COVID and the Machine Age

With the recent events of COVID-19, I can't help but think how this global pandemic will shape our world, and subsequently, our future. We have been able to observe how corporations and institution have responded to the situation; whether it be providing aid in the form of shipping face masks, creating ventilation devices, sending medical personnel to assist at the front lines, or donating gargantuan amounts of money towards research and personal protection equipment.

Without a doubt, the healthcare industry is at the forefront, in the spotlight. It's not the first time that the light has been shone on them – we've[1] seen them deal with SARS, HIV/AIDS, and the plethora of flu, just to name a few. In all these cases, the healthcare industry whether it be medicinal, research, big pharma, emergency services – have all rushed to the scene in hopes of finding a cure and doing what they can.

Modern medicine and healthcare are heavily predicated on decades of research, data, but now we are seeing a digital shift - even some automated services - from a traditional lab setting to a digitally and technologically focused approach to conducting healthcare operations. A typical medical student would complete four grueling years of undergraduate studies and then another four years of grueling studies, just to be given more time in residency. The structure of being in the healthcare industry is quite long, hinder the efficiency in research and labour. More and more human capital is demanded nowadays but not always at the front lines; you may be wondering, "where then?". The answer is at the back end.

Much of the research that goes into finding cures and new pharmaceuticals to treat diseases or symptoms are based on lab research and analyzing the data that is produced from these endless trials to determine what changes need to be made until they find the solution. Students often receive opportunities to work with this data, but only with themselves and their lab teams. More often than not, they would encounter a dead end with their project data and findings, not knowing where to go. This is where I see much of the core shifting to the crowd.

The limitation is that much of the data for these experiments are only accessed by those in the project; however, if analyzing data and gathering insights alone can create the next cure or penicillin – it would be much more resourceful to open up to the crowd. There is the opposite argument of individuals lacking medicinal credentials or the risk of tampering with data, but like how Erik and Andrew described Linus Torvalds, by creating a method for the crowd: he made Linux the largest and most frequently used operating system in the world.

When Linux focused on the crowd instead of creating from the core, they were advanced further than others: A similar scenario would occur with a decentralized medicinal industry with regards to medicinal and pharmaceutical data. Karim Lakhani and Kevin Boudreau demonstrated perfectly with their algorithm; the industry/core would provide their data in a packaged way that even a normal individual with no medical background could understand. Only then the *"disembodied mingling of minds"*[2] would occur, given that we are assuming that the crowd has the best intentions to provide positive value and contributions plus eliminating the need to have domain-specific knowledge. Shutting off the crowd from providing useful insights or even the lack of opportunity, will be the death of us. When operating from a crowd model, the

[1] humanity as a whole, not me because I'm too young and don't remember
[2] Machine, Platform, Crowd; Page 230, Robert Wright

decentralized core would still maintain its' leadership and management structure; however, it would open up to far more possibilities for ideation and collaboration than operating from a centralized core model.

Now that we've covered a little bit about what the decentralization is and where it would be, let's delve into the *why*. We are seeing the rise of a Second Machine Age where many of the activities and processes of our world will soon become automated or augmented: it is already happening as we speak. More algorithms are designed to detect things that we are not able to: so why should the core seek out the crowd when machines can do the same? Because machines are only as intelligent as the people that designed it: there is always an inherent bias. These machines may all be created from the people with the same background; therefore, the beauty of the crowd is that there are so many diverse individuals with unique experiences and come from different and rich backgrounds that can provide immense insights from different perspectives and experiences that these industry/domain-specific individuals may lack.

Algorithms are taught to see and operate in a certain way whereas humans have the freedom to choose how they "operate" and perceive information. I strongly believe that shift from the core to the crowd within the medicinal industry (more-so on research) will occur within the near future, presumably after this pandemic: it can be as early as next year when the realization comes to these corporations that the crowd can provide more value than they can ever imagine.

In terms of implications and risks, I understand that there are many doors that we have to close in order to proceed with the decentralization of healthcare research. One of the risks is the unethical tampering of data and malicious use of it – something that we can learn from the Bitcoin era is with blockchain. By recording all activities performed by individuals and the insights provided from the data, knowledgeable professionals from the core would be able to determine whether or not the information is feasible or not. Similar to how Linux and Wikipedia operated, the core would be able to regulate and oversee the contributions provided by the crowd.

The shift from a decentralized core to a heavily crowd focused operation is noble and stoic, but there are many steps to complete before industries and companies can achieve this: human resources practices would change, legal frameworks would need adjustments, management structures, and employment would look differently. Organizations that have previously demonstrate success with their decentralized core should implore others to take the leap to make the shift – society is often lacking innovation due to the comforts of frameworks and processes that have worked, but to do better, is often to do something new and profound.

Not only does the shift affect industries and companies with ideation and innovation, it ultimately affects the population; providing new services, companies, solutions, products, opportunities – you know name it, it all comes back to creating value for the people, the core of our society.