Define ICT

Information and COmmunication Technologies

Michael Winder

Univerity of WIsconsin-stout

ICT 700

Professor Reisinger

December 17, 2023

2023

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## Defining Information and Communication technologies

When was the last time you sat down at a computer? How about watching television? When was the last time you called someone from your smartphone? These are things that we as a population take for granted. Everything around us today uses some type of communication, whether it is Bluetooth, cellular, wireless, everything communicates, and is connected to the internet. But how is all this connected? That is the big question, but to answer it could be more difficult. The simple answer is the internet, which in turn is based on concepts of information and communication technology. But that does not really answer what information and communication technology is; a better definition of information and communication technology is “information and communication technology (or technology), is the infrastructure and components that enable modern computing” (Pratt, 2019).

## ICT by Region

The Food and Agriculture Organization of the United Nations which the United States is in a leadership role of, refers to information and communication technology as a broader term for information technology. In that context, information and communication technology refers to all communication technology which covers things such as the internet, cell phones, software, middleware, and other forms of communication which enables users to manipulate information in a digital form (AIMS, n.d.). This group’s focus on ICT has allowed them to create a new group to specifically study and work on technology for agriculture. Also, by using ICT, this group has been able to create toolkits that other countries are able to use to create or modify their own e-agriculture strategies.

In Europe, the European Regional Development Fund (ERDF) had made over 20 billion euros available for ICT investments previously. This allowed for infrastructure upgrades, development of products and services along with strengthening ICT applications for different ‘e-type’ applications. The focus of the ERDF was to work throughout the European area to connect more people to the internet. By working to connect more people, the ERDF has been able to work to influence younger people to embrace technology and possibly even influenced them enough to start a path towards working within the field of technology in some form.

Australia, specifically the Bureau of Statistics (ABS), has a similar view or definition of information and communication technology to AIMS of the United Nations. But they go a bit further and mention “The ICT industry combines manufacturing and services industries whose products primarily fulfil or enable the function of information processing and communication by electronic means, including transmission and display. The ICT industry contributes to technological progress, output, and productivity growth. Its impact can be examined in several ways: directly, through its contribution to output, employment, or productivity growth, or indirectly, as a source of technological change affecting other parts of the economy” (Australian Bureau of Statistics, 2022). The ABS goes on to mention that ICT has a range of events or pressures that can create change in technology.

## The Global Impacts

In the United States, the term information and communication technologies while like Europe and Australia goes into mentioning of how the networked computers and communication devices have become essential tools for anyone and everyone in today's world. In fact, the definition even goes as far as mentioning things that have not been developed yet. The largest difference in ICT between the United States and other countries is the availability of the technology needed to connect everyone to the internet or communication devices needed. One of the clear differences, although this gap may be closing at this point, is the use of technology in the classroom. While most if not all schools within the United States have technology available for all students that attend, there are still countries outside of the United States that struggle to keep up with current standards within the technology world for their students.

While other countries have slowly began to catch the United States in recent years, when it comes to ICT, the United States will continue to be a leader and at the forefront of ICT. This is because many of the major corporations that push the growth of ICT as based out of the United States, and the United States has the largest technology market in the world (Mordor Intelligence, n.d.). When you look at the state of technology, many of the companies that are leading the change and development of new technologies are based within the United States. While there are some companies that are outside the borders of the United States, they do not seem to be pushing the boundaries of technology like ones based in the United States.

So how has ICT been able to influence the global economy? Well, that answer may seem simple, it allows us to buy products from anywhere in the world that we want, which creates an influx of money into that area. But I beg to wonder, what does that mean, does this mean that eventually all countries will have a similar lifestyle? This author would say no. While ICT and the global economy are a good thing to spread technology across the world, it can also cause an issue of divide. According to one article, “As ICT develops and spreads, however, worries about the digital divide between the wealthy and poor arise at both the individual and national level” (Sang-Oun Lee & Hwang, 2017). These divides can be furthered by the political differences of each nation.

## My view and definition of ICT

When looking at the world today, the term ICT to me is anything and everything technology, while this sounds like a simple answer, it begs the question why? Well, simply put, Information and Communication technology is such a broad spectrum of ideas, thoughts, techniques, and technologies that make the world simpler. For instance, would anyone today be able to function without a cellphone? Or would online classes be possible without a computer or high-speed internet connections? I say no. And when it came down to me talking to family and friends about this new stage I have stepped into in my life and they asked why I was doing this, or the “Why did you choose to seek a degree in ICT?” The answer for me was simple, technology is not going anywhere. In fact, the only place I see technology headed is up, to bigger and brighter things, and I want to enjoy the ride and help people get to these places also.

## History of ICT

The history of technology is an amazing tale. When you look back in time, just a mere 200 years ago, the leading technology of communication and information was writing a letter to someone, and then sending it to them, and waiting for a response. Not long after that, a means of communication came along that allowed someone to talk to another person miles away, if they understood morse code, and had a machine to send/receive the communication. From here the technology of information and communication technology grew exponentially over the following centuries. To what we all know now as the internet, cellphones, and all other forms of communication. Without these advances in the beginning, we might not be where we are today. These changes in technology allowed humans to communicate in ways that they were not able to previously and began to stem not only growth in cities across the world, but also allowed for the growth of population outside the city as people could still communicate. This then allowed new cities to form, and the world to continue to grow.

When looking a bit closer, down to the state level, the history of the state of Wisconsin, it has been around almost as long as the telegraph, the first major global ICT to be recognized. This means that when Wisconsin became a state, there could have been an immediate influx of technology to the state as people would want to be able to communicate with each other, if that technology was not already there.

At the organizational level, the first company that comes to mind that I have worked for would have to be Walmart. This is a company that started very small with one location and kept inventory on paper pads. And has now grew to be the largest company in the world and maintains an inventory of billions of dollars in databases. When looking at some of the changes or improvements that Walmart has made in the retail industry, they have been a leader and an influencer when it comes to how retailers not only keep track of inventory, but also how they use that information to interact with customers. They have also been able to influence not only other retailers, but companies in general around the world on how large companies can help combat climate change. They have been able to influence this by leading a ‘green’ initiative company wide and being very open about what their plans and goals are.

On a personal level, my history with ICT goes back to my first home computer. I still remember it to this day. And while I would still be embracing technology in its current form, I wonder if it was not for that first home computer and learning how it all worked. if I were in the field of work that I currently am in. Or would I even be taking these master level courses to obtain a degree in ICT. That first computer I believe put me on a path to learn as much as I possibly could about all aspects of technology, and I to this day, and still not stopped learning when it comes to ICT especially.

## Multicultural/ Philosophical

When looking at the global implications of ICT, specifically looking at cultural affects, it is hard for this author to not talk about how technology has rendered our society a type of society that lacks certain qualities. While there has been cultural progress within ICT specifically regarding economic development, society seems to be regressing. Globally economic development has been moving forward at a pace that runs concurrently with the pace of technological advancements. However, this pace has also caused the formation of society that is starting to lack social skills, because there is a limited amount of personal communication that is not over technology. But a more important question I think must be asked, are these cultural/economic influences creating a rise in the need for better/faster technology; or is technology influencing the economic/cultural aspects of society. As mentioned, in an article, “Cultural factors have been shown to be important in ICT usage behavior there also have been theoretical propositions that suggests that the beliefs and values shared among group of people have influence on people behavior towards ICT implementation and change” (Agarwal, et. al, 2016).

Looking a bit closer to home, in my current state, there are still several aspects of old-world thinking intertwined with new age technology. To elaborate a bit more, the area I am in there is many Amish, a society of people who still follow a view of minimal to no technology. This, however, has not stopped the growth of cities, villages, and other communities around the area, that embrace technology and continue to grow and flourish because of this technology. However, even with this large number of Amish in the area, they still have a need to interact with ‘city folk’ and engage in commerce with anyone and everyone. And while the Amish community does not use technology personally, they interact with technology every time they need to visit a store. This leads us to believe that one day this society may even begin to embrace technology as they interact with it more and more every day.

Going a bit closer, not within my current job, I did work for one of the organizations that the Amish community would interact with. I worked for a retail company that dealt with farm equipment and needs, all the way to homeowners’ needs for hardware supplies. The name of this organization is Fleet Farm. This was a location that allowed interaction with Amish as the stores carry supplies that they are not able to produce on their own. Now I know this does not seem like an ICT type of interaction, but not long prior to me leaving this company, they implemented kiosks for certain supplies to make it easier for the customer to get items they were looking for. I had the opportunity to work with a few Amish to show them how the kiosks worked. By me teaching them about these kiosks, it allows them to not only learn more about technology but could also begin an influence on their society in the use of technology.

In my life, I have always been someone who enjoyed learning something new. I think as a member of society, we should always be learning, but we should also always be teaching. I think this is why I am always willing to help anyone learn something new, especially if I already have some knowledge of the subject. For instance, recently my son was trying to decide if he wanted to take some college level courses during his Senior year in high school. But he was unsure if he would be able to understand the courses. So, to show him what they would look like, and the technology he would be learning, I showed him some things that I have worked on in the past and am currently working on that are like what he would be learning. After that discussion he was really interested and decided to sign up for the opportunity to take these classes next year and will now be starting a tract towards a technology career also possibly. It is things like this that I enjoy the most, being able to pass on things that I have learned or experienced in my life and allowing someone to make an informed decision. This is how society should view this in my opinion.

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