Rebooting Business after COVID-19: A View from China

Alvin Shiqi Wang (王世琪)
CEO, President of 21Vianet Group, Inc.

Xiang Wang (王翔)
President of Xiaomi Corporation

Simon Yang (杨士宁)
CEO of Yangtze Memory Technologies Co., Ltd. (YMTC)

Zhiqiang (ZZ) Zhang (张志强)
President, ABB (China)

Jean C. Oi
Director of Shorenstein APARC China Program, Stanford University

Christopher Thomas
Visiting Professor, Tsinghua University

Xander Wu (吴雪)
China Mobile International (USA)

A panel discussion sponsored by the Stanford China Program and the Stanford Center at Peking University in collaboration with alumni members of the Stanford Graduate School of Business.

This transcript has been edited for clarity and includes translations.

Jean C. Oi [0:00:07] Welcome, everyone. My name is Jean Oi, I'm a professor of political science here at Stanford University. I also have the honor of being the director of the China Program at Shorenstein Asia-Pacific Research Center and also the Stanford Center at Peking University.

[00:00:26] We are here today because COVID-19 has already infected I think more than seven million people worldwide, and it’s left more than 400 thousand people dead. And beginning in January, within a span of six to seven months, the world has changed as we know it economically, socially, and politically. In our program today, we hope to provide some insights into how different business segments in China, the first country to be hit with the coronavirus, might be restarting its economy and rebooting business.

[00:01:11] First, let me say a word about how we came up with this program. A few Stanford Graduate School of Business alumni, most importantly, Chris Thomas and Xander Wu, both of whom have longstanding business and lived experiences in China, approached me with a research idea. They said we should get a picture of how Chinese firms were recovering from this pandemic of the century. And this was just about the time that the lockdown was beginning to be lifted, including in Wuhan. So, we agreed that a snapshot could provide a very important clue for us in the United States and around the world as to what challenges firms face, the strategies they might adopt as they try to get back to business, and also views of what they think the future might hold.

This transcript has been edited for clarity and includes translations.
[00:02:17] And we did this in part because the news that’s been coming out of China has been piecemeal, varied, and rather difficult to synthesize into a coherent whole. We know about the relatively short-lived draconian restraints on activity in China when the virus first hit, and they were trying to contain it. We also have reports that the jobless rate reported by China is fairly optimistic, barely changing over this period of time. But at the same time, we have work done by some of my colleagues here at Stanford pointing to widespread unemployment among workers from rural areas still unable to return to cities to work. And moreover, we have China acknowledging that its GDP for the first quarter contracted 6.8 percent. And some of the surveys that have been done so far, particularly those that came out in March, have painted a quite dire picture of businesses reeling from COVID, and future uncertainties.

[00:03:34] So, our survey is based on findings of responses from executives on the ground—senior executives, CXOs on the ground in China—and we think that it provides a much more nuanced picture, highlighting the variation that exists within this recovery in the world’s second largest economy. Now, before going any further, we also should acknowledge that we realize that our sample is quite small.

[00:04:11] Chris and Xander will tell you more about that in a moment. It’s small, it’s non-representative, but I think that our findings provide enough empirical data for us to see that there is a very nuanced and complex picture of how the economic impact and the recovery has differentially hit different parts of China’s economy. And let me just some up, and this is a point that Chris and Xander will be highlighting, that different firms seem to be living in different worlds.

[00:04:50] Now, let me just tell you a bit about how we’re going to organize today’s panel. It’s going to be divided into two portions. In the first part, Chris Thomas and Xander Wu will present some of the key findings from our survey. And let me just briefly introduce Chris and Xander. Chris Thomas, who is joining us from Beijing, is currently a visiting professor at Tsinghua, and was most recently a partner at McKinsey & Company. And prior to McKinsey, Chris spent 10 years at Intel and was the general manager of Intel, China.

[00:05:28] Xander Wu, who is here in the Valley, oversees industry development and business development for China Mobile International, USA. Xander has had over a decade of experience in the global 4G and 5G industry, and Xander also serves as a mentor at several incubators such as Plug and Play. So, after Chris and Xander present the takeaways from the survey, we are going to have a special treat for you, and we’re very excited that Chris and I will then have a conversation with four CXOs on their experiences and insights. And then after that, Xander and I will moderate the question and answers.

[00:06:19] Now, I need to repeat, just in case, a few housekeeping notes. As we said earlier, we do have simultaneous translation. The instructions are in your chat box. You can pick the language you want by clicking the globe icon. And I also want to note that we welcome you to submit questions throughout the program. You can submit the questions in either Chinese or in English, and just put them in the question and answer box on the bottom of your screen. And then one final thing, because of technical requirements related to translation and Zoom, we have asked each speaker to pick one language, and to stick to that one language. So, as a result, this explains why Xander, who is joining us actually from the Valley… we’ve chosen him to be the one to speak Chinese because Xander will be moderating the questions submitted in Chinese during the question and answer. And with that, let me then turn it over to first Chris, and then Xander.

Christopher Thomas [00:07:43] Good morning everyone, good afternoon, and good evening. And it’s a real pleasure to be here today. Thank you for that great introduction, Jean.

[00:07:50] Before we get started here and we speak to the details, I want to thank a group of people from both the Stanford community and the broader set of Chinese interested in the global affairs of China listed on this page who are not on screen today, but did the real work to actually make this happen.
We don't have time to share all of the details of the survey. We asked about 135 global executives sitting in China, the vast majority of them at Chinese companies, to answer about 27 questions about their business. We simply don't have the time today to go through all of them. If you'd like a follow-up, please feel free to contact me down the road and I'd be happy to have a follow-up conversation.

But there's four things that I want you to remember today. As Jean said, how COVID is impacting business differs dramatically based on the type of business they're in, what they do, and especially their size. As I would say, about 80 percent of companies are hurting, 20 percent are doing better than planned, but most are actually optimistic for the future. Safety is important. But on the whole, companies operating in China are trusting the quarantine-based measures laid out by the government, and less than half are making major safety-based policy changes, such as widescale testing or things like that in response to COVID-19. The third thing to remember: When executives think about the future, they are focused on digital transformation. It's the biggest strategic issue, and they all feel they have a big talent gap in terms of making it happen.

And then finally, in this interesting time around global trade relations and geopolitical relations, Chinese high-tech companies are concerned about access to global technology, both today and in the future. And a majority of executives across all surveyed firms believe in some level of US-China decoupling. Four things to remember for today.

Sharing a little bit today about who we surveyed. So, 130 executives. And all of these were very senior executives: 50 percent of them are the most senior person in their firm—Chairman, founder, CEO. Another 35 percent are CXOs, and about 20 percent are the top China leader of a global multinational corporation.

In terms of the sectors that we looked at, this survey is skewed more so towards online and high-tech. About 55 percent are in the broader high-tech or online space. The rest are a mix of other industries. Everything down to restaurants, tourist agencies, airlines, automotive companies, industrial companies. But I would note that these high-tech companies include companies that move physical products. They’re making real stuff, they’re not all digital.

In addition, about 60 percent of companies we surveyed are small- or medium-sized, including companies as small as a single-location restaurant. We also surveyed gigantic companies with over 100 billion dollars of global revenue. So, we have a very broad mix, from the very largest to the very smallest companies. Three quarters of these companies do business exclusively in China. And you can see here that many of them are changing their geographic focus due to the COVID virus.

On this page, we're just synthesizing here, as we mentioned before, companies are living in different worlds. As I said before, 80 percent of companies are hurting; less than one-half have seen their demand and sales recover to pre-COVID expectations. Fifty percent of SMEs have reduced their headcount by more than 25 percent. And 20 percent of large companies have reduced by more than 25 percent. One third of SMEs that we surveyed are in “distress” mode. And we describe “distress” mode as having trouble paying rent, paying workers, paying suppliers—they're having trouble paying the bills. One third of non-tech companies have seen demand drop by more than half, and 50 percent of exporters—people who sell outside China—have seen the same drop in demand.

Finally, when we look to the future, tech and online companies are two times more optimistic than non-tech companies when they think the future opportunity may be bigger or may have less competition. And this is may be because they've recovered better, because tech and online companies are recovering, catching up to pre-COVID expectations, at twice the rate of non-tech and online
companies. This is a summary of how companies are living in different worlds, even though everyone is hurting. And now I will hand it off to Xander, who will walk through some of the details around sales, employment, safety measures, other things.

Xander Wu (吴雪) [00:13:04]: Thank you Chris. I give everyone a brief introduction, and then I will go back to the current situation in this dark red part. The companies whose sales are affected by more than 50% is far better than that of non-technology companies. At the same time, you can see in this chart, it has two parts. First, in the section on the left, we compare the business projections of technology/Internet companies versus non-technology companies before the outbreak; we then can understand the difficulties encountered by these companies and the actions they take.

[trans. As you can see from this slide that Chris showed us, our survey investigated the current state of company sales, employment, cash flow, etc. At the same time, we also investigated changes in the company's market demand—external policies, supply chain, funds, employee compensation, rent expenses, etc.—to arrive at another understanding. Afterwards, we tried to understand some of the key measures of key enterprises with respect to safety protection measures: personnel, compensation, supply chain, and financing, etc.—situations involving funding aspects.]

[trans. Below, I will give you more detailed explanations. As Chris said, most of the enterprises are oriented towards the China market; domestic sales have the most direct and largest impact upon them. In fact, as you can see in this chart, it has two parts. First, in the section on the left, we compare the business projections of technology/Internet companies versus non-technology companies before the epidemic and during the survey period. The picture on the right is a comparison of large, medium and small enterprises. Everyone can see that the colors on this chart show us the current state of the companies very clearly.]

[trans. The green portion of the chart means that the company's current [domestic] sales are the same or better than original forecasts, and the red part means that it is less than what was projected. The darker the color the lower than expected is the degree. So, you can see that the performance of technology/Internet companies is far better than that of non-technology companies. At the same time, you can see that in this dark red part—that is, those companies whose sales are affect by more than 50%—13% of those are technology companies, whereas 27% are accounted for by non-technology companies.]
Let's look at the left side where we see the comparison of large, medium and small enterprises.

More than one-third of large- and medium-sized enterprises have recovered or have maintained levels the same or better than originally projected. However, we can see that the performance of small businesses is much worse. At the same time, according to the dark red part of the graph, domestic sales figures of large companies rarely fell to 50% or below their original expectations, but medium-sized companies account for 30% of those companies that saw their sales figures fall to 50% below original forecasts, while small companies account for more than a third of such companies, reaching 38%.

Let's take a look at the chart compares companies' projected worker headcount situation before the outbreak [with the current situation]. This chart compares companies' projected worker headcount situation before the outbreak [with the current situation]. So, what is the current situation of enterprises? Everyone can also see that technology companies are in the dark red part of the figure, indicating headcount levels that have dropped by 50% or more [compared to what was expected]. When we compare large, medium and small enterprises, the situation of small enterprises is also far worse than that of other types of enterprises.

When we compare large, medium and small enterprises, the situation of small enterprises is also far worse than that of other types of enterprises. About 81% of non-tech companies' headcount levels after the epidemic are lower than what they'd originally forecasted, and 27% of non-tech companies are in the dark red part of the figure, indicating headcount levels that have dropped by 50% or more [compared to what was expected]. When we compare large, medium and small enterprises, the situation of small enterprises is also far worse than that of other types of enterprises.

What we have just seen is the sales and personnel situation of the enterprises. Then let's take a look at how different the enterprises are in terms of financial issues. It is also very noticeable here that there is a gap of five times between large companies and small companies in terms of the ability to pay rent, fixed costs, and salaries. That is to say, the smaller the enterprise, the greater the difficulty they encounter in paying rents and salaries, that is, the ability of small enterprises to overcome risks is, relatively speaking, quite a bit weaker. Similarly, with respect to paying suppliers, small businesses will also have more difficulty than medium and large enterprises. But we see that the problems of medium-sized enterprises are also not small.
Hello, everyone. So, Xander explained very well the current snapshot of where we are today, a world in which about 80 percent of companies are hurting, cutting headcount, facing lower demand, but it’s hurting small companies more and non-tech companies more. Now, let’s take a look at the future. How do these companies feel about the future? And we asked, “Will the opportunity for your company be bigger in the future or smaller in the future due to COVID? And will there be more competition or less competition?” And collectively, we can see that tech and online companies are twice as likely to be optimistic—the green bars—versus pessimistic, whereas the ratio is flipped for non-tech companies. On the whole, non-tech companies are pessimistic about future market size and future competition. There was no large variation between small, medium, and large companies.

Christopher Thomas [00:21:20]

Let’s now look at the situation of supply chains. From the perspective of individual companies, 70% of companies currently believe that more than 90% of their supply chains have returned to normal operations. From the perspective of industry ecosystems, everyone believes that over two-thirds have returned to normal operations, but according to the blue and orange parts of the chart on the right hand, more than 30% of [the respondents’] partners have encountered financial difficulties. Judging from answers to open-ended questions, risks are increasing and cash is tight for many companies, so these companies are actively seeking various kinds of help, such as getting some help from the government. Compared to direct assistance provided by other countries, such as the United States, the Chinese government gives enterprises more indirect assistance. For example, tax rebates, loan concessions, reduced contributions to “five mandatory insurance and housing fund” (China’s mandated social security contribution), or delays in or no rent payment, etc. Overall, 65% of the Chinese companies interviewed received government assistance, and 45% of multinational companies received government assistance.

These are my brief statements about the current state of business operations and safety measures. Chris will provide an outlook on the future situation of businesses.
So, when these CEOs think about the new world from COVID, maybe more opportunity maybe less, how do they need to change? And in asking that, we asked, “Do you need to change where you sell, the countries in which you compete, the types of products you make? Or do you need to digitally transform?” On the whole, by far the largest answer was digital transformation. And you see on the right side some specific quotes from the executives around this.

Where do they want to digitally transform? And this is not a surprise, because their consumers are in different places, have maybe more social restrictions, more time at home. This desire to engage with consumers and customers digitally is by far the most important area where these companies want to transform. And then the second way is on back office and administrative, which is very much, in our views, a cost reduction mechanism around digital. This is very consistent with the new world in which we live.

We are going to switch gears a little bit. And we asked everyone, “What is your view of the future around the technology industry and supply chain localization?” A key issue in these interesting geopolitical times. And you can see here that across different types of companies—and on the left side are the ones that are most critical—about 40 percent of Chinese tech and online companies believe there are going to be issues around technology access outside of China, but they believe it’s a future problem. So, of this 40 percent, about 30 percent believe that this will be a big problem in the future.

So, what are they going to do about it? On the left-hand side is what local Chinese companies said they would do around their supply chain in response to COVID-19 trends, not just the geopolitical environment, but the other things that have happened due to COVID-19, perhaps closing the borders, supply chain stresses, etc. And what you see, if you look at the pink one, is that about 16 percent say they will do heavy supply chain localization, moving to PRC-based suppliers as much as possible, whereas another 40 percent are going to do tweaks to their supply chain to increase resilience. And that includes moving to localization.

Then we asked, for those companies—local, tech and all companies that are worried about technology access—what will they do in response? Can they source that same technology from China? And about one quarter say they can. The vast majority believe they can source this from non-US sources, such as other technologically advanced countries such as Germany, Singapore, Korea, others, and a small amount believe they can source globally, but they would have to accept lower performance technology if they can’t access US-based technology. Just a snapshot of what companies were doing in response to recent geopolitical events and the overall COVID-19 phenomenon.

So, I'm very happy that despite technical delays and me getting cut off Zoom, we’re right on time, about a minute behind. I just want to walk away with a final summary. Across about 130 executives very spread out across industries and company sizes, and representing well over a trillion US dollars in total global revenues, [there are] four big takeaways: Different companies are living in different worlds; non-tech, small, and medium companies are hurting a lot more; safety is a priority, but it’s not dramatically changing how companies work; digital transformation is the future; and a large number of companies are worried about technology access in this geopolitical environment and are taking concrete steps to close that gap.

And then I want to switch down to one final slide. We asked one final question. We have a large number of Chinese on the line today and a large number of Americans. And we asked, “What will the future technology industry structure look like?” And it’s not that optimistic. Across all company types—locals, MNCs with headquarters in the US and non-US countries—only a minority believe we’ll have global open markets in the future where companies compete globally. And actually, a plurality believe that we will live in separate worlds, even to the point where we have some sort of technology Cold War.
between the United States and China. We all hope that we can avoid this, but I will end on a slightly pessimistic note after sharing some of the optimism of the previous slides. And with that, let's switch over to our panel.

**Jean C. Oi** [00:27:08] Thank you very much, Chris. And yes, now we move to the second part of our program. And as I said, we're very fortunate to have four industry leaders in a conversation with us. And I will turn it over to Chris to briefly introduce our distinguished panelists.

**Christopher Thomas** [00:27:32] Thank you very much. So, we are extremely pleased to have four of my good friends, and four very good friends of Stanford, on the line here today. And let me introduce them briefly so we can get into the discussion.

[00:27:46] So, Alvin Wang is the CEO and president of 21Vianet Group. For those of you who do not know the company, it is the largest carrier-neutral IDC in China. He is also a board member and vice president of other companies across China and spent 20 years in the telecommunications industry working for leading companies such as Ericsson and others.

[00:28:09] Wang Xiang is the president and the acting CFO of Xiaomi and is responsible for driving the business operations globally. Xiang is the architect of Xiaomi's global expansion over the last five years, and when he was the head of international for Xiaomi, he unbelievably helped Xiaomi enter 90 countries within the span of 18 months, which to me is an extraordinary accomplishment. He was also the president of Qualcomm, China and an SVP there.

[00:28:47] Simon Yang is the CEO of Changjiang, Yangtze Memory Technology Company Ltd., which is based out of Wuhan, and he'll share stories about that. He is the leader of the overall company, which is China's leading player in the 3D NAND memory space. He was also previously the CEO of XMC, the CEO and CTO of SMIC, and the CTO, SVP of Chartered Semiconductor.

[00:29:16] ZZ Zhang is our multinational representative on the panel. The other three represent local Chinese-headquartered companies. ZZ is the president of ABB in China. He's been there for two years. He's frankly one of the very most experienced global executives and executives for global companies operating in China. He was previously the Asia Pacific president for Sandvik and a member of the Sandvik Group Executive Committee, and he was the president of the Greater China region for Nokia Siemens Network. He is a non-executive board member of George Fisher and another German company with a very complicated name, which I’m sure I will mispronounce.

[00:29:58] So, these are panelists here today, thank you very much for joining. And we're going to ask a few questions, let's treat this as a conversation, but I'm going to start off with you, Simon. And you faced a particular challenge because your factory is headquartered in Wuhan, and you have an amazing story of how you got through COVID. So, we'll start off with you. What was the biggest challenge during the COVID timeframe?

**Simon Yang (杨士宁)** [00:30:26] Good morning and good evening to everyone. And thanks, Chris, and Jean for the invitation. Thinking about this whole process, personally, I feel it's a unique opportunity and a unique experience. Actually, during the lockdown, I got the invitation to evacuate and I decided not to leave. In retrospect, it was a very good decision. From my perspective, it's difficult to point to a single event as the most difficult decision, but I can give a few examples. First off, of course, is the decision to continue the operation during the lockdown period. We do need a consensus. As some of you know, the government guideline is to let everybody go home and shut down every factory.

[00:31:39] But from our perspective, we need to consider the overall situation to reach the safest status for the overall environment and for the life of our employees. As you know, we have a lot of toxic gas and
corrosive chemicals. If we have nobody to respond on site during the lockdown, if we have some leak, then the situation will be very unpredictable. So, from very early during the lockdown period, fortunately we reached a consensus to continue the operation, but reduce the output level so that we ensure that everybody will not need to work all the time and can maintain a good personal health status. So fortunately, we had no infections, no fatalities. Otherwise, I may be going to jail.

[00:32:54] And I think during the operation, one of the most difficult things is to maintain the supply chain. Actually, for a quite long period of time, we needed to maintain our own truck line between Shanghai and Wuhan, switching drivers at the border of Hubei province because, for drivers, once they enter Hubei, they cannot get out. And for the drivers in Hubei, they cannot drive across the border to the other side of Hubei. So, we have to maintain this lifeline during the whole lockdown period.

[00:33:41] From a personal level, what I find is the most difficult thing is to get a haircut! So, most of our engineers and managers decided to shave their heads. I got the crew cut. I had to loan my hair clippers to a lot of people… and I got it back in the end, so…

Jean C. Oi [00:34:11] That’s great.

Christopher Thomas [00:34:15] Very good. Very good. Thank you, Simon. So, Xiang, I’ll pass the same question to you: What was the biggest challenge you faced as a very, very global company in a world in which global commerce kind of stopped for a while?

Xiang Wang (王翔) [00:34:29] So excepting the haircut issues, we have more. So, I think I still remember, during the early stage of the COVID-19, the supply dropped significantly. And then we had even more issues on the supply side, just like Simon just mentioned. Normally we need maybe 40 to 50 workers or laborers in the factory, in the production line, to maintain a normal supply. But we only had maybe two dozen in the factory. It’s very, very difficult to convince the people to go back to the factory, because they were living in the villages, they’re living in different provinces. There were so many different kinds of rules and policies regarding the lockdown and the quarantine, so it’s a very, very challenging time to find labor.

[00:35:39] Actually, we worked very hard with our supplier, the companies, and also try very hard with the different government agencies to get a proper license so that we can send—we even hired busses go to their villages to pick them up. A huge effort from us, from our factories. It took us about a month and a half. The entirety of February… and March, actually, we were trying to get the workers back to the factory. I think that’s a serious issue. Now it’s 100 percent recovered in terms of the manufacturing capacity. We’re good now. So, we are facing different challenges right now.

Jean C. Oi [00:36:32] Chris, I just wanted to follow up for just a second. So, you had a very difficult time, Mr. Wang, getting the workers, but did you then hire new workers, or are you sending busses to get the workers that you had already employed?

Xiang Wang (王翔) [00:36:50] We preferred to get the already-employed workers because we don’t need to offer additional training. We buy face masks and other stuff to try to help them. We even supply them with food, in some cities we offer a dormitory for them. Yeah, we do everything we can.

Christopher Thomas [00:37:18] Thank you. So, Alvin, as an online company, right, which must have seen a lot of demand spikes, share a little bit about your challenges—the biggest challenge you faced during the COVID-19 time.

Alvin Shiqi Wang (王世琪) [00:37:33] 感谢 Chris。我被要求用中文发言，没问题。首先，我在疫情期间，我们最大的挑战实际上是两种的一个平衡。那么一方面，数据中心是要求绝对安全的保障；另
Christopher Thomas [00:38:45] Well, that's a pretty amazing accomplishment. I'm getting this huge takeaway so far that, even in the midst of this, people are going to run their operations, and no one got sick, right? Hopefully that's a very powerful message to the West. ZZ, you're part of a much larger global company. Share your biggest challenge in getting through this COVID time.

Zhiqiang (ZZ) Zhang (张志强) [00:39:09] I think the biggest challenge for us is really how to kind of navigate through all the unknowns. I mean, at that time, at every stage we were facing different challenges, and we didn't know—I mean retrospectively, it is probably easier to say, wow, we have different phases.

[00:39:25] We have about 40 factories in China, 14 thousand people all together. So, we need to really align all the people on the same standards and really go through this crisis with the leadership team. So right after the Chinese New Year, I would go through different phases, we are now realizing that, right? So, when first coming back, it was how to resume production with the limited people inside that city, because people are locked down. We have probably 10 cities to 15 cities with our benefactor facility.

[00:39:53] So, we were able to make an immediate decision and bought some face masks, actually from Saudi Arabia, N-95s. We bought a hundred thousand of those masks before anybody realized they would be...kind of national emergency equipment. So, we were able to actually get them into China in two weeks' time. So, all the workers will be equipped with masks. They will be feeling safe to work. So, the first phase was really to make sure the PPE was in place, the social distancing was in place, the people in the local...20, 30 percent would be able to start to work. That's the first phase.

[00:40:27] And then once you have people starting to work, you suddenly realize, wow, you know, you're running out of components. And there's only certain components you had right after the Chinese New Year, and then suddenly you're starting to consume them, and then you are not able to have all the components. Sometimes it's just a small one. The bigger ones are being looked after by the government, by the bigger suppliers.
But sometimes the tiny little small things, the nuts and bolts, they’re in the middle of nowhere, the company was shut down there, and they could not ship those components to us. So, we need to work with the government, we need to use the truck logistics my colleague was talking about, province by province, to make sure they [the components] come. So that’s the second phase I would say, the logistics—and we have to pay three, five times more for air shipments.

I think coming to that, after those logistics problems were solved, we moved into the third phase, which starts with the service. People started asking, well, look, you know, your product is so critical to the medical center, to the power supply, to the water supply, so, we needed to send engineers to maintain the product. Well, the country’s locked down. So, we need to check, for every province, how do we navigate through our service network and how do we do remote servicing, so that we would be able to keep them [our customers] going.

So, after that phase—that’s almost, I would say, two months—so that’s when we really get into the supply-side problem. And then we were lucky, [unintelligible], right? So, you have a short-cycle product that’s relatively easy because restocking is taking place, but now we’re facing the long-cycle product, which is the problem. There’s basically a lot of delay on the product. [Unintelligible] the product, they [our customers] put the order there, but they don’t really immediately need the product.

And then over the second half of the year, I believe, with the global economy slowing down, the visibility of the second half of the year is really challenging. So, every time you’re working with different challenges, the team needs to reorient its focuses. And luckily, I think so far, we have been… my colleagues, we don’t have any infections, and everybody is actually still motivated to work. And basically, we’re all together facing the challenge of the demand side.

Christopher Thomas: So that’s very, very interesting. It reminds me of my own personal struggle during the first six weeks. I had to work hard to get masks from the US to China for my family, and then after that, I tried to get the masks from China to the US for my family in the US, right, so we all face the same circumstances. Again, amazing stories. We are talking about companies with 40 thousand, 50 thousand, 100 thousand workers here, and the ability to keep going without getting people sick is a great accomplishment.

That was the past, let’s talk about going forward, right? We all face a new world. And so, going forward, what is the new normal? Are we just going to get back to the old way of doing business—old demand, old businesses—or will there be a substantial change? And to start that, I’d like to start off with Alvin from 21Vianet to share a little bit about how you see your future world changing.

Alvin Shiqi Wang (王世琪): 感谢 Chris。我们世纪互联从事的是互联网基础设施。我们从这次疫情的发生初期，包括【疫情】过程中，我们看到远程办公，包括企业的数字化升级改造的科学性会进一步的增强，我们也看到了很多的包容性的政策。未来的话，那我们相信这个数字化转型会成为所有企业发展的最强劲的动力之一。从世纪互联的角度来说，我们未来会面临着非常多的新业务发展的机会，同时我们也看到了很多的创新和升级的挑战。最主要的，我们看到的未来的发展的潜力，是在于传统企业的数字化升级和转型。在这个过程中，我们看到短期内企业转型是受到了一定的阶段性的影响，但是我相信这种转型一定是未来全社会，特别是传统企业未来发展的最主要的动力。我们世纪互联在互联网基础设施领域，无论是资源还是我们的产品和解决方案方面，都做好了这个充足的准备。谢谢。

[trans. Thank you, Chris. We at 21Vianet are engaged in Internet infrastructure. From the early stages of the outbreak and throughout the spread of the coronavirus, we have seen the scientific nature of telecommuting, including the digital upgrading of enterprises, being further augmented, and we have also seen many supportive policies. In the future, we believe that digital transformation will become one of the strongest driving forces in the development of all enterprises. With respect to 21Vianet, we will face
many opportunities for business development in the future. At the same time, we also see a lot of challenges associated with innovation and upgrading. Most importantly, we see that the potential for future development lies in digital upgrading and transformation of traditional enterprises. In this process, we see that the transformation of enterprises has been affected by short term, stage-specific impacts, but I believe that this transformation must be the main driving force for the future development of the entire society, especially traditional enterprises. In the field of Internet infrastructure, 21Vianet has made sufficient preparations, whether in terms of our resources, products or solutions, to meet this challenge. Thank you.]

Christopher Thomas [00:44:55] Very good. Thanks, Alvin. ZZ, [what's] the biggest change you face going forward as one of the world's biggest industrial suppliers?

Zhiqiang (ZZ) Zhang (张志强) [00:45:05] I think that’s two-fold: One is ourselves, one is our customers, right. So, for ourselves, we’re looking, actually, at further localization. Because we basically at ABB are running into regions, so we have China for APAC [Asia-Pacific], Italy, Finland for Europe, and we have the US for the Americas, right? We still import about 10 percent of our four billion, five billion products here in China and 90 percent were localized. But there was this 10 percent of core components, they are relatively IP-intensive and capital-intensive. So those are the components in the past [unintelligible] was insisting to make them in a certain country because of their economy and skills. We were not able to re-localize them. And now with this lockdown, with this pandemic, we’ve actually suffered from that. So, the argument that we had in the early days was basically, well, you know, you don't need it, I can ship them over, even just the logistics, it doesn’t cost you so much if you localize it... Now we say, look, you know, we cannot get them [the components] in this particular city. I think we will change that. We will probably make, probably 95, if not 99 percent of the components in the country for the region. I think the reverse will be probably the same. Europe will also do their part; Americans do their part. I think that’s our operation. And I see the customer side, as my colleagues talk about, very much… particularly in China, the digitalization, intelligent manufacturing, robots replacing human beings in every part of the manufacturing supply chain. I was going to talk a little bit about it. I can clearly see people are coming more to us. It will take some time. But I think this technology competition we’re talking about, the labor costs and also this pandemic will all push exactly in the same direction, that being intelligent manufacturing—robotics will clearly be in the future.

Christopher Thomas [00:46:56] Got it. That's very clear. Xiang, what will be the biggest change for you?

Xiang Wang (王翔) [00:47:03] I think in our industry, because we are selling smart phones and smart devices, consumer IoT devices, and offer Internet services… in our industry, I think we don't see a very big change due to COVID-19. But I think we are lucky because our product, for example, smartphones and some of the other consumer IoT products, are kind of… fall into what we call “essential products” for people. Right? We see we see a strongly rebounding marketing in many countries, not only in China, because of that.

[00:47:55] So, I think one thing, maybe, we want to put more focus on, should be online channels. During COVID-19 in China, actually, a lot of products, including smartphones and also other products, like face masks, were shipped to the consumer through online channels. I think that will be a very important channel in the future, even more important in the future, not only in China, but outside of China as well—India and other countries. I think this should be a new change for us. This is what I think.

Christopher Thomas [00:48:39] That's very interesting. Sort of a consistent thing around digital transformation in different modes, right? Because you’re different types of companies, B2B versus B2C.

[00:48:51] The next question was going to be about biggest opportunities due to the new normal, but we've already mentioned that, right? So, let’s talk a little bit… we also have to deliver the numbers, we
also have to do business in a world where demand is weak, for perhaps a long period of time. And even though tech companies may be doing better, when we talk about different worlds—you guys are the companies that are in the good world right now—what do you see as the biggest challenge that you will face? Either as a company or personally as a leader and a manager going forward in this in this next two to three years as the global economy recovers?

[00:49:31] And I believe Simon has had a technical issue. So ZZ, if you could please share your biggest challenge, you'll face over the next two to three years as you navigate through this.

Zhiqiang (ZZ) Zhang (张志强) [00:49:44] Well, I think the biggest challenge, as I alluded to a little bit earlier, I think is the B2B digitalization. I think for B2C in China, we have this B.A.T. [Baidu, Alibaba, Tencent], in the US it’s [unintelligible], they probably mastered the whole majority of this digitalization of the B2C world. And China’s probably one of the countries that drives the B2B digitalization, I would say the front runner of the countries. I think with this… US-China, with this decoupling, and trying to move the supply chain out of China to the US, to Southeast Asia, I think I can see a lot of local companies feeling the pressure to reduce their costs. And to reduce their costs, they need digitalization. They need robotics, they need 5G. They need a new way of manufacturing, a new supply chain.

[00:50:36] And we had an advantage in the past, but we clearly see that there are so many Chinese companies jumping onto this bandwagon and trying to be a future competitor in the field. And I mean, like the digital B2C, I think B2B also will have a different competitor’s landscape. In the rest of the world we have the four big robotics companies, for example, KUKA, ABB, FANUC, Yaskawa, you know these four big guys occupy probably 90 percent of the market share. In China alone, we probably have about a hundred robotics companies that are popping up in every part of the country. And everybody, because in B2C, you need the domain knowledge, you need to complete a project—it's not only about the product, it's about the solution. It's about platform. It's about knowing the process engineering. And that's why you give—you know, you open the door for the competition. So we, in terms of opportunities, see a bigger market.

[00:51:33] I would say the challenge is, how do I make sure this product is being multiplied in different industries so that they are competitive to the new competitors from China and from the rest of the world? And if we are going to lose that, I think we're going to lose the future. It's really vital for the company. And we are fighting very hard to win that battle.

Christopher Thomas [00:51:55] When you—just to ask a follow on for that—when you take a look at that, and obviously always in China, you face a different local competitor set, what are your big customers in China thinking about when they think about suppliers to buy from? Do they care about localization of their supply chain base? Because traditionally they've built these on the back of MNC technology. Are they looking to localize? Are they very open to global suppliers in this space as well?

Zhiqiang (ZZ) Zhang (张志强) [00:52:23] I think with two or three different groups… I would say multinational companies—traditionally automotive, for example—they will probably continue using us or their traditional suppliers, FANUC and ourselves. But if you’re looking into the new companies, into the new field of logistics companies, the new kind of… let’s say the medical industry, they are open for new solutions because they are on much smaller scales. They do not really need the precision, they probably don’t really need 500 or 200 robots, they need five to 10, but it’s very flexible.

[00:52:58] So, the speed and the cost for those guys will be much more important. And that's a different ballgame to us. Like putting 200 robots on [unintelligible], right? So that, to me, is the biggest competition. And that’s actually the breeding ground for the competition. It’s always like that. Huawei started that way as well. They go to the places they want to go, and then they grow out of that place.
Christopher Thomas [00:53:19] Alvin, you said the big opportunity is digital transformation, but as you broaden this company the next few years, what’s your biggest challenge, on the business side or the personal leadership side?

Alvin Shiqi Wang (王世琪) [00:53:32] 我们从事的数据中心行业，应该说目前是整个国家促进经济发展的新基建政策中最重要的组成部分之一。我们现在看到这个行业是非常热门的，应该说仅次于地摊经济 right after the street-vendor economy。但同时我们也面临着比较大的挑战，挑战主要来自于这么几个方面：首先是人才，数据中心行业，应该说还是一个快速发展的行业。这个行业之前的规模比较小，现在面临着巨大的增长空间，人才是我们一个非常大的挑战。

[trans. The data center industry in which we are engaged can be said to be one of the most important components in the new infrastructure policy needed to promote the economic development of the entire country. We see that this industry is now very popular, it is second only to the street-vendor economy. But at the same time, we are also facing relatively big challenges. The challenges mainly come from the following aspects: first, technical talent. The data center industry continues to be a fast-growing industry. The size of this industry used to be relatively small, and now it faces huge room for growth. Lack of technical talent is a very big challenge for us.]

[00:54:12] 另外一个维度就是竞争，我们刚才讲到了这个行业是如此之热门，众多的投资者、投资机构包括不同的厂家都希望进入这个行业。这个行业其实是一个长周期的业务，未来有可能出现短期的结构性的强竞争，甚至是结构性的供应过剩。我们认为这是短期和结构性的。

[trans. Another dimension is competition. I just mentioned that this industry is very popular. Many investors and investment institutions, including different manufacturers, want to enter this industry. This industry is actually a business with a long cycle. In the future, there may be fierce short-term, structural competition or even structural oversupply. We believe this is short-term and structural in nature.]

[00:54:45] 第三，就是行业的增长。虽然说我们看到了非常强劲的增长趋势和潜力，但长期的增长还依赖于全行业全社会的这个经济复苏和成功转型，特别是我们的传统客户。因为我们的客户虽然是在线视频、在线教育公司，但最终的消费者仍然是全行业各个不同的类型的终端消费者，只有他们自身所在的公司转型成功并带动个人收入的增长，才能促进我们真正的长期有效的发展。这一点也应该说是我们的共同的希望，希望整个社会的经济能够有一个快速长期的恢复。谢谢。

[trans. The third is the growth of the industry. Although we have seen very strong growth trends and potential [in this industry], our long-term growth will depend on the economic recovery and successful transformation of the whole industry and the entire society, especially of our traditional customers. Although our customers are online video and online education companies, our final consumers are still different types of end-consumers in the industry. Only the successful transformation of these [traditional] companies can drive the growth of personal income and promote our true long-term and effective development. This is also our common hope, the hope that the economy of the entire society can have a quick and long-term recovery. Thank you.]

Christopher Thomas [00:55:32] Yes. I like the comment that your biggest challenge is that your industry is too popular! That’s a good thing. But it is a challenge, and your industry is popular and it’s a very high capital expenditure industry, right? That could lead to a ferocious margin war. And I think that that’s really the results of the survey we saw, and we have to think, how long can high-tech and online be doing well if all the rest of the economy is doing poorly? How long can you continue that? You need the rest of the economy to recover to drive fundamental demand. But Xiang, for you, biggest challenge? Hundreds of countries, millions of consumers, billions of devices. What’s your biggest challenge going forward?

Xiang Wang (王翔) [00:56:14] I think it’s going to be the uncertainty of the economic impact from COVID-19. So, we are in 90 different countries and the impact from COVID-19 is different. So, there are still a lot
of uncertainties in many, many countries about COVID-19. The economic impact of those countries are all very different. The concern is that COVID-19 will continue, further slowing down the GDP growth for each region, and will lower the income level of the normal consumer. So that's a concern. So that means slowing down the market development plan for those countries. That will further impact our business. That's the challenge for us.

I think we also see opportunities. Due to COVID-19, people realized that they can do many things remotely. From home, from different other places, they can get their job done, they can do many other things besides their normal work. So, I think the infrastructure technology is ready, which will be 5G. I think 5G is going to be an opportunity for us and for many others, I believe. The technology will enable the normal consumer to do everything remotely. We will see people will use 5G more.

So, we will drive the cost of a 5G device down to a mass market level, so that we can accelerate the adoption rate for the 5G technology, in China first, but also Europe and other places where they have a plan to deploy 5G as a technology. And also IoT, the same thing, we want to connect everything. We are trying to connect everything together. So right now, we have over 200 million, 250 million connected consumer IoT devices in the cloud. We'll continue to push that to make people's lives easier and more efficient. That's an opportunity for us and for many others in our industry. I think that gives us hope for the future. Very good.

Christopher Thomas [00:59:05] Very good. I believe, Simon, you're back on now. So, we'll come back to you on the same question if your video is working again--Biggest opportunities and challenges over the next two to three years from COVID-19 or other things going on in the industry.

Simon Yang (杨士宁) [0:59:22] Hi Chris. Yeah. As you know, we are a chip manufacturing company. We do need to go toward more digitalization and more automation for sure. But in terms of new opportunity, frankly, I do not see much. Basically, we see that in certain segments our demand will be reduced somewhat, in certain other segments, our demand will increase. So, from our perspective, we just need to keep on doing a good job.

But for things that kind of impact our daily operation, basically, what we are doing is that, we need to have a standing plan to be able to let 80 percent of people work from home, and still get 80 percent of the work done correctly. So, we're kind of ready to execute that at any moment if, for example, the pandemic situation explodes again. But in general, we are now moving forward pretty normally, except that we still need to wear a mask when we are in meetings.

Christopher Thomas [01:00:47] Very good. Very good. And as both Simon and I are semiconductor guys, I love the fact that he's in a fab [fabrication] room right now wearing his badge, right? I would be the same way if I was still at Intel.

Alvin Shiqi Wang (王世琪) [01:01:05] 谢谢 Chris。我刚刚意识到参加这次 panel 的几位 leader，组成了一个非常好的 value chain，一个价值链。小米的王翔王总，是 5G 的这个领导，同时也是我们的重要客户。因为 5G 的业务发展同样也离不开数据中心和云计算。同时呢，Simon 是做存储，存储的这一方面提供给终端消费者产品，同时也是数据中心云计算的最重要的科技和产业的提供者。我们数据中心行业，又需要大量的基础设施的建设，ABB 也是我们重要的合作伙伴。我相信，我们 panel 里边的各位同仁，可以共同努力科技行业里提供更大的创造性和更大的价值，为了整个经济发展提供更好的贡献。特别感谢 Chris 和 Stanford【China】Program 把我们连接在一起。谢谢。

[trans. Thank you Chris. I just realized that the company leaders who are participating in this panel form a very good value chain. Wang Xiang, President of Xiaomi, is the leader of 5G; and is also an important
customer of ours because 5G business development is inseparable from data centers and cloud computing. At the same time, Simon is doing data storage. On the one hand, data storage provides products to end consumers, but it is also the most important industrial supplier of technology for data centers and cloud computing. Our data center industry also needs a lot of infrastructure construction, and ABB is also our important partner. I believe that all of our colleagues on the panel can work together to provide greater creativity and greater value in the technology industry and provide better contributions to the overall economic development effort. Special thanks to Chris and Stanford [China] Program for connecting us together. Thank you.

Christopher Thomas [01:02:16] [In Chinese] No problem. [In English] Thank you very much, so sometimes we do plan well here at Stanford. So, with that, let's move onto… we've got a great synthesis of what we did in our opportunities, our challenges. Another big challenge every company and country in the world faces is a deterioration in global geopolitical relations across many vectors. And one thing that this is really having an impact on, of course, as we saw from the survey results, is around the technology industry and the ability of people to access each other's markets, and the ability of people to access each other's technology, which are both at risk in a decoupling world.

[01:03:00] Considering this situation as businesspeople—we're all businesspeople just trying to make money and sell products—how can we deal with this? What are our issues around technology access and supply chain strategies in this challenging time? I'm first going to hand off to Simon on this one.

Simon Yang (杨士宁) [01:03:18] Yes, Chris. For our segment, frankly, the situation is very unstable because we do rely on a global supply chain. We cannot continue to operate without a very predictable equipment supply, material supply from many countries. So, in the current situation, we are, frankly, getting a little bit lost on the principle and the value base, since the government makes decisions. So, at this moment we basically are doing our best to minimize the dependency on those kinds of situations. But frankly, it's not very successful yet.

Christopher Thomas [01:04:22] Mm. ZZ you mentioned a little bit before about supply chain localization. What else are you doing globally as a company around technology access and access to core components?

Zhiqiang (ZZ) Zhang (张志强) [01:04:34] I think, you know, we talked about this… a lot of the world is talking about decoupling. We think actually, in China, what our leadership team is proposing to our global leadership team, is dual track technology. So, we actually believe that in China there will be multinational technology coming from the US, coming from Europe, but there will be indigenous technology as a backup solution. So, both solutions will coexist at the same time. And that poses opportunity, but at the same time, actually, a lot of challenges for the company. I mean, we have about 15 percent of all of our global sales coming out of China. So, it's the number-two market, it's pretty big, but it's only 15 percent.

[01:05:15] So, we're trying to really make sure to identify what are the core components we depend on US technology and European technologies for. We are saying what we will need, how much money, how long, how much time it will take us to have a backup solution. Because we firmly—we sell about 30, 40 percent of our products, probably, to SOEs [state-owned enterprises]. So, in case one day, just like enterprise risk management, you think your customer will be on the [US] Entity List or your customer will not be able to buy anything from multinational companies, so we need to have local solutions.

[01:05:49] We are not successful in every case because the math sometimes does not add up. And if you're only 10, 15 percent of the global volume, you want to build up a second technology. Obviously, that's a challenge. But I think at the same time, we're trying to convince the business leaders in headquarters that it will be the case: We firmly believe dual-track technology will be in China. If we are
not going to have that second source solution, that's also giving the ground for the local competition to move onto both tracks. And then we will be pushed into a corner in five to 10 years.

[01:06:26] So, I obviously hope that this technology decoupling in the world arena will not be as bad as we all suspect, or hopefully the relationship will improve, because I think the world would be much better if we worked together as a whole supply chain, so we can depend on each other. I think depending on each other is so much better than being independent from each other, because we pose a lot more of a threat to each other in the latter scenario. But I think as a company, as businesspeople, that we have to make a backup solution for the risk that eventually we'll decouple. There are one or two areas where we are successful, but there are some areas that need a lot more investment and a lot more time. With the pandemic hitting the company, I'm not sure I'm going to win that battle, but let's take it one step at a time, right?

Christopher Thomas [01:07:12] Very good. Xiang, you can have the final word on this question.

Xiang Wang (王翔) [01:07:17] Yeah. This is a very big question. Actually, I personally am a strong believer in globalization. So, the reason is very simple. Given a smartphone as an example. No one in this world, now, can make a smartphone on their own. The technology is so complicated, it must be a global collaboration from many, many companies—the researchers, the scientists—it's a combined effort to make that product. So, decoupling actually will reduce the efficiency, right? So, if we have to do it, that means the cost for everybody is going to be higher, then the consumer will pay the price. That's not very good.

[01:08:20] That's why Xiaomi, as a startup company many years ago, 10 years ago, was founded by a group of engineers. They adopted the latest technology from Qualcomm, Google, Microsoft, many technologies from Europe, and then made their own contribution to make a smartphone. And also, they are funded by a global VC firms, investment institutions… it's a global company, right? Now we are in 90 different markets. So, we think we will continue to build a stronger partnership with the existing technology partners, but we have been doing that from day one when we were founded, right? So, we don't see any issues near-term, but the uncertainty is there.

[01:09:22] So, we are trying to diversify our supply chain, of course, to minimize the risk, just like ZZ said earlier. But we still think the globalization, the collaboration, will be a much better solution than decoupling. This is what I understand.

Christopher Thomas [01:09:53] Yeah, you all collectively mentioned three major business costs of decoupling. One is, you need to, instead of doing global R&D on one solution, you split that R&D across two solutions, which just means you have duplicative R&D. The second one is, customers need to maintain dual supply chains, which we all know means a lot of extra engineering costs. And then thirdly, we have to replicate and coordinate a broad ecosystem. And there's huge coordination costs just to maintain one ecosystem, maintaining two doubles the level of coordination costs. And it's not able to [unintelligible], so let's just hope that as many people as possible hear this message and we can all figure out a way to avoid it.

[01:10:34] But I do just want to say thank you very much to my very good friends for joining. Some tremendous comments. And Jean, please take it away.

Jean C. Oi [01:10:40] Let me just say that as an educator, I see my role as to further this understanding between the US and China, and particularly to have students better understand China. And I think that today is a wonderful example of how we can further communication between academics as well as the business community. And I think that this program is a wonderful beginning to really show the variation within China. As Alvin was saying, China is a big country and there's a lot more to it than just Beijing and
Shanghai! And so, I think this has been a wonderful start, and I want to thank you very much, and I want to thank the audience. It's been a fabulous program. And thank you, Chris and Xander, for coming to us with this idea. So, thank you very much. And please stay well.