Perspectives on the New Normal Post COVID-19

Vol. 2

An Anthology of Research Papers written by

Graduate Students in the MBA Program

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Dr. R. Don Keysser, editor
Associate Professor, Saint Mary's University

Introduction

The research papers collected in this Anthology were written by graduate students in the Masters of Business Administration (MBA) program at Saint Mary's University, in Minneapolis, MN, for the Fall semester of 2020. These students are professionally employed, and at an early-middle level stage in their careers. As such, they have sufficient experience and industry knowledge to offer meaningful insights into their professions and employers.

In general, students in these courses are required, among other tasks, to write a semester-long (eight weeks) research paper. The topic is usually up to them, as long as it reflects the application of the topics discussed in our course to their company and industry. For the Fall 2020 semester, they were assigned a more specific topic, this time regarding their perception of the impact of the COVID-19 pandemic on their companies, and more importantly, on their industry and profession. Below is an excerpt from the syllabus presented to them:

> *It has been noted by many observers that the coronavirus pandemic is an international existential crisis that will become the defining moment of your generation.*
>
> *The coronavirus pandemic will profoundly affect and change almost everything about your lives, and not just in the short-term, but likely for the very long term: our social structures and customs; levels of government intervention in the economy; the nature of our capitalist system; the power of the federal and state governments versus individuals; the international economic system; global trade and supply chains; business management practices; the health care management and delivery system - the list is endless. Unlike other major crises (the Great Depression, World War 2, 9/11, the 2008 financial crisis), this one literally affects every corner of the world, and all people, with no specific end-point in sight. It has been suggested that in the future, we will refer to the world as BC (before coronavirus) and AC (after coronavirus).*
>
> *I am going to challenge you to use this perspective in developing the topic for your research paper. Specifically, think about the impact of the coronavirus pandemic, and the differences*

between BC and AC, as it relates to (a) your current job; (b) the company and industry in which you work; and (c) tying those into the Corporate Finance topics we discuss in this course. For example, if you work in health care or health technology, think about the AC impact on your own position (other than being forced to work from home for a while); the impact of AC on the health care delivery system and health technology research and development and funding (including the role of the government in those decisions); and then how these relate to such Corporate Finance topics as capital budgeting and NPV; financial analysis; investment banking and M&A; international trade; supply chain; and investment analysis.

Expressing this differently: what will likely be the New Normal in your professional world?

The students were informed that the best papers (out of a total of 28) would be collected into an Anthology, and made available within Saint Mary's and to the general professional community. The students were also informed that (a) they could opt-out of this Anthology if they chose; (b) their names would be redacted to maintain privacy and confidentiality, unless they specifically requested to have their names mentioned; and (c) references to their employers would be redacted, or the name changed, if requested, again to respect data privacy.

This Anthology is in the public domain, available as a PDF download at no charge to the professional community, to add to the growing literature on the impact of this pandemic to our lives and professions. Recipients are welcome and encouraged to forward this on to any of their colleagues.

This is the second Volume in this series of Anthologies. The first Volume was produced from the papers of the Summer semester, 2020.

For further information on Saint Mary's graduate programs, please go to www.SMUMN.edu, or contact Dr. Michelle Wieser, Dean of the Graduate School, at mwieser@smumn.edu. For further information about this Anthology, please contact me at: rkeysser@smumn.edu

Table of Contents

Agriculture

Higher Education

Improving Supply Chain Resiliency for Healthcare Systems

By Derek Dulek

The author is a clinical lab scientist working in lab automation.

Introduction

Throughout history, there are key events that define generations and make significant marks on humanity. The world is within a global pandemic from a Coronavirus (COVID-19) that has impacted almost every person globally. Travel is restricted both domestically and internationally, restaurants and bars are operating at partial capacity, and many employees are now working remotely via virtual connections. COVID-19 has disrupted many day-to-day business operations, but disruptions to the healthcare supply chain have been incredibly impactful to the response efforts.

It is evident that before the COVID-19 pandemic, current practices in Supply Chain Management (SCM) left the world's supply chain vulnerable due to large scale disruption risks like a global pandemic and large scale natural disasters (Sabouhi, Pishvaee, & Jabalameli, 2018). Researchers first identified the virus responsible for the COVID-19 in Wuhan, China (Centers for Disease Control and Prevention, 2020). As a result of the quickly growing case numbers in china, manufacturing facilities and export activities rapidly stopped, which left the world short on critical medical supplies like personal protective equipment (PPE), reagents and consumables for clinical diagnostic testing, and other medical equipment (Sharma, Gupta, & Jha, 2020).

The supply shortages crippled our healthcare system. Supply chain failures limited our ability to protect our front line employees due to lack of PPE, limited the ability to quickly ramp up diagnostic testing due to reagent and swab shortages, and limited the ability to care for the sick due to ventilator shortages. With increasing pressure to reduce costs and increase revenue in healthcare markets, hospitals and clinics are adopting lean concepts to healthcare, focusing on reducing waste or anything that does not add value to the system (Stevenson, 2018). Reducing waste has left our hospitals particularly vulnerable to demand surges, which we see with the COVID-19 pandemic (Osterholm & Olshaker, 2020). This focus on reducing costs and increasing revenue has left our healthcare system scrambling. Moving forward, SCM strategies for healthcare systems need to focus on strategies to increase resiliency for disruption risks to allow critical infrastructures like healthcare can remain operational in times of national crisis.

Coronavirus (COVID-19) Overview and Statistics

A novel coronavirus, named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), is responsible for the COVID-19 pandemic (Centers for Disease Control and Prevention, 2020). The virus was first identified in December of 2019 in Wuhan, China, but has quickly spread throughout the globe (Centers for Disease Control and Prevention, 2020).

Unlike other recent pandemic potential viruses like SARS and Ebola, COVID-19 has several nuances that have led to the virus's success as a global pandemic pathogen. First, it is a respiratory virus transmitted via respiratory droplets. Different from other viruses, the COVID-19 virus is infectious in asymptomatic patients for up to 14 days (Centers for Disease Control and Prevention, 2020). The long incubation period in asymptomatic patients contributes significantly to the virus's spread, especially considering many people carrying the virus never show symptoms. People are often unaware they are sick and spread to other individuals while not showing signs. Additional consideration also needs to be taken for the impact to the workforce this virus has. The long incubation period results in workers getting furloughed or quarantined for many weeks, making it hard for businesses and healthcare systems to remain operational (Nikolopoulos, Punia, Schäfers, Tsinopoulos & Vasilakis, 2020).

Secondly, the mortality rate is higher than other viruses. 80.9% of cases present with mild symptoms, while the remaining 13.8% present with severe symptoms, and the remaining 4.3% presented with critical symptoms (Centers for Disease Control and Prevention, 2020). Of the critical symptom patients, 49% of cases resulted in death (Centers for Disease Control and Prevention, 2020).

As of October 11th, 2020, the world has seen over 31 million COVID-19 cases and 1 million deaths (World Health Organization, 2020). Of those cases, 48% and 55 % of deaths are reported by countries in the Americas, with the United States, Brazil, and Argentina accounting for most of the numbers (World Health Organization, 2020). Despite this disease's debated nature, it is clear that COVID-19 presents a clear threat to many society members. Maintaining critical infrastructure operations like healthcare is crucial, and building resilient supply chains should be one pillar of future planning to mitigate disruption risks in SCM.

Overview of Supply Chain Risks

Supply chains connect organizations that convert material and labor into products and services delivered to consumers (Ehrhardt & Bringham, 2020). SCM's goal is to optimize and reduce material flow costs through the supply chain network (Sabouhi, Pishvaee, & Jabalameli, 2018). Risk management is a crucial consideration in developing a supply chain network. Often supply chain risks are classified into two categories, which are operational risks and disruption risks.

Operational risks, which are frequently encountered, have low impact and short term consequences to business operations (Sabouhi, Pishvaee, & Jabalameli, 2018). These risks include uncertainties around consumer demand, supply availability, and material costs (Sabouhi, Pishvaee, & Jabalameli, 2018). In contrast, disruption risks are high impact but occur infrequently and include natural disasters, terrorist attacks, and recently a viral pandemic as COVID-19 spreads worldwide. Based on the impact that supply chain failures had on the United States' ability to provide adequate medical supplies, SCM needs to consider and adopt new strategies to mitigate disruption risks, like the COVID-19 pandemic, better.

Impact of Supply Chain Failures

It would be easy to say that the impacts of COVID-19 could not have been predicted, but that would be a lie. Public health officials have been warning that a pandemic was imminent. Many public health experts would agree that the current epidemic is not as severe as what will likely happen in the future with a virulent novel influenza virus (Osterholm & Olshaker, 2020). Nonetheless, the COVID-19 outbreak impacts have been substantial and will drive the need for changes in SCM. Some surveys estimate that the pandemic impacted 86% of all supply chains, and 95% of companies experienced supply chain challenges (van Hoek, 2020).

In healthcare, the supply chain impacts were equally substantial. At the onset of the pandemic, China manufactured around 50% of the world's masks, a vital piece of PPE for healthcare workers (Sharma, Gupta, & Jha, 2020). When China's manufacturing and export activities came to a halt due to rapidly rising COVID-19 cases, since many US-based supply

chains relied on Chinese manufacturing, they were negatively impacted when the Chinese infrastructure shutdown.

Also, 75% of US laboratories experienced supply shortages on viral transport medium and 63% on collection swabs, and both are required to collect samples for essential molecular-based detection diagnostics testing (Wilson, 2020). 49% of laboratories screened cited supply chain failures as their biggest hurdle during the pandemic (Wilson, 2020). The supply chain failures have inhibited our healthcare system's ability to adequately screen and control the virus's spread, which is why, as previously stated, about 48% of global cases have occurred in the United States. Only 3% of testing facilities have high throughput testing capabilities resulting in over >1000 tests a day (Wilson, 2020). The pandemic's ultimate resolution will rely on research laboratories developing a new vaccine or therapeutic drug. Still, to develop these new resources, the researchers need access to critical resources that presently are hard to acquire due to supply chain breakdowns.

Building Resilience Into the Healthcare Supply Chain

Leadership, Planning, and a Unified Response

Regardless of an individual's political affiliation, it is evident that our national response and leadership strategy during the COVID-19 pandemic was less than an ideal unified and strategic response. Instead of federal leadership, the procurement of ventilators, PPE, and testing supplies was left on the individual states. The lack of a unified national response resulted in hospitals and local governments within one nation competing against each other to obtain lifesaving ventilators, PPE, and diagnostic testing supplies (Atkinson, McCue, Prier & Atkinson, 2020). This resulted in panic buying, which caused demand surges that disrupted the supply chain leaving materials and products in short supply (Atkinson et al., 2020). Manufacturing could not ramp up to meet the surge in demand, leaving our nation extremely vulnerable during this national crisis.

During the Clinton administration, the National Pharmaceutical Stockpile, which was later renamed the Strategic National Stockpile, was established to prepare our nation for supply chain challenges encountered during a national disaster or emergency response event, such as

that seen with the COVID-19 pandemic (Osterholm & Olshaker, 2020). While the Strategic National Stockpile has existed for over two decades, it has never had the supplies required to manage a disruption on a COVID-19 pandemic scale (Osterholm & Olshaker, 2020). While the stockpile intentions were good, the reserve was never maintained at a level that would impact a national crisis. This supply must be updated and kept on a level that will sustain our supply chain for sufficient time while mid and long-term manufacturing/procurement solutions can be identified.

Once our nation has recovered from the COVID-19 pandemic, there will be a time for reflection. It should be clear that while this pandemic was unsettling, it could have been worse, and there will be another pandemic that could be even more deadly in the future (Osterholm & Olshaker, 2020). As a nation, we need to come to terms that this will happen again, and we should start planning now, taking the lessons we learn from COVID-19 to be better prepared for the next pandemic.

To start, we need to identify which industries need to be maintained, which will include our healthcare system. Still, additional planning should also be applied to our nation's power and food supply chains ensuring our country has access to bare essentials like shelter, food, and water. A lesson should be taken from our US military that focuses on flexibility, logistics, and maintaining readiness for any foreseeable situation (Osterholm & Olshaker, 2020). As indicated, we need to have planned in place before the next pandemic or national disaster event happens, which will allow for a unified strategic response keeping our vital infrastructure operational, which is paramount during a national crisis.

Supply Shortages

The COVID-19 displayed how a disruption event can wreak havoc on our supply chain, leaving our country short on vital resources, especially the resources needed for our healthcare system. While there is no single change that can fix all the core issues they are responsible for the breakdown of our supply chain, our country can build resilience into the system, leading to better future crisis response.

When the virus first emerged, it immediately impacted the Chinese economy, shutting down vital manufacturing and export activities, leaving the world economy drastically short on

critical resources (Govindan, Mina, & Alavi, 2020). For example, At the pandemic onset, China manufactured around 50% of the world's masks (Sharma, Gupta, & Jha, 2020). When China shut down and could not export masks, the world supply became dangerously low, leaving our front line healthcare workers vulnerable often reliant on homemade cloth masks (Osterholm & Olshaker, 2020). For many decades, the world has become increasingly reliant on Chinese manufacturing, which has left the world economy highly dependent on China's manufacturing activities.

It is clear that for our global supply chain to become more resilient to disruption risks, the world needs to diversify its manufacturing interests, becoming less reliant on a single foreign manufacturer. Globalization of the supply chain achieved a cost-benefit due to economy of scale and leveraging cheaper costs in developing nations (van Hoek, 2020). However, in seeking the lowest price for our material goods, it inadvertently created a supply network prone to disruptions risk and dependent on other countries to manufacture critical goods (van Hoek, 2020). In the US, the goal should be to reduce our foreign dependence, and this should include getting back to the roots that built this nation, bringing manufacturing back to domestic facilities. However, it would be unrealistic for American manufacturing businesses to be financially competitive if it employed traditional manufacturing techniques. For this reason, our nation needs to drive innovation and look at pioneering 21st-century manufacturing technologies like additive manufacturing.

Additive manufacturing is an innovative process that provides on-demand parts and supplies that reduce the costs associated with traditional manufacturing, including the costs associated with warehousing, maintaining inventory, and transportation (Arora, Arora, Haleem, & Kumar, 2020). Also, additive manufacturing has shorter lead times, and since the process requires no tooling, manufacturing processes can be performed in a dynamic pull based fashion at local facilities (Arora et al., 2020). Additive manufacturing has already played a significant part in the current pandemic. At the World Health Organization's request, additive manufacturing facilities ramped up capacity by 40% globally, helping address global shortages of ventilators, swabs for diagnostic testing, and other PPE required by our frontline healthcare workers(Arora et al., 2020). New manufacturing techniques like additive manufacturing could help the US move towards increasing domestic manufacturing capacity, which would reduce our dependence on foreign manufacturing, ultimately adding resilience to our nation's supply chains.

New Forecasting Models

The ability to accurately forecast demand is a critical component of SCM. While epidemiologists have been warnings for decades about emerging viruses, few could have predicted or responded appropriately to the supply shortages and demand surges experienced during the COVID-19 epidemic. As previously discussed, the supply chain disruption experienced when china locked down resulted in a significant reduction in manufacturing and export activities. The reduced activity left supply chains worldwide short on critical healthcare supplies like PPE, testing supplies, and ventilators (Govindan, Mina, & Alavi, 2020). Supply shortage represents only part of the picture, and additional consideration needs to examine how demand surges also impacted our critical healthcare supply chains.

When the COVID-19 pandemic escalated, the virus was shrouded in uncertainty, resulting in fear, confusion, and panic worldwide. When coupled with a fend for yourself national response, the fear, confusion, and panic resulted in states and hospital systems hoarding supplies and panic buying, ultimately creating extreme demand surges (Nikolopoulos et al., 2020). SCM can be seen as the balancing act between supply and demand, ensuring a balance between them. When both become significantly disrupted, as seen with the COVID-19 pandemic, it creates supply chain breakdowns. The dramatic increases in demand could not be accurately forecasted and resulted in supply needs in a greater capacity than our supply chains could provide, which resulted in dangerous shortages of critical healthcare supplies like PPE, testing supplies, and ventilators (Nikolopoulos et al., 2020).

As the virus emerged, few people could have imagined the impact COVID-19 would have on society across the globe. There were insufficient models to adequately track and monitor the virus's progression as it spread from China to the rest of the world. A lack of forecasting models contributed to the downfall of the healthcare supply chain. It is clear, the first step to resolving this issue would be to develop better epidemiologic forecasting models that could predict when and where the virus numbers would increase, thus leading to increased demand (Nikolopoulos et al., 2020). Forecasting accurately would level out demand surges allowing supplies to be routed to the most needed locations. All this would only be feasible if there were sufficient supply and a universal and cohesive crisis response plan on a national level.

Digital Supply Networks

The COVID-19 pandemic has taught our society many lessons. One takeaway is that the US needs to consider adopting advanced technologies to enhance and build resilience into our critical supply chains, like those providing vital supplies to our healthcare system. Traditional supply chains operate in a linear fashion, but it would be wise to adopt new technology that provides end-to-end visibility and dynamic learning, as seen in digital supply networks (DSN).

At the core of DSN is the digital core, which works by leveraging inputs from each node to self-strengthen the logistics surrounding the supply chain (Bernardes, Sinha, Calderon, & Wuest, 2020). The DSN uses analytics to analyze the inputs from internal and external sources and results in predictions, system insights, and decisions based on the data input (Bernardes et al., 2020). At the heart of any DSN are six core components outlined in table 1.

Table 1

DSN Fundamental Capabilities

Fundamental	Details
Digital Development	Development performed leveraging technology during design and implementation, which improves design efficiency and customer satisfaction
Synchronized Planning	Both strategic operational and financial planning are aligned. This results in the lowest cost while meeting business objectives and objectives are incorporated into the system's analytics.
Intelligent Supply	Aligns strategic supply partners and optimizes requisitions and invoicing processes. The system is dynamic and anticipates risks, dynamically manages cost fluctuations, and supplier selection.
Smart Factories	Factories employ intelligent processes that provide safe and productive manufacturing activities. The system optimizes the production schedule minimizing downtime due to changeovers.
Dynamic Fulfillment	Interconnected, cross-enterprise fulfillment center that delivers the right product to the right customer at the right time.
Connected Customer	Utilize dynamic fulfillment capabilities combined with advanced analytics, machine learning, and artificial intelligence to anticipate customer needs.

Notes: The six DSN fundamentals make up the digital core (Bernardes et al., 2020).

DSN offer tremendous value to organizations that will choose to implement them, but at present, the concept is still in its infancy. Before DSN can widely be implemented, there will need to be advancements in artificial intelligence and machine learning, which will help develop dynamic algorithms that can drive a successful DSN using data intelligence (Bernardes et al., 2020). DSN will transform the current supply chain logistics calling for a highly-skilled workforce to manage the system's capabilities (Bernardes et al., 2020). As data analytics and artificial intelligence capabilities grow, the advantages of a dynamic, automated system that automatically improves supply chain processes are based on historical performance. With time

and sound analytics, the system would automatically manage and mitigate global supply chain disruption risks, such as those seen with COVID-19.

Conclusion

COVID-19 has significantly impacted almost every government, business, and individual worldwide, and it was clear that adequate consideration and preparation were not taking before the pandemic. The pandemic exposed how vulnerable the global supply chain is, and measures need to be taken to prepare our nation for the next global crisis. Experts in public health and epidemiology argue that it is not if another pandemic will happen, but when and the next virus could cause even more death and disruption (Osterholm & Olshaker, 2020). Once the world returns to the new normal following the COVID-19 pandemic, steps need to be taken to ensure that the US will be prepared to handle the next global crisis and guarantee that the healthcare supply chain does not fail as it did with COVID-19.

The first step after COVID-19 will need to be establishing a plan on how we are going to prepare and manage the next global crisis. The United States leadership failed to react quickly or in a unified way, leaving the United States vulnerable to panic and fear, which lead to individual states and healthcare systems buying supplies. The demand surges, as a result of the panic buying, exhausted the inventory of essential supplies like PPE, testing supplies, and ventilators. The United States needs to establish a crisis response plan, and that plan needs to outline how the United States will remain prepared to handle the next global crisis (Osterholm & Olshaker, 2020). The Clinton administration established the national stockpile, but it has not been maintained or adequately funded as it was initially intended (Osterholm & Olshaker, 2020). The stockpile needs to house a sufficient quantity of supplies to sustain the healthcare and pharmaceutical supply chain until manufacturing can be ramped up to meet the additional demand. We need to see healthcare as a vital infrastructure and provide safeguards to keep the system functional during crisis times.

As a country, our priorities need to change. For several decades, we have exploited cheap production efficiency in developing nations, but it's time we get back to our innovative roots and invest in 21st-century manufacturing on a domestic level. Once COVID-19 caused China to shutdown manufacturing and export activities, the nation’s healthcare supply chain failed, which

lead to a lack of PPE for our frontline workers, shortages of testing kits and supplies, and scarcity of life-saving ventilators. It is clear to protect our infrastructure that manufacturing needs to be diversified and less reliant on a single country, China. The US needs to find new ways to make manufacturing cost-effective on a domestic level. As a nation, we need to reward companies via tax incentives to invest in and develop new technologies that bring manufacturing activities back to the US, which would make for a more resilient supply chain.

It's time to embrace technology in the new digital age and change fundamentally how supply chains operate. DSN leverage technology to make dynamic, self-optimizing systems that leverage advanced analytics, artificial intelligence, and machine learning (Bernardes et al., 2020). DSN will revolutionize and bring unprecedented efficiencies to the supply chain. DSN, employing smart manufacturing, will be able to respond to and mitigate supply surges and will be able to switch manufacturing to vitally needed materials like PPE, Testing Supplies, and ventilator components.

As we emerge from the current pandemic, there will be a wealth of information to be learned. Since supply chains have transitioned to a global scale, and there has not been an event that disrupted the supply chain to the level seen with COVID-19. As researchers look back on the pandemic's progression, new forecasting models need to be developed to predict supply surges. New models are required to monitor the pandemic spread, as this will indicate the location where medical supply chains will seem the most remarkable rise of demand.

As an optimist by nature, the COVID-19 pandemic represents an excellent opportunity for our nation to do better. We are a single nation, but our response was anything but unified. We need to develop a plan of action that leaves our country unified and prepared for the next pandemic or global crisis. Our government and business need to emerge from this global crisis and focus our priorities on developing innovative solutions that bring manufacturing back to the US, leveraging technology to reduce costs and overhead. Investing in a new data-driven supply chain that dynamically responds to supply chain disruptions based on complex analytics, artificial intelligence, and machine learning will prepare our nation to handle any global or domestic trouble moving forward.

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Appendix A

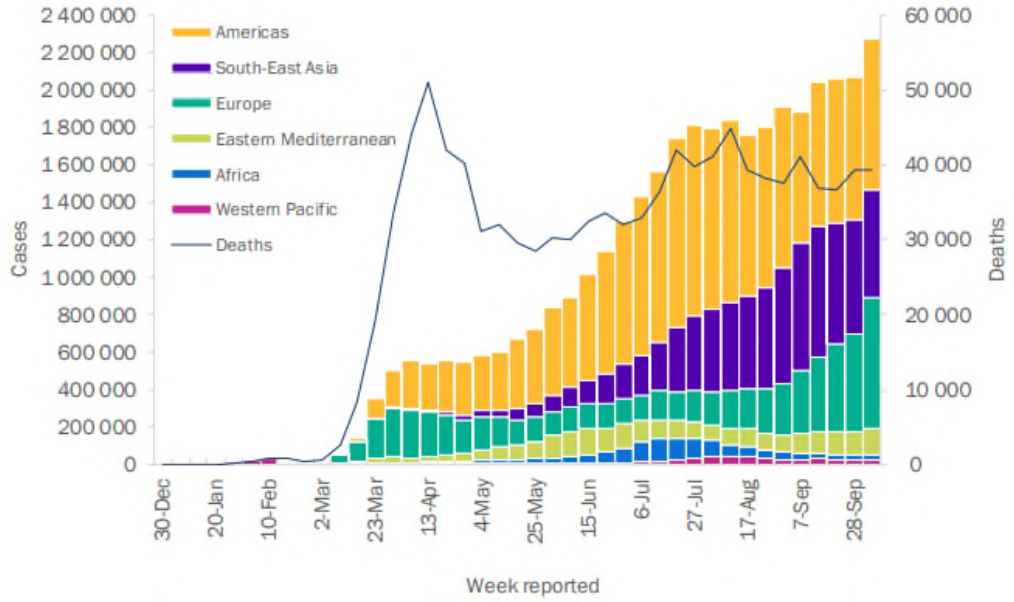

Figure 1: Number of COVID-19 cases reported weekly by WHO Region, and global deaths, December 30th, 2019, to October 11th, 2020. (image from the World Health Organization, 2020)

WHO Region	New cases in last 7 days (%)	Change in new cases in last 7 days	Cumulative cases (%)	New deaths in last 7 days (%)	Change in new deaths in last 7 days*	Cumulative deaths (%)
Americas	804 735 (35%)	6%	17 794 771 (48%)	20 509 (52%)	-5%	588 867 (55%)
South-East Asia	575 763 (25%)	-6%	7 911 036 (21%)	7 750 (20%)	-8%	126 917 (12%)
Europe	694 275 (31%)	34%	6 918 265 (19%)	6 172 (16%)	16%	246 709 (23%)
Eastern Mediterranean	138 751 (6%)	10%	2 605 478 (7%)	3 173 (8%)	13%	66 329 (6%)
Africa	29 169 (1%)	11%	1 227 719 (3%)	991 (3%)	27%	27 255 (3%)
Western Pacific	26 199 (1%)	6%	651 841 (2%)	633 (2%)	26%	14 265 (1%)
† Other	-	-	741 (<1%)	-	-	13 (<1%)
Global	**2 268 892 (100%)**	**10%**	**37 109 851 (100%)**	**39 228 (100%)**	**<1%**	**1 070 355 (100%)**

Figure 2. Newly reported and cumulative COVID-19 confirmed cases and deaths, by WHO Region, as of October 11th, 2020 (image from the World Health Organization, 2020).

Mayo Clinic's Short-Term and Potential Long-Term Effects From Covid-19

The author is a Research Protocol Scientist at Mayo Clinic.

Introduction

Covid-19 has had an extraordinary impact on the economy and humanity in general. This is a pandemic that many people and industries were not prepared for and did not have any strategic plans set in place prior to the onset. It is important to understand the short-term impact that industries across the world are experiencing along with the potential long-term effects of the pandemic itself and the strategic plans set in place to overcome such a situation. The healthcare industry has been impacted in many ways, although maybe has not had such a financial hit as other industries. This paper will focus on the impact that Covid-19 has had on the medical industry and Mayo Clinic in particular along with the short-term and long-term effects that have and will have to come into play in the future.

Mayo Clinic

Mayo Clinic is a nonprofit educational medical center that centers around patient care, education, and research and has been recognized as the top-ranked health care organization for quality more than any other (Mayo Clinic, 2020). There are 60,000+ employees staffed at Mayo Clinic between the three main hospitals in Minnesota, Arizona, and Florida among the many smaller affiliated clinics and hospitals around the United States. Mayo clinic strives to provide the best patient care along with providing major research facilities to advance the medical field. They continue to provide great medical care, along with their academic institution areas holding around 89,000 educational participants (Mayo Clinic, 2020).

Covid-19 Entering Industry

The medical industry was hit differently by the Covid-19 entrance as they would see changes in how they provide medical care along with the financial changes to the industry. The World Health Organization (WHO) had declared Covid-19 to be a world health emergency in early 2020 (Berawi, 2020). There were many governments that swiftly moved to strategizing their policies to support the healthcare facilities, economic districts, and their social safety nets during the pandemic (Berawi, 2020). The medical industry is in a different situation than some,

where they will have to not only prepare for the economic wrath, but prepare to make medical advances for the Covid-19 pandemic along with the many research areas that would be impacted.

There is a negative effect on economic growth overall which is slowing down many organizational activities, reducing production, and increasing the numbers of unemployed along with existing employment income uncertainties (Berawi, 2020). The organization as a whole will take a hit in different areas and will also see research areas and departments affected. It is a time to push for research studies to be activated as soon as possible to obtain the results in a timely manner. Many healthcare facilities jumped to removing staff from offices that did not have to remain onsite for patient care. This was a quick process that created many uncertainties and created much confusion throughout the industry as well as with the staff having to rearrange their lives in an expeditious process change.

Healthcare organizations are having to make crucial upgrades, changes, and costly advances in order to keep up with the pandemic and what the potential outlook could be. There are many emerging health technologies and information technology practices evolving in healthcare such as artificial intelligence, medical care that can be completed remotely, ideas of mobile healthcare delivery, large volume of data, and 5G that will be necessary for organizational structure and will also help combat the pandemic in itself (Ye, 2020).

Initial Changes

At Mayo Clinic, many elective procedures were put on hold and the way patient care was delivered changed dramatically where patients were seeing physicians via Zoom or other remote programs and systems. In March 2020, Governor Tim Walz postponed all nonessential and/or elective surgeries and procedures in order to save for the needed equipment such as masks and gowns for a possible sudden surge of Covid-19 patients (Showbeck, 2020). This allotted for lost revenue in the healthcare industry therefore, they had to make changes in other areas to cover for the lost finances. The removal of elective surgeries and patient care was a right one according to Mayo Clinic, but it eliminated much of the organization's' revenue, but they are continuing to make crucial investments on the testing and research related to the pandemic (Baker, 2020). Mayo Clinic released a statement that they would be cutting salary, benefits, and moving towards employee furloughs for a third of its employees to save costs where the highest cuts would be for

top executives (Showbeck, 2020). In the beginning they anticipated the cut-backs to help provide for the overabundance of Covid-19 patients. Mayo Clinic also cut their costs by reducing contract employees and pausing construction projects, and still anticipated a loss of $3 billion by the end of the year (Showbeck, 2020).

Analysis

Mayo Clinic Pre-Covid-19

Mayo Clinic is one of the top healthcare facilities in the world. Mayo clinic is a well-known hospital that patients travel to from all over the world as it is a major organization for research and advanced medical procedures. In 2019, Mayo clinic reported $1 billion in net operating income on revenue of $13.82 billion which was up 72% from $617 million of net operating income on $12.6 billion of revenue in 2018 (Kacik, 2020). With Mayo Clinic's thousands of employees, there was a minimal percentage that solely worked from home. Most of the employees were on-site at the various hospitals and clinics. There were hundreds of commuter buses just within the Mayo Clinic Rochester location that would allow for parking ease for the thousands of employees traveling to the downtown area. The Mayo Clinic Rochester buildings were at full capacity daily with foot traffic at a high.

Mayo Clinic Post-Covid-19

Mayo Clinic took a financial hit in Quarter 1 due to the pandemic and reported $3.2 billion in revenue which was down 4% compared to the same period in 2019 (Ellison, 2020). Their operating expenses went up 2.7 percent year over year and their operating income was down 88% from the previous year (Ellison, 2020). Mayo Clinic had to prepare many expense reduction strategies that included deferring recruitment of new staff, cutting contractors, and expensing the use of external services and vendors (Paavola, 2020). Expense reductions for Mayo Clinic were $300 million in May and June, but they also retrieved $173 million in emergency relief funding which balanced out the lost revenue and expenses that included investments in testing, protective and medical equipment, along with other unexpected costs

(Furst, 2020). Some of the costs that are being endured by Mayo Clinic are the push for sole remote-work by many of its employees that do not have to remain onsite for patient care. This rapid change allotted for the Mayo Clinic buildings to be at half capacity. Some of the office settings are completely empty and space is now available for future endeavors whether employees will be returning to the office or if they determine a different use of space. Some of the commuter buses have started running again after many furloughs of employees have been completed, but there are minimal times they have their pick-up/drop-offs as not many employees have been allowed to return and will most likely not return to the office setting.

Short-Term Effects

In order for an organization to appropriately assess their short-term plan and financial hits is to assess the risks, realistically forecast for the future, and make sure that there is an open and honest dialogue with their stakeholders (AlixPartners, 2020). For the healthcare industry, the organizations have to make sure that they are planning their changes and projects in order to keep their patient care at its best. Since the pandemic came abruptly, it can be a struggle to plan and prepare for your company while making sure that you are taking care of the patients under the same promise in the organizations' values and mission. A major short-term effect for Mayo Clinic is trying to reduce costs by salary reduction and reducing the amount of elective procedures. The forecast was to find the amount of salary reduction and construction projects to offset the amount of clinical and surgical procedures that could have taken place reducing cash flow for the organization. Once the key risks have been identified, the organization would have to develop a detailed cash flow forecast that can signify liquidity and make it easier to view the options for the future (AlixPartners, 2020).

Long-Term Planning

Whether the pandemic is here to stay or will fall out sooner than later, the healthcare industry will implement changes for the long-run. Organizations need to strategize their operational activities in order to remain in competitive business or business in general and create contingency plans to help their organization recover by utilizing advanced information

technology along with sharing the cost burden and business operation (Berawi, 2020). The rollout and expenses of the remote work and virtual patient care might be something that has been implemented for the long-hall. There will be strategic plans to incorporate the virtual aspect of the organizations and forecasting will come easier in the next year. There are many challenges and responsibilities that will come into play.

Although the remote work overhaul is having to be rapidly changed and implemented, it can come with advantages for both the organization and the employees such as employee recruitment, employee retention as employees working remotely tend to be highly satisfied, cost saving of office space and equipment, and more productivity with less distractions and commuting (Brownson, 2004). The whole environment is evolving and in order to be successful, the organizations along with all staff members will have to be agile and quick to adapting to the rapid and constant changes, be able to assess the severity of situations, and be able to explore new approaches and options to keep patient care at its best (Rajadhyaksha, 2020).

Capital Budgeting

In order for Mayo Clinic to remain competitive and survive in the healthcare industry after a pandemic such as Covid-19, they must continue to obtain new ideas for new products, improvements on existing projects or remote planning, and ways to operate more efficiently (Ehrhardt & Brigham, 2020). Through the face of Covid-19, Mayo Clinic must determine what projects to pursue and create their summary of planned investments of assets that will last more than a year which is their capital budgeting (Ehrhardt & Brigham, 2020). Due to the pandemic, Mayo Clinic had to remove employees from their offices and set them up for remote work. This was a rushed situation with not a lot of preparation so it allotted for many issues with the IT infrastructure and being capable of thousands of employees working remotely with different systems, at home set-ups, and so on.

This type of planning and infrastructure change requires a detailed analysis as it is a very large overhaul and many projects put into place. The abrupt nature of the pandemic is making Mayo Clinic along with many other organizations make crucial short-term changes to their infrastructure, but they must also determine whether they will move towards these changes indefinitely or plan for a full return to the office or clinics. These types of projects can be

considered expansion of existing products or markets which entails a very detailed analysis on the costs and financial planning (Ehrhardt & Brigham, 2020). In order for an organization to develop new products, build new areas of production, install any information technology, or expand, they require capital (Ehrhardt & Brigham, 2020). Mayo Clinic must estimate the total investment that will be required and make a determination on whether the expected rate of return exceeds the cost of the capital (Ehrhardt & Brigham, 2020). The remote-work overhaul and information technology upgrades for Mayo Clinic might be inevitable and they might not have a choice on whether it is financially sound or not. In this situation, the pandemic is pushing many industries to move to a different infrastructure, it just depends on the types of technological services will be in the best interest of the company. Since remote work has already been an active plan in many organizations, the capital budgeting should come with available research and financial expertise.

Prior to the pandemic coming into play, wireless, wired, and other telecommunication services accounted for only 14% of an organization's technology budget per a report by Forrester Research Inc., but since there is not necessarily an end in sight, many industries are having to increase their technology budget dramatically as the remote work situation might be permanent (Upland Software Inc., 2020). Now that this could be a situation that is permanent, organizations will have to move to a better, cost-effective way of making telework a norm. In some cases in the past, companies were experiencing unnecessary increases in their telecom expenditures because they were not optimizing their existing technology systems and the pandemic is magnifying the issue tremendously (Upland Software Inc., 2020).

There are important factors to consider when determining which technological infrastructure to go with including the cost, complexity, and security and can be difficult to maneuver quickly since there is a dramatic increase of mandatory remote work policies and the demand for remote access critical operations has risen dramatically (RPR Newswire, 2020). When moving to a remote work setting, the healthcare industry must focus on the security issues of the technology applications. They must have the highest secured information technology systems as there is confidential patient information involved along with the confidential organizational information. This is a high cost when implementing or determining which IT systems to implement.

Cash Flow Management

Mayo Clinic will need to continue to keep an eye on their cash flows throughout the many changes that the pandemic is creating. The cash flow analysis must be performed on a regular basis, especially in this situation, and use cash flow forecasting along with creating the proper cash flow strategies that will maintain the proper cash flow for the company (Ward, 2020). In order for Mayo Clinic to proceed with the information technology upgrades and other areas of upgrading sue to the pandemic; they would need the necessary cash to cover the expenses. They can utilize the emergency funding received, take a business loan which is debt financing or equity financing from investors, or utilize donations from benefactors. Equity financing can involve raising money from angel investors or venture capitalists and can be a lot less risky as the money that is invested does not have to be repaid (Ward, 2020). To help with the financial impact of Covid-19, Mayo Clinic received $915 million in advance Medicare payments which will have to be paid back and they received $220 million in grants under the Coronavirus aid, relief, and Economic Security Act (Ellison, 2020). The initial hit of the pandemic dropped Mayo Clinic's revenue, but they were able to bounce back with the expense reductions.

Final Evaluation

Mayo Clinic's Stance and Objectives

Covid-19 hit rapidly and there were many organizations that took the necessary precautions early on in order to prepare themselves for a pandemic that would stay or see its end in a short amount of time. Because of Mayo Clinic's strategic expense reductions, the emergency relief funding, and the cooperation and teamwork throughout the organization, they were able to report a strong second-quarter financial performance (Furst, 2020). The reported revenues from Mayo Clinic were $3.22 billion in the quarter from April 1st to June 30th and had a net operating income of $154 million with a 4.8 percent operating margin (Furst, 2020). Although there are many industries and organizations still trying to find their way back from a pandemic that is still in the mist of things, Mayo Clinic was an organization that prepared their financial strategy in an appropriate manner. While Mayo Clinic fared decently through the initial onset of the pandemic,

they will continue to be diligent and they will continue to analyze all aspects of the pandemic, economy and the overall organizational performance as the uncertainty of the pandemic remains (Furst, 2020).

Conclusion

Many organizations are still reaping the havoc of Covid-19 and trying to determine their financial future. Because of the measures that Mayo Clinic took to reduce costs and the relief fund finances that they received, it looks like the future will be brighter than some. The main area of concern is the cost of removing their employees to a remote location and how they are going to implement the information technology infrastructure and what systems will be set forth to allow for the advanced security and speed. There are certain areas at Mayo Clinic that have already determined that they will be a sole work-from-home area or department. The necessary equipment and security advances have not been completely deployed and there will be many advances and changes in the near future in which Mayo Clinic is already completing cost analysis on. Mayo Clinic is working diligently to find the correct ways to keep advancing their prime medical care as their main mission is to put the utmost care into their patients.

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The Biopharma Market and COVID-19

The author is an Associate Project Manager at Mayo Clinic.

Introduction

The science behind research and medical experiments to cure human ailments has been in existence since the middle ages. The techniques have evolved, the science has become more refined. Science is driven by the never-ending search for answers, the challenge to understand things beyond comprehension. The logical next step is to use that knowledge to help others; to provide aid, heal the sick and cure diseases. Medicine and science go hand in hand, and today the world of clinical laboratory research testing is a credible source of authority in the medical community. The role of research laboratories is vital to the development and growth of medicine.

The Coronavirus pandemic of 2020 may have sounded reminiscent to a best seller of a fictional author before it became a household name and impacted the daily personal and professional lives of every corner of the globe. With over 32 million cases of the virus reported in 188 countries, the virus has been reported to be responsible for over 996,000 deaths as of September 27, 2020 (COVID-19, n.d.). While several vaccines are in development, as of today, there is no end in sight. It has been the cause for widespread fear and even panic, with frequent use of words “turbulent” and “unprecedented.” This has been a time of great change, and uncertainty.

Financially, the pandemic of 2020 has been responsible for the largest global recession since the Great Depression. The financial fallout of global markets as a result of the pandemic has had a tremendous impact on the global healthcare community as they rally together to find ways to continue to practice medicine and treat patients, while combating an unknown enemy. Healthcare systems are being fundamentally changed. Technology has become even more important as the demand for telemedicine increases. Medical facilities are having to reevaluate their priorities, financially and operationally.

The future simply isn’t known; every day forward is one day closer to developing what a new normal may look like. McKinsey & Company highlights various GDP perspectives covering both the epidemiological and economic outcomes based on the speed of the spread of the virus and recovery times in relationship to the impact to public health (Agrawal, Parry, Suresh & Westra, 2020). These scenarios are outlined in detail in Appendix A. The overall

trends show the more effective the public health response to slow the spread of the virus, the more stable the recovery and rebound of the economy.

The Mayo Clinic was originally founded in the 1860's and has grown to a world-renowned medical facility, known for caring for patients with critical, complex illnesses. Mayo Clinical has operating facilities in five states in the U.S. and they care for over 1 million patients each year, not only from each of the 50 states, but also from over 140 countries (About us, n.d.). Mayo is currently involved in over 11,000 research studies and reported over $565 million in research funding in 2019.

One division of business under the Mayo Clinic umbrella is the Mayo Clinic Laboratories, which was founded in 1905. This unit is comprised of over 65 clinical and research laboratories that offer over 3,500 tests across all subspecialties of medicine. Mayo Clinic Laboratories is a global reference laboratory that performs over 24 million tests each year (About us, n.d.). BioPharma diagnostics was founded later in 1992, as a way to facilitate research testing for biotech companies through advanced diagnostics in collaboration with Mayo physicians and scientists.

Problem Statement

There is no question that COVID-19 has had a significant impact on the pharma and biotech industries. In addition to taking current action to safeguard employees and patients, there needs to be additional measures considered to adapt current operations and begin to rebuild for long term development. The production of medical products is vitally important to patients and healthcare staff as they support patients. Additionally, the race is on to develop new therapeutics and vaccines for COVID-19. As of October 2020, the U.S. National Library of Medicine reported there are over 3,500 clinical trials registered to pursue ongoing research (COVID-19, n.d.).

Research

The impact of the pandemic has been felt across Mayo Clinic Labs and BioPharma Diagnostics; it has changed day to day operations. While the workload has seen rapid fluctuations in demand, the workforce itself is navigating new challenges associated with limited

access to laboratories and remote work environments. Lab capacities have been reduced; staff members previously supporting R&D have been redeployed to support facility needs regarding in influx of demand due to the virus.

As the post-COVID-19 world begins to emerge, new challenges are being faced in terms of supply chain limitations. Reagents, test kits, and other lab supplies required for testing are in high demand. Not being able to attain supplies causes a significant disruption in workload. As manufacturers are now focusing so much effort into reagents associated with Covid-19 testing, other options are being explored as more manufacturers consider the idea of moving production facilities to the U.S., Canada and Western Europe (2020 Q1 strategic healthcare M&A report, 2020). Not only would securing vendors in the U.S. and Canada offer faster delivery times, marketing benefits, and access to government incentives. Additionally, quality levels are much higher and more dependable in first world countries than what has traditionally been seen in manufacturing and production organizations in third-world countries.

Mayo Clinic Laboratories has joined Minnesota Governor Tim Walz, and the Minnesota Department of Health and other health system leaders in a $36 million partnership to assist in breakthrough technology to provide rapid, widespread testing for COVID-19 (Plumbo, 2020). There has also been considerable collaboration between Mayo Clinic and Mayo Clinic Laboratories and various branches of U.S. Government in recent months. Most significantly has been a recent commitment to collaborate with the Food and Drug Administration to facilitate access to experimental treatments and initiate clinical trials of potential therapies (Farrugia & Plutoswki, 2020).

Another notable engagement between government agencies and Mayo Clinic has been the utilization of robotics and artificial intelligence to advance patient care to match potential treatments to specific diseases (Singh, 2020). This technology was already being develop prior to the COVID-19 outbreak but has been fast-tracked as a key component to help track testing in real time and predicting hot spots of the virus. Finally, Mayo Clinic has activated its courier infrastructure to assist local and state agencies in delivering supplies such as computers and label printers to COVID testing sites across the state, as well as facilitate the collection of samples to be brought into labs for testing (COVID-19 testing resource center, n.d.).

Mayo Clinic is a non-profit health system, meaning that any profit generated from income is retained for future operations instead of distributed between shareholders. Last year,

Mayo reported a revenue of $13.8 billion, with $12.8 billion in expenses, leaving over $1 billion in operating income in 2019 (Liss, 2020). This was a substantial jump over $617 million in 2018. After calculating in investments, Mayo's total net income for 2019 was $2.28 billion (Snowbeck, 2020). The healthcare system reported treating more than 1.2 million patients, coming from each of the 50 states as well as over 130 countries. Inpatient cases were up 2.1% and surgeries were also up 3.6% from 2018 (Snowbeck, 2020).

Along with all health systems, Mayo Clinic Laboratories has felt a significant financial impact from the pandemic. On April 24, 2020 Mayo submitted a financial narrative related to the impact of COVID-19 to the Electronic Municipal Market Access (EMMA). The narrative expressed Mayo's strong financial standing prior to the pandemic and reported a projected $3 billion in operating losses for 2020 without intervention (Oestreich, 2020). In the first two months of 2020, Mayo reported an operating margin of 6.7%. By March, the operating margin dropped to 0.9% and net operating income fell to $29 million, an 88% drop compared to the end of the first quarter in 2019. As of May 2020, Mayo reported a net loss of $623 million (Oestreich, 2020).

Mayo Clinic paid $8.29 billion in salary and benefits in 2019 (Snowbeck, 2020). The report detailed out the steps Mayo is taking to reduce the losses and the plan for resumption of revenue-generating operations. Salaries for all executive staff and physicians were reduced, certain employee benefits were frozen, including 401K matching and tuition reimbursement. Additionally, Mayo enacted a hiring freeze and temporary furloughs were initiated for most staff that were considered non-critical work units during the pandemic (Snowbeck, 2020).

Discussion

Clinical trials are being severely impacted by disruptions to normal operations. It has been a challenge to enroll new patients, as well as follow through with therapies in place for existing patients. According to data from PricewaterhouseCoopers (PwC), Biopharma market values have dropped almost 56% through June of 2020, compared to the same time in 2019 (Thomas, 2020). More concerning is the biotech market sector, dropping 74% during the same time frame. As of April 6, 2020, there were over 2,850 active clinical trials with excess of 900,000 enrolled patients in locations that were either partially or completely locked down due to

COVID-19 (Agrawal, Parry, et al., 2020). Over 50% of clinical trial companies have had to pause recruitment for ongoing trials and R&D labs reported they are operating at less than 50% of normal capacity.

The changes are a result of patients missing hospital visits, health systems overwhelmed with caring for COVID-19 patients, and challenges in obtaining clinical supplies. While there is a desire to continue with ongoing research, there is also concern for limiting the strain on health systems that are already feeling the impact of being overburdened or putting immune-compromised patients at risk by visiting testing facilities. This drastic change in volume requires organizations to review current operations and determine an approach to ongoing and upcoming trials, in order to adjust the workload and adapt to meet demand while allowing the flexibility to focus efforts on new potential sources of revenue.

Additionally, there are concerns about the long-term availability of capital, and the uncertainty surrounding national politics and changes to regulations. Analysts with Torreya still noted that new venture capital investments in biopharma have been strong in 2020, with the biotech index up 4.9% as of April 2020 with NASDAQ (Thomas, 2020). However, it is also important to recognize the market reports may be distorted due to the influx of investments in stocks for front runners that are expected to produce COVID-19 treatments and vaccines. Once the pandemic is over, analysts expect the biopharma will make a complete recovery, but the progress will be slow, impacting the financial performance of the market over the long term.

Due to the volatile market, investors are demanding higher returns, and companies with more market share will be able to take advantage of this over smaller, less consistent firms as they have the reputation to be able to deliver on those requirements (Ehrhardt & Brigham, 2020). For example, in July 2020, the biotech giant Moderna published successful, results of a preliminary trial for its COVID-19 vaccine. Less than 12 hours after releasing results of the study, Moderna announced a stock offering to raise more than $1 billion to provide capital to develop the vaccine. Their stock price instantly jumped up 30% (Thomas & Grady, 2020).

In another example of leading BioPharma companies positioning for success during the COVID-19 pandemic, Pfizer and their partner B9ioNTech’s vaccine was recently approved for use by the U.S. Government, ordering 100 million doses in July of 2020, with the possibility for 500 million more orders available under the Emergency Use Authorization, expected to be released as early as October 2020 (Sternlicht, 2020). The initial release of this information had

an immediate impact on Pfizer's stock price, jumping up 5% before the results had even been reviewed by a medical journal. Additionally, the S&P went up 0.5% and NASDAQ went up 1% the day this information was published, reflecting the trickle down affect a vaccine would have on other markets that have been heavily impacted by the pandemic, such as retailers and the tourism industries (Klebnikov, 2020). The U.S. Treasury Secretary testified in front of the White House that economic conditions are expected to improve significantly through the end of 2020 (Sternlicht, 2020).

Recommendations

Specifically, for the laboratory research healthcare setting, there are many steps that need to be taken to effectively manage the ongoing crisis. Primary and immediate goals have been to keep employees safe, and transition as many staff as possible to working from home while exploring the use of new technology while maintaining business continuity (Agrawal, Alawat & Dewhurst, 2020). Other priorities include the solidification of supply of raw materials such as testing supplies and reagents while introducing new safety measures for staff remaining on site in the labs.

The first phase of managing ongoing operations is to recognize that the adverse effects of the pandemic on clinical trials will be substantial and long lasting. The general approach to current or upcoming trials has been to delay new trial starts or pause new enrollment (Agrawal, Ahlawat, et al., 2020). The next step has been to identify the ongoing trials and assess the feasibility of being able to keep them running. One of the determining factors when considering whether to proceed with an active trial is in regard to the therapeutic area of focus. While many specialties have seen significant disruption, those associated with oncology and rare diseases that are considered essential have seen a much lower rate of impact (Agrawal, Ahlawat, et al., 2020). Appendix B attached provides a more in-depth representation of the level of impact that has been experienced in clinical trials among various medical specialties.

As clinical trials operations begin to successfully manage ongoing day to day operations during COVID-19, a recovery plan can be assessed for restarting trials that were previously put on hold. It is important to identify which trials should be reopened based on disease acuity and degree of unmet medical need, in addition to the future of R&D productivity (Argrawal, Perry, et al., 2020). Firms must determine if delays in specific trials could impact strategic business

developments, or negatively impact limited resources within a healthcare system at trial sites (Bedgood, 2020). Another important aspect of clinical trials that needs to be considered is data integrity due to the variations or deviations in the planned protocol versus the actual numbers. Future protocols will need to account for alternative plans or building operational agility into their studies to ensure that the validity of the study is not compromised.

Clinical trial sites are also taking steps to improve logistics. In some cases, international shipment times have tripled as various countries are limiting incoming and outgoing shipments to prevent further spread of COVID-19. This is especially problematic for shipments requiring temperature specifications. They are focusing efforts on direct to patient services such as home deliveries and in-home site visits. Clinical trial companies are refining the shipping process to ensure adequate stock and availability of collection materials and medications being used for studies (Shanley, 2020).

CRO's, or contract research organizations, provide management services of clinical trials for drug and biopharma companies. They are hired by sponsors to manage things like recruitment, activation, data management, project management, logistics, and regulatory requirements (Ledesma, 2018). CROs are an integral part of the success of clinical trials. They have the capacity to take on the day to day operational challenges of managing a trial with numerous collection sites across various counties, and hundreds, or even thousands of participants. They have formed lasting relationships with the medical labs they work with and their support is crucial to the success of clinical trials.

Even amidst the current pandemic crisis, the global CRO market is expected to reach $45 billion in 2020 (Adams, 2020). Additionally the market is expected to reach over $70 billion by 2025, at a compounded annual growth rate of over 9%. increase over 11% by 2023 (Anand, 2020). While the US has a well-developed CRO market due to a well-developed healthcare sector and large patient population, there are substantial opportunities in Europe as well as the Asia Pacific. Asia is the fastest growing region in the CRO market due to improving economies in India and China, with increased per capita healthcare costs (Adams, 2020). The market will continue to gain strength and visibility due to the increased needs for medical research and development, especially in the midst of the pandemic of 2020. It is essential that the biopharma market continue to build and strengthen relationships with CROs as the global market continues

to develop and the world looks at how to navigate the impact of COVID-19 on clinical research operations (Lauerman, Ring, & Hammond, 2020).

Conclusion

There are a number of other recommendations to be considered as the market continues to face challenges associated with the changes seen over the past year. Organizations need to continue to expand the use of digital technology for remote access, data and analytics, as well as automation. Firms will need to continue to build relationships with vendors and find creative solutions to the limited availability of supplies. Trials will need to focus on protocols that minimize patent burden, and focus on opportunities for remote platform engagement to increase the accessibility of offsite trial maintenance by virtual methods.

Additionally, firms must learn to work in tandem with local governments, seeking support for locally driven agendas to fund operations, as can be seen by the response to the COVID-19 pandemic and the race for a vaccine. These partnerships with government can be instrumental in overcoming challenges when the research being conducted serves the needs of the local population. Additionally, companies should seek to collaborate and cross over between the academic research market and the biopharma market. More can be achieved working together when academic and corporate R&D goals are in alignment by pooling the resources. Finally, there is a drastic need for focus increased focus on preventative medicine, which is only 4-6% of the market today (Agrawal, et al, 2020).

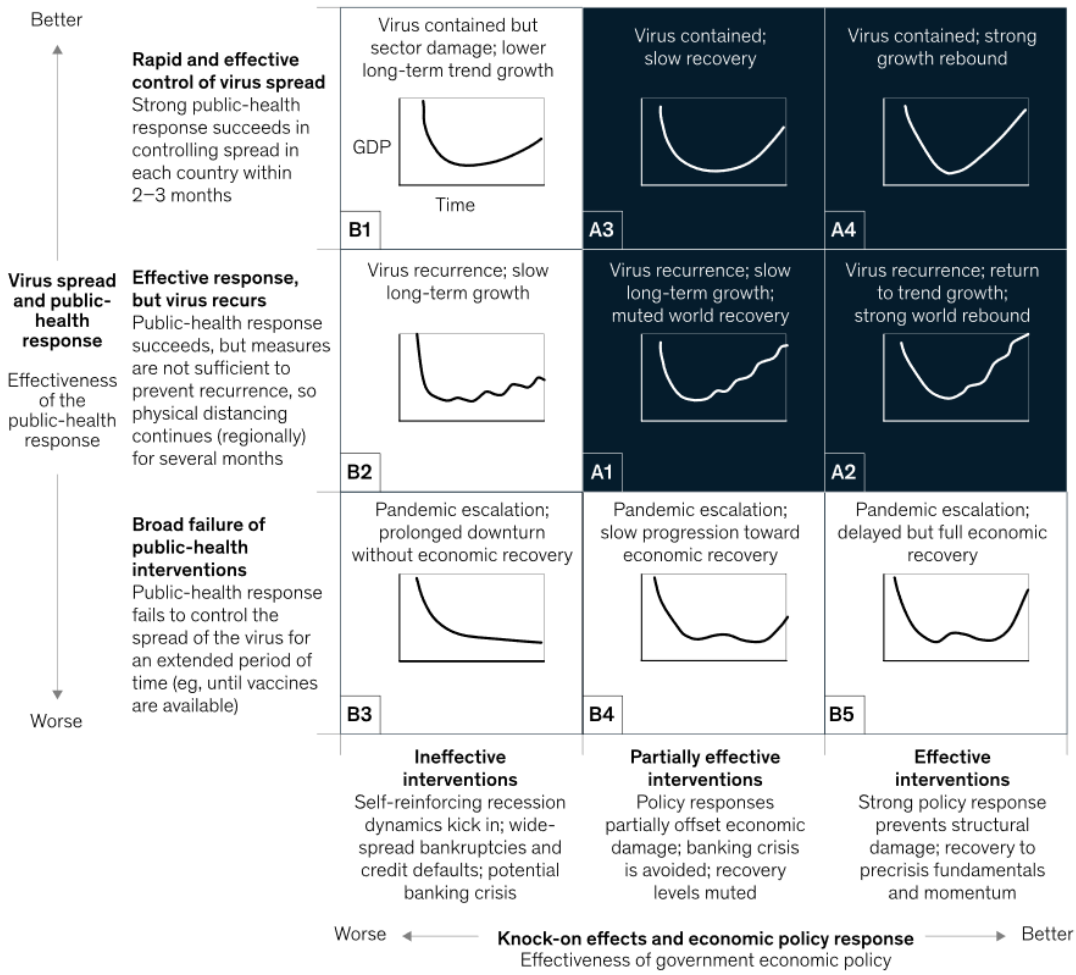
The situation the world is facing today is a unique one, and there is no end in sight. This is more than a catastrophic event. This has become a paradigm shift that will impact how business is conducted across the globe for years to come. Companies across the research and biopharma markets need to continue to innovate, and focus on the long term recovery and success of their organizations. Focus on governmental partnerships to minimize risks and identify common agendas that can be propelled forward. Commercial partnerships offer to increase efficiency and resiliency within the market. Supply chain diversification and the use of contract research organizations are both great examples of how partnering can create a better outcome for all stakeholders. Expanding the use of technology to increase the virtual engagement of patients is imperative to future models of operation.

The primary goal always has been, and should continue to be the safety and wellbeing of patients. The idea behind modern medicine, and the research and development in the biopharmaceuticals market exists solely to bring relief to those suffering and seek medical solutions that are not currently available. If firms remain fluid and flexible, the market will recover and continue to gain strength. Business leaders will need to innovate, strategize and create partnerships to seek long term solutions for problems that are being faced today, as well as prepare for what is yet to come.

APPENDIX

Appendix A (Agrawal, Ahlawat, et al., 2020)

GDP impact of COVID-19 spread, public-health response, and economic policies

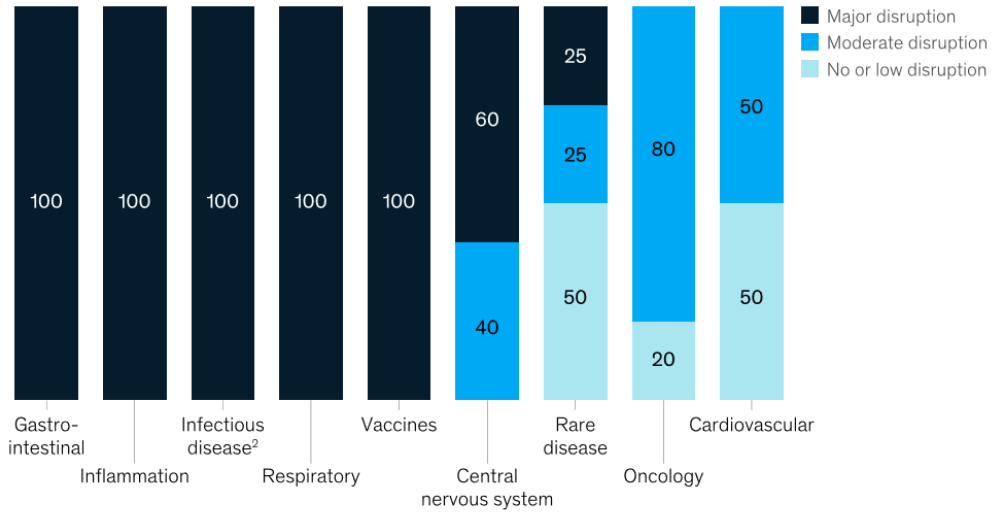


McKinsey & Company

Appendix B (Agrawal, Perry, et al., 2020)

The level of disruption varies by therapeutic area.

Reported disruption level[1] of clinical trials, by therapeutic area, % of respondents



[1]Flow disruption defined as <10% slowing to overall development timeline; moderate disruption defined as 10%–30% slowing to overall development timeline; major disruption defined as >30% slowing to overall development timeline.
[2]Excluding vaccines.
Source: McKinsey Clinical Operations Survey (Apr 6, 2020, n = 8)

McKinsey & Company

Appendix C (2020 Q1 strategic healthcare M&A report, 2020)

Sector / Product line	Company	1-Month Performance (4-21-20)	Dynamics
Covid-19 Vaccine Candidate	**Moderna**	+74.68%	• Developed a new, more efficient approach to design and make vaccines via mRNA. More than 1,400 participants have been enrolled in Moderna's infectious disease vaccine clinical studies under health authorities in the U.S., Europe and Australia. • Phase 1 human trials of the vaccine began in the Seattle area in mid-March. • Assuming a safe phase I, a phase 2 study is expected to start in Q2 and a phase 3 trial could begin as early as this fall with accelerated, Emergency Use Authorization (EUA) permissions from the FDA.

Product	Type	Company	Category/ Platform	Description/Dynamics
mRNA-1273 vaccine	Vaccine	Moderna	RNA	• Directs the body's cells to express a virus protein using messenger RNA platform. • The phase I trial started in March, enrolling 45 healthy adult volunteers.
BNT162	Vaccine	Pfizer and BioNTech	RNA	• An mRNA-based vaccine • Clinical testing to begin late April

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The Global Supply Chain for Medical Products During the COVID-19 Pandemic

By John McElligott

The author is a medical systems analyst.

Introduction

On March 11, 2020, the World Health Organization (WHO) declared the coronavirus disease SARS-CoV-2, named COVID-19 after the year this current strain was discovered, a global pandemic. Labeled as a 'black swan' event, an event that is unpredictable and carries the potential for severe consequences, COVID-19 has maintained a firm grip on global society after originating in the Wuhan province of China and spreading rapidly from there. According to Johns Hopkins University's Coronavirus Resource Center, the figures are staggering as the global case rate approaches 38 million people and the death rate sits at just under 1.1 million people (Johns Hopkins University & Medicine, 2020). In the United States, 7.9 million people have been affected and over 215,000 have died from complications associated with the virus (Johns Hopkins University & Medicine, 2020). As we enter the fall, the virus has shown no signs of slowing down and further pressure on our healthcare system is expected as seasonal influenza also ramps up.

Certain types of durable medical equipment (DME) such as patient monitors and ventilators are critical in treating COVID-19 patients who require hospitalization. Ventilators provide respiratory support by supplying forced oxygen to patients whose lungs are compromised by infection and are under respiratory distress, one of the complications associated with the COVID-19 virus (Iyengar et al., 2020). Almost all forms personal protective equipment (PPE) which include products such as masks, gowns, gloves, and protective headwear have experienced demand that far outpaces supply. PPE is primarily used by healthcare workers and is typically disposed of after interacting with each patient. Masks, which include the N95 respirator mask, became the most critical form of PPE in protecting healthcare workers as researchers discovered how the virus spreads through respiratory droplets. Masks also experienced the worst global supply shortage to a point where doctors and nurses were required to reuse them across multiple patients over multiple days.

China's Dominance in Medical Products Production

The United States is severely dependent on other countries for durable medical equipment (DME) and personal protective equipment (PPE), but China is the primary supplier and source of these products. The most significant reason that explains China's dominance in the manufacturing of PPE is comparative advantage, a concept termed by David Ricardo in 1817 through his work on the political economy and taxation. Comparative advantage exists when a country can produce two products but has superior capabilities in the production of one, so the country specializes in that one product and trades for the other (Eiteman, Stonehill, Moffett, 2019). The source of China's comparative advantage in manufacturing is in its low-cost labor and manufacturing capabilities enabled by foreign investment of multinational enterprises.

A study by Federal Reserve Bank of St. Louis economists that focused on the PPE needed to treat COVID-19 as defined by the UN COMTRADE found that U.S. imports of these products represented 30% of total domestic demand in 2018 (Federal Reserve Bank of St. Louis et al., 2020). Exports on the other hand only represented 20% of total gross output and overall, the US trade deficit on medical products increased from -7% in 2012 to just over -14% in 2018 (Federal Reserve Bank of St. Louis et al., 2020). China was the largest single source of imported medical products at almost 9% of total domestic demand. From a monetary standpoint, the US imported over $29 billion in medical products and 28% of the U.S.' imports were sourced from China while the European Union accounted for 18% (Federal Reserve Bank of St. Louis et al., 2020).

The Peterson Institute of International Economics (PIIE) published recent findings that further breaks down PPE categories and the primary country they are sourced from. In terms of the products critical to the fight against COVID-19, China provides 43% of the world imports of wearable protective garments, mouth/nose masks, and gloves (Bown, 2020). As the data below indicates, the EU is also highly dependent on China for medical products as is the rest of the world. While many countries produce these critical products on their own soil, dependency on China is high and it is suffice to say that many countries could not scale up production to meet the pandemic induced demand spike within their own borders.

2018 PPE Import Product Source

All PPE	Share of China Imports
EU	50%
US	48%
All Countries	43%

Protective Garments	Share of China Imports
EU	50%
US	45%
All Countries	47%

Mouth/Nose Protection	Share of China Imports
EU	71%
US	70%
All Countries	64%

Gloves	Share of China Imports
EU	38%
US	39%
All Countries	37%

(PIIE, 2020)

The Federal Reserve Bank of St. Louis' study did not have 2020 data to analyze due to the COVID-19 pandemic still progressing through both the U.S. and European countries; however, the data will most certainly show declines in exports for both China and the E.U. due to a reluctancy to export goods when they are needed in their domestic battle against the virus. One key point to note is that global competition for China's products is strong as the country has mostly recovered while E.U. product exports are likely quite low as those countries keep the products for their own use.

China was the initial epicenter of the COVID-19 pandemic and so the country took to caring for its own people first. This caused the first major spike in demand for PPE in early 2020 where China doubled its imports of PPE (Bown, 2020). With China accounting for half of the worlds production of masks and N95 respirators at an output of 20 million per day, the country was still short of its own demand of 240 million masks per day (OECD, 2020). Non-traditional manufacturers including electronics manufacturer FoxConn, automobile maker BYD, and baby goods manufacturer DaddyBaby started producing masks in February to meet China's demand.

Low-income Countries Disadvantaged in Crisis

The coronavirus pandemic put a strain in global supply chains as countries rushed and fought to obtain critical PPE products. To further exacerbate the problem, countries that produce these products put export bans on face masks and media reports surfaced regarding ventilator shipments being intercepted and redirected to the highest bidder. Less publicized in news headlines were the struggles of low-income countries who are also in need of PPE in their battle against COVID-19 but less competitive in global trade. During the West African Ebola outbreak in 2014-2016, healthcare workers accounted for many deaths including 8.1% of healthcare

workers in Liberia and 6.9% of workers in Sierra Leone (McMahon et al., 2020). Hospitals in low-income countries participate in the same supply chains as those in wealthy countries but have a significant disadvantage due to their limited bargaining power. As of July 2020, UNICEF reported they had secured only 10% of the 240 million masks requested by countries including Afghanistan, Democratic Republic of Congo (DRC), Haiti, Nepal, and Tanzania (McMahon et al., 2020). Ventilators and patient monitoring equipment have also been difficult for hospitals in these countries to obtain as more patients require hospitalization and respiratory support. In addition to the strained supply chain, prices for PPE have soared which further disadvantaged hospitals in low-income countries.

Tariffs and export bans were additional contributing factors to PPE supply chain complications as countries who produced these products held them for their own need or political barriers were too great to overcome. Complicating matters for the United States was the fact it took until March 17th for the Trump administration to lift tariffs on medical supplies coming from China so masks and PPE could more freely flow into the United States. Until that point, about $5 billion of medical products imports had been levied tariffs as the trade war dragged on in dramatic fashion (Bown, 2020).

As of April 25, 2020, 122 export curbs specific to medical products had been identified globally (Evenett, 2020). Export bans of these essential products inhibit countries abilities to respond to the pandemic per their respective disaster response plans and inhibit the ability for front-line healthcare workers to obtain the supplies necessary to treat and control the virus. Essentially, export bans provide a greater ability for the virus to spread uncontrollably both nationally and internationally. Export bans also drove up the prices of critical medical supplies by an average of 23%, with masks rising an estimated 40% which has a direct impact on the national health budget of every country fighting to contain the virus (Evenett, 2020).

Supply Chain Challenges

It is not just PPE and masks themselves that were in short supply, but rather the entire supply chain of inputs was stressed as the virus spread globally. Polypropylene (PP) is a polymer derived from oil and found in many common plastic products as well as other disposable products like diapers and feminine hygiene products. However, the PP used in face

masks is a highly specialized fabric and is only produced by a limited number of producers due to the capital-intensive equipment required to melt and spin the fabric (OECD, 2020). Because of this bottleneck in the supply chain, it is difficult for other manufacturers who want to produce masks to quickly switch their production lines. When combined with the need for a specialized stamping machine primarily sourced from Europe to produce surgical masks and N95 respirators, it is nearly impossible to respond quickly to demand shocks.

An important lesson has been learned about the weakness of just-in-time (JIT) business models and the application to critical life-saving products. The JIT model is highly prevalent throughout the manufacturing world where lean production and low inventories are prioritized to reduce costs across the supply chain while also ensuring capital is not tied up in storing inventory of inputs. Domestically, 3M is the largest mask producer who in 2019 fully implemented its new global operating model that expanded cash flow by 10%, reduced inventories by $370 million, and increased operating margins by 22% (Gereffi, 2020). This inhibited 3M's ability to quickly respond to the demand spike for their N95 respirator. Just as the manufacturing community has adopted JIT, so have those purchasing the finished products and hospitals have adopted the concept in their purchasing behavior as a cost reduction method (Gereffi, 2020). While the JIT model is an effective cost savings method, it is fragile and lacks agility when in times of crisis. When the US recognized it was headed towards a massive outbreak of COVID-19 cases, hospital supply shelves already carried low inventory and it was too late to place high volume orders.

International trade is highly politicized across the globe and the political impact on trade has become even more evident throughout the COVID-19 pandemic. Export bans and other isolationist practices such as all masks and ventilators produced within a border were directed to fill that countries own governments orders. In China there was no formal regulation put in place to prevent exports, but all orders in January and February were directed to the Chinese government through compulsory purchase until March when exports resumed (OECD, 2020). In the US, the Trump administration requested that St. Paul based 3M, the largest domestic N95 respirator producer, cease exporting their US manufactured products to Canada and Latin America (3M, 2020). This is on top of the Trump Administration invoking the Defense Production Act (DPA) which required 3M to prioritize orders placed by the Federal Emergency Management Agency (FEMA) for N95 respirators (3M, 2020).

The Post Pandemic World of the Medical Product Supply Chain

There is no doubt both the global supply chain for critical, life-saving products will change; however, this is easier said than done. Prior to COVID-19, there was a lack of experience amongst organizations dealing with failure brought on by 'black swan' type events, but many lessons have been learned through these failures as the expectation for other events such as COVID-19 is now evident. As stated by the OECD, supply chain changes in the future will require a prioritization on risk assessments, information sharing such as the process for PPE manufacturing, a redundancy in suppliers, and increased agility across the entire supply chain (OECD, 2020). While it might be reasonable to believe that every country or collective group of nations develop a production network for critical supplies as part of their strategy to manage future crisis, the economic viability of this must make sense. The buildup of strategic stockpiles and the regular use of masks by the human population through the COVID-19 pandemic creates short-term demand. Instead, countries should look to manufactures within their own borders who can rapidly convert production lines to produce supplies during crises and international trade complications (OECD, 2020).

While lean production systems have revolutionized the manufacturing industry, the "inventory is evil" JIT manufacturing concept's weaknesses have been fully exposed across a multitude of industries throughout the pandemic. This relentless race to the bottom in production costs has been driven by both price sensitive consumers and investors, but more consideration needs to be given to the supply chain. Raw materials or intermediate goods early in the supply chain are typically less expensive to carry so managers should consider holding more reserves of these inputs (Shih, 2020).

Many supply chains are stretched across the globe which means many manufacturer's key suppliers are not geographically close. The pandemic has created major disruptions in shipping, particularly in air freight as many commercial flights often have freight in their bellies so companies should consider selecting or relocating parts of their operations to be geographically closer (Shih, 2020). Furthermore, many supply chains are dependent on one supplier for one input, but when that one supplier experiences a shutdown due to a situation out of their control, the risk to further disruptions down the chain are great. Firms need to analyze their suppliers and their dependency on them by creating a risk scoring system to determine their

overall contribution to the finished product and what would happen to the firm should a supplier experience disruption (Shih, 2020). Firms use these metrics and focus on the high-risk suppliers, determine their contribution to the firm's overall revenue, and identify alternate resources that can be quickly accessed (Shih, 2020). If the trade dispute between the US and China has not driven firms to diversify their supplier base, the COVID-19 pandemic should.

Foreign investment, particularly in Asian countries, will be impacted even if a significant amount of medical products manufacturing is not relocated to Europe or North America. It is difficult to ignore the fact that the COVID-19 virus originated in China and so it is reasonable to expect a two percent or more increase in the country risk premium (Goodell, 2020). After the SARS outbreak that lasted from 2002-2004, research found a 200-basis point increase in the country risk premium on costs of equity for China and Hong Kong so it is not unreasonable to expect further risk premium increases due to the area's susceptibility to Coronaviruses (Goodell, 2020). SARS did not reach the global scale of COVID-19 so it will be interesting to see if other countries such as those in Europe who produce medical products will also experience a country risk premium.

Conclusion

It is through the development of global production networks that benefited countries like China, Japan, and Korea became known for the high levels of productivity at a fraction of the cost when compared to manufacturing goods in the US or Europe (Vidya & Prabheesh, 2020). Due to comparative advantage, China emerged as the 'workshop of the world' through its ability to supply with world with parts, components, and finished products (Vidya & Prabheesh, 2020). Because many characterize the COVID-19 pandemic a 'black swan' event, there is still a reluctancy to pay the cost premiums associated with diversifying geographic production locations or carrying more inventory in supply chains (Shih, 2020). However, it is evident the supply chains of medical products need to reconsider their inventory capacity as well as find ways to become agile when supply shocks strain the system. Finally, it has been widely noted that the strategic stockpiles of PPE in place prior to the pandemic did not even scratch the surface in satisfying the needs of healthcare works and the general public. Crisis planning by

both public and private entities was extremely weak and it is disappointing the lessons that have been learned through the pandemic have come at the cost of more than 1 million lives.

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COVID-19 Impacts on the Banking Industry and U.S. Bank

The author is a Fraud Investigator at a national bank.

Introduction

The world as we know it is changing in the wake of the COVID-19 pandemic and the banking industry is no exception. Banks rely heavily on credit losses and net interest income for their revenues and success, but COVID-19 has changed the way consumers are banking and borrowing. This leaves many industries, not only the banking industry, needing to readjust how they do business. These changes and adjustments needing to be made will have both short-term and long-term impacts on the industry as banks adapt to their new normal. Many things like their financial statements, financial planning, budgeting, investments and much more are expected to change. Let's take a look at how the industry and U.S. Bank specifically are adjusting and ensuring resiliency in the wake of the COVID-19 pandemic.

Credit Losses and Net Interest Income

Banks are known for offering a wide variety of banking services rather than products. From these banking service, a large chunk of their revenues come from credit losses and net interest income (Wagner, 2020). Customers deposit their funds into banks, which banks then pay interest on, and then banks use the money to invest in securities or lend it to other customers. The difference between the interest they pay customers for depositing the funds, and the interest rates charged to customers they are lending to, determines a large part of banks' revenues (Wagner, 2020). So, it's extremely important that banks maintain the difference in interest paid and interest charged if they want to remain profitable.

In the time of COVID-19, many people are out of work and facing other struggles, which directly impacts their finances and the revenues of banks. Some are unable to pay on the credit cards or other types of credit; others are refinancing to take advantage of the extremely low interest rates. Experts believe that over the next several years, credit losses for banks could exceed $1 trillion and net interest income could decrease by up to $200 billion when compared to 2019 (Buehler, Dietz, Nadeau, Nauck, Serino, White, 2020). Much of these losses are expected to come from commercial and industrial loans from companies in the most impacted industries during COVID-19. For example, retail stores that had been shut down or very limited for some

time, restaurants or other food service, and transportation and automotive companies were all heavily impacted by COVID-19 shutdowns (Buehler, et al., 2020). While commercial and industrial losses are expected to be significant, consumer lending will be hit hard too. Americans are struggling financially, and it is believed the charge-offs of credit cards could reach 25 to 41 percent, and mortgage charge-offs 1 to 7 percent (Buehler, et al., 2020).

As much as everyone, including banks want to get back to "normal", these significant changes in credit losses and net interest income, again, huge part of bank revenues, are expected to make it very difficult to get back to the norm, if at all (Buehler, et al., 2020). Let's take a look at U.S. Bank's credit losses and net interest income before and after COVID-19 to gain a better understanding of how they are being impacted and will continue to be impacted, and how they can be resilient.

U.S. Bank Before COVID-19

Credit Losses

While provisions for credit losses are common for banks these days, they are not only a thing for pandemics. U.S. Bank reported provisions for credit losses in 2017 of $1,390 million, in 2018 $1,379 million, and in 2019 $1,504 million (U.S. Bancorp, 2019). These numbers show a .8% increase from 2017 to 2018, and a 9.1% increase from 2018 to 2019. The increase from 2018 to 2019 is alarming enough, but we can expect to see an even more significant increase in these numbers in the 2020 annual report not only for U.S. Bank, but for all others in the industry too.

Net Interest Income

Before the COVID-19 pandemic hit the United States, U.S. Bank reported net interest income in 2017 of $12,380 million, in 2018 $12,919 million, and in 2019 $13,052 million (U.S. Bancorp, 2019). These numbers show a 4.4% increase from 2017 to 2018, and a 1.0% increase from 2018 to 2019. The steady increase shows that before the COVID-19 pandemic hit, U.S. Bank had continuously increased their net interest income – a major part of their revenues, year over year. This increase is likely to change thanks to the economy and uncertainty that has come from the pandemic.

U.S. Bank After COVID-19

Credit Losses

In June 2020, months after the COVID-19 pandemic hit the United States, U.S. Bank reported that in the first quarter of 2020 they set aside $1 billion to cover expected credit losses, and another $1.7 billion in second quarter, all to cover the expected credit losses due to COVID-19 (Kumar, 2020). Not only did U.S. Bank – the nation's fifth largest bank, stockpile large sums of money to cover credit losses, but three of the other largest banks – JPMorgan Chase, Citigroup and Wells Fargo also set aside nearly $30 million. U.S. Bank's profits fell 62% in the second quarter of 2020 to $689 million or 41 cents a share thanks to the money set aside to cover their credit losses. One year prior, their second quarter profits were reported as $1.8 billion (Kumar, 2020).

While commercial loans are a large part of U.S. Bank's credit losses, with the extremely high percentages of unemployment the United States has seen thanks to COVID-19, many individuals are unable to pay on loans and credit cards themselves. In April 2020, the number of working adults ages 25 to 54 years old in America fell below 70% for the first time in almost 50 years (The Economist, 2020). As far as bank revenues are concerned, the United States raised their unemployment benefits so high that many individuals were making more on unemployment than they were working. This has allowed many of those who qualified to still be able to pay on their credit with banks among other bills. While this increase in income for the unemployed seems promising in the short-term, those receiving benefits know that it won't last forever. There is still a tremendous amount of uncertainty that comes with this pandemic and it is impacting the way consumers do business, pay their bills, and the global financial markets as a whole (Yue, Korkmaz, & Zhou, 2020).

The current pandemic has led to a job crisis that is much worse than the crisis in 2008 (OECD, 2020). Even though the job crisis has been much greater than in 2008, there are positive signs showing that unemployment rates in the United States is already falling, giving the appearance that the worst may be behind us (The Economist, 2020). This is good news for both individuals impacted by unemployment, and for banks relying on loan payments as a large part of their revenues. As unemployment rates fall and U.S. workers return to work following pandemic furloughs and layoffs, it can be expected that more consumers will be able to pay on

their loans and will be able to do this sooner than initially expected, which could mean fewer credit losses than banks initially anticipated (Matthews, 2020).

Net Interest Income

Even though the number of loans taken out by customers at U.S. Bank, and throughout the U.S. financial industry as a whole, in the second quarter of 2020, U.S. Bank's net interest income fell 3.2% due to such low interest rates (Kumar, 2020). U.S. Bank's non-interest income is reported to have risen 5% in the second quarter of 2020 due in large part to commercial products, and mortgage products because so many are refinancing to take advantage of low interest rates. $7.3 billion of the funds lent to customers was through the Paycheck Protection Program (Kumar, 2020).

Not only are extremely low interest rates impacting revenues of U.S. Bank and the financial industry in the United States as a whole, but it is expected that low or negative interest rates are here to stay for some time (The Economist, 2020).

Short-Term Impacts

The Transition to Working from Home

Companies all around the world have quickly transitioned to allowing as many employees as possible the ability to work from home, and U.S. Bank is no exception. There is no telling yet whether this new norm is here to stay, but in the short-term, U.S. Bank continues to have much of their workforce working from home as they wait out the virus. This has done away with commutes of employees, changed face-to-face meetings to virtual, but has also been difficult for some parents who have children home all day due to school shutdowns or distance learning. Even with the issues that come from this transition, seven out of ten Americans say the transition has been better than expected (The Economist, 2020). The survey of Americans is a good thing because there have been reports that Americas largest banks have no plans for sending employees back to the office any time soon (Nasiripour, 2020). This could be one way U.S. Bank and others in the industry could make up for lost revenues. With so many proving they are able to work from home, cutting the numbers of reserved office spaces by even a fraction could save them a ton of money.

Changes to Branch Banking

U.S. Bank has not only moved non-office critical employees to working from home, but they have also suspended all employee travel, postponed large events they had planned, they increased the pay of critical front-line employees, expanded leave policies, and told their employees they will not eliminate any jobs with so much uncertainty in the global market (Cecere, 2020). They adjusted branch operations and hours, decreased the usage of their lobbies, and have continued to push their digital banking options.

Changes to branch banking has caused more people than ever before to switch to online banking and making payments online (The Economist, 2020). COVID-19 has caused an already changing way of banking to be moved along even more quickly. Many banking customers were already moving to mostly online banking, which was causing banks to reevaluate how many branches they had running or were opening, but the pandemic has forced even those who were reluctant into more digital banking. Amid the current pandemic, mobile banking use in America increased by 85% and registrations for using online banking increased by 200% by April 2020 (The Economist, 2020). These changes are of course going to impact U.S. Bank and the financial industry in the short-term but will likely continue to change the way of banking in the long-term. It is expected that fewer branch openings will be seen among banks, there will likely be some branch closings, and now that users have moved to digital banking and are learning how to use it, they may be life-long digital banking customers from now on. This could help balance any lost revenues of banks if they are able to cut costs in areas involving branch and in-person banking even more quickly than they would have without the COVID-19 pandemic.

Long-Term Impacts

Lower Interest Rates

As previously mentioned, the lower interest rates we are seeing amid the COVID-19 pandemic are likely here to stay. After studying 19 different pandemics, it has been discovered that interest rates often remain low even after the financial crisis due to a pandemic is resolved (The Economist, 2020). It is said that 20 years after a pandemic, interest rates are still about 1.5 points lower than they would have been had there been no pandemic. While COVID-19 doesn't

compare to some other pandemics analyzed when comparing death rates, the interest rates are still expected to be impacted for an extended period of time due to the fact that interest rates were already so low prior to the pandemic (The Economist, 2020). This could be the new norm that U.S. Bank and the banking industry as a whole will have to adjust to as interest income was a large part of their revenues so they may need to find ways to compensate for this. It is especially true that this is a long-term impact because it is expected that interest rates will remain near zero until at least 2023, and it could be even longer as after the last recession interest rates remained extremely low for seven years (Carpenter & Lam, 2020).

Changing the Way Customers Bank

A short-term impact of COVID-19 that the banking industry is facing – the move to digital banking, will likely also become a long-term impact and new norm for U.S. Bank and the industry. With digital banking increasing in popularity, and branch banking falling at the wayside, this could potentially be a huge money saver for U.S. Bank and others in the industry. If they are able to close a fraction of their branches they could save a ton of money. While closing branches and having fewer of them is the new norm and will continue that way for banking, it's unlikely that we will ever reach a point of having zero physical branches. A survey has shown that many customer prefer to have the face to face interaction when it comes to applying for new products: 65% of Americans prefer to apply in person for a mortgage and 58% of Americans prefer to apply in person for a new checking account (Horan, 2020).

Many of the nation's largest banks are continuing to close their branch locations, between 2014 and 2018, U.S. Bank closed branches at a declining rate of 3.4%, lower than that national average of 7% (Horan, 2020). Of the top five banks in America, Citibank, who is ranked number four, has closed 620 branches which is a 25.3% decline for them between 2014 and 2018. These numbers show us that the trend of declining branch banking was already in the works even before the COVID-19 pandemic hit. The pandemic which cause many shutdown, adjustments to ways of doing in person banking, and fear for many consumers who don't want to go bank in person, has pushed this trend harder and faster in a direction it was already heading.

COVID-19 Impact on Financials

Income Statement

U.S. Bank and most others in the industry have been and will continue to expect impacts to their financials. The following table shows the income statement numbers with dollars reported in millions reported by U.S. Bank for 3rd quarter 2019 (3Q19), 2nd quarter 2020 (2Q20), and 3rd quarter 2020 (3Q20) (U.S. Bancorp, 2020):

	3Q19	2Q20	3Q20
Net Interest Income	$3,306	$3,224	$3,252
Noninterest Income	$2,614	$2,614	$2,712
Diluted Earnings Per Common Share	$1.15	$.41	$.99
Dividends Declared Per Common Share	$.42	$.42	$.42

Source: U.S. Bancorp, 2020

These numbers show that U.S. Bank saw a decline in net interest income from 3Q19 to 2Q20, their interest income is on the incline again in 3Q19 (U.S. Bancorp, 2020). Not only are the net interest income numbers on the rise sooner than expected with the pandemic still here, but U.S. Bank reported an increase in noninterest income from $2,614 million in 3Q19 and 2Q20, to $2,712 in 3Q20 (U.S. Bancorp, 2020). If they can continue to find ways to generate revenues from noninterest income, their profits could take less of a hit than initially expect. U.S. Bank's diluted earnings per common share showed a similar trend to their net interest income. In 3Q19 they reported $1.15, with a decline to $.41 in 2Q20, but another rise to $.99 in 3Q20. Again, a promising increase for the company and their shareholders. U.S. Bank has shown a steady $.42 reported on their dividends declared per common share through all three quarters listed (U.S. Bancorp, 2020).

Balance Sheet

The balance sheet is another financial statement that has continued to change as the COVID-19 pandemic hit and has been here to stay for some time. The following table shows the majors changes reported with dollars reported in millions on U.S. Bank's balance sheet for 3Q19, 2Q20, and 3Q20 (U.S. Bancorp, 2020).

	3Q19	**2Q20**	**3Q20**
Average Total Loans	$292,436	$318,107	$311,018
Average Total Deposits	$349,933	$403,303	$405,523
Net Charge-Off Ratio	.48%	.55%	.66%
Book Value Per Common Share (period end)	9.6%	9.0%	9.4%

Source: U.S. Bancorp, 2020

These numbers show that U.S. Bank saw a decline in their average total loans from 3Q19 to 2Q20, but that those numbers are starting to increase again in 3Q20 (U.S. Bancorp, 2020). 3Q20 numbers are still showing significantly higher than 3Q19 which is likely due in large part to the small business loan program U.S. Bank has been a part of for helping small businesses through the pandemic. Between these small business loans and many consumers refinancing due to such low interest rates, it's no surprise that these total loan numbers are increasing and will continues to do so.

A similar trend can be seen with U.S. Bank's average total deposits from $349,933 million in 3Q19, to $403,303 million in 2Q20, to $405,523 million in 3Q20 (U.S. Bancorp, 2020). These numbers can likely be attributed to the fact that consumers tend to save their money during a pandemic due to the uncertainty in the economy. Many have lost their jobs or fear they will, aren't sure what will happen with their investments or retirement funds, and don't spend as much money so the increase in deposits is not surprising in the wake of the COVID-19

pandemic. Not only had savings increased for those still working, but a surge in savings for the unemployed was seen thanks to the relief packages and unemployment benefits offered (Davidson, 2020).

The steady increase in U.S. Bank's net charge-off ratio is also no surprise with all the uncertainty in the economy. U.S. Bank reported a net charge-off ratio of .48% in 3Q19, to .55% in 2Q20, to .66% in 3Q20 (U.S. Bancorp, 2020). What these numbers show is the ratio of net charge-offs to the average outstanding loans. With many consumers losing their jobs, having significant others losing jobs, and other uncertainty and changes that come with a pandemic, a lot of people are unable to make payments on their loans leading to a greater number of charge-offs. Depending on the future of the virus and the economy, this ratio could continue to increase in the coming reporting periods.

U.S. Bank reported a book value per common share trend from 9.6% in 3Q19, to 9.0% in 2Q20, to 9.4% in 3Q20 (U.S. Bancorp, 2020). These numbers show similar trends as others with a decrease from 3Q19 to 2Q20, and an increase in 3Q20 which could be a good sign for shareholders if this trend continues. Numbers are trending upward again in many areas sooner than expected.

Profitability Metrics

Other important measures in determining the success of a company are profitability metrics. The following table shows profitability metrics numbers reported by U.S. Bank for 3Q19, 2Q20, and 3Q20 (U.S. Bancorp, 2020).

	3Q19	**2Q20**	**3Q20**
Return on Average Assets (%)	1.57	.51	1.17
Return on Average Common Equity (%)	15.3	5.3	12.8
Net Interest Margin (%)	19.4	7.1	16.6
Efficiency Ratio (%)	53.5	57.6	56.6

Source: (U.S. Bancorp, 2020)

These numbers show some majors changes to U.S. Bank's financials thanks to the COVID-19 pandemic. U.S. Bank saw a major decline in their return on average assets from 1.57% in 3Q19 to .51% in 2Q20 but has seen another increase in 3Q20 to 1.17% (U.S. Bancorp, 2020). The decrease from 3Q19 to 2Q20 is not surprising due to the economy in this pandemic, but the increase they are seeing already is another promising one and one that has likely come sooner than most thought it would.

Their return on average common equity saw a very similar drastic change from 15.3% in 3Q19 to 5.3% in 2Q20, then back up to 12.8% in 3Q20 (U.S. Bancorp, 2020). Of course, the numbers in 3Q20 are still lower than those from 3Q19, but that is to be expected because of the pandemic and the fact that there has been a significant increase is promising for U.S. Bank and their shareholders.

U.S. Bank's net interest margin – a major component of their revenues, saw similar declines and inclines in their numbers. In 3Q19 they reported 19.4%, in 2Q20 7.1%, and in 3Q20 16.6% (U.S. Bancorp, 2020). This shows that before the pandemic, they had very high net interest income compared to the interest they were paying out. That number significantly decreased in 2Q20 which was when the pandemic was newly hitting America hard, but has already seen an increase even though the pandemic isn't over yet, which is promising. If they can continue the upward trend, they may not need to be as worried about the net interest income lost as people initially thought when the pandemic hit.

The efficiency ratio of U.S. Bank increased from 53.5% in 3Q19, to 57.6% in 2Q20, to 56.6% in 3Q20 (U.S. Bancorp, 2020). These numbers are trending similarly to others in that they were less efficient from 3Q19 to 2Q20 but have become more efficient from 2Q20 to 3Q20.

Changes for the Future of U.S. Bank

Digitization

As previously mentioned, the way customers are banking has been evolving for some time now, but the pandemic has forced everyone, even those previously resistant, to take advantage of phone banking and/or make the change to digital banking (Buehler, et al., 2020). This is an opportunity for U.S. Bank and many others in the industry to develop and upgrade their digital banking options to ensure convenience and reliability for customers. This change

could entice more customers into the age of digital banking, and ensure they remain even after the pandemic.

This change to digital banking is inevitable whether customers like it or not as banks realize they are able to operate efficiently with fewer branches and fewer in person customer interactions (Buehler, et al., 2020). This could create savings by closing unnecessary branches, and by increasing digital offerings, U.S. Bank could reach more customers who have access to the internet but might not have been near a phyiscal branch.

An Adapting Workforce

Industries have been forced to utilize a remote way of working very quickly because of the pandemic. While the future is still uncertain, it is likely that for many, working from home will remain a part of their new normal even after the COVID-19 pandemic (Buehler, et al., 2020). Many workers feel they are more productive and prefer the flexiblity, but there are some who aren't currently thriving with working from home. This is an opportunity for U.S. Bank to listen to their workers and develop a plan for supporting employees at home to meet their needs. If U.S. Bank can make these changes to maintain a large number of employees as remote employees after the pandemic, with this along with other operational changes, they could see many postive results. They could then reevaluate expenses and see extreme savings due to lower number of physical spaces needing to be leased and changes to other in person processes (Buehler, et al., 2020).

How to be Resilient

While there are expected to be both short-term and long-term impacts for U.S. Bank, the banking industry, and the economy as a whole, the long-term impacts cannot yet be certain (Chirita & Nica, 2020). One thing is for sure, the initial shock will begin to fade, and one of the most important things is that U.S. Bank and others in the industry learn how to adapt and be resilient.

Continue Stress Testing and Learn from Current Situations

Following the financial crisis in 2008, the government created requirements for banks to perform in-depth reviews of their risks and to perform stress tests each year (Garg, 2020). This has allowed banks to be more aware of their risks and how they can plan for or adjust in uncertain times such as these. This is an area in which banks are ahead of many industries because for many industries this stress testing isn't a requirement. Stress testing consists of internal auditors reviewing end to end bank processes, and at the end they must provide a report of their findings to the Federal Reserve Bank (Garg, 2020).

These stress tests are important, but it is equally as important that banks, including U.S. Bank, use the results from their stress tests in their strategic future planning, capital allocation, and other management decisions (Garg, 2020). Now that we are in this pandemic, it is no longer a stress test for banks, this is real life. It is important that they document and learn from what is happening now so that if or when we run into similar circumstances in the future, they can be better aware of what works and what doesn't and how to be more resliant quicker than last time. The stress tests performed in the past and currently, and learning from the current pandemic, can ensure resiliency during the current pandemic and any future uncertainty in the economy.

Operational, Organizational, and Reputational Resilience

Stress testing is crucial for many reasons, but U.S. Bank must also think about how to be resilient in their operations, their organization and with their reputation.

U.S. Bank should continue developing their work from home models. By continuing control testing, monitoring and enhancement in this area, they will be able to prevent fraud and hackers from infiltrating their business via remote workers (Buehler, et al., 2020). With malware, scamming, and technology fraud on the rise amid the pandemic, this development will be crucial in U.S. Bank's operational resilience.

For organizational resilience U.S. Bank should continue to work on employee development, maintain or create new measures for people in management positions, and ensure they have successsion planning in place (Buehler, et al., 2020). Practices such as these for employee development and measurement can ensure resiliency in instances like the COVID-19 pandemic when institutions are changing and developing rapidly, which causes movement of employees and management.

U.S. Bank must find a balance between dealing with loan deliquencies and consumers with no income being unable to make payments, adhering to bank rules and regulations, and at the same time reckoning with social movements such as “#NoRent” in order to protect their reputation (Buehler, et al., 2020). Consumers are in hard times and if they feel U.S. Bank is against them or supporting them in some way, this could have detrimental impacts to their reputation.

Conclusion

The COVID-19 pandemic has created a tremendous amount of uncertainty and change in the world and the banking industry. Many industries and businesses have had to change the way they do business. When it comes to revenues, banks rely heavily on credit losses and net interest income. So far this year, U.S. Bank has set aside $2.7 billion to cover their expected credit losses and the low interest rates and impacting their revenues (Kumar, 2020). Many things are changing for U.S. Bank in both the short and long term. There have been substantial changes to the way customers are doing banking – moving from in person branch banking to digital banking, even if they prefer not to and much of their workforce has been forced to adapt to working remotely. These changes will continue to develop and in order for U.S. Bank to be resilient, they should ensure they are maintaining their stress tests, and continuing to make and adjust their plans for resiliency in their organization, operations and their reputation.

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How COVID 19 Has Impacted the Insurance Industry

The author is a disability claims analyst, working in medical claims, at a national insurance firm.

Introduction

The World Health Organization announced, what became, COVID-19 on January 9, 2020. At this point the organization had noted 59 cases of a pneumonia-like virus in Wuhan, China. By March 11, 2020, the World Health Organization declared COVID-19 a global pandemic and a national emergency was declared by President Donald Trump on March 13, 2020. Within a matter of days after this announcement, states began issuing "stay at home" orders for their residents. The orders mandated that people were to stay at home unless they needed to go to an essential job or shop for essentials ("A Timeline of COVID-19 Developments in 2020," 2020). Due to these "stay-at-home" orders, most industries have been impacted, some positively and others negatively. The tourism and travel industries have been two of the hardest hit industries during this time, whereas the tech industry has been booming. The insurance industry is another industry that has been heavily impacted by the COVID-19 pandemic. I currently work as a Disability Claims Analyst for an insurance company and we have felt the impacts of the pandemic in our department. I was interested to see how other areas of insurance have been affected as well. This research paper will discuss how the pandemic has affected the insurance industry and how the industry may look in a post-COVID-19 world.

Impacts of COVID 19 on the Insurance Industry

Shift to Remote Work

One major way that COVID-19 has impacted the insurance industry is the move to a remote working environment. When "stay-at-home" orders were put into place, many companies allowed their employees to work remotely for their own safety. Although many organizations throughout the insurance industry have allowed their employees to work remotely in some capacity for many years, it has typically been confined to specific positions or lines of work. This pandemic has forced companies to adjust to a remote work environment almost overnight with little preparation. In terms of adopting more flexible work environments and moving into the digital age, the insurance industry has been behind other industries, such as banking. This pandemic has changed that drastically (Metter, McCorry, Newton, & Outridge, 2020).

Challenges of Remote Work

Although most companies were able to adapt to remote working well, some areas still experienced challenges because of the pandemic. Call centers have seen an increased number of calls due to policyholder inquiries. Complex underwriting scenarios and complex claims handling have also been affected (Metter, McCorry, Newton, & Outridge, 2020). Part of the remote work challenge was that no one knew how long it would last, so many people did not have the ideal office set up at home (ex: dual monitors, wireless mouse). Companies have also faced the challenge of ensuring that compliance measures continue to be followed. Data security has been one of the biggest concerns when it pertains to remote work. It is essential that employees use only approved communication and data transfer methods. Staff are the first line of defense when it comes to data breaches and a lapse could have serious consequences for the company. Now more than ever it is important to ensure that all employees are aware of security and social media policies and processes in order to ensure compliance standards are followed (Metter, McCorry, Newton, & Outridge, 2020).

Impacts on Insurance Agents

Along with the front line, customer facing staff, COVID-19 has also affected the insurance agents in the industry. In one study done in April 2020, 210 agents across all lines of insurance were surveyed to see how agents were being affected by the pandemic. It was found that about two-thirds of agents experienced a decline in business performance. It was shown that agents who were more tenured (agents with five years or more of experience), showed less of an impact on their performance than less tenured agents (Bi, Li, & Schiff, 2020). Agents have also seen an increase in policy cancellations. Many people have lost their jobs due to the pandemic and are having financial trouble as a result. More than 40% of agents saw an increase in policy cancelations, however they have noted that clients are more proactive about different insurance products. In the first quarter of 2020, new health policies were up by 28%, although this is not surprising during a global pandemic (Bi, Li, & Schiff, 2020). Agents have also been affected by the shift to remote work. Pre-COVID, agents would often meet with their clients in person to discuss their policy options. In this COVID-19 era, most agents have switched over to video conferencing or phone call meetings with clients and nearly 70% of agents stated that these meeting are more productive than in-person meetings (Bi, Li, & Schiff, 2020).

Increased Need for Improved Digital Technology

The pandemic has forced many people to become more comfortable with digital technology. Based on this survey, over 70% of agents said they would like more digital tools to help them better engage with their clients. In order to maintain agents, insurance companies will need to adjust and provide their agents with these tools. Developing new digital tools will not only provide a better customer experience, but it will also help the agents and company be better prepared, should there be another pandemic in the future (Bi, Li, & Schiff, 2020).

Improved Customer Centricity

Along with an increase in the push for digital technology, COVID 19 has also been a catalyst of insurance companies to improve customer centricity. As previously stated, many states issued "stay-at-home" orders during the early months of the pandemic. Because of this, travel halted, those who could were working from home and people were only driving to go to essential businesses. From January 2020 to April 2020, miles driven nationwide dropped by more than 60 percent (Kiger & Markowitz, 2020). Fewer people on the roads means fewer auto accidents, therefore insurance companies were paying fewer claims. Along with decreased driving and unemployment rates on the rise, many of the nation's largest auto insurance companies offered discounted premiums to their clients during the early months of the pandemic. Most companies offered discounts of 15 to 20 percent off premium payments for April and May 2020. This put nearly $14 billion back in the pockets of policy holders (Kiger & Markowitz, 2020). As "stay-at-home" orders have been lifting and restrictions lightening, there has been an increase again in driving and auto accidents. Many insurance companies returned to normal premium payments in June 2020 but are still offering assistance to those who have experience financial hardships due to the pandemic (Kiger & Markowitz, 2020).

Impacts on Health Insurance

The health insurance industry has also been very affected by the COVID 19 pandemic. Health insurers have had to make more payments due to COVID-19 treatments. Due to shutdowns and fear of the virus, people have been putting off medical care, thus reducing their spending. There have been such drastic drops in routine care, such as cancer screening and annual physicals, that it is skewing the financial projections for 2021. Due to the reduction in

spending, many of the nation's largest health insurers have given its members back money in the form of premium rebates or waived copays on doctor visits. Most health insurers are hoping to avoid raising premiums in 2021, but with the unpredictable nature of this virus, medical spending could increase like they did in the Spring of 2020 if there is a large resurgence of cases. Health care analysts feel there is too much uncertainty to accurately predict whether medical cost trends will be lower or higher in 2021 (Coombs, 2020).

Although health insurers remain uncertain about the medical costs for 2021, many employers are fearing the worst. Since elective procedures have been pushed back, many are concerned that they will just bunch up during 2021, causing an increase in medical costs. The cost of COVID-19 testing also needs to be considered. More and more people are getting tested and this is expected to continue into 2021. Pharmaceuticals will likely be another large medical cost in 2021. Pharmaceutical companies have been working diligently to develop a vaccine for this virus and there have been talks of a vaccine release date of early 2021. This will also be a large cost for health insurers that will be passed onto the employers paying for the coverage (Coombs, 2020).

Impacts on Disability Insurance

Since many non-essential doctor's visits have been delayed due to COVID-19, this mean that people may not be diagnosed with a disease or cancer as soon as they normally would have. This could result in an increase in both long-term and short-term disability claims that are more severe. It's estimated that disability claims due to COVID-19 could cost anywhere between $6.1 billion to $23 billion in 2020 alone (Perrigo, 2020). Since this virus is so new, the long-term effects are unknown. Some of the reported effects have been long term lung, brain, kidney, and/or heart damage. Medical studies are ongoing and more information about the long-term effects will continue to emerge (Perrigo, 2020).

Although disability insurers are in a vulnerable place of having spikes in new claims, they are also in the position of business increase as well. The pandemic has caused people to shift their perspective and pay more attention to the coverages that they carry. Now more than ever, people are looking into the coverages that they may need if they were sick or injured. Insurer's will need to make sure they have the proper underwriting systems in place to avoid

fraud as it is common to see an increase in fraudulent policies and claims during times of economic turmoil (Perrigo, 2020).

Impacts on Life Insurance

Disability claims and life insurance claims are often linked. Unfortunately, many people begin with a disability claim in hopes of recovering, but end up succumbing to their injury or illness, which results in a life insurance claim/payout. With the delays in many people being diagnosed or seeking treatment, this could ultimately mean that more people are diagnosed later, thus having fewer treatment options. This, along with deaths due directly to COVID-19, could cause an increase in life insurance claims. Because the pandemic has been so unpredictable and is not under control yet, actuaries will need to determine if their mortality assumptions will need to be recalculated due to the virus. This can affect premium pricing. Underwriters for these policies have also needed to make changes to the policy application, binding process and waiting periods as many insurer's processes were not aligned with the realities of the pandemic (Benjamin, Hiquet, Huddleston, Itteilage, Palicha & Rooker, 2020).

Impacts on Workers' Compensation Insurance

Another product line that needs to be considered for its affects from the pandemic is workers' compensation insurance. Workers' compensation insurance comes into play when an employee is injured on the job and is unable to work. With the virus, this insurance would come into play if an essential worker was infected by COVID-19 while working. In these cases, it can be difficult to prove, and the burden of proof is on the claimant, however some states have been more lenient on the burden of proof requirements due to the pandemic. This type of leniency typically results in an increase of claim frequency and severity, which can be expensive (Banham, 2020). Another concern for insurance companies is that there is no statutory limit for workers' compensation claims. This means claims could appear at any time and these cases can also be quite expensive. Another consideration due to the pandemic is the number of laid off or furloughed workers. Insurers will be responsible for reimbursing their customers for these premiums and this will affect profitability. As more people return to work, it is also a concern that if companies do not follow strict health and safety guidelines that there will be a spike in workers compensation claims (Banham, 2020).

Force majeure provisions

As previously discussed, "stay-at-home" orders were issued in many states and they caused all non-essential businesses to close down. The pandemic came on very suddenly and its impact escalated quickly. Because of the shutdown many businesses had to shut down unexpectedly. Many businesses carry coverage for business interruptions; however, the policies vary greatly (Bolla, 2020). Force majeure provisions are intended to protect the insured from circumstances that they cannot control. It is up to the insured to prove that they were unable to uphold the contract due to the unforeseen circumstances ("Force Majeure, Insurance Provisions for Business Losses from COVID-19," 2020). Some policies may require a physical loss, such as a fire, whereas other policies may require action by a governmental or health authorities before coverage would be triggered. For example, this would mean a governmental or health mandate would need to be in place before a business's canceled event would be covered. Courts tend to interpret policies more broadly than the insurer does. This means insurance carriers will be very impacted by the increase in business interruption claims (Bolla, 2020).

Increased Litigation

Due to all of the business interruptions and claims filed because of COVID-19, there has also been an increase in litigation against insurers. Many insurers have been issuing blanket denials for to business interruptions due to COVID-19. Although the insurance industry has paid some business interruption claims, it is only a fraction of the number that have been filed (Woleben & Ross, 2020). There are two key questions that many are looking to have answered by the courts in terms of business interruption coverage. The first question is: "Do the causes of COVID-19 business interruption losses constitute physical loss or damage to property? And if they do, is coverage nevertheless barred by "contamination" or "virus" exclusions?" and the second question involves "the extent to which such cases may be broadly consolidated" ("Developments in Coronavirus Insurance Coverage Litigation and Legislation," 2020).

There have been over 1,000 lawsuits filed. Insurance companies are fighting, stating that the virus has not caused direct physical damage or loss of property, therefore no coverage exists. On August 12, 2020, a federal judge in Missouri ruled in favor of the policyholder, and this represents one victory in a string of cases to follow. Judge Stephen Bough ruled that the plaintiff "'adequately alleged a direct physical loss,' since coronavirus particles attached to property and

damaged it by making it unsafe and unusable" (Woleben & Ross, 2020). However, there have been a few other notable cases in Michigan and New York that both ruled in favor of the insurance carrier. These cases and their rulings will vary state by state and additional litigation may be needed depending on the state. Although policy language for current policies is bound, insurers are working diligently to fill the gaps in coverage that have left many of their policyholders unprotected in case a future pandemic occurs (Woleben & Ross, 2020).

The "Next Normal"

Impact on Distribution Models

There is no doubt that COVID-19 has affected the insurance industry. Many believe that the disruption (both good and bad) it has caused is irreversible and the world will not go back to "normal." The term the "next normal" has been gaining popularity as an explanation of how the world will be post COVID-19. One thing insurance companies will need to consider for the "next normal" is how their distribution models will be affected. Many agents have found it difficult to build relationships with their clients remotely, however online insurance business is growing. Insurers will need to consider their customers, sales force and enablers (ex: digital tools).

The first big step is investing in better digital tools. These enablers help foster better communication between agents and clients and increase client satisfaction. Client's also want more self-service options (Kaesler, Leo, Varney & Young, 2020). This includes more user-friendly websites and the ability to perform more functions online. It is also important to transition any offline processes online. Many product lines still require "wet" signatures and physical underwriting exams. Insurers will need to adjust as many potential clients are not wanting to go to physician's office for an exam due to risk of contracting COVID-19. They will need to rely on other medical information or risk losing the business (Kaesler et al, 2020).

Along with considering their customers, insurance companies also need to consider their sales force. Having a remote sales force has many financial benefits for the company and remote agents, overall, are able help more customers than traditional agents. It is also good to have remote agents work in teams (Kaesler et al, 2020). Each agent has different areas of expertise and this helps to better serve the customer. Providing agents with virtual training opportunities will also help ensure that everyone's goals and processes are aligned with the company mission.

Although in person agents will always have an important place in the industry, the “next normal” is more likely to see an increase in hybrid agents to increase flexibility and resilience in case of another unknown circumstance (Kaesler et al, 2020).

Impact on Pricing Models

In the “next normal” insurance companies will also need to assess how their pricing models will be affected. COVID-19 has caused many companies to save on costs, whereas others have had much higher costs. Due challenging economic circumstances for many due to the pandemic, the “next normal” for insurance companies may include price wars. Competition is likely to be high and, in the past, insurers have tended to sacrifice long term profits for short term growth (Becker, Klotzki, McElhaney, & Srivastava, 2020). Companies will lean in more to using AI-based pricing tools to better assess risk and pricing models. AI-based risk modeling is complete much faster than previous models, so they can have enhanced pricing and faster time to market. Robo-pricing will also become increasingly popular among insurance companies, although it is not applicable to all lines of business (Becker et al, 2020).

Industry Recovery

Although adjustments will need to be made to pricing, it is predicted that the insurance industry will recover faster than the overall economy. Although claims have peaked, the estimated loss for the United States is $55 billion. This is much lower than recent natural disasters such as Hurricane Katrina that had a loss of $90 billion (Staib, 2020). Right now, the courts have been ruling in the favor of the insured in most of the cases regarding business interruption. If this changes, the losses could be greater than the estimated $55 billion. Many are seeing the pandemic as a new opportunity to grow business since the entire world is taking a closer look at their health and protecting themselves from a crisis. If the insurance industries can expand and sell more policies, it can help build a more resilient population. In his article Staib states, “The recovery will compensate some of the drop, but we will not revert back to the growth path we had before the crisis. There will remain a permanent loss – more so in life insurance” (Staib, 2020).

Conclusion

COVID-19 has impacted the insurance industry greatly, along with nearly every other industry in the world. This pandemic has caused massive changes and expenses, and industries have had to adapt quickly and without much warning. The virus has now impacted nearly 8 million people in the United States and has resulted in over 216,000 deaths and that number continues to grow (“CDC COVID Data Tracker,” 2020). Although we don’t have the answers for when this pandemic will be over or what exactly a post-COVID world will look like, we can be sure that the world has changed into the “next normal.”

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Banking Beyond COVID-19

By Jay Tapper

The author is the president of a local real estate company.

Banking Beyond COVID-19

George Bailey stood in front of a crowd of angry and concerned customers in the classic movie, “It’s a Wonderful Life.” The community was making a run on his family owned bank, Bailey’s Savings and Loan. Since that iconic scene was filmed in 1946, banking has come a long way. Nearly every function the small bank offered then, can be performed on a phone. I can find only a few exceptions; one being the physical storage of a safety deposit box. The Federal Reserve has evolved since Congress created the branch in December of 1913 to handle monetary policy. The United States financial system is now a well-orchestrated branch of our government providing global economic stability.

Federal Reserve Responds

The Federal Reserve is the driving force for economic and monetary policy. It can leverage banking institutions to reduce the impact of the economic shutdown associated with the coronavirus. Their ability to take immediate and decisive action limits financial damage not only in the US but across the globe. In the US they can come to the rescue of large firms, small businesses, and individuals with monetary support. In 2008, the mortgage crisis required significant changes be made to improve the US’s ability to withstand a catastrophic event. Those changes have proven invaluable during the pandemic. (Federal Reserve, 2020)

The corrections made in 2008, required an increase in a bank’s loss reserves, loan quality, and liquidity. As a result, pre-crisis, banks maintained much stronger capital positions. On top of this, the Federal Reserve provided substantial support and increased flexibility.(Provash, Kumer, Sarker, 2020) The government encourages banks to continue lending to households and corporate institutions, through an injection of liquidity, credit guarantees, and relief of regulatory capital requirements. (Brookings Research, 2020) The level of financial support has never been higher.

Underneath the Recovery

A bank's strength is largely dependent upon the economies they serve. US Banks were provided with incentives to lend to struggling consumers through 2020 and into 2021. It is anticipated that it will take until the middle of 2021 for recovery to take hold. In the interim, short-term relief to households and businesses are serving to limit losses. Long-term stress will remain while the economy absorbs high unemployment and a shift in consumer behavior. The federal band aid will be removed, and losses will reflect on a bank P & L statements. There will be a sharp rise in credit loss provisions, increasing capital requirements of institutions that have low profitability. You can expect opportunities within the financial sector for consolidation. In addition, there will be the emergence of non-bank lending, that can reach consumers who tend to be ignored. (PR Newswire, 2020)

Economic Fuel

Dollars injected by the Federal Reserve put massive amounts of liquidity into worldwide markets. A total of $2.3 trillion dollars was placed into lending programs in the United States. (Whitehouse Briefings, 2020) The European Central Bank contributed $1.2 trillion to the recovery, plus another $750 billion into their Pandemic Emergency Purchase Program (PEPP). (Bloomberg News, 2020) This response is designed to keep credit flowing by keeping the cost of borrowing extremely low. Banks are allowing forbearance to households and businesses with respect to loan repayments. This would not be possible without the operational efficiency of the US banking system. They can maneuver through the worst part of the crisis because of the flexibility given to them. There is risk to this, such as reduced transparency in recognizing bad debt. There is also a false sense of security based on the Fed's help, causing inflated investor confidence.

Federal Reserve Tools

Interest rate reduction: The Federal Reserve drops rates by 1.5%, allowing banks to borrow at "almost" no cost. Loan rates, both short-term and long-term drop quickly. The cost to borrow for

a home loan, an auto loan, or unsecured loan falls. Consumers begin to borrow and buy, which supports the economy. Investments and expenditures do not fall nearly as much, which avoids a drawn out downward spiral. (Federal Reserve, 2020)

Forward guidance: The Fed publicly announced its intentions. This instills confidence on a global scale and brings sanity back to the markets quickly. By continuing to announce their intentions to keep rates, stability is restored, and consumer confidence is increasing. The Fed is clear in their messaging that they intend to raise the cost of borrowing when the level of confidence for economic recovery rises. The advance warning approach allows markets to react calmly and not erratically. It avoids uncertainty that causes negative reactions within the markets. (Federal Reserve, 2020)

Security purchases are another tool at the disposal of the Federal Reserve. They began buying 100's of billions of dollars in securities such as treasuries and mortgage-backed securities. This action offered stabilization while avoiding a dysfunctional market that would have followed the COVID-19 outbreak. For example, on March 23rd, the Federal Reserve announced purchases would now be open-ended, which reverses an earlier announcement. Instead of a $500 billion treasury purchase, and a $200 billion mortgage backed security purchase, it became unlimited purchases. (Federal Reserve, 2020)

Primary Deal Credit Facilities were charged .25% to borrow money. Stress that results when institutions and consumers stop spending did not happen. Lending barriers could have grounded borrowing to a halt in all higher risk categories. The US recovery would not reach citizens that needed the most help. Encouraging banks to lend money is essential to economic recovery. Lending costs went from 1.75% to .25% at the same time loan terms were extended from the normal 1-day loans to 90-day loans. (Federal Reserve, 2020)

Reducing regulations serves to increase lending while being relatively risk free. Banks that borrow this way pledge a variety of capital in exchange for cash. There are still funds set aside to absorb the risk of loss. The Fed also relaxed restrictions on growth. For example, Wells Fargo could participate in the Fed's lending programs to businesses. (Saunders, A, 2020)

The steps addressed mitigated a severe and prolonged recession. The Federal Reserve is ensuring that credit continues to flow to every household and business, through a series of moves to limit the permanent damage from the pandemic. Ben Bernanke, the former Fed chair, "We didn't set out to save Wall Street, but in order to save Main Street, we had to save Wall Street." He said this in response to the Great Recession. Those same words apply to our current crisis.

The Future of Banking – Post Crisis

Digital banking and revolutionary financial tools are in development. Fintech is gaining momentum. Customer banking habits are being altered. Technology is going to create a new financial banking sector that has untapped potential.

Nonbank Lending Alternatives

Nonbank lenders are on the rise. They are becoming major competitors to traditional banking. They can utilize technology to be more efficient and effective in reaching the underserved businesses and consumer. They have access to a market that banks have historically struggled to reach. Alternative lending is an outlet for clients that traditionally struggle with financial institutions. Nonbanks will continue to grow because they are digitally advanced and flexible. They can reach out to millions of consumers more effectively than big banks and tailor products to fit. According a survey conducted by Oracle Digital Demand, 40% of the customers surveyed think nonbanks can better assist them with personal money management and investments and another 30% that had not tried this approach were open to it. (Business Insider) Nonbank lenders can incorporate artificial intelligence and machine learning to accumulate data to bring on more customers. The growth of nonbanks through technology will force big banks to invest or risk losing substantial market share. (Business Insider, 2020)

There are several types of alternative loans including mortgage loans, small business alternative loans, and peer to peer loans. Mortgage loans are perhaps the most challenging to offer due to the level of regulations and restrictions in place. Yet, they are digitizing the process and becoming more and more effective at it. The top 5 US Banks are Wells Fargo, Bank of America, JP Morgan Chase, and US Bancorp. These five banks have only accounted for 21% of mortgage lending. A digital process is much cheaper to produce and is bound to capture more clients. (Business Insider, 2020)

Small business loans such as microbusiness are often rejected by banks because they are too small and too expensive to administer. There are much looser regulations for alternative lenders. The approval of loans is considerably higher for alternative lenders. (Hoffman, K.E., 2020) As more and more Americans find themselves unemployed because of COVID 19, and facing an uncertain future, small business start-ups will increase. Utilizing alternative lending may be the best option they have.

Peer to peer lending is becoming more and more popular. This brings together a borrower, an investor/s, and a partner bank through an online platform. They can reach clients through social media platforms and facilitate interactions without owning the loans. (Wright, G. 2020) Examples of growing online lenders are: SoFi, Quicken Loans, Kabbage, and PayPal. Technology has made it possible for online companies to reach and onboard customers efficiently. Small business lending is a substantial market. Small businesses employ 60% or more of all workers. (Saunders, A. 2020) This is also a large segment of the underserved that alternative lenders specialize in reaching. The pandemic we are in will forever alter how we serve clients. Nonbanks are ahead of traditional banks by a wide margin. If traditional banks do not make an investment into new technology, their market share will dramatically shift in years to come.

Digitization of Banking

Fintech is not a significant competitor to large banks based on the current consumer they are most likely to attract. Small business lending and deposits have not historically been crucial to large banks profit. (Saunders, A. (2020) However, the ease with which Fintech can reach a vast audience is significant. For example, technology allows you pull your car up to a gas pump, have your car communicate with the provider, and pay for gas at the pump by charging the car's wallet. It is this type of technology and payment acceptance that will create a different realm of banking. (Wright, G. 2020)

Conclusion

With most branch lobbies closed, online activities are on the rise. Online account openings have more than doubled. This is a shift in permanent habits. Years of adoption are happening in weeks. (Hoffman, K.E. 2020) Will clients return to the banks or remain digital

clients? No doubt behaviors have changed, for how many, we will not know for some time. Consumers will gravitate towards functions such as digital payments and deposits (contactless) versus completing them in person. Banks will be required to analyze data and understand consumers online tendencies. Fintech already uses big data and AI to predict outcomes. Their predictive models are incredibly accurate. Banks that do not manage their digital technology as a combined unit with their bank will fall behind. (Kauflin, J. 2019)

Start-ups in the financial sector will increase. A company like MoneyLion has grown by 2.7 million users. They went from 3 million to 5.7 million clients in a year, at the same time Tripling revenue from 30 million to 90 million. (Forbes, 2020) Tiny neo-banks can offer big-bank products. (Kauflin, J 2020) There are fewer and fewer barriers to entry. Regulators must catch up to these innovations being offered. There will be an array of new products and new approaches to banking introduced. Consumers will have more choices at their fingertips to research and more financial institutions competing for their business. The pandemic has created a revolution of change in months that normally would have taken years. The technology we use today does not allow you to lose track of a bag full of money like Uncle Billy did in “It’s a Wonderful Life.” It does however make it a lot easier to “lose” it online to the likes of Amazon.

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Impact of Covid-19 on the Health Insurance Industry

Introduction

We cannot deny the fact that Covid-19 has adversely affected the various sectors of the world economy and health sector is no exception. There are various parameters that are used for measuring the living standards of a country health sector being one of them. Since time immemorial, the United States health insurance to its citizens has been a commendable one. Inarguably, gaining access to healthcare in the United States can prove to be expensive. For, instance, visiting a doctor for consultation can amount to approximately hundred dollars which is hard to pay without an insurance cover. The introduction of health insurance cover in US has improved the life of its citizens through making health services affordable. Over the years, health insurance has been a way of distributing health services cost among many people who are regarded as enrollees. United States has the largest number of insurance companies in the world. The various insurance companies have different rules as well as arrangements regarding health care, but the bottom line is that all of them are geared towards making health services available and cheap to all Americans.

Impact

Dealing with the unexpected challenges that have been caused by the Covid-19 pandemic have caused a major toll on people all over the world. There are over 40,149,458 coronavirus cases, 1,116,907 deaths and 30,017,848 recovered cases across the globe. According to the official reports, the United States has the highest number off confirmed cases followed by Italy Spain, and then France. However, even those countries which have been hit less by coronavirus they are aggressively still under substantial strain. As many as 213 countries and territories have now registered for Covid-cases and this has caused the entire world to buzz with so much uncertainty and lingering questions such as: How long is this pandemic going to last? What will people’s lives look like once the pandemic is over? (Worldmeter, 2020).

A lot of countries have tried to put in measures such as lockdowns, curfews or even stay at home measures to try and contain the pandemic at a local level. American hospitals have even put testing tents, they have added general and intensive unit (ICU) bed capacity in an effort to try

and save more lives and also developed Covid-19 units to ensure that those who are infected are isolated while being treated as they try to protect the health of the other patients and the hospital staff. However, the damage has already been done and now we are left wondering if the authorities failed to take the situation seriously at the beginning when they could have put in place measures to slow down and contain the virus from spreading. Covid-19 continues to create unprecedented challenges for the US healthcare system, the health plan officials are trying to adapt rapidly to a changed healthcare insurance while at the same time making sure that they are equipped for a post Covid-19 world (Avalere, 2020).

A good example will be that of the New York City Department of Health and Mental Hygiene that had stated that during their first wave of Covid-19 67% of the intensive care unit beds that were in their city hospitals would be filled with flu patients. But that was not the case, this is because as days went by there were hardly any unoccupied ICU beds. Questions such as where the displaced ICU patients would go were brought up. Proposals for adding more portable ICU beds were raised, but this suggestion would lead to the hospital spending much more money and it was impractical due to lack of space (Levin, Gebbie, Qureshi, et al., 2020). Because of the high number of Covid-19 cases the health insurance companies across the U.S have decided to expand their coverage so that they can provide a larger access to the healthcare services for their policyholders. As part of the Families First Coronavirus Response Act, Congress got rid of the patient cost-sharing for Covid-19 diagnostic testing services which are usually provided under employer-sponsored group health plans. Also, a lot of health insurers have decided to relinquish the customer cost-sharing and co-payments for hospital expenses and other various costs that will be incurred to treat the virus (Jackson, 2020).

Since Covid-19 struck the world, health insurance has been hit and it’s still struggling to rise on its feet. To begin with, Covid-19 has unpleasantly affected health insurance that is offered by small businesses in the US. Offering health insurance is a primary priority for most of small businesses in the United States. The going has been a walk in the park since the various companies have been able to offer insurance to their employee. It was not until the pandemic hit when the whole world including United States had everything almost coming to a complete halt. Most of the small companies in US were not able to pay the full salary to their employees. Research conducted in the United States during the pandemic has almost a third of respondents indicate that they were not sure whether they will be able to pay monthly insurance premium

because they were laid off by their respective companies. Only 5% of people were reported saying that their employers promised to offer a premium reduction which would be a great relief to them (Dafny et al., 2020).

Inarguably, 40% of the United States private labor force is employed by small businesses. The Covid-19 pandemic saw many small businesses almost cease operations. This has subsequently led to enormous wage cuts and retrenching of some workers rendering most citizens unable to pay monthly subscriptions. It is important to note that approximately 60% of the working populations heavily rely on the insurance cover provided by the respective employers. The economic crisis as a result of the pandemic will likely spark an insurance cover crisis if the trend continues (Dafny et al., 2020).

Moreover, a survey conducted using an historical data on the relationship between unemployment and insurance by the Urban Institute and Robert Wood Johnson Foundation predicts unpleasing conclusion to the overall wellbeing of the economy. Since 60% of Americans depend on the insurance cover offered by their respective employers, almost 18 million people are likely to lose coverage if the pandemic continues to render people jobless (Dafny et al., 2020).

The American Hospital Association estimates that since the pandemic struck America from March to June, all hospitals in the United States have made losses that are estimated to be $202 billion and $50 billion monthly. The questions arising from this is who will help the health sector arise and operate normally as it used to. The question remains to be a hard one to answer because the United States has a unique healthcare system and of course policy priorities that are varied. Apparently, the healthcare system of the United States is fragmented something that complicates the billing as well as reimbursement of health services. Still on the same, the distinction of insurers between in- network and out -network makes the whole process difficult and unpalatable (Dougherty, 2020).

The hitting of Covid-19 pandemic has prompted the Federal policy makers to come up with at least 31 changes regarding provision of health services to the American people through a telehealth program. Some of these changes include the virtual doctors. During the pandemic, the country has widely adopted the use of virtual doctors. Though the program is a good gesture of providing health services to its citizens, we must consider the disparity that exists between people living in urban and those in rural areas. The digital divide remains thus resulting to

consequences on healthcare system. In simple terms possible, an estimate of 30 million people in America cannot access digital health services fully and thus a major challenge posed to the health sector by the pandemic (Dougherty, 2020).

Historically the health care has always been immune from recessions. Because people still get sick during the good and bad times hence the demand for medical care is always relatively constant across the business cycle. However, the Covid-19 recession is proving to be different for example people are requested to practice social distancing and those with underlying health problems are advised to avoid outside activities hence a lot of people who would normally be using healthcare are now staying at home. This means people are either postponing care such as imaging procedures, visit to refill prescription and even surgeries that are not urgent or cancelling them (Cutler, 2020).

On March 18, the Centers for Medicare & Medical Services (CMS) ended up suggesting that most elective surgeries and non-essential medical, surgical and dental procedures be cancelled or pushed forward to a different date in the future. After this recommendation a lot of governors moved forward with a mandated cancellation of non-essential services in their respective states. This cancellation for both inpatients and outpatients' services has seen a major decrease of 13% from the prior year. Healthcare providers are now raising concerns that patients are forgoing important care such as prenatal appointments for pregnant women which can end up affecting the unborn babies. This has also led to the reduction in the use of healthcare services up to 70%. Salaries of the health workers is now being reduced or even in some cases frozen, and some health workers are being laid off. There has also been an increase in unemployment insurance claims from the healthcare business (Cutler, 2020).

Initially it was believed that the Covid-19 recession will be short but clearly that has not been the case. This recession poses a big problem to the healthcare industry. With the high increase in permanent job losses this will lead to the reduction in the employer-provided insurance coverage. A lot of people will end up being uninsured or they will be on Medicaid where the rates are lower. But as the state and local budgets are being stretched out thin, chances are the government is likely to respond by reducing the Medicaid fees and lower payments from the insurance plans of the public sector workers (Cutler, 2020). These challenges are now creating financial pressures for hospitals around the globe and the health care systems as well. Treatment for Covid-19 has led to the increase in demand for certain medical equipment and

supplies since this virus has caused major disruption in the supply chains. For example, the hospitals are now forced to increase the costs for treating patients with Covid-19 (Cutler, 2020).

Covid-19 has been overwhelming in the United States especially for the younger women and women of color who have been affected the most when it comes to job losses. And since the health insurance is linked to employment for about half of the US population, losing a job will then mean losing insurance to some people. With the increase in unemployment millions of Americans will then end up uninsured, which will lead to millions of people turning to publicly supported insurance such as Medicaid, the Children's Health Insurance Program (CHIP), and government-subsidized coverage on the Affordable Care Act (ACA) Marketplaces. (Sonfield, Frost, Dawson and Lindberg 2020) According to an analysis that was done by the federal employment data, the National Women's Law Center estimates that women account for the 56 percent of total job losses since the Covid-19 pandemic started and this is because women are overrepresented in the type of jobs which were hit the highest for example, retail, restaurants, part-time, education jobs, tipped jobs and low paid jobs. Women's unemployment rate in May 2020 (13.9 percent) was higher than among men (11.6 percent) and higher than at its peak during the Great Recession of 2007–09 (8.4 percent). Unemployment rates were even higher than the average in May for black (16.5 percent) and Latina (19.0 percent) women, women with disabilities (20.3 percent) and women ages 20–24 (24.0 percent). The link between the rise in unemployment and the loss of health insurance can be referenced from the Great Recession where, a 20 percentage unemployment rate led to the loss of employer-sponsored insurance which was among 16% of people that had formerly been insured by such plans. (Sonfield, Frost, Dawson and Lindberg 2020)

Approximately more than a quarter of those people who lost their coverage through the employer will end up uninsured while nearly half will opt for new coverage through Medicaid or Children's Health Insurance Program (CHIP) and one quarter will end up buying insurance directly. But this condition will be impacted negatively in the 14 states that do not have the Affordable Care Act's (ACA) expansion of Medicaid that is offered to people with income up to 138% of the federal poverty level. In such states a study done by Urban Institutes estimates that 40% of people losing employment -sponsored insurance will remain uninsured (Sonfield, Frost, Dawson and Lindberg 2020). With the increase in the number of uninsured Americans this has led to uncertainty around the premiums being collected hence impacting the premium volumes

and in turn the income for insurers. Lately health carriers have tried to aim at helping customers because of treatment disruptions that are related to Covid-19. This assistance has been in the form of premium credits and refunds, cost sharing waivers and extended premium payments that has a window of 31 to 60 days (Okpewho, 2020). There is also too much pressure on claims reserves, and this is because with the high number of uninsured Americans the health insurance companies have less premiums to collect. This has then put too much pressure on the insurer's reserve balances to finance their claim payments. Also, some people are opting to delay the care while their health deteriorates, which means those claims will eventually come up later at a very high level than they originally had hoped (Okpewho, 2020).

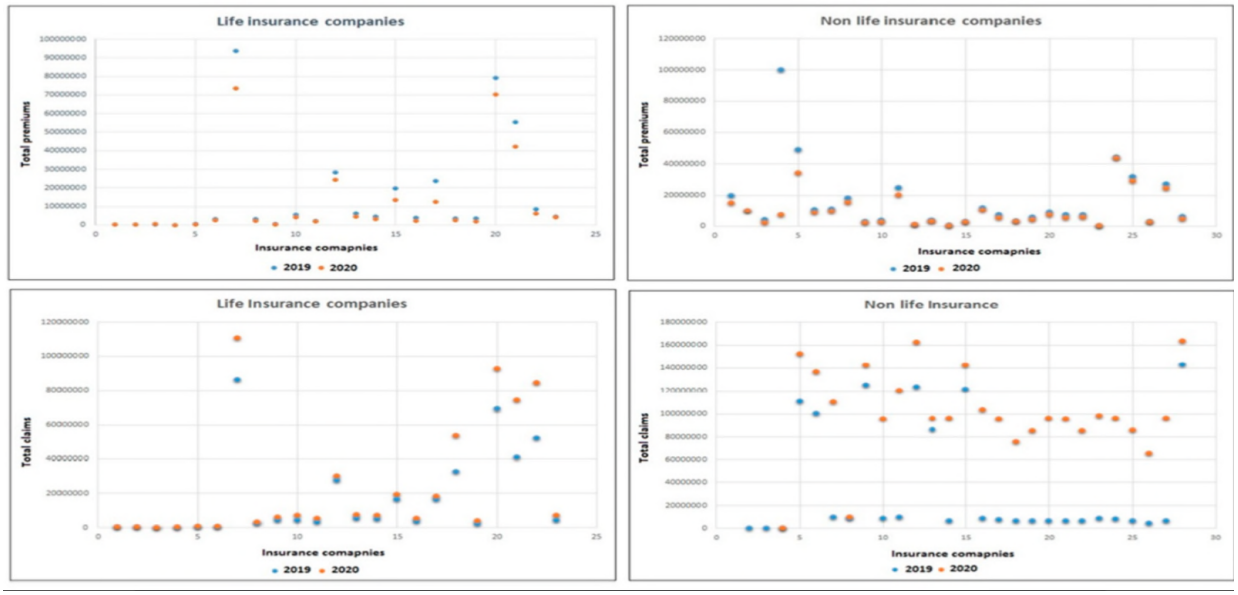
When it comes to rate development, the assessors are obligated to project medical cost and utilization levels and composition of the risk pool level which vary from one geographical area to another and from one health partner to another. Therefore, Convid-19 has ended up causing major uncertainty into the 2021 rate development process as the health insurance face unfamiliar situations such as:

- What are the long-term effects on Covid-19 on individuals who contracted it?
- Will there be another Covid-19 wave and if so when?
- Prescription drug spending seems not to have been affected by Covid-19 as of now. Will this change if there is a new vaccine?

With all these questions there is still uncertainty in treatment and testing costs regarding Covid-19 per case for 2021 and this is because of the belief that there will be new treatment therapies, antibody tests and the availability of a vaccine. The total cost to be incurred is also uncertain and this could substantial if the insurers are supposed to cover if for a fee because of any public health and occupational safety reasons (Okpewho, 2020).

A study was recently done to compare life and non-life insurance companies so as to see the impact on human life and health and the results showed that premiums of all the 28 non-life insurance companies that were studied dropped in 2020 and the same goes for life insurance companies as shown in the tables below. Claims however were seen to increase for both life and non-life insurance companies (Babuna et al. 2020).

A COMPARISON OF LIFE AND NON LIFE INSURANCE COMPANIES



Due to the high reduction in the economic activity across the globe, premiums have gone down, and they are expected to reduce further until the end of the year. Profits that insurance companies were making have also gone down and this is because claims are being paid out than premiums being collected. Some insurance companies have increased their budgets, and this is because of more spending on social responsibility as they are trying to help the government fight this Covid-19 pandemic. For example, some insurance companies had to buy hand sanitizers, gloves, masks and other PPE's for their workers. Food stuff and other provisions were also purchased for communities during the lockdown. Insurers are also at a risk of experiencing an increase in policy lapses in some of their sectors and this is because some people will not be able to pay premiums to keep their policies active. This trend is expected to continue until the end of 2020 (Babuna et al. 2020).

Conclusion

This virus has successfully grounded both the local and national economies. More than 30 million Americans have filed for unemployment insurance since the end of February. The St. Louis Federal Reserve estimated that this number could rise as high as 47 million by the end of the second quarter of 2020. But on April 29, the U.S. Department of Commerce found that first quarter gross domestic product contracted by 4.8% which is an important signal of the

pandemic’s harmful effects on the American economy. These impacts have devastated many industries including our nation’s hospitals and health systems. The financial impact is enormous, and profits had already dropped by 16.6% from March to June 2020. The total number of premiums have also dropped by 17.01% while the claims on the other hand had increased by 38.4%. This has led to most companies reducing their market share with just a few being able to maintain their market share (American Hospital Association, 2020).

They say that there is always light at the end of the tunnel. The impact caused by the pandemic on the health insurance can be solved once and for all. A permanent solution to it would be making vaccines available to everyone. Moreover, the government should ensure that the health system is affordable to everyone even without insurance cover. This is possible by using political as well as financial leverage. The health insurers on the other hand may also want to accommodate longer premium payments cycles for those individuals who have a good credit, this will be important in preventing any further disruptions to the enrollment cycles. Those insurers that are well capitalized can look for temporary financing for those self-funded employer expenses that are incurred (Okpewho, 2020).

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The COVID-19 Effects on the Airline Industry: Sun Country

By Daniel Samanduev

The author is a systems analyst at an airline.

Introduction:

COVID-19, or Coronavirus, is a virus declared by World Health Organization as a global pandemic, which means that it has a sustained global impact. Many countries already had their economy to slow down before the pandemic hit, and now with the COVID-19 threat, many countries steering into a steep recession. COVID-19 pushed the world's largest stock market in the US into bear market territory in March. A bear market is when the market experiencing a prolonged price decline, usually refers to stocks and securities prices fall by 20 percent or more which hasn't happened in the US since 2008 (Chen, 2020). COVID-19 also effected the employment in the US as well. The market does try to regain much of its losses but unemployment remains high and GDP growth will be severely impacted across the many countries around the globe (Alpert, 2020). One of the biggest industries in the US had a big hit from COVID-19 and it is the airline industry, where in 2018 was recorded 4.2 billion passengers were carried around all across the globe (Wood, 2020). This research paper will be focusing on the effects COVID-19 had on the airline industry in the US and globally, there will be an example and personal experience regarding how its effects companies financially and the work environment during the pandemic.

Effects of the pandemic:

Before the COVID-19 hit the airline industry, the competition in the US was on a rise. Increase in disposable incoming all across the country, the introduction of low-fare airline which made traveling more affordable for the consumer, increase in innovation and new travel trends. Additionally, commercial aircraft also contributed significantly to the growth of the airline industry, for example, a small airline called Sun Country started cargo operations for Amazon, which helped Sun country's operations to expand not just financially but also socially (Brett, 2020).

After the pandemic hit, there were multiple key factors that were affecting the airline industry, such as a tremendous decline in tours and travels as a large number of international as well as domestic flights are getting cancelled all across not just the US but around the globe, to

try to reduce the spread and to contain the virus. Additionally, there are new regulations in the industry that demands green business practices in the turbulent times of COVID-19 remains high (Amankwah-Amoah, 2020). Another factor that affects the airline industry is visa of foreign people, many governments around the world are cancelling visas of foreign people and locking down affected area which is slows down the airline industry as well. Cancellations of flights in general cause also cancellation of airplane production and demand, which affects the airplane manufacturing companies since it causes many breaches of contract with different airlines (Wood, 2020).

Background of Sun Country and its comparison:

Sun Country airlines is a small low fare airline based in Minnesota, that had a lot of controversy in the last 2 years since the previous owners, the Davis Family, sold the company to Apollo Global Management, an investment firm, which turned Sun Country airline from a legacy airline to a low-cost airline. In late 2018, Sun Country had started facing a lot of customer complaints under the new management, it was hard for employees to get used to the new style of management, and people started to get laid off. However, it didn't stop Sun Country to make profit and save money on their equipment and gas travel. After the COVID-19 hit American, small airlines like Sun Country suffer the most, a lot of their income depends on tourism and business trips, and Sun Country like every other airline did get hit by the pandemic however it was not as bad as other airlines were (Painter, 2020).

Another good example for an airline that was affected by the pandemic but still managed to build a better business model and reputation is Ryanair. Similarly, to Sun country airlines, Ryanair is a low-cost carrier that comes from Ireland, they have reported a loss of 200 million euros during its first fiscal quarter from April to June which was during many countries first quarantine lock down. However, Ryanair's shares still rose by 17 percent on the earnings day, when more than 70 percent of global aircraft are grounded. Before COVID-19 hit, Ryanair was the most successful airline in Europe, even though the costs were rising and its way forward was seemed to be unknown (Sindreu, 2020).

Many low costs airlines outperform legacy airlines, like Delta and British Airways, during the pandemic, "One reason is cyclical: short-haul bookings are likely to return at a faster pace

than international ones. Yet there are also longer-term advantages no-frills airlines can grasp in the crisis" (Sindreu, 2020). In other words, the legacy airlines rely a lot on their ability to provide services internationally, however ever since many countries have decided to close their borders, the low-cost airlines took charge in the domestic field airline industry.

Ever since the airline industry got effected by the pandemic, airlines around the US cut tens of thousands of jobs. On March, congress has passed a stimulus package worth of 25 billion dollar for all US airlines to cover most of airlines' labor costs for the summer. The stimulus package meant to help to avert an abrupt collapse of the industry. One big concern the airlines are facing right now is the stimulus package expires at the end of September, and when congress has passed the package, they were expecting the pandemic to be over by the end of summer and show a better time for the industry, however the better time haven't arrived. On October 1st, airlines are expected to lay off or furlough workers, the number that is expected in the US alone could reach up to 61,000 workers getting laid off despite the air travel demand has been picking up in the last two months (Sider, 2020).

Sun Country airlines was known as a legacy hometown airline of Minnesota owned by the Davis family which also owns a granite company called Cambria which based in Minnesota as well. In 2017 the Davis family decided to sell Sun Country airlines to an investment manager firm called Apollo Global Management. Apollo Global Management already came with experience in the Airline industry, they decided to bring Jude Bricker, a former Allegiant Air executive, to become the new CEO of Sun Country airline. Jude Bricker overseen some monumental shifts in the airline company, in the past few years he and Apollo Global Management transformed Sun Country from a full-service legacy airline into a nationwide low-cost carrier, expanding to new destinations as far as Hawaii while completely restructuring the customer experience (Pallini, 2020).

As already mentioned above, many airlines are struggling financially during the pandemic times, and Sun Country airlines is no exception. During March, Sun Country Airlines started crisis meetings during every morning, just as air travelers began canceling flight plans because of COVID-19. operations executives, dispatchers and crew planners decided what flights to cut, where planes and crews were and what airport contract the airline needed to uphold. When earnings were announced for April to June quarter, Sun country has achieved something no other US airlines did which was a pretax profit.

On December 2019, a lesser-known decision with an unlikely ally was announced, however it ended up to be more impactful on the airline's future as the subsequent months would see its main business decimated by the COVID-19. Amazon and Sun Country have entered into a partnership right few months before the airline industry collapsed due to the virus, the partnership allows Sun Country to fly under the Amazon Air brand, transporting packages around the country on behalf of the e-commerce giant. Back in 2016, Amazon started their own air cargo operations as their business expanded with their innovation, Amazon Prime (Pallini, 2020).

Sun Country's operations:

Sun Country isn't the only airline company that has a partnership with Amazon. Amazon doesn't have their cargo planes operating under their company's colors, instead they rely on their partnerships they have with Southern air, Atlas Air and now also Sun Country airlines. As result of that airline companies that work with Amazon tend to save money by not worrying about paint job and sacrifice their limited aircrafts for passengers for the good of Amazon packages and delivery.

There are few reasons why a small airline company like Sun Country was able to achieve such an accomplishment during the pandemic, one of them was the stimulus package congress has approved in March, but the main reason would be the start of a new contract to fly Amazon Air, commonly known as Prime Air, cargo operations for Amazon. The profit was only 8 million dollars but as other airlines foreshadow big job cuts with the looming end of government aid, Sun Country was able to hang on to its 1,500 workers and face up to no job releases. Sun Country's CEO, Jude Bricker, said that the decision to join up with Amazon helps Sun Country, one of the smallest of America's major airlines, to survive the pandemic (Painter, 2020).

Even though Sun Country airlines has been approved for 60 million dollars stimulus package from congress for continuing paying staff until the end of September, Jude Bricker doesn't believe that the early partnership with Amazon will save the company until the end of the pandemic. "We got a little bit lucky", Bricker said. "We were the main constraint in the ramping up. We were taking pilots off the passenger service and now that's not a concern." When he mentions it is a no longer a concern, he means for the time being, Sun Country still faces

decrease in sales and revenue like any other airline and when Jude Bricker was asked about expanding the partnership with Amazon, he replied that it was too early to tell whether Sun Country will consider to grow into Amazon's wing and try to be full provider (Josephs, 2020).

Counter point Sun Country should consider and the reasons behind it:

Sun Country has a lot to consider when the pandemic will start to end. The company has only 41 aircrafts which only 38 of them are currently in service, and 10 of them are used to be in service by Amazon Air which two of them are the 737-800BCFs aircraft, the biggest aircraft Sun Country owns (Lalk, 2020). In the middle of the pandemic Amazon generates close to 65 percent of Sun Country's revenue, however these numbers can be deceived since the air travel has dropped almost by 95 percent. Amazon takes away 26 percent of Sun Country's aircrafts to general 65 percent of their revenue during the pandemic, however that number will drop significantly when the air travelling will come back to "normal", meaning the way it was at the beginning of the year 2020 (Elwood, 2020).

One of the disadvantages that Sun Country faces with Amazon's partnership is the timing of the start of their contract. Sun Country started delivering package for Amazon in May of 2020, and the revenue that contract brings definitely helps the company but the numbers for Sun Country's revenue aren't accurate, since the air travel not nearly as close to what it used to be at the beginning of the year and it is hard to understand if the partnership with Amazon is worth to spend 26 percent of the company's aircraft (Elwood, 2020).

Even though Sun Country might be in a position where its partnership with Amazon is unknown, they should still expand it and go public. In other words, Sun Country can raise their profitability by making the company IPO and sign a new partnership with Amazon, and there are many reasons why they will succeed.

For example, if we take Atlas Air in 2015, they were a slow-paced cargo, charter, aircraft lessor airline that was making profit on the long run but couldn't go over the hump and become innovative enough to compete in their market. In March 2010, Atlas Air signed a nine-year contract for the operations of the Boeing 747 Large Cargo Freighter to transport aircraft part to Boeing from suppliers around the world, which allowed Atlas Air to purchase Southern Air for only 110 million dollars in an all-cash deal in 2016. Even though, the future seemed to be bright,

Atlas Air was nowhere near to maximize their productivity in the company, they had about 30 aircrafts that were parked and out of service which made them lose potential hundreds of millions of dollars (Ostrower, 2010). That have changed as soon as Amazon signed a partnership with them.

On May 5th 2016, Amazon and Atlas Air have signed a partnership. Amazon is able to lease 20 Boeing 767s aircrafts from Atlas Air so they could double its fleet of jets for domestic package deliveries. It benefited Amazon a lot because in the deal they have acquired up to a 30 percent stake in the company and they have Atlas Air to provide them with aircraft, crew, maintenance and insurance for a period of seven year. However, Atlas Air have benefited more from the deal than Amazon. Atlas Air shares have spiked up by 27 percent in one day, and ever since the company's value have been increasing on a consistent basis, their shares were able to increase from 41.56 dollars per share in the first quarter of 2016 to 74.00 dollars per share first quarter of 2018. The productivity and the efficiency of the company has increased by almost 45 percent which helps them to try to maximize the company's resources to make the most profit (Jamerson, 2016).

With the help of Amazon, Atlas Air was able to expand its operations in the Northern Kentucky, where it plans to add nearly 600 new jobs over the next 10 years. Atlas Air is expected to invest 34 million dollars for this expansion and the reason they have an operation in northern Kentucky is because Amazon holds a facility there and it will be used as a hub for the company (Bhattarai, 2019). The merger with Amazon helps Atlas to increase their company's productivity, efficiency, profitability, the value of the company, their shares and to create more jobs. Overall, Amazon was able to help Atlas Air to grow and the partnership was a success.

Suggestions and recommendations for Sun Country and why:

Sun Country should be considering to do something similar to what Atlas Air did with Amazon. First, they going to need to plan to file for an initial public offering and then sign an expanded contract with Amazon to be able to maximize efficiency and profitability. Before COVID-19 hit the Airline industry, Sun Country was planning to go IPO as soon as April 2020, CEO of the company, Jude Bricker said "Our earnings are supportive…...I think there's a market for an airline that is growing." However, due to the COVID-19 pandemic Sun Country found it

difficult to go IPO due to the market crash and they postponed their initial public offering date (Skift, 2019).

Despite the pandemic some companies find this time a good time to go public. A famous coffee brand called Peet's Coffee decided to go IPO on May 26, 2020, right before the amount of infected people spike up during the pandemic. Peet's Coffee raised 2.5 billion dollars from the initial public offering, which sets the company's value to 17.3 billion dollars in one of the world's biggest IPOs in 2020. The company's shares jump by almost 14 percent in their trading debut, which started with 31.50 Euros per share and increased to 35.84 euros per share. By mid-September the stock price for Peet's coffee already reach over 60 euros. This particular example of IPO could offer some hope for other companies that can show that the pandemic hasn't derailed their operations (Dummett, 2020).

Some of the reasons why Peet's Coffee has this success during the pandemic is the lack of competition and drop in value from their competitors. The pandemic hit hard almost every business in the world which Peet's Coffee saw an opportunity to try to catch up with their competitors who already were publicly offered in the stock market. Many new investors started to appear during the pandemic and they were looking for a new fresh start up company just like Peet's Coffee, and them going IPO attracted many of these people (Primack, 2020). Sun Country might want to strategize the same way as Peet's Coffee, since their competitors are still taking big hits during the pandemic, it could be the perfect opportunity for them to go IPO. Many investors used to buy stocks from "safe" airline companies such as Delta and American Airlines which slowly were growing on a monthly basis. However, since the pandemic hit, most of them are looking into a fresh start with a company that did not have their stocks effected in any way from the pandemic. Sun Country could be an attractive company for these investors if they provide them some assurance in the future.

Some executives believe that Sun Country will be able to recover its operations through the charter flights programs because Sun Country is planning to increase its cargo fleets in November to 12 addition Boeing Co. 737-800 jets to try to recover addition revenue from sports teams and charter flights for casinos. However, even if the company will be able to recover its operations for these charter flights, it is predicted to be 20 percent smaller than what it used to be back in 2019. Sun Country is a small airline and they might not be able to survive on their charter flights operations (Bachman, 2020).

As soon as Sun Country goes public, they should announce their future plans regarding their partnership with Amazon and try perhaps to expand that partnership to provide insurance or a safety net to their investors. Sun Country struggles to compete against their competitors when it comes to passenger travels, they do not have enough aircrafts or reputation to be attractive and competitive against more popular low-cost airlines such as Southwest and Spirit airlines. However, Sun Country already showed that they provide good numbers even during the pandemic thanks to their good management decisions partnering up with Amazon, which can be their main source of profit if they commit that partnership like Atlas Air did.

Conclusion:

In conclusion, the airlines industry was on a consistent incline in the market until the COVID-19 pandemic hit every airline company on March of 2020. There was a deficit of 95 percent in air travel around the world which affected every airline financially even with the government aid when congress passed a stimulus package for the whole industry back in April (Washtell, 2020). Sun Country airlines is the only low-cost airline that was able to make profit before taxes during the pandemic, and it is thanks to their new partnership contract they signed up with Amazon to use their aircraft for cargo. For potential future profit, Sun Country should go IPO and commit to a long-term partnership with Amazon, to attract investors and help their company to create more jobs and profit in the long run. Despite the pandemic, Sun Country should not be afraid to commit to these plans, with the right strategy, Sun Country can be attractive to new investors, however, they shouldn't be expecting a significant growth not until the pandemic is over.

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The Current State of the Airline Industry:

When Will We be in the Air Again?

Abstract

This paper looks at the current climate of the airline industry. The industry has not seen this big of a hit since the 9/11 attacks. We will look at the current demand and state of the airline industry during the Covid-19 pandemic. It has not been an ideal year for anyone or corporations. If airlines are going to survive they will need to be sufficient with their capital budgeting, and the government and banks will step in to help. With everything negative that has happened to the airline industry this year, this paper will show that airlines can grow stronger than ever from this pandemic, but it will take more than a few years to get back to "normal".

Introduction

Since the first case of Covid-19 was reported in China, the disease has spread worldwide and burden millions of people. Countries have taken extreme measures, including quarantine, border closures, and shutdowns. In the earlier parts of April 2020, 91 percent of the world's population lived in countries that limited or forbid the entry of noncitizens and nonresidents. The global economy has taken a devastating toll from Covid-19. For the most part every sector has felt repercussions, but few have been hit as hard as the airline and travel sector. The decrease in travel demand is worse than seen after 9/11 attacks, and the 2008 financial crisis combined. Airlines had more sturdy balance sheets when Covid-19 began, compared to previous crises, but a slowdown this big leaves even the strongest players vulnerable.

Most airlines have sufficient short-term liquidity to survive the next 6 months or so, despite the dive in revenues. There have been airlines that have declared bankruptcy, but governments are stepping up and providing financial support. Capital budgeting will also bring great importance in this time as it will help clarify decisions, lower risk, and provide a financial plan. This will be major for this industry to recover from this pandemic. The long-term picture still raises concern, and airlines will not return to normal operations and demand levels until 2022. There are many hurdles in the journey for the airline industry to recover, but there are positive outcomes that can come out from this wild year that this world has had.

Discussion

Capital Budgeting

Capital budgeting involves choosing projects that add value to the company. The process of capital budgeting can include almost anything including acquiring land or buying fixed assets like new machinery. Understanding capital budgeting is important because it creates accountability and measurability. Any business or corporation that seeks to invest its resources in a project without understanding the risks and returns involved would be held irresponsible by its owners and shareholders.

The biggest thing to take out of capital budgeting is that it is both a financial commitment and an investment. By taking on a project, the business is making a financial commitment, but it is also investing in its long-term direction that will likely have an influence on future projects the company considers (Pinkasovitch, 2020).

There are different methods for capital budgeting. The different methods are internal rate of return, discounted cash flow, and payback period. In the internal rate of return method, you consider the rate of return vs. the weighted average cost of capital (WACC). Companies usually do projects with a rate of return that is higher than the WACC. If the capital budget sees that a project won't achieve the results that are wanted, it can be tabled for the present, but that doesn't mean it will be financially sound. The discounted cash flow method is based on the idea that money today can earn interest, and making it worth more money in the future. This method is an attempts to see how much revenue it will generate in the future by considering future sales growth and profit margins. The project that with the highest net present value (NPV) is the one you will want to go with, but this method doesn't really go if investors can't access future cash flows. Payback period is the simplest yet least accurate capital budgeting method. This method calculates the amount of time it will take to gather any funds put into the project. This will give managers a sense of how well a project will perform (Verbeck, 2020).

Without capital budgeting more risk is involved with less confidence and fewer available funds. Capital budgeting is an efficient way to know a company's best route going forward, and when there is known knowledge you give yourself, the more likely the project will turn out.

The airline industry is highly capital-intensive and it requires billions of dollars in capital investment expenditures to remain in business. Airlines, maybe more so than many other industries, require substantial long-term capital budgeting for profitable, sustainable, and efficient business operations. Commercial airlines are faced with many potential capital investment projects, but limited financial resources, so decisions have to be prioritized (Vasigh, 2015).

Current State of Aviation

Covid-19 has brought travel to a sudden halt, and airlines need strategies for navigating the crisis and return to the skies. In the United States alone, travel spending in 2020 is expected to decrease around $400 billion, translating into a loss of about $900 billion. This is more than seven times the impact of September 11, 2001, on travel-sector revenues. In April, worldwide airline capacity is down 70 to 80 percent compared to April 2019. Almost 60% of the global fleet was grounded in early April 2020. The drops in capacity far surpass other crisis like the September 11th attacks which was 19%, and the global financial crisis in 2008, which was 11 percent (Curley, 2020).

Airlines will post their largest ever collective net loss this year. The total net loss will exceed $84 billion, and they will be in the red in 2021 as well. The projected $84 billion in 2020 will trounce the $30 billion loss during the financial crisis. The International Air Transport Association (IATA) chief economist Brian Pearce says that they will not put a forecast out beyond 2021. But, citing the example of what happened in the financial crisis he Pearce says if you follow the trend, 2022 look like it could be a year for a return to profit and that would be in line with long-term forecasts in growth in passenger markets (Dunn, 2020).

IATA expects an improvement in air travel demand to lag economic recovery by up to two years. As IATA had originally projected continued steady growth in 2020 and 2021, it means its revised outlook for next year is 32% down on its pre-crisis expectations. In this scenario, it does not see passenger traffic returning to 2019 levels until 2023. Under a pessimistic view, if there is a slower opening up of economies and the lifting of travel restrictions is pushed into quarter 3, IATA expects traffic to be 34% below 2019 levels. Under a positive outlook,

IATA still projects passenger traffic in 2025 will remain 10% below the levels before the crisis (Dunn, 2020).

Airline Demand

United States airlines are starting to boost their flight schedules after experiencing an increase in customer demand. The scale of the current crisis in airlines is unprecedented. To, recover, the industry will need better data on where and when demand is likely. To help formulate a response to these challenges, IATA and Mckinsey partnered to develop Air Travel Pulse, a dashboard that provides the travel industry with a current and comprehensives view of travel demand and indications recovery. Air Travel Pulse brings together and summarizes the traditional leading travel demand indicators. The goal is to allow airlines and other travel-sector participants to better gauge the progression of the booking funnel, deploy capacity, allocate marketing resources, and adjust pricing in the future months.

Economy

Air transport is key to global economic development. This wider economic benefit is supported by both the direct connections between cities (enabling the flow of goods, people, capital, technology, and ideas) and falling are transport costs. Air transport is also vital for international trade in manufactured goods, particularly for the components industry which accounts for a major part of cross border trade. IATA forecast that the value of international trade shipped by air this year will be $5.5 trillion, which is 15% lower compared to 2109. Tourists travelling by air in 2020 are forecast spend $457 billion, 49% less than last year. Jobs will also be lost. Total employment by the air transport sector is expected to decline to 38.4 million in 2020; a 45% decrease relative to the 70.4 million jobs supported by aviation jobs in 2019. (Appendix A)

Government

Governments benefited from the solid performance of the airline industry with airlines and their customers generating $111 billion per year on average in tax revenues. Airlines looked for support from governments to help survive and overcome this period of time. Airlines worldwide are estimated to have received $123bn of government aid. Aid from governments has been distributed unevenly across regions. Airlines in North America and Europe have received aid equivalent to 25% and 15% of their revenues, respectively. The support received by airlines in Latin America, the Middle East and Africa has been only about 1% of their revenues. Support from governments has taken a variety of forms, including capital injections, the provisions of loans, deferring the payment of taxes and reducing tax liabilities. Some governments have also provided wage subsidies to preserve jobs. Estimates that governments have subsidized the salaries of more than 800 thousand airline employees so far (IATA).

Future Outlook on Airlines

Travel has evolved greatly in the past six months since the spread of the Covid-19 pandemic. There will likely be a number of current initiatives in passenger and facility hygiene and sanitation that will stay in play post pandemic. Public health officials have found three societal practices that are key to controlling the spread of Covid-19, each of which has an impact on travel: social distancing of two meters, frequent and intense hand-washing to reduce risk of hand-borne transmission of the virus to the face, and face to face coverings in closed spaces. While it is pretty much impossible to accept the minimum social distancing while traveling to be maintained, most aircraft carriers adopted a policy of leaving an open seat beside a passenger (Gradek, 2020).

This initiative has grabbed the attention of both public health officials as well air transport executives and associations, resulting in an attempts by an American legislator to regulate empty middle seats on flights. Airline executives have predicted a dreadful financial impact from this attempt to ease crowding on airliners. Anthony Fauci, top U.S. infectious disease expert, has raised concerns about the risks of getting on an aircraft. The debate between

public health officials and airline executives will undoubtedly remain tense as the world continues to grapple with the first wave, and some places a second wave, of Covid-19 outbreaks.

Many countries have allowed the travel industry to promote" travel bubbles" to jumpstart air travel and tourism. These measures involve agreements with neighboring regions that allow for travel across borders for non-essential trips without quarantining upon arrival. However, there's still the risk that such efforts will be short-lived given the resurgence of Covid-19 and the subsequent reimposition of quarantine practices in various parts of the world. The consensus among public health officials and travel industry executives is that travel will continue to stagnate until a Covid-19 vaccine is effectively administered globally (Gradek, 2020).

As the world progresses towards a Covid-19 vaccine and the eventual control of the virus, the travel industry will most certainly face demands from the travelling public to maintain several of the current safety and hygiene initiatives. Cleanliness and sanitization will become the norm. Touchless interactions will proliferate, and technology will reduce human interaction. The joy and exhilaration of travel will return with new value propositions built around safe and secure travel.

Recovery

Financially, 2020 will go down as the worst year in the history of aviation. The IATA says that the industry is expected to lose over $84 billion in 2020 with net profit margin of -20.1%. In 2021, losses are expected to be cut to 15.8 billion as revenues rise to $598 billion. Although losses will be significantly reduced in 2021 from 2020 levels, the industry's recovery is expected to be long and challenging. There is no tried and true playbook for the recovery from Covid-19, but there are plans out there and are being implemented immediately (IATA). Airlines are receiving money from the government, but there is uncertainty to how long the government-provided liquidity will last. For capital budgeting airlines are also turning to banks for loans, and selling aircraft and leasing them back to raise funds. Earlier in the year Delta close its lounges, reduced its hours, parking planes, and cut advertising. It will help them reduce cash burn from $100 million a day to $50 million (Stewart, 2020).

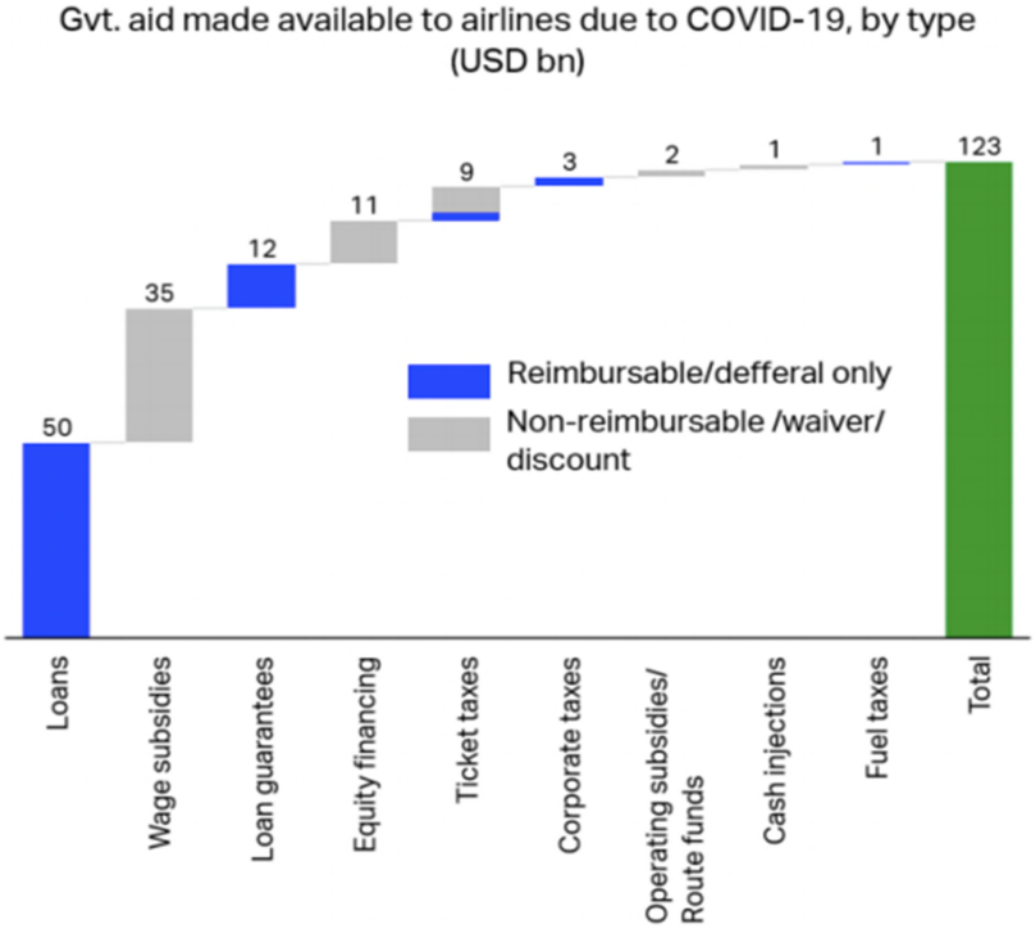
Conclusion

It is a long road ahead for the airline industry. Airlines are relying on the government and loans from banks to help with their capital budgeting. There won't be many big mergers since combining airlines does not address the fundamental problem of weak demand and regulators might block mergers between large airlines and antitrust grounds. Also, international and business travel won't recover quickly. Through all of the mess that this year has brought, there is light at the end of the tunnel. Airlines are finding ways to make traveling safer and better. Airlines need people to travel like normal again, if they want to get back to where they were, and that may take some time. But the airline industry have implemented plans to have us all in the air again.

Appendix A

Worldwide airline Industry	2019	2020F	2021F
Unique city pairs	21187	16102	
Compared to 1998	107%	57%	
Transport cost, US$/RTK (2018$)	78.4	70.5	68.0
Compared to 1998	-55%	-59%	-61%
Value of trade carried, $billion	6,504	5,543	6,234
% change over year	-2.5%	-14.8%	12.5%
Value of tourism spend, $billion	902	457	706
% change over year	7.1%	-49.3%	54.5%

Appendix B



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Impact of COVID-19 on Tourism in Kenya

Abstract

Tourism has been a major contributor to Kenya's economy for the longest. Right from the savannah grasslands, to the wildlife found in national parks and game reserves, various rich cultures, and then down to the coastal beaches, there are many sightseeing places. And to date, this has been a great boost to the Kenyan economy but also a source of income for many. For example, the Maasai community is very rich in culture and they also make ornaments which they sell to the tourist and cultural artifacts. However, when COVID-19 struck the tourism industry has been majorly affected and that is what shall be discussed in this paper and we shall see the different ways of adapting to this pandemic.

Background

After independence, Kenya's economy mainly depended on the export of agricultural products like tea and coffee for foreign exchange. However, over the years, tourism has played a major role in the country's economic developments in terms of foreign exchange and job creation, and poverty alleviation. Tourism accounts for about 10 percent of the Gross Domestic Product, making it the third-largest contributor to the GDP – after agriculture and manufacturing (GoK, 2010). Since independence, Kenya has come up with initiatives to boost the economic sector and make Kenya one of Africa's popular travel destination. For example, in 1965, "Kenya established a tourism development corporation called the Kenya Tourism Development Corporation (KTDC) whose responsibilities included administration of tourism investment initiatives, as well as monitoring the establishment and operation of tourism and hospitality facilities"…

However, the COVID-19 outbreak has brought the world to a standstill with unparalleled and unforeseen impact in all aspects ranging from our lives, economies, societies, and our livelihoods thus creating a growing risk of a global recession coupled with the massive loss of jobs. Travel and tourism are one of the largest and fastest-growing economic activities, significant to most countries in the world. This industry has been instrumental in economic and social development worldwide, with benefits such as opening countries to trade, business, capital investment, and job creation.

The first case of COVID-19 was reported on December 12, 2019, in Wuhan city of China. On January 10, 2020, it was reported that the cause of the disease was a new sub-type and this was reported to WHO, and then it was declared a pandemic on March 11, 2020, has spread to more than 100 countries in the world.

The COVID-19 outbreak is having a significant impact on the global economy and markets. Tourism is currently one of the hardest-hit by the outbreak of COVID-19, with a significant impact on both travel supply and demand. The worldwide outbreak of COVID-19 has had a significant impact not only on those wishing to make use of the tourism industry but also on those working in the industry and even the economies of the entire nations.

Tourism Industry Before the Pandemic

Kenya's major Tourism activities are safari, and beach holidays, which are spatially restricted to key tourism destination areas including the coast and around a few key national parks and reserves (Valle & Yobesia, 2009). In Kenya tourism is one of the major economic pillars and is currently the third-largest tourism economy in sub-Saharan Africa after South Africa and Nigeria. The sector is the second largest contributor to foreign exchange earnings. The movement of such a massive number of people and the associated expenditure has a profound impact on national, regional, and local economies across the world and more specifically in the country. Spending by visitors on facilities and activities such as sporting and cultural events, shopping, accommodation, visitor attractions, and as business visitors at the conferences, provides a massive stimulus to local economies and employment.

Notably, the tourism sector in Kenya experienced sharp declines in 2008 and 2015. The decline in 2008 resulted from the unrest following the disputed elections at the end of December 2007. The instability had a disastrous effect on international tourism arrivals in 2008 and it took around three years for the numbers to return to 2007 levels. In 2019, the security situation remained stable in the year with sustained investment in the same by the Government. Only one terrorist attack, the Dusit2 early in the year directly affected tourism.

Tourism is an important sector of the international community. In 2019, the tourism sector accounted for 29 percent of the world's services exports and about 300 million jobs globally. Kenya's tourism 2019 report indicates that tourism earnings grew by 3.9 percent from 157.4 billion Kenya shillings in 2018 to 163.6 billion Kenya shillings in 2019. According to the

Kenya Tourism Sector Performance Report for 2019, total arrivals increased 116 basis points to a record 2.04 million compared to 2.03 million recorded in 2018.

The tourism sector had projected various changes that are going to improve tourism in 2020 like convenient booking of travel and accommodation through technology, artificial intelligence, and automation, shortening of the booking window period, and search for an authentic tourism experience. They also were working towards accessible tourism which looks beyond the number of people with physical and intellectual disabilities, to encompass all those with mobility needs – including seniors and babies across the human lifecycle. (KTSPR, 2019). However, all this was put to a halt when the virus hit the country and the world at large.

Tourism During the Pandemic

The Ministry of Health confirmed the first COVID-19 case in Nairobi on March 12, 2020. The case was a Kenyan citizen, who traveled back to Nairobi returning from the United States of America via London, the United Kingdom on March 5, 2020, and she has since recovered and released from the hospital. The ministry of health directed that starting on 29th March 2020 people who arrived in the country from overseas would undergo mass testing. Immediately after the virus was first discovered to have reached the country, the government came up with several measures both behavioral and economic to curb the spread of the virus. As part of steps to prevent the deadly virus, Kenya enforced an indefinite 7 pm to 5 am curfew starting on March 27, 2020.

Through the Monetary Policy Committee, the government put in place in measures to avert a recession. These measures included a reduction in the cash reserve ratio by 1 percentage point, from 5.25 percent to 4.25 percent; a reduction of interest rate by 1 percentage point, from 8.25 percent to 7.25 percent. Fiscal measures were also undertaken, they included, corporate income tax reduction from 30 percent to 25 percent; individual income tax reduction from 30 percent to 25 percent; 100 percent tax waiver to individuals earning less than 240 US dollars; VAT reduction from 16 percent to 14 percent; injection of a 10 million US dollar social protection stimulus package for the elderly and underprivileged citizens; and a temporary delisting of loan defaulters from the Credit Reference Bureau (Wanjala, 2020).

Impact of COVID-19 on the Tourism Industry in Kenya.

Kenya started the year 2020 with a positive economic growth however the COVID-19 pandemic has had a significant effect on the country's tourism industry; consumer and business sentiment are all disrupted. The country faced a potential price increase for imported products. By 16th March 2020, more than 37 cargo ships that supply goods to Kenya and the rest of the region had failed to dock at the Mombasa port having canceled their arrivals. This is likely to see a surge in the prices of consumer goods in the region. Available figures indicate that China is Kenya's largest source market accounting for about 20 percent of Kenya's import requirements.

The hotels and restaurant industries which are a major sector in the tourism industry were ordered to stay closed. The hotel industry has been hit the most owing to lockdowns and travel advisories in nearly all parts of the world that have led to cancellations of bookings and reservations. The COVID-19 pandemic has left many businesses globally struggling to stay afloat. The tourism industry has been largely affected following lockdowns and travel restrictions in various countries. The hospitality industry has also taken a big hit. Restaurants have been closed, save for take-out services.

The government's initiative of closing the borders has not only affected tourism but trade too. The tourism industry is taking the biggest hit given the measures already taken by the government in shutting down its borders to look out for the virus and slow down transmission. The virus now promises to derail the impressive recovery in the sector which was just shrugging off the impact of terror threats. The import reduction will be exacerbated by the possibility of individuals postponing high investment projects such as purchasing of cars, computers, and phones in a bid to save for uncertain times ahead. Trade-in services will significantly reduce; consumption abroad and commercial presence modes of trade in services will be constrained due to the closure of borders (Wanjala, 2020).

Kenya Airways is taking the biggest hit in Kenya's aviation space, with most countries locking out airlines from countries that have reported cases of COVID-19. Restriction of travel among international travelers majorly affected not only the airlines but also the tourism Industry. For many African countries, Kenya included, international travels have been the lifeline of the tourism sector since tourism performance is measured mainly in terms of international arrivals and resultant revenue generated (Kihima, 2015). Italy and the rest of Europe are some of the

most important nations to Kenya's tourism industry and the travel ban has seen hundreds trapped here and thousands of others unable to travel.

As a result of low occupancies, one of the obvious decisions by management of hotels has been to lay off casual workers and to suspend the renewal of contracts expiring during this period. Loss of jobs will affect families directly as the breadwinners are sent packing. On the other hand, with insufficient cash flow, hotels will not be able to meet their financial obligations, especially creditors among other things. This will directly hurt the creditors' businesses and an indirect impact on other parties, depending on the creditors.

With the decrease in tourism and a decrease in international arrivals, the foreign exchange market has been affected too. The main and common function of foreign exchange markets is to facilitate the conversion of one currency to another. "In doing so, the foreign exchange market is the mechanism that transfers purchasing power from one country to another" (Metcalf, 2019). "The foreign exchange market provides a source of credit in addition to the specialized instruments used, such as bankers' acceptance and letters of credit" (Eiteman, Stonehill, & Moffett, 2020, p.335). This, therefore, affects the businesses in the tourism industry since I make it hard to get credits for international transactions.

The New Normal of Tourism After the Pandemic

The pandemic has opened a discussion in the tourism of hotels that have been shoved aside most of the time. Kenyans and other African countries who live in countries that are home to safari companies, tour operators, and luxury lodgings mainly focus on attracting American and European visitors. However, the pandemic has made these industries to reach out to the locals to visit and tour by even giving them special rates. However, "people in South Africa, Kenya, Tanzania, and Botswana said that the local rates have allowed them to enjoy their own countries in recent months, but as borders start to reopen, they remain skeptical about whether they'll still be invited" (Mzezwa, 2020).

Culture is a major contributor in Kenyan tourism especially the Maasai culture mainly found in the Maasai mara and the surrounding regions. They usually make an income which is a result of selling their cultural artifacts like jewelry when people come to see. However, the pandemic has made it hard for the community since they solely depend on tourists visiting the conservancy. Luckily, Nashalai won the Equator Prize 2020 – a prestigious United Nations

award that recognizes indigenous community efforts to reduce poverty through the conversation and sustainable use of biodiversity (Bhalla, 2020). Through her, the community might have been affected but people are more willing to try other things to earn extra money and improve their lives.

The hotel industry has also been forced to adjust to the new changes. They have had to ensure that every hotel maintains the safety standards. It has become a new norm for people to always sanitize and maintain social distance. Therefore, since the cessation of movement between counties was lifted, the local people are bound to travel. It is therefore up to the travel, safari as well as the accommodation industry to ensure that they can accommodate all and at the same time maintain the hygiene standards to curb the spread of the virus.

Recommendations and the way forward.

Travel, tourism, and hospitality businesses will be required to make some adjustments to deal with the current situation or even future ones. Firstly, they need to adjust their current rates not for the sake of profits, but for the sake of encouraging movements. With movements, employment in the sector will be back. They also need to develop competitive airline packages that will encourage more Kenyans to move from one county to another for holidaying purposes. The current packages charged by the local carriers (both private and public) are not friendly to many Kenyans thus halting domestic tourism movements.

The Government needs to ensure the provision of favorable tax policies that will encourage both the international and local tourists to travel tomorrow. The government should provide grants to help address the pending costs and reopen the businesses as well as emergency funds to help cushion the businesses in case of a crisis like COVID-19.

A joint effort by United Nations World Tourism Organization (UNWTO), World Health Organization (WHO) and other global organizations to make a global call to reach the most disruptive startups, entrepreneurs, innovators and existing technologies to mitigate COVID-19 impacts on tourism through health, economic and destination recovery solutions. (The World Tourism Organization, 2020).

Once the situation has stabilized it is expected that there will be a rapid recovery since travel demand has proven resilient in bouncing back from downturns in the past. Travel levels are expected to fully recover by 2023. In the meantime, KTB and private stakeholders should use

the opportunity to keep their brands at the front and center on social media and through public relations. DMOs and companies are now focused on developing robust recovery communications plans, to ensure they are locked and loaded as soon as the all-clear is given.

Conclusion.

The increasing intricacy and interconnectivity of global events require governments to work with the private sector to improve their preparedness to mitigate the impact of the crises, their management to efficiently address the crisis as well as enhance their responses to ensure a speedy recovery. About 90% of economic losses during any outbreak arise from the uncoordinated and irrational efforts of the public to avoid infection. In this context, it is essential to enhance coordination and cooperation to make sure people are safe from a health perspective but also an economic one.

The world will move on after COVID-19 but the insights gained from it should be valuable with comparable infectious disease threats presenting continuously. The SARS outbreak brought China virtually to a standstill, forcing the country to thoroughly review its infectious disease control policies. Since then, the Chinese government has implemented innovative strategies, strengthened the related aspects of the legal system and the disease prevention and control system, and made substantial investments to improve infrastructures, surveillance systems, and emergency response and preparedness and response capacities, such as the development of a real-time monitoring system that is now serving as a model or worldwide surveillance and response to infectious disease threats.

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Effect of Covid-19 on Globalization in African Countries and How They Are Repositioning to Meet the Immediate and Remote Challenges

By Alice Gateri

The author is an account processor in the wealth management division of a national bank.

1. Introduction

As we ushered in the New Year 2020, we did not know that we ushered in a new climate of uncertainty which has been fueling protectionism. Globalization is under significant threat as governments scramble to reduce their vulnerability to the virus by limiting global trade and movement of in and out of the country. Most governments were keen to protect their borders by closing them up as well as impacting strict migration measures. This later created a huge disruption in Africa's global supply chain which has resulted in high levels of unemployment and a rise in poverty levels.

The African economies overly reliant on single export-orientated industries, such as oil and gas, are expected to be severely hit. This situation is further aggravated by tumbling oil prices and a lowered global demand for African non-oil products.

The agricultural sector, which should buffer these shocks, is also being affected by the enforcement of lockdowns which threaten people's livelihoods and food security. Lockdowns may not be the answer in Africa and the issue of public health pandemic response will need to be addressed by enacting context-specific policies that should be implemented humanely.

In addressing the socioeconomic impact of COVID-19 on African nations, the sixth session of the Africa Regional Forum on Sustainable Development (2020) argues that governments should prioritize social protection programs to provide people with resources to maintain economic productivity while limiting job losses. International funders are committing assistance to Africa for this purpose, but generally as loans (adding to debt burdens) rather than as grants.

New strategies for diversifying African economies and limiting their dependence on external funding by promoting trade with a more regionalized (continental) focus as promoted by the African Continental Free Trade Agreement, while not without limitations, should be explored (The Economist, 2020).

While the prevailing threat on globalization prevailing in the face of impending recession remains to be an issue of concern for the globe, and more so for the African continent, all stakeholders must strive towards coming up with long and short-term measures that are workable.

2. Globalization

Globalization is the process through which individuals, organizations, and governments across the globe interact and integrate. This has seen a significant increase from the onset of the 19th century as a result of advancement in transport and communication technology. As noted by Dreher, Gaston, & Martens (2008), the escalating levels of interactions across the globe have resulted in the growth of international trade as well as the exchange of ideas and culture. Primarily, globalization is an economic process of interaction and integration that is also highly linked to cultural and social aspects. The latter is evidenced by the unending conflicts and diplomacy which have become a focal point in history, as well as contemporary globalization. In the prevailing globalization era, Helman (2007) observes that the globe has become more interdependent than at any other time in history. While this can be said to be one of the best things to have happened in the history of development and industrialization, Cartin-Rojas (2007) states that the growing demand for food and resultant increased global trade in agricultural products has pushed people into contact with animal diseases that have subsequently gone beyond the barriers of species. A classic example of this is the current Covid-19 pandemic, which according to the World Health Organization (2020) had 32,429,965 confirmed cases of COVID-19, including 985,823 deaths as of 26th September 2020, spread across 213 countries and territories around the world and 2 international conveyances.

As noted by Knobler et al. (2006), no single country or territory is immune to the increasing global threat that can be posed by a seemingly isolated outbreak of an infectious disease in a seemingly far-flung section of the globe. In essence, whether transported by an unknowing traveler or an opportunistic vector, human pathogens can reach any part of the world within no time, as is the case with Covid-19.

At the same time, Helman (2007) also notes that the connectedness and interdependency that accelerates the opportunity for the global increase of pathogens also present mechanisms for the novel, multinational efforts to deal with the threat at hand. According to the author, a growing network of such efforts, combined with the global proliferation of technology and information, continues to strengthen the global public health capacity to prevent and control the spread of emerging and reemerging infectious diseases. However, there arises a concern

regarding the economic effects suffered by countries, in particular those with less economic muscle such as Africa.

2.1. Factors That Promote Globalization in Africa

Analysts observe that Africa has consistently benefited relatively less in development and economic growth compared to other regions of the world from the gainful effects of globalization (Nissanke, 2015). In the early decades after independence, many of the nations did not adequately take advantage of the massive opportunities resulting from the dynamic growth drive associated with globalization. The authors attribute this to the probable lack of adequate information on global economic relations or out of ignorance which caused them to instead remain less integrated into the global economy, remaining largely marginalized and experiencing stagnation and slow growth. As a result, the incidence and depth of poverty have risen in the region. That notwithstanding, the growing recognition of the need to grow faster has seen most African countries searching for ways to accelerate their participation in the global economy over the past few decades. Indeed, most economies in Africa significantly liberalized their trade and investment policy regimes as part of Structural Adjustment Programs since the mid-1980s.

2.1.1. High unemployment and alleviation of poverty

High unemployment and alleviation of poverty are some of the factors that have seen Africa strive to actively participate in globalization. As noted by Nissanke (2015), globalization favors the poor through the growth concept, when growth resulting from globalization leads to the creation of secure employment opportunities. Although the employment creation effect of growth has been rampantly visible in East Asia due to the significant poverty reduction, the authors acknowledge that Africa has continued to gain from globalization through multinationals setting up in African countries and therefore creating employment, through the export of raw materials, including fruits, flowers, oil, and other natural resources, as well as through education. In East Asia, unlike Africa, the growth, accompanied by a substantial reduction of abject poverty can be explained in terms of the region-wide comparative advantage recycling in the production and export of labor-intensive goods. A report by UNCTAD (2019) established that the process

involves a strong demand for unskilled and semi-skilled labor, driven by exporting labor-intensive goods and pro-trade FDI through effective technology, knowledge, and skill transfer. Most of the East and South-East Asian economies have successfully gone through the structural transformation of their production and trade structures with the continuous upgrading of their human skill endowments and technology/ knowledge base. By relying on their dynamically evolving comparative advantages these countries were able to maximize the benefits from dynamic externalities.

2.1.2. Costs of Transportation

Better known as containerization, transport has continually become cheaper and more effective, drastically lowering freight charges (Pedersen, 2001). According to a report by UNCTAD (2015), in the past three decades sea transport has seen a reduction in per-unit costs by up to 70 percent, with air-freight costs reducing by between 3-4 percent on yearly basis. As a result, trade flows to and from the continent have continued to increase, as raw unprocessed products leave and finished products, machinery, and technological devices come in.

2.1.3. Technological advancement

The growth of the internet has played a phenomenal role in boosting globalization in Africa. E-commerce has leveled the playing field on which organizations of all sizes can compete in the global market. Social media, on the other hand, has provided a platform through which information is shared instantly. This can be information on the business, politics, health, education, and even lifestyle and leisure. With the availability of information, globalization is more enhanced.

2.1.4. The Development of Trade Blocs

These are trade agreements that are created by countries within a certain region. One of these is the East African Community (EAC) is a regional intergovernmental organization of 6 Partner States: The Republics of Burundi, Kenya, Rwanda, South Sudan, the United Republic of

Tanzania, and the Republic of Uganda, with its headquarters in Arusha, Tanzania. The mission of the Community is to widen and deepen economic, political, social, and cultural integration to improve the quality of life of the people of East Africa through increased competitiveness, value-added production, trade and investments (Eac.int). The World Bank (2018) appreciates the existence of the trading blocs, citing their critical role in promoting global interdependence. This occurs from dismantled internal trade barriers that allow buyers to purchase low-cost products from any area within the trading bloc free of any tariffs or quotas.

2.1.5. Increase in the number of Multinationals

MNCs symbolize global interdependence, spanning across different countries at any given time. The Coca-Cola Company, headquartered in Atlanta, Georgia is one of the multinationals with operations all over Africa. As discussed by Iammarino & McCann (2013), the need to pursue revenue and profit growth has seen the organizations expand significantly, with Africa being a destination of choice due to its cheaper labor and its status as an emerging market. This has increasingly attracted large numbers of multinationals, thereby increasing the level of globalization.

2.1.6. Reduced Protectionism

Over time, African governments have realized the need to grow faster, a factor that has seen most African countries searching for ways to accelerate their participation in the global economy over the past few decades. According to a report by UNCTAD (2019), most economies in Africa significantly liberalized their trade and investment policy regimes as part of Structural Adjustment Programs since the mid-1980s. This saw the abolishment of old forms of non-tariff protection including foreign exchange controls and import licensing. Subsequently, borders were opened, and the levels of import tariffs were reduced as the countries sought to maximize the benefits of globalization.

2.2. Social Impact of Covid-19 in Africa

Arriving in the continent through travelers getting in from hotspot areas in Europe, Asia, and the United States, Africa recorded its first positive case of Covid-19 on 14th February 2020 in Egypt. Since then, the continent has continued to record thousands of cases, with the caseload standing at 1, 472, 620 as of 28th September 2020, with 35, 486 deaths being confirmed over the same period (WHO, 2020). Like any other part of the world, and despite the lower caseload of positive cases compared to other parts of the globe, the measures, policies, and restrictions put in place as a way of curbing the spread of the virus have taken a toll on the continent, with social impacts being immensely felt by the masses.

2.2.1. Food Crisis

It is gradually becoming clear that one of the most significant long-term effects of the crisis is a rise in food insecurity and disruptions in the global food supply chain. Unfortunately, the least endowed nations are most affected by the devastating effects, with Africa being at the bottom end of the tail. Despite its vast agricultural resources, UNESCO (2020) notes that Africa remains a net importer of food and agricultural products, with ten basic foods making up more than 60 percent (US$46 b) of food imported into the continent. If allowed to continue, the prevailing economic crisis may escalate to a severe food crisis, leading to possible implications for peace and security. The global body reports that some exporters have imposed restrictions on key food products such as rice and wheat, measures that could amplify the issue of food insecurity in Africa, and result in a sharp rise in food prices and rising hunger and malnutrition. Reports from the United Nations, through its partner, Relief Web (2020) show that along with the pandemic, the second wave of desert locusts is threatening East Africa with estimates that it will be 20 times worse than the February wave that hit eight countries in the region and was the worst outbreak in 70 years.

2.2.2. Lost Livelihoods

As much as this may seem like an economic outcome of the pandemic, the loss of jobs in Africa is one of the social issues that citizens continue to grapple with. With the significant weight of the informal sector in the continent, a lot of daily wage earners were left with no way of earning an income as a result of complete shutdown, or restriction of movement from one area to another. A similar impact has been experienced by businesses, particularly the small and informal ones that sustain the livelihoods of a majority of the low-income earners. The moderately large businesses, including those in travel, tourism and hospitality, production, manufacturing, and retail, experienced a drop in operations, forcing them to restructure or lay off workers. This only served to fuel the loss in livelihoods. In the face of weak (or non-existent) public social welfare and assistance systems, UNCTAD (2020) points out that this may lead to an inability to control the virus effectively since citizens must go out to search for work.

2.2.3. Social norms and cultures

One of the unintentional consequences of the strict restrictions imposed by governments to control the spread of the virus is the threat posed to the very fabric of the African society as it is known in the present day. The UNESCO (2020) notes that at the center of every African community, there lies socio-cultural norms and values currently facing the risk of disappearing into oblivion.

Banning public and social gatherings, for example, means that the family and community life are impacted, reducing their ability to come together and celebrate, or even mourn in unison. This increases the likelihood of breaking relationships and undermining trust between citizens and their governments, further threatening cohesion and social harmony. Beyond that, several ethical challenges bordering on values of human rights and human dignity, in particular protection of the most vulnerable, including women, youth, people with disabilities and migrants, have now been brought to the forefront.

3. Problem Statement

3.1. Balance of Trade as a Result of Covid 19

According to the World Trade Organization (2020), the Covid-19 pandemic presents an unparalleled interruption to the international economy as well as the global trade. This is because both production and consumption have been scaled back across the world.

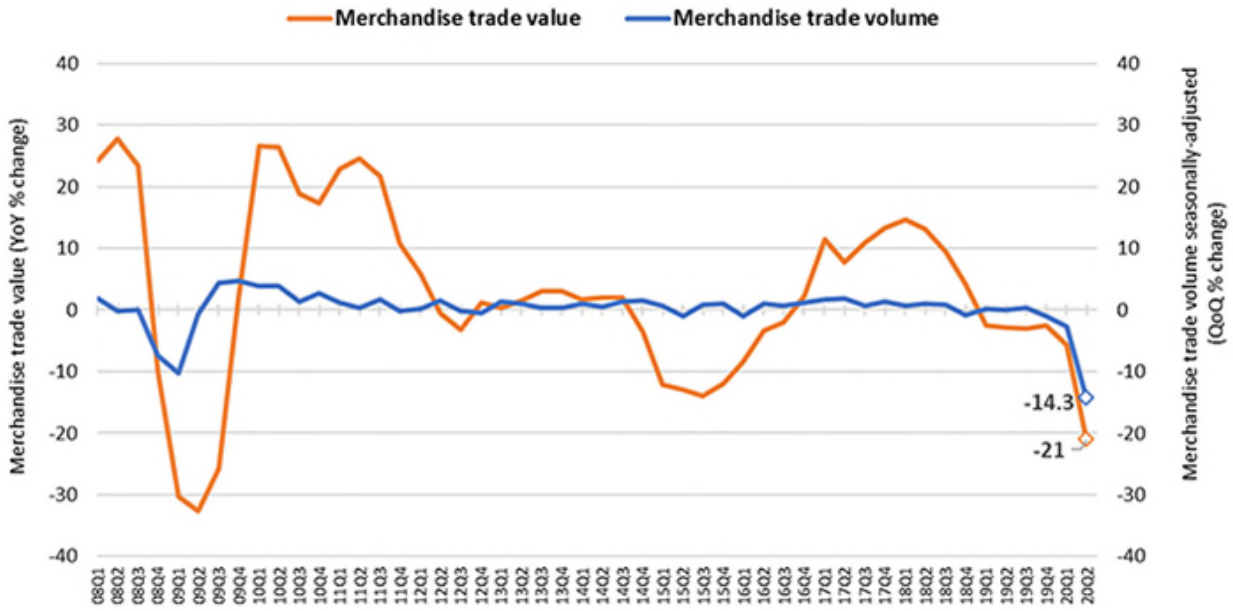


Figure 1. *Global merchandise trade dropped by14 percent in volume and 21 percent in value in Q2 during the global lockdown (*World Trade Organization*)*

Although this has hit the globe as a whole, the World Bank (2020) foresees a scenario in which the African economies will be the hardest hit by the pandemic. Before the onset of Covid-19, Africa's trade with the rest of the world was gaining momentum, with the UNCTAD's Economic Development in Africa Report (2019) reporting that between 2015 and 2017, the aggregated trade levels from Africa to the rest of the globe were valued at an average of $760 b in current prices. The export share from Africa to the world in 2000-2017 ranged between 80 and 90 percent in the continent's total trade. Notably, Oceania is the only other country in the world that heavily relies on exports.

The report further indicates that intra-African trade, on the other hand, which refers to the mean intra-African imports and exports stood at a paltry 2 percent between 2015 and 2017. In 2017, the intra-African exports totaled to about 17 percent of the year's total exports, a far cry from the 68.1 percent, 59.4 percent, and 55 percent recorded in Europe, Asia, and America respectively.

More than 75 percent of what Africa exports to the world are heavily centered on natural resources and a decline in demand translates to a dire economic situation for the entire continent (UNDP, 2017). Zambia, DRC, Ghana, and Nigeria, with their reliance on industry commodity exports such as copper, iron ore, and oil to China and other nations may face significant exposure to risk if the buying countries continue to lock their boundaries and operations as a result of Covid-19. According to the World Bank (2020), restrictions on travel and transport led to a decline in oil prices and the oil exporters experienced sharp economic downturns as their export revenues nosedive, in addition to the unprecedented public health crisis. On this, economists from the global body advised that even if prices rise as global oil demand recovers, the plunge in prices should serve as a reminder for oil-exporting countries of the urgency to continue with reforms to diversify their economies.

Imports have also suffered significantly as the impact of the pandemic was felt in the manufacturing sector. The United Nations Conference on Trade and Development (2020) reported that in the past two decades, China has grown to become a critical part of the global economy, not only as a manufacturer and exporter of consumer products but a key supplier of intermediate inputs for manufacturing organizations globally. UNCTAD (2020) reports that in 2020, approximately 20 percent of global trade in manufacturing intermediate products originates from China, compared to a meager 4 percent in 2002.

China's position as a key part of the global supply chain has adversely affected the supply chain due to factory closures. This has led to delays, shortage of raw materials, escalated costs, and reduced offers, something which has impacted manufacturing around the world, Africa included. Disruptions in the supply chain mean that the import of manufactured goods into Africa from Europe and other importers is disrupted, thereby affecting the balance of trade. Research by Baker McKenzie and Oxford Economics established that industrial machinery, manufacturing, and transport equipment make up more than half of Africa's importation needs (Fairchild, 2020). The key providers of these products are Europe (35 %), China (16 %), and the

rest of Asia, India included, 14 %. With the impact of Covid-19 and the resultant disruptions, a decrease in the accessibility of these products will lead to dire economic consequences.

3.2. Is the Situation in the US market the same as that in African countries?

America is the globe's largest economy that has consistently enjoyed growth for the longest time. However, its economy has begun to collapse as a result of the effects of Covid-19. According to information from Aljazeera (2020), the Covid-19 induced measures could see the US economy facing its worst recession in recent times. The New York Times (2020) reported that by the first quarter of 2020, it had shrunk by nearly 5 percent, the biggest slide since the 2008 financial crisis. This has been characterized by millions of lost jobs and a significant decline in consumer spending not experienced in the past four decades. Businesses are increasingly going bankrupt although the government has injected trillions of dollars into the economy since the onset of the pandemic. Economists are quick to point out that this is not enough and more needs to be done, with the spillover being expected to inflict long-term damage not only in the country but around the globe as well.

In the United States, trade deficits have been chronic for a long time, meaning that the country has been overly successful in attracting foreign investment (U.S. Bureau of Labor and Statistics (2020). However, as Dollar & Newby (2020) discuss, the Covid-19 situation is not making things better for the country's imports and exports, and this has mainly affected imports. The fact that the U.S. imports more than it exports means that if both decline by an equal percentage, then imports will decline by a higher value in U.S. dollars.

America is a major exporter of services (Dollar & Newby (2020). When the country receives tourists coming to see Disneyland, or students going to study in Harvard or the other universities across the country, it receives revenue from the expenditure on lodging, meals, learning fees, and even transport across the country. Since there is no international travel taking place, or any operational universities, as well as entertainment as a result of Covid-19 restrictions, exports have reduced by half. The United States also offers telecommunication and financial services for export.

America is a big exporter of aircraft and automobile parts, which have declined by between 30 and 40 percent. This is according to Dollar & Newby (2020), who attributed this to

the global preventive measures which have seen airline companies all over the globe scaling down on any expansion plans. Interestingly, the export of semiconductors, which is currently being restricted to Huawei, has grown by 12 percent, and this, in part, indicates that the Asian market is swiftly recovering from the pandemic. Imports to the U.S. have been impacted significantly as well. As a result of restriction on movement, the need for crude oil has reduced, and this has resulted in a decline in imports by about 40 percent. Together with Mexico and Canada, America has an integrated auto production, meaning that they export and import oil. Both of these are down, and this also reflects the situation that is being experienced over the globe. Regarding electronics and gadgets, the import of televisions and cell phones have declined by 25 percent, even though the U.S. imports all its TVs and cell phones. With the nature of the pandemic being medical in nature, the demand for medical supplies including medicines, equipment, and protective items has gone up, and this has translated into an increase of medical imports by about 15 percent. This kind of crisis creates opportunities for particular industries, while having devastating negative effects on others.

From the figure below (Table 1), response rates for August 2020 import prices were 70.7 percent, 4.4 percentage points below those reported in 2019 for the same period. They varied by major end-use category, ranging from 67.8 percent for industrial supplies and materials to 72.4 percent for capital goods. Among the major import groupings, response rates for industrial supplies and materials showed the greatest difference from August 2019 to August 2020. Response rates for August 2020 import prices were 1.3 percentage points higher than response rates at the same point in July 2020.

Table 1. *U.S. Import prices Indexes response rates* (Bls.gov)

Imports	March 2019 – February 2020 average	August 2019	July 2020	August 2020	Percentage point difference, August 2020 and July 2020	Percentage point difference, August 2020 and August 2019	Percentage point difference, August 2020 and average for March 2019– February 2020
All imports	74.4	75.1	69.4	70.7	1.3	-4.4	-3.7
Foods, feeds, and beverages	68.6	71.8	69.4	71.9	2.5	0.1	3.3
Industrial supplies and materials	74.6	75.2	68.6	67.8	-0.8	-7.4	-6.8
Capital goods	75.8	78.4	69.5	72.4	2.9	-6.0	-3.4
Automotive vehicles	78.2	76.3	73.7	70.5	-3.2	-5.8	-7.7
Consumer goods	73.8	72.5	68.8	69.8	1.0	-2.7	-4.0

From Table 2 below, response rates for August 2020 export prices were 73.1 percent, 1.8 percentage points lower than the same period in 2019. They varied by major end-use category, ranging from 66.4 percent for industrial supplies and materials to 79.0 percent for consumer

goods. Among the major export groupings, response rates for industrial supplies and materials showed the greatest difference from August 2019 to August 2020. Response rates for August 2020 export prices were 2.6 percentage points higher than response rates at the same point in July 2020 (Bls.gov).

Table 2. *U.S. Export price indexes response rates* (Bls.gov)

Imports	March 2019 – February 2020 average	August 2019	July 2020	August 2020	Percentage point difference, August 2020 and July 2020	Percentage point difference, August 2020 and August 2019	Percentage point difference, August 2020 and average for March 2019–February 2020
All exports	75.7	74.9	70.5	73.1	2.6	-1.8	-2.6
Foods, feeds, and beverages	78.3	80.5	75.8	78.4	2.6	-2.1	0.1
Industrial supplies and materials	74.5	73.4	64.6	66.4	1.8	-7.0	-8.1
Capital goods	73.8	73.8	69.6	73.6	4.0	-0.2	-0.2
Automotive vehicles	77.8	69.4	73.4	73.7	0.3	4.3	-4.1
Consumer goods	81.0	80.9	78.1	79.0	0.9	-1.9	-2.0

3.3. Are the immediate effects easy to address?

The World Bank Group, known as one of the largest sources of funding and knowledge for developing nations is taking steps aimed at helping low-income economies to strengthen their response to the pandemic (World Bank, 2020). These measures are not only aimed at enhancing public health interventions but also ensuring the flow of crucial equipment and supplies, as well as assisting the private sector continue to operate and sustain jobs. The sustenance of employment means that people do not lose their livelihoods, and this will not only ensure their incomes but will also provide tax revenues for the state coffers. To this end, the World Bank Group is planning to deploy around $ 160b in offering financial assistance to more than 100 developing countries over a period of 15 months. The key functions of the funds include protecting the vulnerable and poor, bolstering recovery of the economy, and maintaining the private sector.

However, while the developing countries continue to receive aid in form of funding and expertise to help in recovery, the World Bank notes that developed nations like the United States have to come up with internal measures aimed at addressing and mitigating further effects of the pandemic on their economy. While this may not be an easy step, the country must first make efforts to get the virus under control, after which they may address issues of economic recovery.

In the United States, there have been concerns regarding the move taken by the president to get the economy up and running “too soon.” As noted in many other parts of the globe, this move has been a major setback because the countries ended up reporting surging cases of the virus, not to mention thousands of deaths. Eventually, the governments were forced to re-shut to help contain the spread of the virus.

4. Trade and Economic Growth

4.1. GDP Before and After Covid

The virus that triggered a localized shock in China is now delivering a significant global shock. As Brahmbhatt & Dutta (2008) discovered, the bulk of the economic costs are a result of the preventive behavior of individuals as well as the policies established by governments to

control the transmission. Although there is no definite way of telling what the economic damage of the pandemic will be eventually, early estimates foresaw a loss of at least 2.4 percent of the GDP value by major economies over 2020 (United Nations, 2020). This saw economists downscale their 2020 GDP forecasts from an average of 3 percent to 2.4 percent. Putting the figures into context, in 2019, the global GDP was estimated to stand at around 86.6 trillion dollars, and a 0.4 percent decline in economic growth would translate to a nearly $ 3.5 trillion loss in economic output. It is important to note that these predictions were made before the major restrictions were put in place and before Covid-19 was declared a pandemic.

The United States, the European Union, and Japan account for 50 percent of the world's GDP based on trade, industries, and services. The Chinese economy accounts for approximately 16 percent of the global GDP, being the largest trading partner of a majority of African countries and the rest of the world (Maliszewska, Mattoo & Van Der Mensbrugghe, 2020). According to the OECD (2020), the major economies are expected to experience a decline in economic growth; China 4.9 percent (expected 5.7 percent); Europe 0.7 percent (expected 1.1 percent), with the rest of the globe having 2.4 percent growth as opposed to their expected value of 2.9 percent. UNCTAD (2020) also forecasts downward pressure from -5 percent to -15 percent in foreign direct investment. In March 2020, the International Monetary Fund reported that $ 83 billion had been withdrawn from emerging markets by investors since the onset of the Covid-19 crisis.

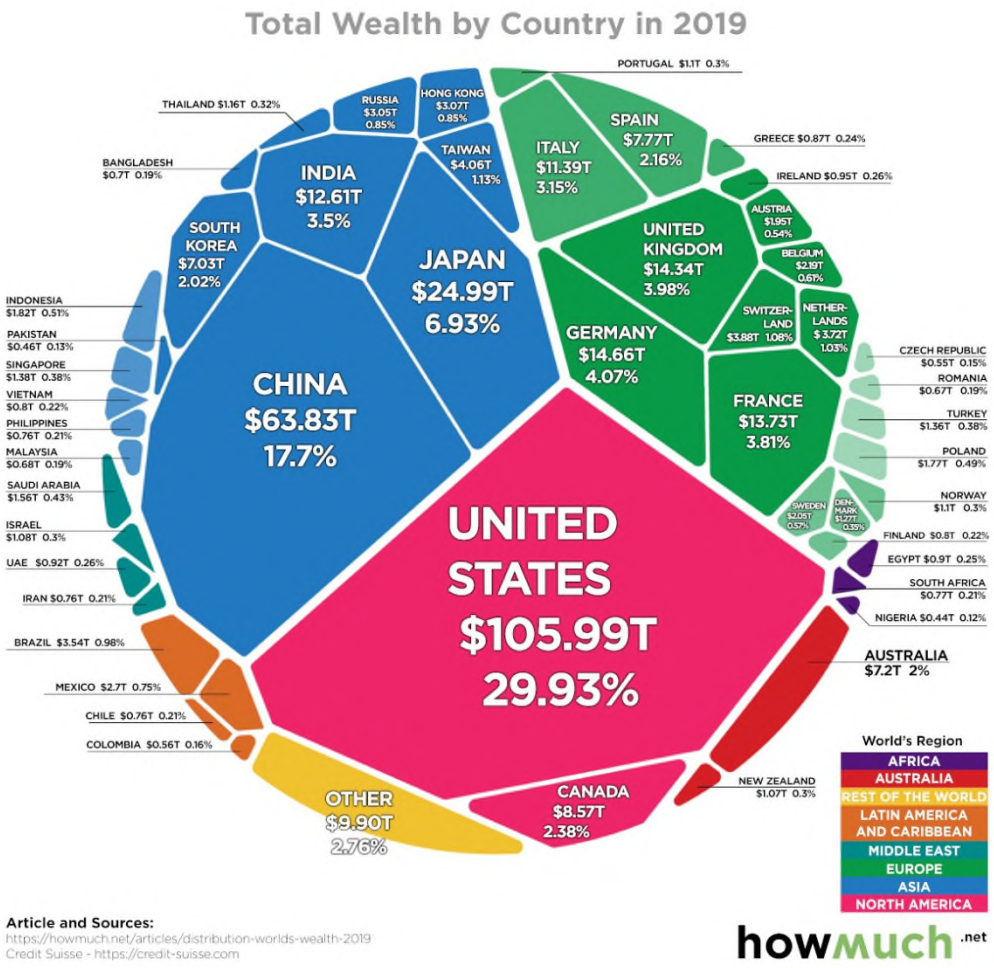


Figure 3. *Total wealth by county* (WTO)

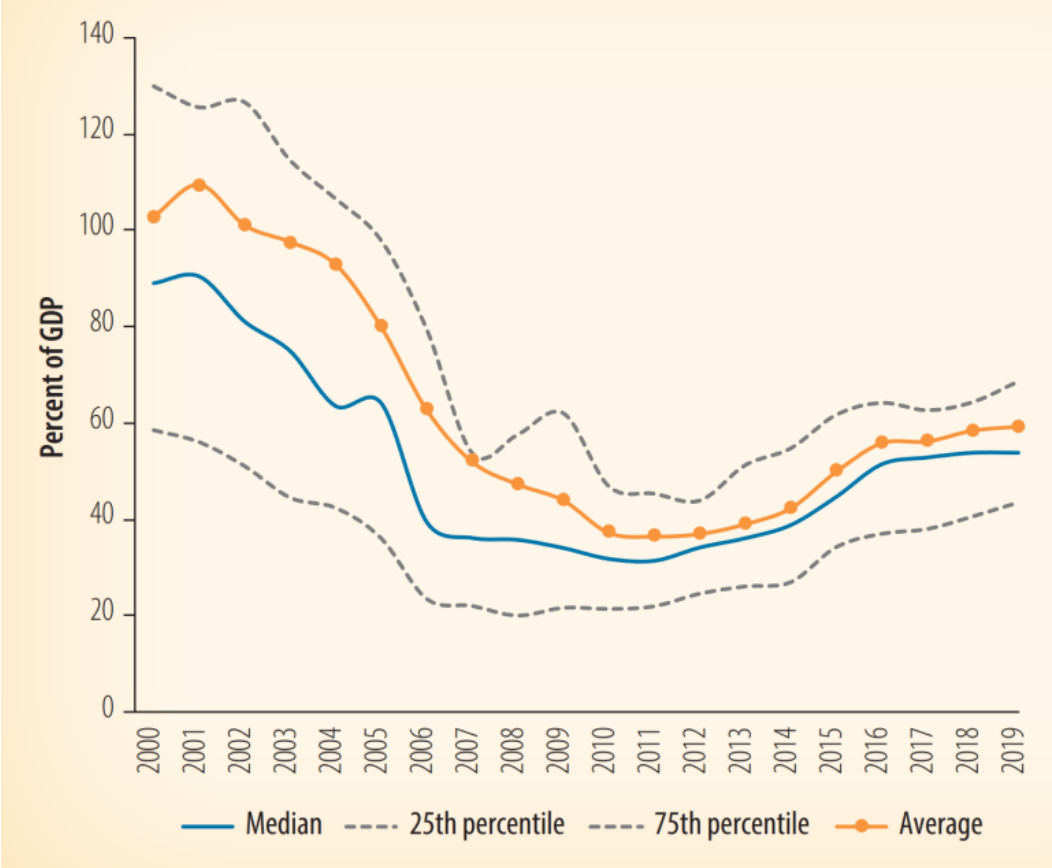
4.2. The African Context

The current Covid-19 crisis struck at a time when prospects for many African nations were showing some promise. At the start of 2020, the World Economic Situation and Prospects (2020) reported that the continent was on the track towards continuing its economic expansion, with a projected growth expected to increase from 2.9 percent in 2019 to 3.2 percent in 2020, and 3.5 in 2021. Critical milestones were being realized in the areas of poverty reduction and health. There was increasing absorption of innovation and technology across the continent as the youth adopted new platforms including mobile money.

The United Nations (2020) observes that the continent had made progress in both political unity and economic integration. This was characterized by the launch of the African

Continental Free Trade Area (AFCTA) in May 2019 with the immediate goal of boosting intra-African trade by an average of 25 percent by 2040 (UNCTAD, 2019). Foreign direct investments had seen Africa enjoying some of the highest global returns in a long time. However, the continent was still grappling with issues of weak governance, environmental degradation, human rights violations, lack of economic diversity, and humanitarian and conflict situations, making it all the more difficult to stay on track towards the achievement of the 2030 Agenda and Agenda 2063 goals.

One of the thorny issues that have continually affected Africa's economy even before the Covid-19 crisis is its debt levels. According to Madden (2020), African nations face heightened public debt vulnerabilities, with the ratio of general government gross debt-to-GDP in sub-Saharan Africa experiencing imminent growth from an average of 37 percent of GDP in 2012 to 59 percent of GDP in 2019. This means that even before Covid-19 struck, a majority of the countries were looking to more expensive sources of financing, such as sovereign bonds as opposed to concessional loans. Madden (2020) states that this was partly attributed to their liquidity problems stemming from the 2008-2009 global financial crisis and the 2011-2012 European debt crisis.



General government-gross debt in Sub-Saharan Africa, 2000-2019 (percent of GDP)

5. Conclusion

As evidenced by the discourse, economies in Africa are expected to be extremely hard hit by the COVID-19 pandemic. As shown, economic growth in sub-Saharan Africa will decline from 2.4% in 2019 to between -2.1% and 5.1% in 2020 and this will largely depend on how successful the measures of mitigating the effects of the pandemic will be. The issue of debt discussed above, combined with the deteriorating fiscal balances, not to mention the declining economic activities will also mean that individual countries will not be in a position to pay loans.

The litmus test for Africa will be to measure how well the continent will pull through the pandemic irrespective of the challenges of enacting effective protection policies and preserving the macroeconomic stability in the region, which could be a tall order for many governments. Eventually, this may only be solved with further external aid in the form of financial assistance from multilateral organizations and official bilateral creditors, or even debt relief. However, the

fact that there is reduced economic activity in Africa, and a disruption in the global economy will affect Africa's participation in trade and value chains, and also reduce foreign financing flows. Alongside the heavy reliance on exports of commodities whose prices are continually declining, and the structural issues being faced by the continent, Africa may be well headed towards experiencing its first recession in 25 years.

6. Recommendations

Measures governments are taking to curb the Covid-19 effect on trade

Stringent containment measures and non-pharmaceutical interventions have been effective in containing the spread of the coronavirus disease (COVID-19) and limiting fatalities, ensuring that the medical systems around the world were not overwhelmed. While the lives saved have laid the foundation for a resumption of growth in the medium term, the Great Lockdown resulted in large short-term economic losses and a decline in global economic activity not seen since the Great Depression.

In Africa, just like in many other countries around the world, there must be deliberate efforts to ensure that the economies are up and running to ensure that citizens do not suffer from starvation. While the resumption of global trade is one of the ways through which the economy of the continent is expected to flourish back to normal, individual governments must work towards being self-reliant. Some of the measures that governments are putting in place include promoting the local industries as a way of limiting dependence on exports. A case in point is the Kenyan government, which before the Covid-19 crisis, relied on imports for all its medical supplies. However, the Covid-19 pandemic put a strain on all imports, making it difficult for the usual exporters of masks, personal protective equipment, beds, and ventilators to sell to other countries. At the moment, Kenya is not only able to produce medical equipment for use within the country but has been able to export personal protective equipment to neighboring nations. In the last two months, the country has also successfully produced ventilators for use in treating Covid-19 patients.

African countries need to embrace and scale up the concept of interconnectedness. The share of intra-African exports as a percentage of total African exports has increased from about

10 percent in 1995 to around 17 percent in 2017. However, it remains relatively low compared to levels in Europe (69 percent), Asia (59 percent), and North America (31 percent). With the signing of the African Continental Free Trade Area Agreement (AfCFTA) in March 2018, countries committed themselves to remove tariffs on 90 percent of their merchandise, liberalize trade in services, and address all existing non-tariff barriers. This could eventually be the key to a single African market in which a billion customers with an aggregate GDP of over $ 3 trillion converge to buy and sell merchandise. This will turn Africa into the largest global free trade area.

Economic policies

African countries need to adopt several economic policies in mitigating the Covid-19 effects including;

- Rationalizing expenditure
- Investing heavily on core investments such as food security, housing, and healthcare
- Implementing policy reforms in tax administration by reducing leakages, growing the tax base, and enhancing tax delivery
- Reducing appetite for loans, in particular, commercial loans, and instead investing in the economy to increase the revenue collected
- Improve family self-sufficiency by promoting farming, small businesses as a way of stimulating the household economy

Politics and governance

Issues of politics and governance in the wake of Covid-19 have been rampant among a majority of the African countries, with corruption and misuse of authority being top on the radar. Many governments were accused of misusing and misappropriating resources, including those mobilized for the Covid-19 crisis. In Uganda, government officials were arrested for inflating Covid-19 relief food prices. In Kenya, officials were prosecuted for inflating the prices of medical supplies and alleged theft of funds, leading donors to offer threats about withdrawing funding to fight the pandemic. In line with this, African nations and their governments must

uphold integrity in their matters of governance as this is one way through which the continent can experience positive growth.

Public health management on the global spotlight

One of the lessons that the African leaders might have learned over the Covid-19 pandemic is to improve the health situation in their home countries. In the past, the wealthy politicians would be flown to expensive and fancy medical facilities in the developed countries but as a result of the lockdowns caused by Covid-19, this was no longer possible, and they had to be treated in their ill-equipped medical facilities. In line with this, the public health management of many African countries has been put in the spotlight, with leaders being challenged to develop and equip their home public health facilities.

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The Impacts of COVID-19 on TikTok

Introduction to TikTok

The Covid-19 pandemic has monumentally changed society; global economies, companies, and people have had to adapt to the "new normal." The "new normal" is a common phrase to describe how we interact with one another, given health restrictions. The "new normal" has tested countries and politics globally. Introducing new technologies and businesses that are immune - pun intended - to business interactions within society under quarantines' confines. Many companies have failed, and few have succeeded. Those companies that have grown are tech-based companies that bring together communities digitally, like TikTok. This dissertation and business consultation plan for TikTok will examine the business' future adaptations and aspirations within a quarantined environment assuming the "new normal" circumstances. TikTok has thrived under this environment because it promotes creativity and freedom of expression connecting people through online communities; Still, it is necessary to look at the future business expenditures and well-being under this health and politically exposed coronavirus market. It's imperative to look at how to dissect what TikTok is, became successful, adjusted to health demands, and navigates political and cultural challenges as it strives to grow into one of the most influential social media companies.

TikTok Users & Audience

The rise of TikTok has been unmatched and "is the world's fastest-growing--and goofiest--digital platform" (Jackman, 2020). TikTok creates digital communities and is a "billion-strong fanbase the platform has become a byword for freedom, creativity, and fun" (Jackman, 2020), which has proved to be the best way during this time of quarantine to interact with others without coming into contact and remaining socially distant. The technology has overcome and thrived through the most testing times of the global coronavirus pandemic. TikTok users' testimonies are similar to that of Brooke Averick's statement, "downloaded TikTok when quarantine started, 'out of boredom,' she says. A 24-year-old preschool teacher uploaded a clip where she reads a letter her younger self had written to her older self. 'That was the first video I posted, and it did super well and got a million views,' she says. But Averick doesn't know what her TikTok presence will look like once the pandemic is over. "In my mind, Tik- Tok is so associated with quarantine,"

she says. 'It doesn't feel like it will be a part of my life when all of this is done. I feel like it's all temporary'" (Zukin, 2020). TikTok's rise through COVID-19 has been unsurmountable, but is it sustainable? Diving deeper into the technology gives insight into whether TikTok will adapt and have sustainable growth through its business model.

It is essential to dive into TikTok's business model and why they grow so rampantly during the COVID-19 pandemic. The issues society faces and the technology solution explains the success of TikTok with "As addictive as the scroll is, the real fun is in participating. The only way to post is to DIY, and TikTok's entry barrier is on the floor. Users can create their original videos, lip-synch to music (supplied by the app) or dialogue, or participate in a trend or challenge. Challenges are dances or memes (mostly created by users but sometimes by companies) that encourage others to join in and share videos of themselves participating. Kudzi Chikumbu, TikTok's director of creator community, says the company's mission is to inspire creativity and bring joy. "The key is just truly to be yourself" (Zukin, 2020). The technology uses Artificial Intelligence to link consumers with videos from other consumers that match the consumer's interest. It gives the consumer the ability to control and connect the things they are interested in. It hooks the consumer through creativity during a time of mass boredom.

TikTok Health Concerns

So much so, they face technology addiction and dependence issues to the point where it was found "over 12% of adolescents reported using social media more than 10 hours a day" (Ellis, 2020). China has noticed societal trends and the unpleasant feelings people have been having during this time of quarantine. The pandemic has limited contact, increased the separation of loved ones, little freedom, increased illness skepticism, and boredom, causing many people to experience negative psychological consequences, such as anxiety, depression, dysfunction, and lack of motivation. China's National Health Commission has implemented quarantine and isolation awareness to inform communities and people of the burdens the pandemic has had on mental health, which elaborates on the previous stresses and anxieties previously mentioned along with a new trend called "Internet Addiction." The China National Health Commission explains this further with, "The Internet is an essential and integral part of the new lifestyle. The term Internet addiction refers to the psychological dependence on the use of the Internet" (Eidi,

2020). Due to the pandemic, many people have had to lean on technology to obtain human contact despite being socially distant. The unintended consequences of having technological dependence on social interaction have impending health risks. These risks include, "Emotional factors are related to individual characteristics such as introversion, inability to communicate sufficiently, and low self-efficacy. Internet factors also include more time to use the Internet, more convenient access to the Internet, and superior Internet skills. Social factors also include low family support and sociological problems of the individuals. The critical point is that the combination of social and personal factors can significantly impact Internet addiction" (Eidi, 2020). Technology Addiction is real, and TikTok has brought the world together despite being socially distant, but at what cost? People are becoming socially dependent on TikTok to communicate with others, which is excellent for a business model, yet tests moral business practices.

There will always be unintended consequences, but it's necessary to focus on what's essential; TikTok has brought the world together through this pandemic and allowed people to bond and learn about the coronavirus. In the academic journal *TikTok and Its Role in Coronavirus Disease 2019,* it analyzes how TikTok has helped limit the spread of coronavirus and help pass knowledgeable information with "As of July 12, 2020, these were videos earmarked with the hashtags "covid-19," "covid19," and "coronavirus," which have reached 4.4 billion, 33.3 billion, and 93.1 billion views, respectively, demonstrating the platform's immense ability to encourage sharing. Our findings revealed that, on average, 6.33% of videos were filmed by health care professionals, and 2.66% were filmed by young adult patients tracking their recovery journeys. In addition, 15.66% of videos communicated pragmatic health information, and .66% provided misleading or inaccurate health advice, with the remaining videos depicting everyday quarantine activities in a satirical manner" (Ostrovsky, 2020). TikTok's platform focuses on spreading information through creativity and allows anyone to have a voice that can be heard globally on this social media platform. Anyone having the ability to creatively give health recommendations because they have a say on a social media platform is concerning. Ostrovsky speaks to this with, "although videos by health care professionals were few in number, they were often among the most widely "liked" and shared across the board. This distribution suggests that demand on TikTok for more healthcare-related voices currently outpaces supply. TikTok has shown itself to be a viable means for practitioners to educate and

dispel myths about COVID-19 to a broad and diverse adolescent demographic. In return, practitioners gain the ability to share their voices with those that they likely would not have reached otherwise while potentially expanding public policy adherence and reducing hospitalizations" (Ostrovsky, 2020). The current issue is there is not enough beneficial medical advice spread on TikTok to be helpful to society and is currently detrimental to TikTok users' knowledge of medical information about the pandemic. However, TikTok has a platform for medical professionals to reach consumers with medical details widely. In the future, using TikTok to communicate with public medical information could be an extremely effective way to get a broad audience.

TikTok Technology

How does TikTok connect people? It comes from the company's foundation and how it has acquired technology to give the consumer the best place to express themselves. This is apparent with the merger of Music.ly and Bytedance, which is best explained with "In 2018, Bytedance folded Musical.ly into its TikTok app, and that's the app we know now making the headlines. It's the one embroiled in some fairy hefty licensing arguments (depending on whose statement you read), the one that has rolled out a Beta version of its advertising platform in countries including the U.K., and the one that just bought Jukedeck. The latter A.I. music company has spent years training deep neural networks to understand music composition and production at a granular level" (Garner, 2019). Clearly, using neural networks to sort information into a granulated tree search structure using weighted nodes based on consumer preferences to match the user with other users based on preferences and similar interests explain why TikTok is so successful when combining the technology in Musical.ly and Bytedance, where the A.I. technology in Musical.ly allows users on TikTok to connect with others better than on other social media platforms.

TikTok Global

After understanding how TikTok has been so successful connecting people - to the point where their ability to connect people has become a concern - through the advanced A.I.

algorithms used to match preferences, it's necessary to see how they can operate their business globally. TikTok is currently a privately traded company but is looking to become a publicly-traded company. In doing so, TikTok will need to consider the benefits of becoming a publicly-traded company and evaluate market liquidity, which stock market to enter, and whether cross-listing is a viable option. These questions come at a challenging time with the COVID-19 pandemic and the governmental tensions between China and the United States. If they publicly listed their company in both countries, this would be cross-listing and enabling TikTok to diversify its public listing capital stream by obtaining capital through multiple public listings. Investopedia elaborates with, "A company might list its shares on several exchanges to boost the stock's liquidity" (Beers, 2020). Increasing liquidity for TikTok would allow them to retain more capital and invest the money to improve their product through research and development on their A.I. or by offering companies different ways to market on the TikTok platform. Ultimately, to solve issues with COVID-19 communication, bringing in more capital could allow TikTok to start a medical channel or higher medical professionals to give medical advice on the platform to a massive audience.

The U.S. and China audience that needs health information is best described with, "Three-quarters of U.S. adults use social media; of these, three quarters engage at least once daily, and nearly 50% report that information found via social media affects the way they deal with their health. In China, more than 740 million individuals (> 50% of the population) have social media accounts with which they daily engage, and more than 70% of WeChat's (a Chinese messaging, social media, and mobile payment app) 570 million users report it to be their primary source of health education." (Schillinger, 2020). Suppose TikTok becomes a public company, offering stock opportunities for others to raise capital to increase the ability to spread knowledgeable medical advice. In that case, they could provide constructive health advice to a massive Chinese and American audience.

TikTok must also consider which country they want to headquarter out of. The difference in governmental influence on the business makes this decision hard for TikTok. TikTok will need to consider how each government will impact the company. In China, they may have better tax breaks, but at the expense of exploiting the users to minimize privacy restrictions. Whereas, in the U.S., the TikTok users may have more privacy due to government rules and regulations but will face higher tax regulations. Rita Liao explained the tax barrier when transferring the

business to the U.S. with, "ByteDance estimates that TikTok will pay to the U.S. Treasury in the coming years a total of $5 billion in income tax and other tax dollars incurred in the business. Nonetheless, the final figure is contingent on TikTok's 'actual business performance and the U.S. tax structure,' the parent said, stressing that the tax money has 'nothing to do with the ongoing deal.'" There is no tax neutrality between the countries when making this decision, but there isn't enough of a tax difference to impact TikTok's decision. The tax increase TikTok would face when coming to the U.S. is something they'll need to consider and budget for financially, but shouldn't influence the decision. The decision should be made in terms of opportunity and expanding the brand to a new nation with stricter privacy regulations to protect the users' personal information and have more market liquidity by functioning globally.

TikTok Consultation & Recommendations

TikTok has faced massive growth and obtained a broad social media audience. COVID-19 has provided TikTok with an opportunity to expand larger as more people use the online network to stay connected while remaining socially distanced. There have been some backlashes with the overuse of the internet and internet addictions, but TikTok also has the opportunity to spread knowledgeable health information about covid-19. The biggest hurdle TikTok faces is the government and regulation China imposes on the company. TikTok can connect everyone through A.I. technology, which also grants the Chinese government access to this information. After analyzing all of these aspects of TikTok, I do have two significant recommendations TikTok should make within their business model.

The first recommendation would be regarding the backlash of internet addiction and the opportunity to spread health information. The internet addiction could potentially harm the company because governments could create policies limiting users' screen time, limitations on the TikTok's layout making it less addicting, or could even face legal trouble through users or the public suing them for damaging young lives through internet addiction. TikTok should be proactive and try to promote more beneficial messages on the platform. Doing this would limit the backlash of not providing valuable information on the forum. An opportunity could be partnering with health professionals or a company and providing online Covid testing consultations where medical professionals could walk the user through a mailed testing kit or

provide beneficial mental health consultation if the user is having trouble coping with extended quarantine.

My second recommendation would be transitioning the company from China to the United States to avoid governmental privacy issues. The transition should be done by publicly listing the company to increase market liquidity through a cross-listing in multiple stock markets. TikTok needs to transition to the United States to expand its brand through shareholder capital growth and not have any governmental issues. When transitioning to America, TikTok will need to raise capital a few ways and partner with other U.S. companies. TikTok will want to maintain its Chinese presence and have the same reality in the U.S. To do this, they will need to partner with local U.S. companies. Companies TikTok will need to consider companies offering large amounts of capital to take a stake in the company, so it would only be substantial Fortune100 companies. Due to TikTok's online presence and the technology used, companies with extensive expertise with Artificial Intelligence and cloud capabilities. TikTok will need both A.I. expertise and cloud capabilities to expand the company. Partnering with a company in the U.S. that lacks these will be detrimental to its success and ability to navigate users through A.I. and store their information. By partnering with another company and becoming publicly traded, this transition will provide a couple more capital streams and increase liquidity. TikTok would raise money through the partnership - as they've done in the past by merging technology companies - and allowing the public to become shareholders. By doing all this, the tax burden TikTok would take for transitioning to the U.S. would not be an issue because the revenue generated would be greater than the cost of taxes. Ultimately, if TikTok wants to continue to grow at the rate they have been and have long-term stability, TikTok would need to transition to the U.S. through partnering with another technology company and becoming publicly traded in the U.S. stock market.

Final Thoughts

Covid-19 has had a monumental impact on the health and well-being of society. Due to health concerns, much of the world has undergone quarantine measures ranging from a social distance, working from home, and online learning. TikTok has become one of the largest social media companies since the start of Covid-19 due to the increased online presence caused by

pandemic prevention measures. People are spending more time at home and alone, so find ways to connect with others online, which, with TikTok's artificial intelligence technology, users connect with others with similar interests better and expand an individual's outreach. The platform is very engaging but can be abused and addictive. TikTok needs to be aware of the health implications of using their technology and start looking into ways to provide helpful health information. Covid-19 has proven that companies that can adjust to new, unexpected situations survive, and as a society, we won't know when or if this pandemic will end. To maintain growth and presence, TikTok will need to start making decisions to capture more capital through multiple wealth streams. It's recommended they do this by transitioning to the United States through partnering with a technology company with expertise in A.I. and cloud capabilities. It would also be recommended to publicly list TikTok on the US Stock Exchange to generate capital through shareholder investments. Doing all of this would allow TikTok to continue to grow and become one of the largest social media platforms providing the users a great experience and privacy. TikTok has benefitted from Covid-19 but will need to make the necessary decisions to maintain the growth into the future despite health uncertainty and society's "new normal."

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Midstream Investment for Long-Term Profit – The Oil and Gas Industry

The author is an IT administrator at a large agricultural cooperative/

Introduction

The Coronavirus pandemic has been incredibly impactful on many businesses across almost every industry. One sector that has been hit particularly hard is the oil and gas industry. In mid-March of 2020 demand was down when Governors started putting stay-at-home orders in place and domestic and international travel was halted for many Americans (Hodari, 2020). This marks the “third price collapse in 12 years” for the industry which should be a warning sign to any company that they need to start strategizing for the future (Barbosa et al., 2020).

The oil and gas industry is massive, with many companies involved in a variety of practices, from drilling oil to delivering gas to stations. Many companies are not large enough to be involved in every part of the process and instead specialize in one or two areas (McClay, 2020). These areas of expertise are grouped into three distinct sectors, the downstream, midstream, and upstream (McClay, 2020). For the purposes of this paper we will be focusing only on the midstream sector. The midstream sector, those companies that store, process, and transport petroleum are the middle players between companies sourcing oil and those selling it (Chen, 2020). There are many smaller companies in the midstream market that own part of pipelines used to transport petroleum or store it for downstream companies.

COVID-19 is affecting these midstream companies. With demand down, storage facilities quickly filled up and then refineries slowed as there was little demand to sell the stored product. However, as the country reopens, it’s inevitable that the oil and gas industry will make a comeback. Demand will rise again, and oil and gas will be as important as ever. The question this paper intends to answer is if, in this down market in the midst of a global pandemic, companies in the midstream sector invest heavily in the necessary infrastructure (pipelines and storage facilities) to prepare to capitalize as oil and gas price spike post COVID-19. As Redelinghuys stated in an article in Finweek, “we strongly believe energy stock will rebound in the next two years and the rebound will be so large that it's a sector we must invest in" (Redelinghuys, 2020). This paper will analyze how this decision might affect short-term and long-term cash flow for midstream companies, it will explore the time value of money in reference to the current economy, and examine how this decision might affect owners and shareholders of these companies.

Analysis

The midstream sector had a growth opportunity starting in the mid 2000's. Technology advancements in fracking allowed companies to access previously hard to get oil in both North Dakota, in the Bakken, as well as in Texas, in Eagle Ford. Prior to 2005 though "onshore oil and gas activity in the United States had declined for almost 20 years" and "as a result, the midstream sector had been considered a mature, low-growth portion of the value chain (KPMG, 2015). With the domestic oil boom, the midstream sector suddenly had an investment opportunity to upgrade and build new infrastructure to support the transportation and storage of petroleum and natural gas across the country. As of 2015 the industry raised roughly 150 billion dollars towards this infrastructure, but it's estimated that another 838 billion dollars will need to be invested by 2025 to meet the demand (KPMG, 2015). COVID-19 has likely extended this window providing even more opportunity to companies to invest now before demand returns.

This opportunity for growth has the midstream sector primed to expand and generate incredible cash in the coming years. As oil and gas prices have dropped, the midstream market is somewhat protected against those swings because, "midstream companies tend to generate lots of cash flow because fee-based contracts or regulated tariffs supply them with the bulk of their income" (DiLallo, 2019). Throughout COVID-19 many companies are being fiscally conservative, often backing off large capital investments. To the willing investor though this can be seen as an advantage because companies that do invest now will have gained an advantage on their competitors as the oil and gas prices rebound. Oil prices are anticipated to surge once demand recovers. Based on historical patterns of other commodities, when supply shortage becomes real the spot price can increase "400% in 24 months" and the same is expected of oil (Redelinghuys, 2020, p. 41).

One consideration that needs to be addressed is the recent scrutinization of the oil and gas industry as green, renewable energy sources become more mainstream. As noted by Petri Redelinghuys, "oil is a vital ingredient in the world economy and by the look of recent media reports, the world has attacked this source of energy and has deemed it replaceable. Green energy is all the rage currently but considering the total percentage of energy it supplies worldwide today, it's actually irrelevant" (2020, p. 36). Green, renewable energy is on the rise but it's not in any position to overtake, or even compete, with the oil and gas industry for decades. Even when it's a truly comparable source, it will not completely replace the oil and gas

industry, making sure that any investment in the midstream sector is a valuable investment for the future.

Research and Data

During the pandemic many companies are evaluating their cash flow. The numbers that were predicted at the beginning of their fiscal year are no longer valid because the cash flow of many business units is suddenly limited. Cash flows become the heart of the discussion at this time, from companies reviewing their current budgets as well as forecasting for the months and years ahead. Future cash flow is at the forefront because a "better strategy and accurate financials lead to well-informed business decisions that drive profitability" (Jakovickas, 2020). Companies need to consider their current cash flow and future cash flow whenever looking at any capital investments but especially now.

Long term, cash flow for an investment in the midstream sector of the oil and gas industry would be significant. The domestic oil and gas industry is in a boom with more oil and gas being retrieved now than any time in the last thirty years (KPMG, 2015). America's reliance on imported oil and gas has been stunted as technology has evolved providing new, easier, and cheaper ways to harvest and process oil and gas from many new areas of the country. As the domestic oil and gas sector grows, America will need to be able to move, store, and process more oil than in any time of history (IHS Global, 2013). Pipelines, a staple in the midstream sector, are at the forefront of government debates in recent years because America relies on efficient transportation of these materials from harvest sites to production plants, which can be across the country.

That being said, any company needs to be more concerned about their short-term cash flow position at this time. Businesses need to consider their current cash on hand to ensure they can "withstand lean periods and guarantee enough capital will be available for even basic needs" (Shipley, 2020). Capital investment is no longer a priority for companies as many start to restrict investments, evaluate furloughing or laying off employees, and forecast they cash they need to keep the lights on. In today's market "many companies face paradigmatic shifts in how they conduct business – supply chain, workplace safety, virtual workplaces and collaboration, and many others – are incurring sizable sums to develop new business processes to adapt (Majure, Atkinson, Abad, Cody, John, & Bloom, 2020, p. 42.) This is more important than before because

of the volatile and unsure nature of the coming months. Without a definite timeline of when oil prices might return, long-term cash flow is not a primary concern. “Maintaining a healthy cash flow is critical for managing debt” with attention given to “specifically short-term cash forecasts you can confidently operate strategically and proactively, rather than reactively” (Jakovickas, 2020).

COVID-19 has shocked the United States and forced many companies to deal with an unprecedented environment. This is the largest shock to the economy, and likely to have lasting effects through the next few years. Without having faced this type of disaster before companies, for the first time, are having “to look profoundly into the liquidity in [the] economy, [and] we see the pandemic shock is mounting enormous pressure on corporate cash reserves” (Sarker, 2020, p. 47). The time value of money is that, in the short-term, companies need as much cash on hand to survive the fall out. The US government has already provided financial help including allocating funds through the CARES Act and financial institutions are providing similar assistance through low interest loans. The value of cash in the short term far outweighs the value long term. While the return on investment into the midstream sector would likely pay off, the risk of tying up cash in long-term investments are too great for companies in the current market.

Options for Analysis

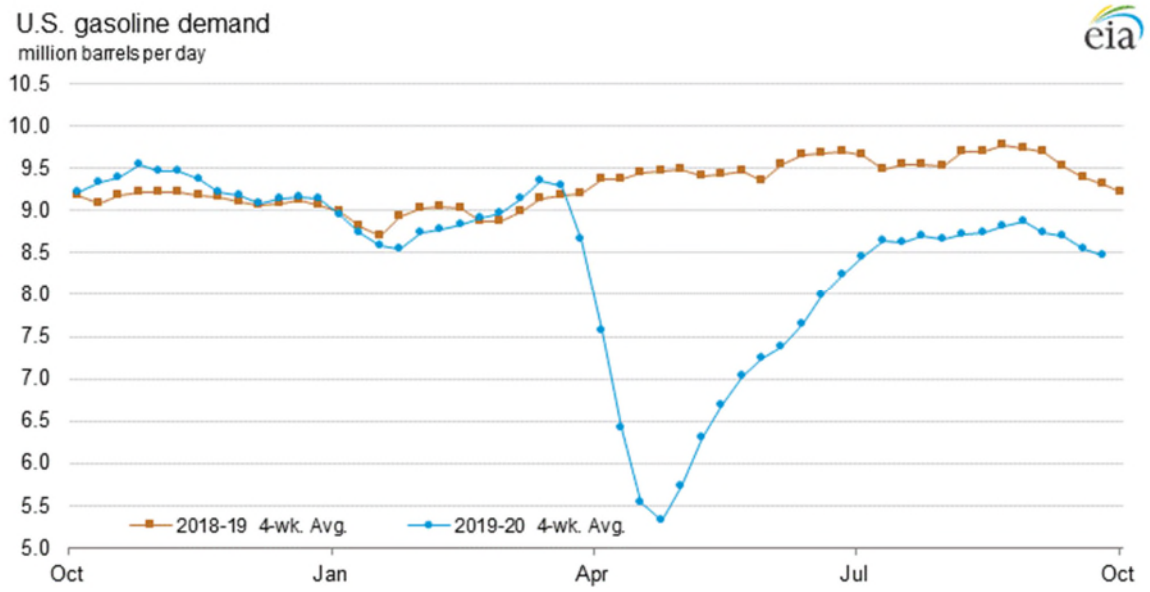
Midstream companies are at a point where they need to decide their plan of action. While the country is still in the depth of the pandemic, there is hope of a return to normalcy as states begin to reopen, Americans become restless and demand more freedoms, and news report suggest vaccines in the coming months. The time for midstream companies to capitalize on this down market is now. We know that oil and gas prices are at some of the lowest prices in over a decade. If midstream companies planned for investment in pipelines and storage facilities, it would be prudent to do it now as competitors back-off capital investment projects and they manage cash flows as a means of protection in the event that the market doesn’t rebound as quickly or as effectively as expected. However, the decision companies need to make is around the risk they are willing to accept. “Before the coronavirus-induced price drop, the expansion of shale oil production slowed and no new big, proper supply line was coming online” (Redelinghuys, 2020, p. 39). We know the United States is producing more domestic today than anytime in past several decades, there is still not enough infrastructure in place to handle

demands. These companies should consider capitalizing now because, as was pointed out in IHS Global's 2015 study: The opportunities facing the industry [provide companies a chance to] focus on building advantaged capabilities, making the right business model choices and adaptations, and creating operating model flexibility to create sustainable, long-term competitive advantage. Extraordinary returns are the payoff for those companies who make the right moves.

As noted above, if the pandemic never happened, the United States would still be producing more domestic oil and the supply would require companies to invest in midstream infrastructure. The successful company is one that understands that when the demand for oil and gas returns, the economy is going to reward those that have invested substantially in the midstream sector.

So far through the pandemic the risk of investment is not the route that most companies have chosen to take. Instead, many companies are actively scaling back investment in many of their capital expenditures and focusing on maintain significant levels of cash in order to ensure they can sustain day to day operations for the foreseeable future.

The pandemic has ravaged many budgets as the economy slowed down, halting many major business operations, and not just those in the midstream sector. While the tech industry is doing well, many other businesses have seen impacts to their quarterly and yearly budgets as people are limited in their movement, often facing the reality of living life through technology. The fact that people are forced indoors or into smaller communities is obviously incredibly impactful to the oil and gas industry. In the figure below the EIA notes that production demand dropped significantly for gasoline between April and mid-June. While there is a slight stabilization through October, it's still roughly 11% lower than last year's (Energy Information Administration, 2020).



(Energy Information Administration, 2020)

Without a better understanding of the timeline COVID-19 will have on the economy, many companies aren't willing to take risks. This is the third market crash in recent memory for many of these companies, so their risk aversion is understandable.

The time value of money now is much greater right now than when a heavy investment in infrastructure is likely to see a return on investment. Basic infrastructure, like storage facilities, is a multi-year venture. While it might line up with the economic resurgence it's impossible to predict. The value of having cash on hand, instead of tied up in risky investment opportunities, is at the forefront of many decision makers' minds. While the net present value of a capital investment might look good, and the payback period could be minimal, and the profitability index might be positive, the value of cash in these turbulent times is a necessity for companies. Data intelligence firm Alerian stated in a recent report, "reduced spending this year can help provide the flexibility needed to withstand short-term headwinds by freeing up cash, while also decreasing the odds of an overbuild of infrastructure as volumes recover" (Paraskova, 2020). For many companies this year is a year or retrospection and rebuilding. Understanding the impact of a pandemic tests their risk plans, often necessitating plans of action that are otherwise untested. As companies strategically shift funding, they're getting a first-hand look at how well they are setup to deal with crisis.

Final Recommendation

This pandemic is unlike anything the United States has experience in the last hundred years. While the Spanish flu of 1918 existed, the impacts were not nearly as pervasive simply because the world has changed so much. More people are living and working in community and our economy is based on closed-knit technology firms rather than large-scale farming operations. Without a clear indication of when the gas and oil industry will recover from the pandemic, the recommendation would be to scale back all investment in midstream infrastructure at this time.

Every company is trying to make a profit. If there is a way that money can be made, there is a company that is willing to sacrifice and commit to exploiting that venture. However, in this unstable economy, "what could've been the newest product investment may be put on hold, so review your growth plan and select those items to delay. Maintaining business operations in the short-term and keeping a keen eye on the future is necessary for survival" (Shipley, 2020). In this unprecedented time, it would be irresponsible for a company to chase after the promise of would-be profits, while not understanding that the success of their company relies on today's decision. Cash on hand is incredibly important in this time and future business endeavors, however profitable, should be considered secondary until it can be guaranteed that the economy has stabilized.

The oil and gas industry has always rebounded with the economy. These necessary energy sources have been paramount to the ongoing success of the United States. While their success can be almost guaranteed, the Coronavirus pandemic is completely new territory. Companies, and citizens, are not guaranteed a future as this has not been experienced in the last hundred years. Past data has been a relatively reliable source before now but the novel Coronavirus is setting new standards, placing the knowledge of years past on the backburner while we strive, together, to understand the future.

Company response is incredibly important for the oil and gas industry. Many oil companies are already operating with debt. "Only 33% of shale producers had a positive cash flow by the third quarter of 2018" (Redelinghuys, 2020, p. 39). Which means many companies need to be able to survive COVID and then anticipate the rising prices such that they offload their operational debt as well. Companies operating like this are already at high risk to take another chance on capitalizing on a speculative price rebound. Many oil and gas companies have

already taken on debt, through risky ventures, and this is an incredibly risky venture in which there is no guarantee.

Summary

The recent trend of domestic oil booms in the mid to late 2010's appears to yield an unprecedented opportunity for midstream companies to invest in infrastructure. However, with an unforeseen pandemic, there is no guarantee when the world will return to "normal" and when demand and prices of gas and oil will return. At this time it cannot be recommended that midstream companies commit to such risky ventures, even though there is historical evidence to support a successful investment.

In reviewing both cash-flow and the time value of money, it was clear that from a financial position it is not advisable to invest in midstream infrastructure at this time. Instead investment should be halted to provide liquidity to companies as they experience whatever comes in the next few months or years. Cash on hand is so important to companies right now, from supporting paychecks to employees, to surviving the unsure financial markets of late 2020 or early 2021, that it would not be helpful for them to commit these funds to capital investments.

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The Effects of Coronavirus- AGCO Corp.

The author is a cost engineer at a large agricultural manufacturing company.

Introduction

Covid-19 has impacted people from around the world in every industry. Some industries have severely struggled and in some cases, businesses were forced to close temporarily. The agricultural industry, however, was deemed “essential” and kept working through the global pandemic. AGCO Corporation, they were able to continue manufacturing agriculture equipment. But with the uncertainty of the market, farmers were not buying a surplus of farm equipment. How can a company financially continue when its products are slow to sell? During the Covid-19 pandemic, we have seen changes in the workplace, market, and industries that will affect how we function in the future after the pandemic. With traveling that is readily available to almost anywhere, widespread outbreak becomes increasingly more of a risk. During a pandemic, over 30 countries have put restrictions on exports.

Company Analysis

AGCO Corporation is a Fortune 500 company that designs, manufactures, and distributes agricultural products. Their vision is to create “sustainable high-tech solutions for farmers feeding the world which is built from their five core brands: Challenger, Fendt, Massey Ferguson, Valtra, and AGCO Grain and Protein. AGCO Corporation has built its company through acquisitions and has seen steady growth since its initial public offering (IPO) in 1992. AGCO Corporation serves all aspects of the agricultural industry from general implements to high-technology and autonomous tractors. Because AGCO is only in agriculture, its business is heavily driven by the agricultural market. The focus only on agriculture allows them to be more agile when markets change quickly. AGCO Corporation is using its different brands to appeal to more customers. The Fendt brand is its premium products that include the newest and highest technology equipment in the marketplace. The Challenger brand is focused on high performance. The Valtra brand is geared towards versatility and robustness. The Massey Ferguson brand focus on ease of use. Lastly, the GSI brand is all of the grain and protein-related products. This use of branding allows AGCO to reach a wide range of customers and select regions for each product that would perform and sell the best.

AGCO Corporation has a global footprint and has over 40 manufacturing facilities throughout the world. The goal for AGCO is simple, help farmers feed the world. On January 1, 2021, AGCO will appoint Eric Hansotia as the new chief executive officer. Transitioning for the new CEO has taken place and much of the same objectives will remain. Hansotia will have a heightened focus on smart agricultural technology to help increase margins. He also wants to make sure that the equipment AGCO manufacture will help grow farmer's net income. Under new leadership, AGCO will still seek out mergers and acquisitions to continue growing as a company.

Investment Analysis

AGCO purchased Precision Planting in 2017 and revenues for AGCO grew from $8.3 billion to just over $9 billion. Precision Planting has allowed AGCO to grow its technology for agricultural equipment. AGCO also owns a grain and protein division which was purchased from GSI in 2011. This purchase diversified their agricultural portfolio as GSI builds grain storage facilities and also poultry housing and equipment. With Precision Planting and GSI being primarily North American based companies, it seems their investments haven't matured and there is still getting a positive return on their investments.

AGCO reported that 57 percent of their sales (six months ended June 30) were from Europe/Middle East and only 28 percent of sales are from North America (AGCO Corporation 10-Q, 2020). AGCO's cash is in a good position at $404 million. By having good cash on hand can open opportunities for AGCO to be flexible in their decision making. They can choose to invest more in the company to increase sales and revenue. Another opportunity would be through mergers and acquisitions which is what AGCO has been known to do. Figure 1 in Appendix A shows AGCO's six months ended net sales were $3.9 billion which is down from $4.4 billion in 2019. Net income went down from $206 million to $126 million. Some of the loss in income can likely be contributed to the agricultural market as well as the global pandemic that hit the United States in early 2020. Even with the challenging year AGCO had, they increased their dividends. Though the increase was a measly $.01, it shows that in hard times AGCO Corporation wants investors to stay engaged and get a return on their investments.

Since COVID-19 started in 2020, there has been a great deal of uncertainty. AGCO borrowed $265.5 million, which some was used to pay revolving credit (AGCO Corporation 10-Q, 2020). Companies that have been affected by Covid-19 may need to raise capital. A couple of ways companies can raise capital is to issue new stocks or issue new debt. Likely partial due to Covid-19, AGCO needed to raise capital and chose to do so by issuing new debt. Often growing companies will choose to issue new debt. Checking financial balances can be a challenge especially during a pandemic. Will sales continue to come in? Will AGCO have to shut its plants down and lose out on potential business? When the pandemic first hit, the focus immediately shifted from future looking to what can we do today? The pandemic forced companies to think of the unthinkable and plan for the worst. Companies had to plan how long they could survive during the pandemic. Like an opera house, the show must go on. Long after the pandemic is over, companies will always have a worst-case scenario (COVID-19) plan in case another catastrophe happens. When planning to make future investments, whether budgeting for new equipment or deciding on a merger and acquisition, a COVID-19 plan will be in place. I also believe investments will be scrutinized more, budgets will be tighter, and employee expectations will be higher. If companies can survive through the worst without new investment and smaller budgets, why do they need them?

Ratio Comparison

When comparing AGCO Corporation with the Industrial and Commercial Machinery Industry, AGCO has underperformed in recent years. One factor is the weak agricultural market versus some of its competitors who are diverse in other markets. As stated earlier, AGCO only deals in agriculture so they are more limited than some competitors. With Covid-19 companies had to change how their businesses are being run and how finances are being dealt with.

AGCO Corporation has a debt to asset ratio of .63 whereas the industry average is at .57 (AGCO Financial Analysis, n.d.). AGCO Corporation also falls behind the industry average on profit margin by almost 2 percent. A couple of other ratios that are necessary to review are the return on equity (ROE) and return on assets (ROA) ratios. These two ratios provide insights into a company's management effectiveness. AGCO Corporation's ROA is 3.62 percent (Zacks Investment Research, 2020). This means for every dollar of invested capital, AGCO earns 3.62

cents. ROA of less than 5 percent is generally low but does not necessarily mean a company is ineffective. AGCO's ROE is 9.99 which is the same as the Farm Equipment industry average. AGCO's ROE shows us that they make good use of its equity. Another ratio that investors often use is the price-to-earnings (PE) ratio which compares the company's stock price to its earnings. AGCO's trailing-twelve-months PE ratio is 21.61X versus the farm equipment industry average of 22.97X (Zacks Investment Research, 2020). In many cases, a lower PE ratio is better for investors. It is currently hard to tell how much Covid-19 has truly affected these ratios and likely won't be able to tell for many years.

Industry Trends

The agricultural industry has struggled years before Covid-19 arrived. According to the USDA Census of Agriculture (2017), there were over 85 thousand farms that had losses of $50,000 or more. The number of farms has decreased by over 65,000 farms from 2012 to 2017. The trends show that there are fewer smaller farms, and the number of large farms is increasing. This trend of farms getting larger has made equipment manufacturers making larger equipment. The larger the equipment the more expensive the machines. This again hurts small farmers as many cannot afford new equipment for their small operation. The agricultural market has high risk, and recently very little reward. So why do farmers and businesses keep investing more?

In 2012, corn was sold for over $7 a bushel which is over double what it is today. When commodity prices are good, equipment manufacturers are often soon to follow. Figure 2 in Appendix A shows that over the last year corn prices have been around $3-$4 per bushel. Without the spike in 2011-2012, today's prices have been almost the same for the last 10 years. Inflation has made cost increase and commodity prices remain the same. It is hard for businesses to flourish when 8 out of 10 years are "bad years." This is where technology has improved almost as a saving grace. Yields have continuously improved over the years and technology and data gathering have to take most of the credit. No matter how good the technology is, the market can still struggle. When Covid-19 hit they still had to keep pushing forward and continue to survive. The agricultural industry has adapted during these challenging times and will continue feeding the world. Crops are not only used for food, but also oils, resins, fibers, clothing, energy, cosmetics, and many more (Industrial, Energy, and Non-food Crops, n.d.). Still, the agricultural

industry remains to survive at its worst. Crops are used for more than just for food, supply and demand are hard to predict especially during a pandemic. This helps increase demand for agricultural commodities, but it still does not make up for the drop that the market has taken.

Before Covid-19

Before Covid-19 the agriculture market was relatively weak and has been struggling for a few years. Trade issues kept demand for exports lower and farmers continued to use older equipment before buying new. The race for new products between competitors kept moving forward with continuing low sales in the agriculture market. For AGCO and many competitors, optimism was on their mind in hopes of launching new products to boost sales. When rumors began that a virus had starting spreading, work remained the same. We knew it was going to reach the United States but did not know when or how bad it would affect the economy and the agricultural market.

On January 29th, 2020 travel was banned to China and little was known about the virus. Later on March 3rd, 2020 travel was restricted to employees and was banned until further notice. In March, office employees worked from home while production workers continued to work with added personal protective equipment (PPE) and temperature screenings every day. AGCO also had testing onsite for any employees feeling ill or that had traveled long distances or into high infection areas. By now we starting seeing it not only in the way we work but also in our personal lives. Stores started closing and only offered to drive through or pick-up only. People began hoarding at general stores not knowing how long the virus would last. Soon we would find out that life would evolve into what became a new normal for everyone.

New Normal

Everything seemed to change. All office employees worked from home. Masks were mandated for every site employee. Work travel was banned for employees. What was once seemed normal, an office with every cubicle filled and high employee morale is now a static office and insecure thoughts. AGCO upper management held weekly meetings to discuss issues, questions, and to plan for a new normal. The information would trickle down the chain of

command and optimism started to spark new ideas. Meetings and trainings that were normally held in person were now held virtually. Launches of new products were held live on YouTube instead of at trade shows. Each production site tracked results from the virus and developed cleaning procedures and stresses anyone feeling slightly ill to stay home. Before the pandemic, many companies would rarely allow sick excuses.

The Covid-19 pandemic has affected every single employee in some way or form. Additive manufacturing has helped provide for a shortage of personal protective equipment and in some cases parts for production (Brannen et al., 2020). For countries that were more heavily affected, they would go on lockdown, which would affect imports and exports between countries. Supply chains for businesses were affected in some cases had to shut down lines until parts could arrive. For AGCO some key components come from Italy, which was heavily affected by Covid-19 and went on lockdown. Supply chain managers had to provide daily updates and check-in with several suppliers to ensure parts could still be manufactured and shipped. Figure 3 in Appendix A shows the global effects of the agriculture supply chain that Covid-19 had on the market. In some cases, outsourced components were manufactured in-house or sourced to a country without restrictions. For simple components, sourcing to a new supplier can be done quickly and easily. But for more critical components, there may not be other options. Fortunately for AGCO, there were no major issues that caused long term shut down of manufacturing lines. I believe that with AGCO being a global company with locations all over the globe, they were able to react and understand the severity of the pandemic in different regions. The pandemic has already changed how supply chains are being managed and in many cases having only one backup plan may not be good enough. The Covid-19 pandemic has caused a supply and demand shock that has created a crisis of supply chains, production, and consumers (Gregosz et al., 2020). More sensitivity analyses are being done than before and I believe this trend will continue long after the Covid-19 pandemic is over.

Business after Covid-19

No knows when a pandemic will happen, but that doesn't mean you shouldn't have a plan for it. The plan doesn't have to have a sensitivity analysis for every option that "could" happen. There can be several reasons for a bear market, pandemics included, that can affect how a

company is run and what decisions need to be made. There are so many unknowns about the future. If we're in a bear market, how long will it last? How do companies succeed in a bear market or even survive? Though pandemics are truly heartbreaking, there can be a silver lining for companies. When times are slow, it provides an opportunity to reflect on the past and focus on the future. "Organizations that have a strong, loyal team who truly believes in the mission of the business can power through anything" (Bevis, 2020, para. 4). It is time to reach out and listen to your customers. Know what your customers want today and be flexible for what they may want tomorrow. I find it particularly interesting that many companies are satisfied and content with how they run their business. Yet when a pandemic happens, organizations panic, and makes changes at any cost. When business is good, everyone is too busy to make things better that they wait until the business is slow, and then they have to make tough decisions to survive as a company.

Running a business or being a Chief Executive Officer (CEO) isn't easy, and there may not be a perfect solution to every problem, but planning, adjusting, and staying focused on the future will help drive success into action. When the pandemic is finally over, or at least to a controllable point, I believe some businesses will fall into old habits and call the pandemic a fluke. Whether or not it is a fluke, I believe successful companies will be prepared for another catastrophic event. They will have analysis to show what worked and didn't work in the past, as well as have detailed plans if another event happens. We don't know when or what the next event will be, but planning for it can increase the odds of success.

Conclusion

Reflecting on the Covid-19 pandemic shows us how much our lives can change. The unthinkable happened, and the future is more unknown than ever. AGCO Corporation handled the pandemic about as well as one could hope. Through good communication throughout the company, people became more aware and understanding of the pandemic. In the most uncertain times, the brightest ideas and innovation can change how business is run in the future. Business travel will likely decrease, and budgeting will be reviewed closer. Employees are more appreciative of good communication throughout an organization. The pandemic has also shown that labor can be an issue, so a push for fully autonomous equipment will continue to rise.

Though AGCO was affected by the pandemic greatly, much like many businesses, they persevered through what is hopefully the worst of the pandemic. The changes for the business have been eye-opening, and decisions that are made now will impact how organizations are run in the future.

Appendix A

Figure 1 *AGCO Corporation 10-Q (image from SEC Edgar, 2020)*

AGCO CORPORATION AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(unaudited and in millions, except per share data)

	Six Months Ended June 30,	
	2020	2019
Net sales	$ 3,935.1	$ 4,418.4
Cost of goods sold	3,051.9	3,397.8
Gross profit	883.2	1,020.6
Selling, general and administrative expenses	467.1	522.9
Operating expenses:		
Engineering expenses	160.7	172.0
Amortization of intangibles	29.9	30.7
Goodwill impairment charge	20.0	—
Restructuring expenses	4.6	1.7
Bad debt expense	3.2	1.3
Income from operations	197.7	292.0
Interest expense, net	9.5	9.5
Other expense, net	22.5	26.2
Income before income taxes and equity in net earnings of affiliates	165.7	256.3
Income tax provision	60.7	72.6
Income before equity in net earnings of affiliates	105.0	183.7
Equity in net earnings of affiliates	21.3	22.4
Net income	126.3	206.1
Net loss (income) attributable to noncontrolling interests	8.1	(0.2)
Net income attributable to AGCO Corporation and subsidiaries	$ 134.4	$ 205.9
Net income per common share attributable to AGCO Corporation and subsidiaries:		
Basic	$ 1.79	$ 2.69
Diluted	$ 1.78	$ 2.66
Cash dividends declared and paid per common share	$ 0.32	$ 0.31
Weighted average number of common and common equivalent shares outstanding:		
Basic	75.1	76.6
Diluted	75.6	77.3

Figure 2 *Corn Yields in the United States (image from Ritchie & Roser, 2019)*

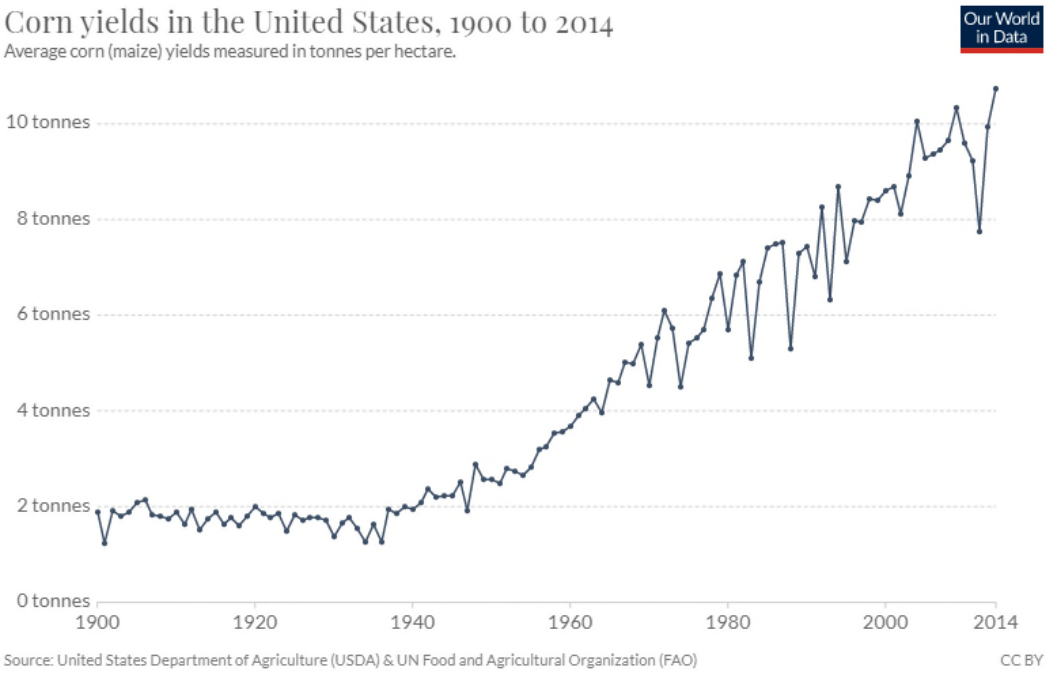
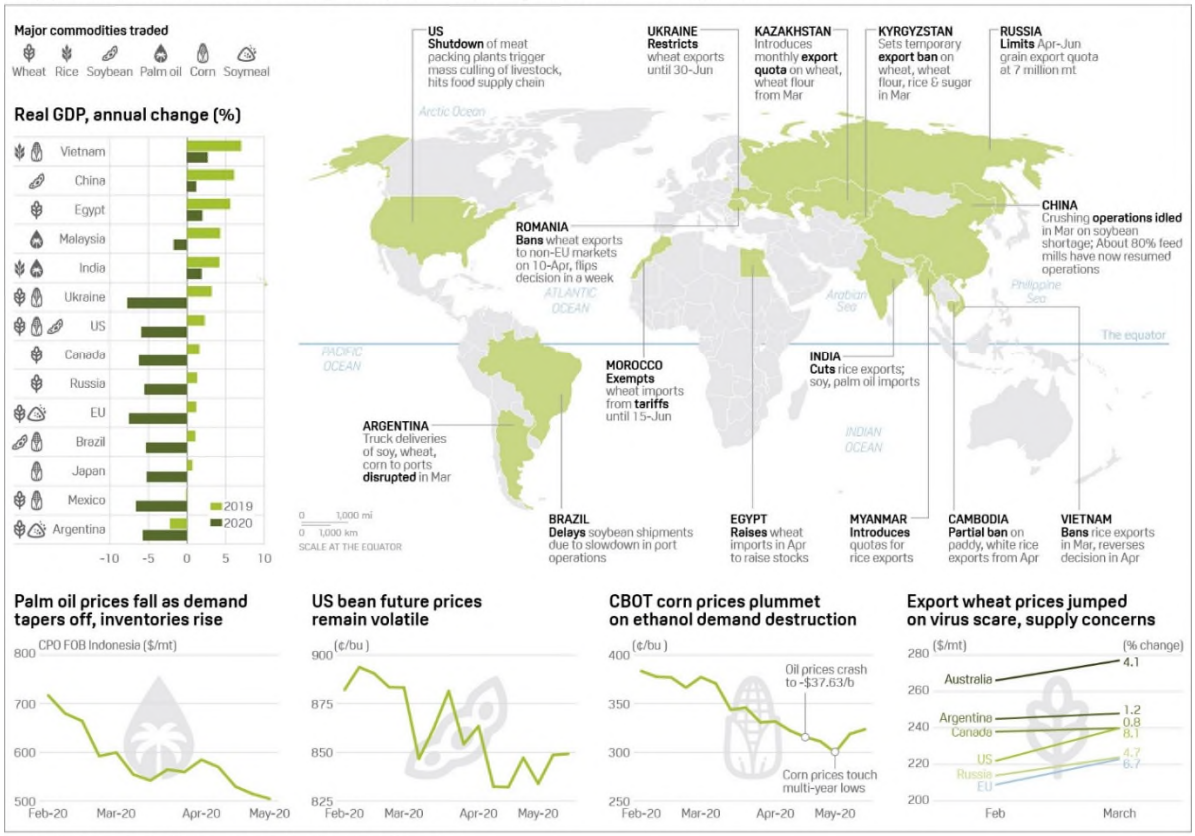


Figure 3 *Coronavirus affects agriculture supply chain (image from Somwanshi & Kesavan, 2020)*

CORONAVIRUS PANDEMIC TESTS GLOBAL AGRICULTURE SUPPLY CHAIN, STOKES FOOD SECURITY FEARS

The coronavirus pandemic is weighing on the global agriculture supply chain as the world's top producers and consumers deal with a sharp rise in cases. This has forced many to take strict measures, disrupting the normal course of operations. The risk to agriculture supplies, trade and processing chains has never been larger. The Food and Agriculture organization says the impact of the pandemic on economic growth may also affect final demand as consumers lose purchasing power.

- Despite healthy inventories, importers stocked up on wheat products in March on fear of supply risk, pushing prices higher
- Corn has seen the biggest fall-out, hitting multi-year lows on widespread ethanol demand destruction
- Depopulation of livestock in the US due to the idling of meat plants could affect long-term feed demand for corn, wheat and DDGS



Source: S&P Global Platts, FAO, USDA, Agroentregas S.A., GASC, FAS, IGC, IMF, Cofeed

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Post-Pandemic Continuity Planning for Higher Education

The author is the Director of Operations for a charter school focused on low-income families.

Post-Pandemic Continuity Planning for Higher Education

The coronavirus pandemic is reshaping societal structures in the home, business, and schools. Described as the “great equalizer” due to its propensity to infect anyone it encounters, many administrators understand that the coronavirus pandemic is anything but equal. While many businesses can move to a virtual environment, the education sector has found it challenging to do so effectively, economically, and equitably.

Educational institutions’ disparities and financial hurdles were significantly daunting before the coronavirus pandemic (*Education During COVID-19 and Beyond*, 2020). Now faced with a global financial crisis impacting the families of its student population, educational facilities are joining the ranks of organizations that need to quickly pivot amidst a growing health crisis (Robinson & Maitra, 2020).

Higher education relies on a time-tested model of tuition and endowments. With the advent of online courses, many institutions now include this option in their course portfolio, which allows for a diverse set of offerings for prospective students. Institutions that have not diversified their offerings and have not addressed inherent inequities in their virtual learning model struggle to determine how to survive in a post-pandemic world.

Thesis statement

To survive in a post-pandemic world, educational institutions should consider restructuring their budget priorities to maintain enrollment numbers and align with strategic priorities. To achieve this, post-secondary institutions should create a centralized group of strategic thinkers to communicate frequently on the institution’s continued needs and potential solutions (Illanes, Law, Mendy, Sanghvi, & Sarakatsannis, 2020).

These centralized strategic discussions should include an equity lens to make certain the discussions consider the most vulnerable populations (Illanes et al., 2020). The equity lens should consist of gender, race, and access considerations.

Coronavirus Pandemic and its impact on the United States education system

"There is no playbook for this."

Historically, pandemics are not a new threat to the education system. However, most modern administrators have not experienced a pandemic on a global scale. Therefore, many administrators do not have a continuity plan that incorporates an institution's response to a worldwide pandemic. With no playbook to reference, administrators are restricted to reacting to the current environment with little time to rebuild their strategic plans for the next six months to five years.

Sometimes referred to as "small cities," post-secondary institutions have the added responsibility of considering the impact of their decisions on several people. Students, staff, security, and neighboring towns experience a ripple effect when their host post-secondary institution is impacted. While many industries quickly moved to a virtual setting, pivoting to a virtual world while maintaining the community the institutions reside in is a daunting task. The interruption of onsite services provided by the institutions will be felt for years to come. While campuses remain empty, so do the research labs, food halls, theaters, and security offices (Illanes et al., 2020).

Without a continuity plan for the institution's research labs, medical advancements are placed on hold. These medical advancements positively contribute to the public's healthcare and serve as headlines in the institution's marketing packets to prospective students and donors. Similarly, with theaters going dark and security services at minimal capacity, the traditional items that would add to a comprehensive on-campus package for prospective students contain critical gaps that may impact future enrollment if not sustained or replaced with alternate amenities.

While administrators work to find solutions for their respective institutions, clear communication remains a top priority to all affected. In this time of uncertainty for students, staff, and researchers, school leadership must continue a transparent and thoughtful communication structure (Illanes et al., 2020). Lacking a strong communication structure may

lead to large un-enrollment, and turnover numbers of students and staff are left to fill in the blanks.

The financial impact of coronavirus pandemic on educational institutions

The overall financial impact of the pandemic on the 20-21 school year

Post-secondary institutions obtain much of their revenue through tuition, which frequently includes housing and meals (Startz, 2020). With many students in a distance learning model, many food halls are at a fraction of the capacity they once were. However, some post-secondary institutions have opted to offer housing with coronavirus safety protocols, which may boost foodservice needs. In these instances, post-secondary institutions later closed or reduced their onsite enrollment due to a coronavirus outbreak (Nierenberg & Pasick, 2020). Therefore, with a large portion of their revenue model impacted, it is prudent for institutions to reconsider the housing and food service revenue streams and investments.

In contrast to many private institutions, vocational institutions cannot move much of their curriculum to an online learning format (Robinson & Maitra, 2020). The following require specific hands-on training that currently cannot be replicated in an online environment.

- ✓ Medical and dental degrees
  - o Medical doctor
  - o Nursing
  - o Dentistry
- ✓ Welding
- ✓ Manufacturing
- ✓ Machine maintenance
- ✓ Carpentry

Vocational institutions may only need to stagger classes and offerings to maintain enrollment numbers. However, this often requires additional staffing for which the institution may not have included in the fiscal budget. Therefore, like its colleagues in private institutions, vocational institutions may consider reallocating funds from lesser utilized services to ensure a robust staffing model that will maintain enrollment numbers.

As administrators consider their enrollment numbers, it is prudent to consider how the coronavirus pandemic impacts their student population differently. Reviewing the pandemic's socioeconomic, gender, and race inequities will better prepare administrators for supporting their student population, which will protect their enrollment numbers.

Historically, the first groups to feel the weight of a global crisis are women, minorities, and low-income families. Gender equity disparities during a worldwide crisis impact family, corporate, and governmental structures in ways that are felt for several generations (Goldin & Olivetti, 2013).

The coronavirus pandemic puts undue stress on women, minorities, and low-income families (Goldin et al., 2013). While affluent families can work from home while their children attend virtual learning, the women of low-income families disproportionally work in the service industry, which cannot occur in a virtual environment (Goldin et al., 2013). Additionally, due to coronavirus's nature, grandparents are discouraged from providing alternate care due to their increased mortality rate. Therefore, women are often expected to leave their careers to care for their children who are home due to school closures.

An estimated 19 million children in the United States live in single-parent households (US Census Bureau, 2019). Additionally, 70% of those single parents are single mothers (US Census Bureau, 2019). With help from the Families First Coronavirus Relief Act, these families may be able to cover weekly necessities. However, coupled with the disproportionate amount of single mothers working in the service industry which cannot move to a virtual environment and continued school closures, we can surmise that these single mother households will feel the most significant financial burden of the coronavirus pandemic (*The impact of the coronavirus pandemic on gender equality*, 2020).

History shows us that voluntary or compulsory job loss, particularly during a recession, creates several years' worth of economic hardship due to the loss of future earnings and promotion opportunities (*The impact of the coronavirus pandemic on gender equality*, 2020). Additionally, as the current recession is felt on a global scale, this 'economic scarring' may be felt for generations as opportunities for a post-secondary education become less affordable and, therefore, unattainable for economically impacted families.

These families will feel the pandemic's financial impact for several years (Acemoglu, Autor, and Lyle, 2004). When administrators consider their future enrollment numbers and scholarship

opportunities, it is imperative they also consider the current and future inequities that their student population's families may experience (Acemoglu et al., 2004). Rising to meet its students' needs and remove as many barriers to access as possible will ensure an institution's current and future enrollment numbers.

The equity disparities of online learning

While post-secondary institutions move to a virtual environment to accommodate distance learning, administrators learn that internet access is not guaranteed (*Education During COVID-19 and Beyond*, 2020). Additionally, unless students are provided with a school-issued device, access to technology is not guaranteed. Traditionally, K-12 education systems provide a robust set of social supports that would help these students obtain Wi-Fi hotspots and technology. In a higher education setting, these resources are not as prevalent. Therefore, to maintain enrollment numbers, administrators should partner with local organizations to help their students obtain virtual learning success necessities and ensure their continued enrollment.

Suppose post-secondary institutions can obtain equitable access to virtual learning. In that case, it is prudent to consider that students from low-income families may need to work in essential sectors to contribute to the family income to maintain placement at school. The additional time for this work is daunting in conjunction with their schoolwork. The student's emotional and physical well-being should be considered with empathy as a public relations and financial tactic for educators and their institutions.

The "New Normal."

Institutions consider alternate revenue streams or financial restructuring to ensure enrollment numbers are maintained (Startz, 2020).

As stated previously, most post-secondary institutions follow a traditional revenue model that relies on tuition for courses, room and board, and foodservice. Often, education includes a per-student allocation for on-campus utilities, security services, and facility maintenance. As current and prospective students reconsider their priorities for a provider of their post-secondary education, administrators may, in turn, reconsider their revenue model in the wake of

a global health crisis. With the 20-21 school year moving to a primarily virtual environment, administrators no longer need to invest heavily in the services that comprise a comprehensive on-campus amenity package.

It is worth considering that much of the facility costs still exist with or without students. Therefore, by pivoting to an online environment, full cost recoupment may not be possible. However, administrators should review where cost recoupment is possible and reallocate these cost savings.

With reduced capacity, administrators should consider reallocating unused food service, utilities, and security funds towards scholarships to invest in current and future enrollment. Boosting enrollment numbers serves as a long-term strategy to ensure an institution can survive a post-pandemic disrupted economy, unemployment rate increase, and shifting cultural priorities. By investing in student scholarships, an institution can place themselves as a number one or two choice when they may not have been a choice at all due to unaffordability.

Research indicates that enrollment numbers may increase following the pandemic.

While tuition and enrollment are the most significant revenue streams for post-secondary institutions, enrollment is predicted to increase following the pandemic due to lack of employment immediately following graduation from a secondary or post-secondary program. In reviewing enrollment numbers following the Great Recession, workers opted to continue their education and extend their debt instead of going into a non-existent workforce (Startz, 2020). Administrators may consider offering programs to serve these prospective students at an affordable cost. Certificate or specialization programs may enhance the prospective student's current education, thereby better positioning them for job placement when employment rates increase.

Post-secondary programs may also consider offering a straightforward way for students to enroll on a per-semester basis. This flexibility will allow students the option to discontinue programs when employment rates return to a healthy amount. In the meantime, post-secondary programs will maximize enrollment numbers by providing a solution for a temporary public need.

Administrators should understand that the projected increase in enrollment numbers will not include international students for the next few years (Bevins, Bryant, Krishnan, & Law, 2020). Additionally, administrators should plan to restructure or replace study abroad programs through 2021. Post-secondary institutions that create robust virtual programs to include an international community will have an advantage over competitors.

Research indicates that students' first choice programs are changing in favor of schools closer to home with more affordable options (Kim, Krishnan, Law, & Rounsaville, 2020). Therefore, over the next five years, an institution may leverage its appeal to in-state students to help offset the enrollment numbers reducing from out of state students.

Presumably, private education will suffer due to tuition costs, and families cannot afford it due to voluntary or compulsory job loss. Families may have had to utilize their children's education savings to finance the family's liabilities during the Coronavirus pandemic period.

Institutions may maintain enrollment numbers through high-quality education.

When reviewing ways to boost or maintain enrollment numbers, administrators of post-secondary institutions should consider the qualities that inspire prospective students to choose their institution in the first place. While items that enhance the on-campus experience like food service and dormitories are considered 'nice-to-haves,' most prospective students consider degree offerings, post-graduation job placement, and total cost as top reasons to choose one institution over another (LaFave, Kelly, & Ford, 2018). Therefore, the critical component synonymous with each of the top three factors that cause prospective students to choose one institution over another is instructional faculty.

As previously stated, the move to a virtual learning environment disproportionately causes women to leave their careers to care for their school-aged children who are now home in a distance learning environment. In conjunction with work-from-home options, to maintain enrollment numbers, administrators should seek to retain top instructional talent by altering the tenure path, which will remove the disparities in gender equity in childcare during the pandemic (*The impact of the coronavirus pandemic on gender equality*, 2020). By altering the tenure path and allowing for an interruption in fulfilling its requirements, administrators can retain top

instructional staff by allowing any tenure path instructors to voluntarily and temporarily exit the workforce to care for their school-aged children.

Administrators can also retain top student enrollment by advocating for policy reform to support coronavirus relief packages for tuition repayment. Such a policy will remove the student's burden of considering tuition repayment when considering whether to return to school.

Conclusion

When a post-secondary institution determines how it will manage and react to the pandemic, school leadership must keep students and staff informed of these decisions (Illanes et al., 2020). Research indicates that the public is far more forgiving of tough choices when receiving excellent communication and a background in the decision-making process.

As with any business, a post-secondary institution that can quickly respond to its students' and staff's changing needs will fare much better post-pandemic than those that hope curriculum and enrollment will soon return to normal. This temporary shift into a virtual environment has shown the public that some university offerings can be delivered online and at a more affordable price (Smith, 2020). When the cost of a post-secondary degree is a policy talking point, it is critical to the success of public and private institutions to innovate ways to meet this need. Otherwise, like CDs and cable television, solely brick and mortar schools will suffer the consequences of its students' and staff's ever-evolving demands.

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