Technological and Pandemic Disruptions in Management: (The) Implications for Conflict from Human Resource Management Perspective

Amanawa David Ebiegberi

Ignatius Ajuru University of Education

Abstract: Every day, the business world as we know it evolves, bringing with it a flood of substantial benefits and challenges for the processing of products and services. These challenges and benefits tend to come in the form of disruptions to existing business workflows and corporate structures. Market newcomers, equipped with non-traditional business strategies and what appear to be poor performing products at first, eventually challenge and replace industry incumbents, resulting in disruption. The significant technological and pandemic disruptions that have happened across the world from the prehistoric era of 3000 BC to the current day have been reviewed in this article. The entry of the COVID-19 pandemic disrupted supply lines, and made it difficult to respond to the pandemic and adjust to the new normal. The shift in status quo as a result disruptions produces a lot of conflict between stakeholders from the perspective of HRM. Employees, employers, customers, and the federal government as a whole are all considered stakeholders. Following a thorough examination of the situation, it becomes obvious that technological and pandemic disruptions have become inextricably linked to human growth. This is because the former can be controlled and doctored to meet the needs of the market, whilst the latter compels many enterprises to respond to the reality of the day. In conclusion we realized that some managers fail because they make the right judgments for situations that are about to become history due to incoming disruptions, rather than because they made incorrect trade decisions.

Keyword: Technological, Disruption, Pandemic, COVID-19, HRM, Management

Introduction

The corporate world as we know it is evolving on a daily basis, and this evolution brings with it a slew of significant benefits for the processing of products and services. However, we live in a complicated environment where benefits tend to spawn new obstacles that end up becoming disruptions.

When put this into perspective these challenges tend to come as a form of disruptions to existing business workflows and corporate structures. A disruption in business can be characterized as a significant shift in an industry or business strategy, particularly when it involves the introduction of a new product or service that generates a new market; globalization and rapid technological advancement are two important causes of business disruption.

Furthermore, SpriggHr (2020) describes that when it comes to business strategy, "disruption" refers to a process in which market entrants come armed with non-traditional business models, and what appear to be poor performing products at first, eventually challenge and replace industry incumbents. Simply said, it's the process through which an underappreciated or unanticipated product or service begins to gain enough traction to replace or displace a more traditional product or service on the market.

Interestingly, in business management disruptions don't stop, they always remain disruptive until something else disrupts them.

There are many triggers for disruption, they can be business, technology or societal, but there is one guarantee: once disruption starts it will deliver continuous shocks to the status quo (Panetta, 2019).

Human resource management (HRM) responsibilities play a critical role in an organization's growth and overall development. After all, as employees improve and enhance their skills, the company grows and expands as well and one major function of the HRM in the face of disruption is the duty of disruption management.

Disruption Management

Yu & Qi (2004) explained that; a fundamental principle that guides people's work in numerous professions is to make a good strategy before taking action. A decent plan, however, is only half of the equation. Regardless of how good a plan is, it will be disrupted throughout the execution phase by a variety of unplanned circumstances, causing the plan to stray from its intended trajectory and even become unworkable. How do you deal with interruptions? How can we achieve our objectives while reducing the negative

effects of disruptions? How can we get back on track in a timely manner while making the most of our resources? These are the most important questions raised in the field of "disruption management."

According to history and recent events, corporate disruptions have their roots in technology innovation, with tentacles and manifestations that reach into world politics, ideologies, sociology, and the economy.

Technological Disruptions

Technological disruptions such as the Internet of Things and autonomous devices, enhanced analytical capabilities (artificial intelligence) and rich media (virtual and augmented reality) are creating smart environments that are transforming industry structures, processes and practices (Buhalis et al, 2019). As such disruptive technology is a technological innovation that causes disruption within a market or industry. Adoption of disruptive technologies often forces incumbent businesses to rethink their processes or adapt their business models to compete with new entrants. This phenomenon is referred to as technological disruption (Gavin, 2018).

When technologies or markets change, one of the most frequent phenomena in business is the failure of leading companies to stay at the top of their industry. Customers have remarkable power in directing a company's investments, despite the fact that most managers want to assume they are in charge. Managers must turn to their customers first before launching a technology, developing a product, building a facility, or establishing new distribution channels: Is it something that their customers want? What will the market size be? Is the investment going to pay off? The better managers ask and answer these questions, the better their investments will be aligned with their consumers' demands.

This brings to play the term "creative destruction". Creative destructions, as described by an Australian economist named Schumpeter Joseph in the 1940s, is the process through which technological development enhances the lives of many but at the expense of a smaller number of people. This is especially relevant in light of the shift to the industrial revolution, when machines were deployed to improve production processes while destroying the livelihoods of artisans and craftspeople.

While workers displaced by technology will see their industries eliminated, mainstream economic theory claims that the sectors that will replace them will produce new jobs for them to fill. Table 1. Below shows list of Technological Disruptions that have occurred in recent years.

Table 1. Examples from Industries Facing Disruptive Technology

DISRUPTIVE TECHNOLOGY	EFFECT
3D Printing Technology (also referred to as addictive technology)	This has resulted in a significant transformation in the way items are manufactured in industries ranging from aerospace to healthcare, with enormous prospects ahead. According to a report by management consulting firm A.T. Kearney, 3D printing's market value will triple in the next several years, rising from $8.8 billion in 2018 to more than $26 billion by 2021.
Travel websites such as www.wakanow.com, Konga Travel, Jumia Travel, Expedia.	They have eliminated the need for human travel agents.
Newspaper industry	Newspaper circulation has been progressively declining, with internet media and blogs taking their place. Computer software is increasingly being used to write news items, particularly local news and sporting event results.
Language Translators Software's like Google Translator and others.	The accuracy of language translation software's are improving, eliminating the need for human translators. It's the same with dictation and proofreading.
Online Booksellers like Amazon, Kindle etc.	Online bookstores have prompted brick-and-mortar bookstores to permanently close their doors. Publishers and printers are also being harmed by the capacity to self-publish and distribute e-books.

Drone Delivery Services	Drone technology has the potential to revolutionize goods delivery, and Amazon is working to make that a reality. Drones may also be used to replace pilots in a variety of professions, such as film, agricultural dusting, traffic monitoring, and law enforcement. Drones have been replacing jet pilots on several military missions for years.
Crypto Currency Transactions	Various intangible online legal tenders including Bitcoin, Ethereum, Litecoin, and XRP are increasingly being used in business transactions around the world.

Source: Compiled by Author

A corporation, regardless of industry, is made up of business units having finite lifespans: any company's technological and commercial foundations will eventually fade away. That cycle includes disruptive technology. Companies who understand this process can start new firms to replace the ones that will eventually die. To do so, firms must give disruptive innovation managers complete freedom to fulfil the technology's full potential, even if it means putting the mainstream business out of business. For the corporation to live, it must be willing to see business units die. If the corporation doesn't kill them off itself, competitors will (Joseph & Clayton, 1995).

Pandemic Disruption

The world has been referred to as a global village over the years, owing to the fact that brain tasking transactions may now be completed at the touch of a button from the most remote areas. Importing and exporting goods and services are no longer privileged activities. However, as fascinating as globalization has made our lives, there is a significant drawback to this trend: the importation and exportation of lethal and highly contagious diseases across international borders.

A pandemic can be described as an epidemic that spreads throughout an entire country, continent, or perhaps the globe. Pandemics have ravaged humanity throughout its existence, often changing the course of history, at times signalling the end of entire civilization (Jarus, 2020). Table 2. Below shows 20 of the worse pandemics, dating from pre-historic to modern times.

Table 2. History of Pandemics

S/N	ERA	DETAILS
1.	Prehistoric epidemic: Circa 3000 B.C.	About 5,000 years ago, an epidemic wiped out a prehistoric village in China. The bodies of the dead were stuffed inside a house that was later burned down. No age group was spared, as the skeletons of juveniles, young adults and middle-age people were found inside the house (Jarus, 2015)
2.	Plague of Athens: 430 B.C.	An illness plagued the population of Athens for five years around 430 B.C., not long after a conflict between Athens and Sparta began. According to some estimations, the death toll might be as high as 100,000 people.
3.	Antonine Plague: A.D. 165-180	Soldiers brought back more than the trophies of war when they returned to the Roman Empire after a campaign. The Antonine Plague, which may have been smallpox, wiped out the Roman army and killed around 5 million people across the empire.
4.	Plague of Cyprian: A.D. 250-271	Named after St. Cyprian, a bishop of Carthage (a city in Tunisia) who described the epidemic as signalling the end of the world, the Plague of Cyprian is estimated to have killed 5,000 people a day in Rome alone (Owen Jarus , 2014).
5.	Plague of Justinian: A.D. 541-542	The bubonic plague decimated the Byzantine Empire, signalling the beginning of its demise. After that, the epidemic reappeared on a regular basis. According to some estimations, up to 10% of the world's population died.
6.	The Black Death: 1346-1353	The Black Death travelled from Asia to Europe, leaving devastation in its wake. Some estimates suggest that it wiped out over half of Europe's population. It was caused by a strain of the bacterium *Yersinia pestis* that is likely extinct today and was spread by fleas on infected rodents (Winston, 2019).

7.	Cocoliztli epidemic: 1545-1548	The infection that caused the Cocoliztli epidemic was a form of viral haemorrhagic fever that killed 15 million inhabitants of Mexico and Central America. Among a population already weakened by extreme drought, the disease proved to be utterly catastrophic. "Cocoliztli" is the Aztec word for "pest." (Geggel, 2018)
8.	American Plagues: 16th century	The American Plagues are a collection of Eurasian diseases that European travellers introduced to the Americas. These diseases, particularly smallpox, had a role in the Inca and Aztec civilizations' demise. According to some estimations, the indigenous population of the Western Hemisphere was wiped off by 90 percent.
9.	Great Plague of London: 1665-1666	The last major epidemic of the Black Death in Great Britain resulted in a large flight from London, headed by King Charles II. The disease began in April 1665 and quickly spread over the summer months. One of the main modes of transmission was fleas from plague-infected rodents. By the time the plague was over, nearly 100,000 people had perished, including 15% of London's population.
10.	Great Plague of Marseille: 1720-1723	According to historical accounts, the Great Plague of Marseille began when the Grand-Saint-Antoine, a ship transporting commodities from the eastern Mediterranean, docked at Marseille, France. Despite the quarantine, plague spread throughout the city, most likely through fleas on plague-infected rodents.
11.	Russian plague: 1770-1772	The fear of quarantined civilians in plague-ravaged Moscow spilled into violence. Riots swept the city, culminating in the assassination of Archbishop Ambrosius, who had been pushing people not to congregate for church.
12.	Philadelphia yellow fever epidemic: 1793	When yellow fever swept through Philadelphia, the US capital at the time, officials incorrectly assumed that slaves were immune. As a result, abolitionists advocated for the recruitment of African-Americans to care for the sick. Mosquitoes, which carry and transmit the disease, suffered a population increase during Philadelphia's especially hot and humid summer that year. The pandemic didn't end until winter arrived, and the insects died out. More than 5,000 people had died at that time.
13.	Flu pandemic: 1889-1890	New transportation links make it easier for influenza viruses to wreak havoc in the modern industrial age. The disease spread over the globe in a matter of months, killing one million people. The outbreak reached its peak mortality in just five weeks. Russia was the first country to report cases. Despite the lack of air travel, the virus quickly spread throughout St. Petersburg before fast spreading throughout Europe and the rest of the world.
14.	American polio epidemic: 1916	In the United States, a polio outbreak that began in New York City resulted in 27,000 cases and 6,000 deaths. The disease primarily affects children, and survivors are occasionally left with long-term problems.
15.	Spanish Flu: 1918-1920	An estimated 500 million people from the South Seas to the North Pole fell victim to Spanish Flu. One-fifth of those died, with some indigenous communities pushed to the brink of extinction (Live Science , 2020).
16.	Asian Flu: 1957-1958	The Asian Flu pandemic was yet another global influenza outbreak. The sickness, which had its origins in China, took the lives of over a million people. The pandemic was triggered by a virus that was a mix of bird flu viruses.
17.	AIDS pandemic and epidemic: 1981-present day	AIDS has claimed an estimated 35 million lives since it was first identified. HIV, which is the virus that causes AIDS, likely developed from a chimpanzee virus that transferred to humans in West Africa in the 1920s. The virus made its way around the world, and AIDS was a pandemic by the late 20th century. Now, about 64% of the estimated 40 million living with human immunodeficiency virus (HIV) live in sub-Saharan Africa (Salamon, 2019).
18.	H1N1 Swine Flu pandemic: 2009-2010	The 2009 swine flu pandemic was caused by a new strain of H1N1 that originated in Mexico in the spring of 2009 before spreading to the rest of the world. In one year, the virus infected as many as 1.4 billion people across the globe and killed between 151,700 and 575,400 people, according to (Centre for Disease Control, 2019).
19.	West African Ebola epidemic: 2014-2016	Between 2014 and 2016, Ebola ravaged West Africa, with 28,600 cases reported and 11,325 deaths. Guinea was the first country to report a case in December 2013, and the sickness spread fast to Liberia and Sierra Leone.
20.	Zika Virus epidemic: 2015-present day	The long-term consequences of the recent Zika outbreak in South and Central America will not be known for several years. Meanwhile, scientists are in a race against the clock to contain the infection. The Zika virus is mainly conveyed by mosquitos belonging to the Aedes genus, but it can also be transferred sexually in people.

Source: Compiled by Author

Among many other successful trades in 2019, the Corona Virus of 2019 (COVID-19) spread from China to the rest of the world, causing a pandemic that brought the world to a halt. This pandemic has flustered the very core competence of HRM and challenged the roles of human resource managers to come up with new strategies that can help maintain or achieve a state of corporate sustainability.

The corona virus was first identified in China in December 2019 as a respiratory illness and was codenamed COVID-19 by the World Health Organization on February 11th, 2020. At the time of its outbreak, it did not appear to be much of a threat because China is millions or miles away from several other countries around the world, so most nations and businesses took little or no precautions (Amanawa, 2020). In 2007, scientists studying coronaviruses warned that the presence of a large reservoir of SARS-CoV–like viruses in horseshoe bats was a time bomb and that the possibility of the reemergence of SARS and other novel viruses should not be totally ignored (Cheng, Lau, Woo, & Yuen, 2007). Now, 12 years later, COVID-19 has emerged as the deadliest respiratory disease pandemic since 1918, when the "Spanish" influenza pandemic killed an estimated 50 million people (Taubenberger, 2019).

Entering the COVID-19 pandemic wreaked havoc on supply chains. Reacting to the pandemic and adaptation in the "new normal" has been a challenging task. Exiting the pandemic can lead to some after-shock effect such as "disruption tails". While the research community has undertaken considerable efforts to predict the pandemics impact and examine supply chain adaptive behaviors during the pandemic, little is known about supply chain management in the course of pandemic elimination and post-disruption recovery (Ivanov, 2021).

The COVID-19 outbreak has wreaked havoc like never before. The quantifiable consequences on health, the economy, travel, social contact, and nearly every aspect of life are enormous. There is no doubt that this is a deep crisis, with profound effects. As we speak estimations and extrapolations of what this means for the future of cities and societies takes on new heights (Jensen, 2021). However, it is very important to note that; in the wake of this disruption, the pandemic has created a burning platform for rapid, digital response. Business leaders see technology as a business asset, and they are increasingly involved in the execution of business digital transformation (IBM, 2021).

Implications for Conflict

From the standpoint of HRM, the shift in status quo as a result of technological and pandemic disruptions creates a lot of tension between stakeholders. Employees, employers, customers, and the government as a whole are all considered stakeholders. True, technology has an impact on all aspects of human operations; as a result, a manager must learn how society and the governing laws react to technological disruptions when they occur.

Let's take a look at reactions by the Nigerian Government on the issues bothering on the use of crypto currency. In the area of financial services, Ohiku (2017) declares that the rise of crypto-currency, or virtual currency, is a potential disruptor for banks and the financial industry in general. This digital currency allows participants to conduct and carry out transactions over the internet without the help and assistance of financial institutions, thereby disrupting the revenue that these institutions would normally receive. As this financial disruptor allows people to be their own banks, banks are likely to lose their relevance. The Central Bank of Nigeria (CBN), the country's top financial regulator, recently issued a circular prohibiting Deposit Money Banks (DBMs) and other financial institutions from operating any type of virtual currency (VC). In a statement by the CBN, "the development of VCs Payment Products and Services (VCPPS) and their interactions with other New Payment Produces and Services (NPPS), give rise to the need for guidance to protect the integrity of the Nigerian Financial systems".

Virtual currencies such as Bitcoin, Ripples, Monero, Litecoin, Dogecoin, Onecoin, and similar items are not legal tender in Nigeria, according to the central bank. In the instance of cryptocurrency, the CBN established the Nigeria Electronic Fraud Form (NEFF) to combat the scheme's threat. A circular was sent to commercial banks, soliciting nominations for the committee that will develop the regulations and guidelines that will guide Blockchain in Nigeria, as well as the operational framework for establishing a domestic Crypto-currency.

According to a World Health Organization (WHO) assessment, COVID-19 has interrupted access to basic health services in 90 percent of the 135 nations and territories evaluated. According to the report, little has changed since WHO released its first survey on the pandemic's impact on health care in August. The one bright side, according to the current survey, is that the volume and scope of health-care interruptions has decreased globally. Around 50% of key health services were disrupted in 2020, according to countries. According to the WHO, little over a third of services have been disrupted in the first three months of this year. WHO reports people in low- and middle-income countries experience the greatest difficulty in getting health care. The most frequently disrupted health services include routine immunization, treatment for mental disorders, cancer screening and treatment, family planning and contraception, and urgent dental care (Schlein, 2021).

Conclusion

It is clear at this moment that technological and pandemic disruptions have become entwined in the veins of human progress. This is because the former disruption can be controlled and doctored to fit the market's needs, whilst the latter forces many businesses to adjust to the realities of the day.

Thales Teixeira in his growth strategy article titled "Disruption starts with unhappy customers, not technology" stated that:

> *"For eight years I've visited leading companies in more than 20 industries around the world that claimed to be in the process of being disrupted. Each time, I'd ask the executives of these incumbent companies the same question: "What is disrupting your business?" No matter who I talked to, I would always get one of two answers: "Technology X is disrupting our business" or "Startup Y is disrupting our business." But my latest research and analysis reveals flaws in that thinking. It is customers who are driving the disruption. In the common scenario that executives think technology is trying to disrupt their business, they try to find a way to develop that technology internally or buy it from others. Major auto companies like GM and Ford are a good example: they have spent billions to buy and then build electric and autonomous driving technologies. If the disruption threat is coming from a startup, then the incumbent often tries to acquire it — if the valuation is low enough. They can also try to compete with the startup on price, as a means to block their advance. In most cases I have seen, neither of these responses worked as intended"* (Teixeira, 2019).

Managers of established businesses can excel at mastering disruptive technologies. However, some fail not because they make the wrong decisions, but because they make the right decisions for circumstances that are about to become history when they try to develop and launch a disruptive technology that is rejected by important customers within the context of the mainstream business's financial demands.

References

Amanawa, D. (2020). *Corporate Social Responsibility and Organizational Sustainability.* Port Harcourt, Rivers State: Ignatius Ajuru University of Education (IAUOE).

Buhalis, D., Harwood, T., Bogicevic, V., Viglia, G., Beldona, S., & Hofacker, C. (2019). Technological disruptions in services: lessons from tourism and hospitality. *Journal of Service Management*, *30*(4), 484-506. https://doi.org/10.1108/josm-12-2018-0398

Centre for Disease Control. (2019). *2009 H1N1 Pandemic (H1N1pdm09 virus)*. Retrieved August 2, 2020, from CDC: https://www.cdc.gov/flu/pandemic-resources/2009-h1n1-pandemic.html

Cheng, Lau, Woo, & Yuen. (2007). Severe acute respiratory syndrome coronavirus as an agent of emerging and reemerging infection. *Clin Microbiol Review, 20:*, 660–694.

Dictionary.com. (2021). *Definition of disruption | Dictionary.com*. www.dictionary.com. Retrieved 22 June 2021, from https://www.dictionary.com/browse/disruption#.

Gavin, M. (2018). *3 Top Examples of Disruptive Technology | HBS Online*. Business Insights - Blog. Retrieved 22 June 2021, from https://online.hbs.edu/blog/post/disruptive-technology-examples.

Hayes, A. (2019). *App-apocalypse! 20 Industries Disrupted by New Tech*. Investopedia. Retrieved 18 June 2021, from https://www.investopedia.com/articles/investing/020615/20-industries-threatened-tech-disruption.asp.

IBM. (2021). *Digital Transformation* [Video]. https://www.techrepublic.com/google-amp/resource-library/whitepapers/the-pandemic-disruption-demands-a-digital-response/.

Ivanov, D. (2021). Exiting the COVID-19 pandemic: after-shock risks and avoidance of disruption tails in supply chains. *Annals of Operations Research*. https://doi.org/10.1007/s10479-021-04047-7

Jarus, O. (2015, July 2015). *Gruesome Find: 100 Bodies Stuffed into Ancient House*. Retrieved August 2, 2020, from Live Science: https://www.livescience.com/51662-100-bodies-found-prehistoric-house.html

Jensen, O. (2021). Pandemic disruption, extended bodies, and elastic situations - Reflections on COVID-19 and Mobilities. *Mobilities*, *16*(1), 66-80. https://doi.org/10.1080/17450101.2021.1867296

Joseph, L., & Clayton, M. (1995). *Disruptive Technologies: Catching the Wave*. Harvard Business Review. Retrieved 21 June 2021, from https://hbr.org/1995/01/disruptive-technologies-catching-the-wave.

Laura Geggel. (2018, January 18). *Mystery Solved: Here's What Caused a Massive Epidemic in Colonial Mexico*. Retrieved Agust 2, 2020, from Live Science: https://www.livescience.com/61472-salmonella-colonial-outbreak.html

Live Science . (2020, March 12). *Spanish flu: The deadliest pandemic in history*. Retrieved August 2, 2020, from Live SCience: https://www.livescience.com/spanish-flu.html

Maureen Salamon. (2019, May 31). *AIDS & HIV: Symptoms, Treatment and Prevention*. Retrieved August 2, 2020, from Live Science: https://www.livescience.com/34699-hiv-aids-symptoms-treament-prevention.html

Ohiku, U. (2017). *Disruptive technologies & Nigeria's regulatory response – Businessday NG*. Businessday.ng. Retrieved 24 June 2021, from https://businessday.ng/analysis/article/disruptive-technologies-nigerias-regulatory-response/amp/.

Owen Jarus . (2014, June 16). *Remains of 'End of the World' Epidemic Found in Ancient Egypt*. Retrieved august 2, 2020, from Live Science: https://www.livescience.com/46335-remains-of-ancient-egypt-epidemic-found.html

Panetta, K. (2019). *CIOs need to establish themselves as "disruptor CIOs" and willfully disrupt their organizations and industries.* Smarter with Gartner. Retrieved 21 June 2021, from https://www.gartner.com/smarterwithgartner/7-disruptions-you-might-not-see-coming/.

Schlein, L. (2021). *WHO Links COVID Pandemic, Disruption of Health Services*. Voice of America. Retrieved 24 June 2021, from https://www.voanews.com/covid-19-pandemic/who-links-covid-pandemic-disruption-health-services?amp.

Shalini, L. (2020). *HRM Functions: Top 10 functions of an HRM*. Olxpeople Blog. Retrieved 23 June 2021, from https://www.olxpeople.com/blog/hrm-functions/amp/.

SpriggHR. (2020). *5 Business Disruption Examples and Key Takeaways • SpriggHR*. SpriggHR. Retrieved 22 June 2021, from https://sprigghr.com/blog/alignment-direction/5-business-disruption-examples-and-key-takeaways/#:~:text=What%20is%20Business%20Disruption%3F&text=When%20it%20comes%20to%20business,replace%20industry%20incumbents%20over%20time.

Taubenberger, J. K. (2019). The 1918 influenza pandemic: 100 years of questions answered and unanswered. *Sci Transl Med 11:*, eeaau5485.

Teixeira, T. (2019). *Disruption Starts with Unhappy Customers, Not Technology*. Harvard Business Review. Retrieved 23 June 2021, from https://hbr.org/amp/2019/06/disruption-starts-with-unhappy-customers-not-technology.

Winston Black. (2019, December 12). *What Was the Black Death?* Retrieved August 2, 2020, from Live Science: https://www.livescience.com/what-was-the-black-death.html

Yu, G., & Qi, X. (2004). Disruption Management: Framework, Models, and Application. https://doi.org/10.1142/5632