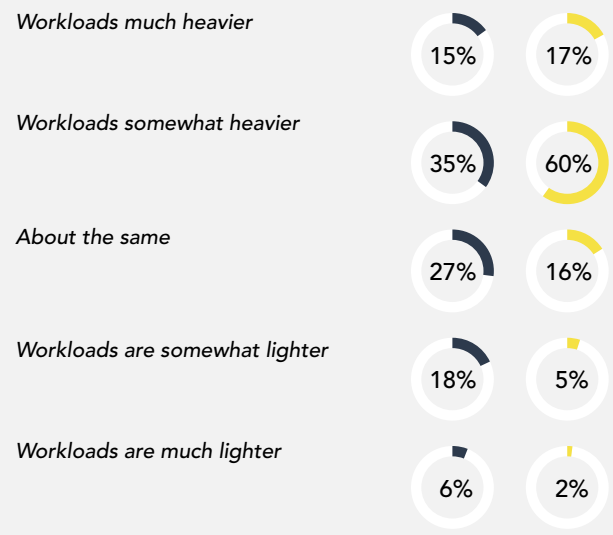
When asked about the shift in working practices and acceleration of trends, 40% of U.S. respondents see remote working as the new norm. Given that formerly 25% (at most) of the U.S. population worked from home just one day a week (U.S. Census 2010), this is a significant shift, hugely accelerated by COVID-19. The impacts on other decisions, such as cutting OPEX and modifying broader working habits, are a larger concern in the U.S. by nearly 80% compared to China, which is a less services-driven economy.

Q: *Now, thinking just about your role in the organization, in general, how will your function be seen for today to the end of the year? Select one. (Don't Know/Not shown = 3% or less.)*

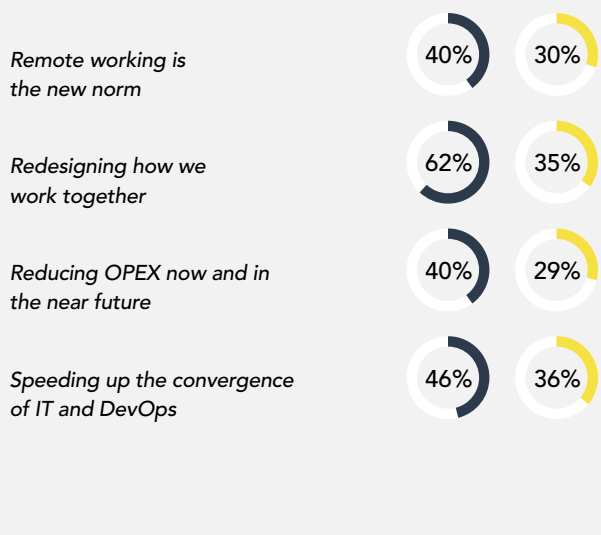
	USA		CHINA	
Organizational Role	**C-suite**	**Tech Pro**	**C-suite**	**Tech Pro**
Of transformative value	19%	8%	11%	19%
Significantly increased importance	44%	53%	76%	53%

Source: Survey on the Impact of COVID-19, Wind River 2020

Q: *Compared to normal working conditions, before COVID-19 began to impact your organization, how has your team's workload changed, currently?*



Q: *Describe what your most senior management is talking about for your company, future strategy, and staff. (Long-term changes only shown.)*



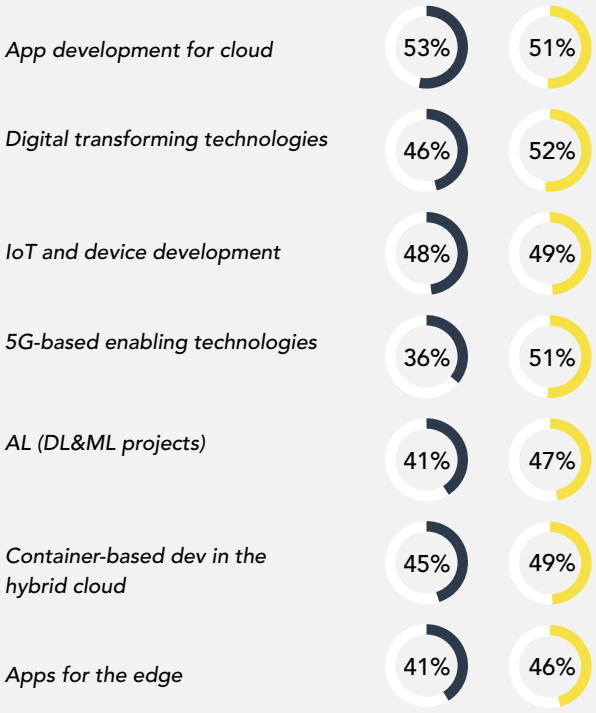
Source: Survey on the Impact of COVID-19, Wind River 2020

FINDING 5

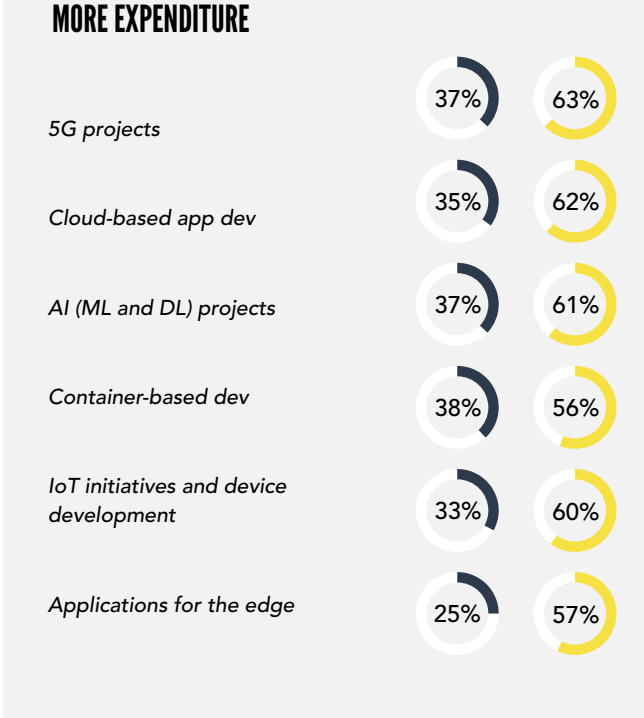
There are stark differences in actions taken based on a leader's view of what their main priority should be: simply survive or transform their enterprise in the midst of the COVID-19 pandemic. This is true of both U.S. and Chinese leadership.

While both sets of leaders generally agree on the need to invest more in key technologies, we can also see a statistically significant difference in the acceleration of actual investments in all the technologies measured in China compared to the U.S. In some cases, the magnitude of difference is nearly 90%.

Q: *Thinking about the following initiatives your company may or may not be focusing on, what is the status of each today? ("Not Applicable" not shown and removed from the base.)*



Q: *Is your company currently changing any planned hard-cost expenditures, including services or products from external vendors that enable continued development in the following initiatives?*

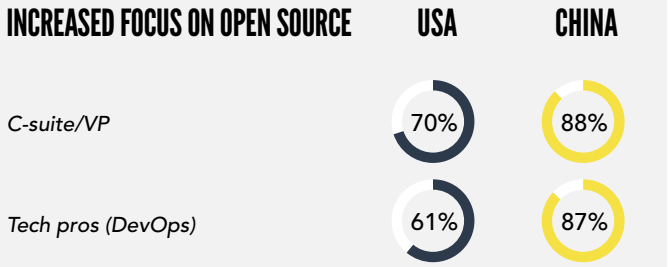


Source: Survey on the Impact of COVID-19, Wind River 2020

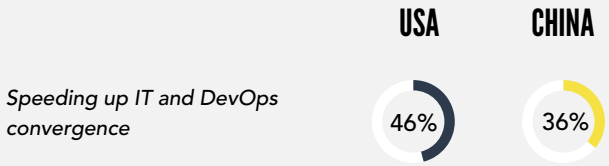
FINDING 6

Trends around the journey to open source and the convergence of IT and DevOps are pronounced within the C-suite in both the U.S. and China, which indicates that the core components for the digital transformation of the technology backbone for these enterprises is well understood by the C-suite. In five of the six technologies surveyed among U.S. executives, and in all six categories for executives in China, those enterprises focused on transforming digitally are investing more on growth than the other two thirds of enterprises.

Q: *Will an open source code process become more important because of COVID-19? (Results show Significantly + Somewhat More Important responses.)*



Q: *What is senior management's mindset about these issues during COVID-19?*



Source: Survey on the Impact of COVID-19, Wind River 2020

CONCLUSION

Nobody can predict the likely end of this first wave of COVID-19, the ensuing waves, or their impact on these key industries' decision processes around working conditions, investments in technologies, or view of supply chains and customer demand. However, those organizations leading with a more transformational mindset are accelerating investments in key areas such as 5G, container-based development, and AI.

If this first wave of research has shown us a shape of things to come, it is that C-suite leaders recognize their increased responsibility to lead their organizations through this pandemic. The idea of things returning as they were before does not sit well in the minds of more than 6 in 10 leaders in telecommunications, medical, industrial, automotive, and aviation sectors. This pandemic requires clear thinking about how to manage people, customers, supply chains, and, more acutely, technology-based investments for longer-term protection and transformation.

Just look at the different profiles of organizations looking to drive deeper digital, 5G, container-based development, and even open source strategies for transformation. Leaders in DevOps and embedded development recognize that more pressure and opportunities to lead are going to present themselves as enterprises in these key industries rely on technology solutions to drive increased automation and competitive advantages.

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