

## **AAIG 2021 SUMMIT WEBINAR 1 TRANSCRIPT - JEFFREY TARAYAO**

### **Preparing the New Workforce for Industry 4.0**

Good morning friends and thank you for spending your TGIF morning with us. My personal thanks to the UST Alumni Association for having me today. I think the earlier presentation of Don has really painted the scenario that our graduates face in the light of Industry 4.0 particularly its workplace. So let me add some more thoughts particularly what educational institutions can do, in most occasions, universities not only to prepare our graduates but also transform the learning experience that may endure subsequent industrial revolutions in society because earlier this year there were talks of industry5.0 already you know. So we already heard how technological progress is enabling machines to compete or to complete many of the tasks that once required human beings. Nearly every job will change. Many quite profoundly and the overwhelming majority of today's employees will need to develop new skills. Thus, universities will play an important role in nurturing high skill talent the country needs for sustainable economic growth. However, the automation revolution has been accelerated by Covid-19. Companies are emerging from the crisis into a workplace of physical distancing and major changes in customer behaviors and preferences. Before Covid-19, the largest disruptions to work involved new technologies in growing trade links. Covid-19 has for the first time elevated the importance of the physical dimension of work. It has propelled faster adoption of automation and AI or artificial intelligence especially in work arenas with high physical proximity. And recovery is forcing organizations to re-imagine their operations adapting to digitally driven operations and customer journeys. Let me share with you some thoughts from the McKinsey Global Institute. *[(Video playing; video transcript) Covid-19 has reshaped the world in ways that will endure long after the pandemic ends. Remote work is here to stay. E-commerce is soaring. Automation is accelerating. Our research indicates that the mix of available jobs will change as a result creating more urgency for training workers for the changes ahead. More than 100 million workers in our focused countries or one in 16 may need to switch occupations by 2030. Job growth will be more heavily concentrated in high skill jobs while middle and low skill jobs decline. The explosion in e-commerce set off a scramble for warehouse workers that is unlikely to stop. Investment in the green economy will increase the need for wind turbine technicians. Demand for photographers may grow to address our increasingly visual ways of communicating. Aging populations in many advanced economies will increase demand for nurses, home health aides and hearing aid technicians. Teachers and training instructors will also continue to find work over the coming decade. But the forces unleashed by Covid-19 have put other jobs at risk. Business travel is unlikely to recover quickly and that affects flight attendants, airline mechanics and baggage handlers. Use of self-checkout stands accelerated during the pandemic displacing some grocery store clerks. Companies have deployed robotics to process routine paperwork replacing office workers. We are entering an era of occupational*

*transitions. An era that demands answers to three key questions: What new approaches to training can support the millions of people making these transitions to protect the social fabric?; What benefits such as sick leave and unemployment insurance are needed for all workers including gig workers?; Can business and government leaders come together to create solutions not only for navigating the pandemic but for navigating the post-pandemic world of work..]* So I think the pivotal reality is that those changes will have significant effects on the requirements for workforce skills and capabilities. Particularly in two types in which it forces up skilling in which staff gain new skills to help in their current roles, and reskilling in which staff need the capabilities to take on different or entirely new roles. Companies will need people with the right skills to develop, manage and maintain their automated equipment and digital processes and to do the jobs that machines cannot. When I was in HR or working in HR 20 years ago and doing organizational development, the most common term we hear was right sizing. Today the operative term is right skilling. The right skilling can actually start earlier on in the university. Of course through probably the development of education 4.0 designed for the learner 4.0. But this may also be achieved by maximizing the ecosystem where educational institutions belong to transform into an innovation based and futures thinking based educational institution. Therefore, a shared value relationship between educational institutions and companies, blueprinted probably by policymakers can help facilitate workforce transitions. Universities must exhibit extraordinary flexibility and adaptability in responding to this reality with purpose and innovation that point to more inclusive future of work. Let me offer a number of solutions. First, enhance the campus experience by expanding their digital infrastructure and info structure. I think the fundamental, or I think fundamental to this preparation is expanding and enhancing the digital infrastructure in the learning space including those who are studying remotely. Digital skills must be built-in; institutions should have modern workplace skills and focus on training their faculty to build digital skills to develop fully able students for the workplace. Improving students cognitive learning abilities are enabled by adapting technological applications. And while doing this, soft skills should be made indispensable with a mix of problem solving social skills and process skills. Inherent to this transformation is digital integrations ensuring system interoperability, scalability, extensibility, as well as data integrity, security standards and governance across multiple applications and platforms in schools or university processes. This environment prepares our students to an integrated digital life. I know some companies that are shifting towards integrations and they are moving to hiring more solution integration developers rather than application specific developers. To institutionalize this transformation, an educational institution might want to consider appointing a chief innovation officer. Second, constantly update the skills development agenda with a clear strategy for STEM education. We have to remodel the curriculum with an emphasis on STEM and futuristic subjects. Employers are challenged with a short pipeline of STEM skilled workforce and bank on educational institutions to prepare the future workforce or sometimes even up skill the present

workforce. Tiger economies such as China, Malaysia India and Singapore, in a quest to build their economies, focused on offering STEM programs in their institutions. And so we must identify and correct long-standing imbalances in the educational systems and make up for long delays in developing science and technology capabilities. More than increasing the number of STEM-based workforce, STEM plays a crucial role in our ongoing quest for sustainable development. Third, expand the ecosystem of learning by co-locating programs with corporations or probably tie up with corporate universities. I believe now more than ever smart and strategic industry and academic partnerships must be more integrated and value enhancing to both. While philanthropic donations are still needed, shared value programs must also be high in the agenda. Some programs include shared laboratories for innovation and incubation encouraging innovation competitions, field projects, applied research, action research, faculty employee exchange programs and aligning learning enrichment programs for both students and faculty with corporate universities. Beyond engaging the alumni for philanthropy, engage them to expand the ecosystem of learning through impactful business partnerships, research impact investing and incubation. Finally we have to transform the campus as a hub not only for learning best practices but the staging platform for next practices. I think universities are not only suppliers of talent for the workforce but must be at the forefront of solving problems for industry and the community. A university must become a one-stop knowledge center for firms, industry associations, government agencies and community organizations. And we must all help in developing intellectual capital in our educational institutions for continuous knowledge creation and transfer. Governments, for example, may provide incentives for educational institutions fostering innovation. We know that countries with highly developed blueprints of their national innovation ecosystem are able to adjust easily to the changes in the global economy if not shaping these changes. In conclusion, if education 4.0 is how we should help transition our students to industry 4.0 then it must also be a purposeful transformation to the learning experience by emphasizing to students, faculty members and school administrators to take on challenges head on. I think this summit which we started in 2019 is an important down payment for that transition and we thank the UST Alumni Association and its partners for underwriting that down payment. The balance, and we all have roles to play, will be paid by experimenting together, sharing knowledge, welcoming new partners and by harnessing the actions of the academe, alumni, industries and governments. While we have seen time and again in our country that the better appreciation of science, technology and innovation is held back not by technical limitations but rather by social inertia sometimes through out-dated regulations and institutional barriers. Schools by design are hubs for experimentation and pushing beyond the norms of the day. I continue to believe that when society doesn't know how to do something; schools are where you go to solve those problems. Thank you very much for the opportunity to share my ideas with you today and good morning