

IT and 21st Century Employment in Pandemic Times

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■ **IN THE LAST** column under this title, I presented a fictional crisis of 21st century unemployment and its dire consequences—all caused by automation. Little did I or anyone else know that we were about to face a real crisis due to a pandemic. Of course, we have known that a pandemic was possible, just as we have known that nuclear war, global famine, and environmental collapse are possible (although one author Wryly said that most people do not believe something can happen until it does happen).

As I write this column in March of 2020, global shelter-in-place orders (or only suggestions in “freedom-loving countries”) are being given around the world as well as the closure of schools, businesses, restaurants, etc. By the time this article is published, we will know more about whether these measures have been effective in “flattening the curve” so as not to exceed the capacity of the world’s medical systems. The best possible outcome would be for the measures to have been so effective that the pandemic peters out and doubters could say, “I told you so: fake news.”

In all other possible outcomes, it appears that long-term changes may occur in many dimensions of society. We do not know how bad this crisis will be, but as is said, (any) crisis is a terrible thing to waste. With that in mind and with a stiff upper lip, I will suggest some lessons that we could learn from this crisis. I will consider unemployment, medical data systems, social connections, and financial collapse.

UNEMPLOYMENT

Today’s unemployment fears are not due to automation, but due to “lack of demand.” That is, consumers, who constitute two-thirds of the economy, are increasingly home-bound *and* are increasingly unemployed. Moreover, some observers think that this “lack of workers” will drive companies toward automation more quickly.¹ Thus, at least for the moment, automation becomes a result of unemployment rather than a cause.

Not surprisingly, two parts of the economy are booming: Online shopping and grocery stores. Companies such as Amazon are hiring as fast as they can to meet explosive demand, and grocery stores are running out of toilet

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paper and other essentials. However, most sectors are suffering and the U.S. government is preparing to bailout individuals (a little) and companies (a lot) to the tune of two trillion dollars.

The bailout of individuals looks like a small step toward the universal basic income (UBI), which has been discussed before in this column and which was a signature part of former democratic contender Andrew Yang's platform.² Current proposals are planned to be temporary and much smaller than the \$1000 per month figure than has been bruited by Yang and others. But if "the camel's nose gets into the tent" and if our situation deteriorates far enough, this step toward a UBI might make it easier politically to accomplish.

MEDICAL DATA SYSTEMS

To deal with a pandemic, the first thing society needs is data. One of the reasons response to the pandemic has been slow is that the required data has not been available from around the globe. Of course, political reasons could (and probably did) keep some data from being shared, but even with the best political intent the data were not interoperable (and some not even available: for example, some countries reported more male deaths than female, but apparently the U.S. does not record that data). Currently, data scientists and medical scientists have launched an effort to create a data system that may help now and, more likely, would be available in the future to provide pandemic data in a timely manner.³

This has been the decade of data. Our buzz words have gone from big data to open data to FAIR data (findable, accessible, interoperable, and reusable). For (at least) the last five years, efforts have been underway to create interoperable systems for heterogeneous data (the "I" in FAIR). As mentioned above, the pandemic has spurred immediate attempts to create a global system for pandemic data. Thus, the urgent need is propelling the activity forward at a high rate of speed. If successful, it could galvanize the emergence of general data interoperability, which once it occurs, will be seen as important as the Internet itself.

SOCIAL CONNECTIONS

We are a social species and social connections are a normal part of our work and play. Shelter-in-place and social distancing are not part of our normal repertoire. Online shopping, working from home, distance learning, and online socializing are some of the activities that are growing almost as fast as the virus is spreading.

Online Shopping—It has been verging on mainline adoption. Amazon is already the second largest retailer in the U.S., surpassed only by Walmart. Some experts have predicted that within this decade Amazon will surpass Walmart in sales. With the explosive growth Amazon is experiencing right now, perhaps that might happen even sooner?

Working From Home—Remote working an established fact for some workers. Therefore, the hardware and software to support this activity have been available for some time. The pandemic is, at least temporarily, taking us from the early adopter phase to the mainline adopter phase. Or will the new phase be permanent? The webinar is already in use, but is now in heavy use. As most conferences have been canceled, they are being replaced with webinars, which save the attendees considerable expense (but do not enable drinks in the lounge after the day's talks). In a cost-conscious time, as well as a pandemic time, their use may continue to increase.

Distance Learning—This has been in the early adopter phase in higher education but only the experimental phase in public education. With the closure of most schools, attempts are being made to push toward mainline adoption. This is the hardest in grade schools where only wealthy districts have been preparing teachers to incorporate distance learning into their teaching. If these efforts are successful, we may be accelerating the arrival of the teacher as "the guide on the side rather than the sage on the stage."

Online Socializing—Connecting people to people via email was one of the first functions of the Internet (along with connecting people to computers and to information). For the younger generation, email has been superseded by texting and for all generations Facebook and newer apps have become a mainstay. But online meetings have been the province of business until

now. Zoom and other online meeting software have now taken the place of curtailed face-to-face socializing. In fact, Zoom has recently been among the most frequently downloaded apps from some app stores and its market value has doubled since its recent IPO. I cannot imagine people not returning to face-to-face socializing as soon as the crisis is over, but they will return with a new level of IT sophistication. *And* the new zooming includes friends separated by large distances. One hopes that that might continue.

FINANCIAL COLLAPSE

Flame on: I am less sanguine about our ability to learn financial lessons. The powers that be seem satisfied with the current system of a half-capitalist, half-socialist economy. That is, we privatize the gains when times are good and we socialize the losses when time are bad. Only a catastrophic total collapse might introduce a fundamental change in the system.

Flame off: Several years ago, I attended a talk on disaster preparedness and recovery at the annual AAAS meeting. The take-away was instructive—there is usually no political will for preparedness assistance, but there is sympathy and political will for recovery assistance. For example, the devastating hurricane that hit New York several years ago cost \$100 billion for

recovery and would have cost “only” \$1 billion for preparedness. Does anyone predict a change in our political will?

CONCLUSION

There are many lessons that we might learn during this pandemic, and I am sure we will learn some of them. But remember what Winston Churchill said about us: “You can always count on the Americans to do the right thing—after they have tried everything else.” Also, watch Bill Gates’ 2015 Ted talk where he correctly predicted today’s pandemic and/or read Yuval Harari’s recent article about life after the pandemic.⁴

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