Session Notes

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We are seeing people of all ages and socio-economic backgrounds stretching to utilize technology. May people are staying connected and we are seeing that technology platforms can be effectively utilized as one method of communication, during this time period in which social distancing protocols are in effect. Because of this pandemic we are using technology more and there are some good things coming from out it.

According to the World Economic Forum, The COVID-19 the pandemic has accelerated 10 key technology trends.

1. Online Shopping and Robot Deliveries

Similarly, COVID-19 has transformed online shopping from a nice-to-have to a must-have around the world. More people are doing it and this trend will only continues.

2. Digital and Contactless Payments

Cash might carry the virus. Now, contactless digital payments, either in the form of cards or e-wallets, are the recommended payment method to avoid the spread of COVID-19. Digital payments enable people to make online purchases and payments of goods, services and even utility payments, as well as to receive stimulus funds faster. We are seeing more people adopt digital payment.

3. Remote Work

Many companies have asked employees to work from home. Remote work is enabled by technologies including virtual private networks (VPNs), voice over internet protocols (VoIPs), cloud technology, virtual meetings through work collaboration tools like zoom.

4. Distance Learning

As of mid-April, 191 countries announced or implemented school or university closures, impacting 1.57 billion students. Many educational institutions started offering courses online to ensure education was not disrupted by quarantine measures.

5. Telehealth

[Telehealth](#) can be an effective way to contain the spread of COVID-19 while still providing essential primary care. Since people are avoiding hospital, Doctors providing care through telehealth. Wearable personal devices are being used to track vital signs.

6. Online Entertainment

Although quarantine measures have reduced in-person interactions significantly, human creativity has brought the party online. Online streaming of concerts have gain traction around the world. How many of you have listened to online DJs. [Museums and international heritage sites](#) offer virtual tours. There has also been a surge of [online gaming traffic](#) since the outbreak.

7. Supply Chain 4.0

The COVID-19 pandemic has created disruptions to the global supply chain. With distancing and quarantine orders, some factories are completely shut down. While demand for food and personal protective equipment soar, some countries have implemented different levels of [export bans](#) on those items. [Heavy reliance on paper-based records](#), a lack of visibility on data and [lack of diversity](#) and flexibility have made existing supply chain system vulnerable to any pandemic.

Technology such as Big Data, cloud computing, Internet-of-Things ("IoT") and blockchain are building a more resilient supply chain management system for the future by enhancing the accuracy of data and encouraging data sharing.

8. 3D Printing

3D printing technology has been deployed to mitigate shocks to the supply chain and export bans on personal protective equipment. 3D printing offers flexibility in production: the same printer can produce different products based on different design files and materials, and simple parts can be made onsite quickly without requiring a lengthy procurement process and a long wait for the shipment to arrive.

9. Robotics and Drones

COVID-19 makes the world realize how heavily we rely on human interactions to make things work. COVID-19 provided a strong push to rollout the usage of robots and research on robotics. In recent weeks, robots have been used to [disinfect](#) areas and to deliver [food](#) to those in quarantine. Drones have [walked dogs](#) and [delivered items](#).

10. 5G and Information and Communications Technology (ICT)

All the aforementioned technology trends rely on a stable, high-speed and affordable internet.

A new pew research center study conducted in early April finds that roughly half of the US adults say the internet has been essential for them personally during the pandemic.

However, as we all know there is generally a direct correlation between your socio-economic status and your ability to effectively utilize technology. This is often referred to as the digital divide.

One of the problems is that this acceleration of the use of technology is making the digital divide much bigger. As we all know many of those at the bottom of the economic pyramid, and that number is only growing, are struggling.

People who are able to fully take advantage of all that technology have at several things at their disposal.

- High speed internet
- The right Computer hardware which generally includes the right smart phone
- An understanding of how to effectively use technology which often means access to a technology expert.

One Penn State study states that the vast majority Pennsylvania's residents do not have access to high-speed internet services. That study says upwards of 11 million people do not have access; there are only 13 million people in the state.

Having high speed internet requires a couple of things
- You must be in a location that offers high speed internet
- You must be able to afford it.

Even if you live in a place that has access to high speed internet, If you can't afford to put food on the table or your rent is behind you most likely can't afford broadband or to pay for the data usage plan you need to effectively utilize your cell phone.

Remember, before COVID-19 many of the people we serve would use libraries or their computer at work to get access to high speed internet. Both of those options are not available today.

What can we do? See the model below for items to consider.

Inclusive Innovation

The means by which new goods and services are developed for and/ or by those who have been excluded from the mainstream; particularly those living on the lowest incomes.

- **Level 1/Intention:** an innovation is inclusive if the intention of that innovation is to address the needs or wants or problems of the excluded group …

- **Level 2/Consumption:** an innovation is inclusive if it is adopted and used by the excluded group …

- **Level 3/Impact:** an innovation is inclusive if it has a positive impact on the livelihoods of the excluded group …

- **Level 4/Process:** an innovation is inclusive if the excluded group is involved in the development of the innovation …

- **Level 5/Structure:** an innovation is inclusive if it is created within a structure that is itself inclusive …

- **Level 6/Post-Structure:** an innovation is inclusive if it is created within a frame of knowledge and discourse that is itself inclusive. …

1. **What challenges does your organization experience with inclusion in technology and innovation?**

2. **What solutions has your organization been able to implement?**

Recommended Solutions

- **Always ask WHO is being left out?**
- **Try your best to solve the problem. Is it a hardware issue? If so can you get them a computer. Can you provide a cell phone subsidy?**
- **Be creative - You will see this creativity in action in the next sessions**
- **Work to partner with those in the tech sector**
- **If you cannot solve the problem with the technology solution use traditional methods of connecting and communicating with your constituents.**
- **Advocate for broadband and funding for technology in schools**
  - **State Level; Restore PA**
  - **Federal Level: Infrastructure funding in the Cares Act**

Always Remember. There is a lot technology can do but a lot it can't.