Fundamentals of a Virtual Company
What is Required to Survive on the Market?

Master's Thesis

Word Count: 24,908

submitted to

Prof. Dr. Anne Jakob

accadis Hochschule Bad Homburg

Am Weidenring 4

61352 Bad Homburg v.d. Höhe

submitted by

Carlos McCrary

Homburger Landstraße 77

60435 Frankfurt am Main

+49 (0) 157 320-22644

carlos.mccrary@accadis.net

Student ID: 114317

Table of Contents

List of Abbreviations

AOL	America Online
BCG	Boston Consulting Group
CD	Compact Disc
CERN	European Organization for Nuclear Research
CO	Carbon Monoxide
COVID-19	Coronavirus Disease 2019
EY	Ernst and Young
FMC	Fresenius Medical Care
GDP	Gross Domestic Product
GUI	Graphical User Interface
ICT	Information and Communications Technologies
IaaS	Infrastructure as a Service
Inc.	Incorporated
IPO	Initial Public Offering
ISO	International Organization for Standardization
ISP	Internet Service Provider
LLC	Limited Liability Company
O*NET	Occupational Information Network
NCC	Netscape Communications Corporation
NO_2	Nitrous Oxide
OS	Operating System
PaaS	Platform as a Service
PESTEL	Political/Economic/Sociocultural/Technological/Environmental/Legal
PPE	Personal Protective Equipment
PC	Personal Computer
SaaS	Software as a Service
SSL	Secure Sockets Layer
STR	Smith Travel Research
UK	United Kingdom
US	United States of America
USP	Unique Selling Proposition
VPN	Virtual Private Network
WFA	Work from Anywhere
WHO	World Health Organization
WWW	World Wide Web

List of Figures

List of Tables

Executive Summary

The development of the internet and internet companies have changed the way in which consumers and businesses behave and operate. Due to the rapid development of technology, especially since the 1980s, consumers have been provided the opportunity to communicate and interact in a more engaging and feasible way. In the beginning, the internet was a luxury. Nowadays, especially in western society, the internet has become so common that many cannot imagine living without it.

The creation of the World Wide Web was pivotal in increasing the connection between consumers and businesses. The web browser was a revolutionary historical creation and the increased offerings of broadband from Internet Service Providers aided in connecting internet users and businesses on a large scale. These technological advancements eventually translated into new internet companies such as those related to e-commerce and search engine advertising resulting in the creation of business models portraying that connecting with customers in a physical way was no longer mandatory for every business. As a result, it was possible for companies to earn revenue exclusively online.

The idea of virtual companies, those companies that have no physical contact with customers at minimum, was further accelerated by the global coronavirus pandemic and the resulting governmental restrictions enacted in 2020. These restrictions were in the form of lockdowns and social distancing measures to prevent the spread of this deadly virus. As a result, this led to numerous individuals being forced to stay at home and various businesses being forced to close due to the physical nature of its operations. Many internet companies, and especially virtual companies, were not as severely affected by the COVID-19 restrictions in many cases since these companies' infrastructures were already in place to continue operations with minimal disruption. However, a significant number of traditional brick-and-mortar companies were forced to make significant adjustments and either receive government aid or search for new and creative ways to earn revenue. To keep operations running, remote working options were commonly implemented by companies worldwide increasing the virtual nature of business as a whole.

The results of COVID-19 were not only a change in customer expectations and behavior, but also a change in employees' preferences on how work is conducted. The world has proven that it is not completely necessary for all employees to physically

work on-site for some companies to function. However, the question is whether this idea of 'distance working' is a sustainable working structure long-term. This master's thesis focused on the Work from Anywhere (WFA) model for virtual companies where the idea of virtuality extends to the workforce as employees are not forced to work at a company's physical location. This model was provided to gain an understanding of the extreme level of a virtual company and to gain an understanding of its advantages and challenges, but more importantly its success factors.

The challenges of virtual companies include communication, company culture, employee onboarding and development, managing productivity, work/life balance, managing technology, and regional and cross border considerations. Using the current literature and conducted interviews from the researcher, it appears that the challenges of a virtual company with a WFA model can be addressed. However, it appears that the point of company culture is crucial for companies that use a WFA model. Maintaining and building relationships is important in every company but is especially important for employees in virtual companies with a WFA model due to the lack of day-to-day physical contact. There are solutions for these companies to keep employees motivated and satisfied with work such as the use of communication tools and online events, but the lack of physical contact cannot be ignored completely. Physical contact in the form of unregular physical meetings was often suggested as being a highly important factor in keeping employees integrated with the company culture long-term and aiding in overall company success. The other relevant success factors for virtual companies with a WFA model are not much different from traditional companies. These factors relate to the business model, the unique value proposition of the products and services offered, company leadership, proper communication, and work satisfaction.

The Advantages of a virtual company with a WFA model include lower overall costs, a larger hiring pool, better flexibility, work satisfaction, and environmental friendliness. In the Work from Anywhere section, an explanation of which companies are better fit for virtual companies is presented showing that the best candidates are those with employees who have a high importance of computer usage on the job and minimal importance of physical presence. Many virtual companies are already successfully using this model and numerous companies are transitioning to a WFA model for its employees due to the COVID-19 pandemic and the positive impact that the implementation of this model has on the organization.

1   Introduction

1.1   Problem Statement

"Done using computer technology over the internet, and not involving people physically going somewhere."[1]

This is one of the definitions that the Cambridge Dictionary contains for the term *virtual*. Globally, trends denote that computer usage within households is increasing yearly,[2] internet usage among individuals is on the rise,[3] the collective e-commerce market is growing at an exponential rate,[4] and the digitalization of money is growing faster than many could have ever imagined.[5] The world is witnessing a revolutionary test as government precautions to keep the world functioning during the COVID-19 (coronavirus disease 2019) pandemic have essentially forced many businesses to adapt and extend remote working possibilities to employees.[6] As a result, it is not a secret that the world is increasingly becoming virtual.

This test of digitalization is subjectively positive. The majority of those working remotely desire to keep that option for the remainder of their career,[7] and despite COVID-19, customers are being "exposed to [the] best-in-class experiences and offerings across industries and around the globe".[8] In addition, optimism regarding the recovery during and after the results of the pandemic is increasing.[9] In particular, these facts open up a possible opportunity for companies regarding whether or not scaling back physical presence completely is an option. Scaling back the physical aspect of business has brought companies several benefits that may not have been previously considered.[10] As a result, a significant number of entities are making the

---

[1]   Cambridge University Press 2021.

[2]   See Appendix 7.6, p. 120.

[3]   See Appendix 7.6, p. 121.

[4]   See Appendix 7.6, p. 124.

[5]   Cf. Dans 2019.

[6]   Cf. Chakravorti/Chaturvedi 2020.

[7]   See Appendix 7.7, p. 124.

[8]   Hajro et al. 2021.

[9]   Cf. Roubini 2021.

[10]   Cf. Courtney 2021.

transition to long-term remote work for employees.[11] Depending on the degree of re-mote realization, some companies do not even enforce the use of a physical head-quarters for its employees and as a result are considered 100% virtual.[12]

Although the review of the functionality of remote work from employers and employ-ees generally tends to be positive,[13] the question remains as to whether managing company and employee expectations in a virtual company is sustainable. Therefore, this master's thesis will focus on answering the following research question:

What are the success factors for a virtual company?

1.2   Research Approach

The aim of this research paper was to find out what is necessary for a company to succeed, especially through a virtual workforce. As the term *virtual* is constantly evolv-ing, the term *virtual company* is defined so that the reader can understand the per-spective of the provided research. This definition is followed by a short portrayal of the remote working models for the operations of virtual companies based on the var-ious degrees of remote working options available. Following this, a brief history of internet companies is provided to give an understanding of how the development of virtual companies has become possible. The COVID-19 pandemic and its impact on society is then examined to give a background on how the world's arguably most expansive digital test has changed the way in which consumers behave. This is por-trayed with a PESTEL analysis demonstrating this impact on consumers, but also portraying the impact on various types of companies and the reactions as a result. The suitable and unsuitable industries and job roles for virtual companies using a Work from Anywhere (WFA) model is then presented before briefly demonstrating the stages that companies follow during the transition. Finally, the advantages of compa-nies using a WFA model is provided followed by the challenges.

To determine the possible solutions to the challenges of virtual companies using a WFA model, the researcher's conducted interviews in addition to relevant literature and studies were used. These interviews were conducted not only to include addi-

---

[11] Cf. Courtney 2021.

[12] Cf. Howington 2018.

[13] Cf. Owl Labs 2021.

tional empirical evidence from employees working in companies operating in the virtual realm, but also to provide additional information regarding industries, businesses, products, services, advantages, challenges, success factors, and survival aspects related to virtual companies with a WFA model that may not be present in current literature. In addition, the conducted interviews provide an informed perspective on the current status of virtual companies with a WFA model as well as provide a future expectation for companies of this type.

1.3   Master's Thesis Limitations

Due to the various business models of virtual companies, this master's thesis is somewhat lenient toward a focus on the virtual workforce. This includes companies that not only have an all-remote workforce but also companies that operate under a remote-first working model for all of its employees. In addition, some interviews were submitted as written questionnaires and not conducted physically due to the impact of COVID-19 and to gain a significant number of responses. This research was also conducted with a focus on the western world with many examples rooted from the United States of America (US) especially since much of the world's digital history comes from the US and the US is essentially a hub for virtual and digital innovation. Finally, much of this research was conducted through online sources as this is an ever-changing topic and public library access was not feasible especially during the initial stages of writing due to COVID-19 restrictions.

2 Virtual Company Defined

2.1 Definition

The current literature is inconsistent with a definition for the term *virtual company*; therefore, to better understand the issue, a definition for the purposes of this master's thesis is provided. The word *virtual* can be understood as "occurring or existing primarily online".[14] The word *company* can be defined as "an association of persons for carrying on a commercial or industrial enterprise".[15]

As a result, the following definition of a virtual company has been chosen:

"A virtual business is one that focuses on its digital capabilities to scale back its physical presence. While virtual businesses are united in their efforts to move work online, they all retain different levels of physical operations. In the most extreme example, all employees work virtually, and the 'headquarters' is wherever the CEO lives. In less extreme examples, virtual businesses may still have a headquarters where employees work, or they may have a warehouse where employees prepare packages to ship to customers. At a bare minimum, virtual businesses are defined by the lack of a physical location where customers can interact with the company face-to-face."[16]

Therefore, the stipulations for a virtual company are:

1. Focus on digital capabilities with the aim of scaling back physical presence.
2. Various levels of physical operations.
3. No physical customer interaction with the company.
4. **Least Extreme:** all employees work at the company's physical location.
5. **Most Extreme:** no employees work at the company's physical location.

---

[14] Merriam-Webster 2021.

[15] Merriam-Webster 2021.

[16] Ward 2020.

Degrees of Remote Realization for Virtual Companies

By definition, a company offering remote working options for its employees is not necessarily regarded as a virtual company. Remote work is generally understood as employees working from home; however, it could also be considered as employees working from coffee shops or coworking spaces, for example.[17] Fresenius Medical Care (FMC), a company known for its kidney dialysis services, is an example of a company that currently offers varying degrees of remote work for its employees.[18] Nevertheless, this company is not considered a virtual company because the patients must generally be physically present with FMC staff to obtain kidney dialysis services. Likewise, virtual companies do not necessarily offer employees the ability to work remotely. Yahoo is an example of a virtual company that in 2013 decided to ban its employees from working from home.[19] This decision was based on the idea that working in a physical office would increase productivity and create an improved company culture.[20] Thus, Yahoo would be considered a virtual company, but the expectation of employees to physically be present on site for work was still existent.

It appears that the majority of companies are likely to continue or increase offering certain types of employees remote working options in the future and thus these companies are assisting in accelerating the trend toward a virtual future.[21] According to Boston Consulting Group's (BCG) recent Workplace of the Future survey, "overall, companies expect approximately 40% of employees to utilize a remote working model in the future"[22] and "thirty-seven percent of companies expect that more than 25% of employees will work in hybrid models that combine remote and onsite work."[23] BCG portrays several degrees of remote realization for virtual companies as follows:

- Fully Collocated
- Alternating On-Site
- On-Site On-Demand
- Connected Remote
- **Work from Anywhere**

---

[17] Cf. Angelucci et al. 2020.

[18] Cf. Fresenius Medical Care 2020.

[19] Cf. Arthur 2013.

[20] Cf. Goudreau 2013.

[21] Cf. Lund et al. 2020.

[22] Kaufman et al. 2020, p. 1.

[23] Kaufman et al. 2020, p. 1.

Degree of Remote Realization

Fully Collocated	Alternating On-Site	On-Site On-Demand	Connected Remote	Work from Anywhere
0	25-50	50-75	90-95	100
Employees in this model are on site 100% of the time	Employees in this model alternate days or weeks on site for collaboration within and/or across functions	Employees in this model go into the office only on designated days for collaboration	Employees in this model reside within three hours of the office to enable once-a-month attendance for affiliation or other purposes	Employees in this model can reside anywhere and have no requirements to ever go into the office

Hybrid

% of remote work

Fig. 1: Multiple Hybrid Models for the Workplace of the Future[24]

Naturally, virtual companies offering employees remote working options do not all share the same remote-working structure. This will be dependent on each company's business model. As a result, there is not a consensus on the perfect working model for virtual companies offering remote work to its employees, but various remote working models offer varying degrees of demanded on-site appearance as well as various demands on work schedule.

To analyze the extreme case for virtual companies, this master's thesis focuses on companies that use the *Work from Anywhere* degree of remote realization which will be further described in subchapter 2.4. However, because virtual companies are essentially internet companies, and the government restrictions due to COVID-19 have essentially forced many companies (traditional or virtual) to scale back physical presence for customers and employees, the following two chapters will portray how this topic has become increasingly relevant.

2.2 Internet Companies and Technological Advancements

If history is an indicator of the future, digital technology will continue to play an important role in the day-to-day of businesses and consumers.[25] At present, the average computer user may not even recognize every computer in a vicinity. Personal com-

---

[24] Recreated Figure Cf. Kaufman et al. 2020, p. 4.

[25] Cf. Lee 2001.

puters (PC), such as laptops and desktops, generally come to mind when most individuals think of the word *computer*.[26] However, cell phones, Automated Teller Machines, and washing machines are, or contain, computers within as well.[27] The computer and the internet are technological inventions that were pivotal in determining how society and businesses run today. That is why the creation of companies basing business models on the use of the internet was inevitable.

The PC category was created by computer hobbyists Steve Jobs, Steve Wozniak, and Bill Gates.[28] It must be noted that PCs were not always user-friendly for the average person. The command line was generally used to control the functionality of a computer which was difficult to navigate for those without a technical background.[29] This changed with the invention of the GUI (Graphical User Interface) in the 1980s where non-tech-savvy computer users were able to navigate through the Operating System (OS).[30] However, PCs were still not commonly used by the public at this time as in 1990 less than half of US adults were users.[31] What brought computers to mainstream use was the invention of the Internet.[32]

The World Wide Web (WWW) was invented by British scientist Tim Berners-Lee in 1989 while working at the European Organization for Nuclear Research (CERN).[33] While it is often confused with the internet itself, the web is the most common means of accessing data on the internet in the form of websites and hyperlinks.[34] More importantly, the web browser, "software that allows a computer user to find and view information on the Internet", was crucial in integrating the masses online.[35] Although the WorldWideWeb web browser was created around the same time as the WWW, it was essentially encouraged for developers to create more advanced web browsers.[36] As a result, browsers like the Lynx browser and the ViolaWWW browser were created by students at various universities.[37] Marc Andreesen, along with other University of

---

[26]   Cf. Goodwill Community Foundation 2021.

[27]   Cf. Techopedia 2021.

[28]   Cf. McCullough 2018, p. 2.

[29]   Cf. McCullough 2018, p. 2.

[30]   Cf. Powell 1997.

[31]   Cf. Fox/Rainie 2014.

[32]   Cf. McCullough 2018, p. 3.

[33]   Cf. CERN 2021.

[34]   Cf. Andrews 2019.

[35]   Gregersen 2021.

[36]   Cf. McCullough 2018, p. 11.

[37]   Cf. McCullough 2018, p. 11-12.

Illinois at Urbana-Champaign students, created the Mosaic web browser as one of the original web browsers to gain popularity.[38] This eventually led to the pivotal founding of Netscape Communications Corporation (NCC) with James Clark. When Clark left Silicon Graphics to start NCC, he recruited Marc Andreessen and relevant University of Illinois classmates to develop an even newer web browser eventually called Netscape Navigator.[39] Making the internet more vibrant through the use of images and videos, it made web browsing more useful through the popular integration of pointing and clicking.[40] Additions like these were initially frowned upon by the WWW's creator Tim Berners-Lee when Andreesen made similar additions to the Mosaic browser; however, these additions were popular to the less tech-savvy internet user.[41]

An internet company is defined as "an organization that presents itself to the general public primarily via a website…. Although most companies have a website no matter what business they are in, the term implies that the predominant way people obtain products or services is online."[42] Technically speaking, the first company to officially run a business on a '.com' domain was Symbolics.[43] Nevertheless, the first web company was Netscape and are therefore considered the first true internet company.[44] The beginning of the Internet era was triggered by Netscape's Initial Public Offering (IPO) in 1995.[45] Web browsers meant the option of reducing the use of CDs (Compact Discs) and floppy disks and offered the ability to download software directly from the web.[46] In addition, the creation of SSL (Secure Sockets Layer) encryption technology within the Netscape Navigator web browser ensured secured interactions online which also led to ecommerce activities.[47] Netscape monetized its business by offering a beta version of its browser for free; however, the standard version was $39 and this left the company increasingly vulnerable to competition.[48] Netscape initially dominated the browser market but Microsoft, as the leading software company, was determined to gain market share. Therefore, Microsoft ultimately launched its OS, Windows

---

[38] Cf. McCullough 2018, p. 14.

[39] Cf. Lewis 1999, p. 104.

[40] Cf. Blitz 2019.

[41] Cf. McCullough 2018, p. 15-16.

[42] PCMag 2021.

[43] Cf. Schupak 2015.

[44] Cf. McCullough 2018, p. 14.

[45] Cf. McCullough 2018, p. 8.

[46] Cf. McCullough 2018, p. 23.

[47] Cf. McCullough 2018, p. 26.

[48] Cf. McCullough 2018, p. 26.

95, with its own web browser, Internet Explorer, included within free of charge.[49] As a result, Netscape Navigator (relying heavily on brand and first-mover advantage) and Internet Explorer were browsers that dominated in the 1990s.[50] Microsoft ultimately won this battle, however, and ultimately dominated market share.[51] Although in the coming years various popular web browsers were to follow (such as Safari and Google Chrome), Netscape Navigator paved the way for individuals to consume and create content using the WWW.[52] As a result, these web browsers also created a new standard which enhanced many businesses, but especially internet businesses.

Before an internet user could use one of these web browsers, an Internet Service Provider (ISP) was needed to log on to the internet. Naturally, Microsoft wanted market share in this business as well and created the Microsoft Network to compete with online service providers such as Prodigy, CompuServe, and especially America Online (AOL).[53] AOL is arguably the most popular of the early ISPs.[54] At the time, dial-up, invented in 1992, was the main source of connectivity, and these ISPs made it increasingly common for the average PC user to connect.[55] The user needed to load AOL's client and the client dialed through a modem and a phone line.[56] To connect to these online services, the modem would call a local number so no one could use the phone to make calls at the same time.[57] Online services were not just a way to connect to the internet; however, online forums, software libraries, chatrooms, and especially email were being offered by these ISPs. AOL was not the first ISP, but it became dominant because it created a community, was user friendly, and focused on Windows users who were the vast majority of those connecting.[58] "For millions of Americans, their aol.com address was their first experience with email, and thus, their first introduction to the myriad of ways that networked computing could change their lives."[59] These online services were not permanent in success. It appears that users developed the urge to connect to the internet and not be limited to content provided

---

[49] Cf. Jowitt 2016.

[50] Cf. Jowitt 2016.

[51] Cf. Jowitt 2016.

[52] Cf. McCullough 2018, p. 43.

[53] Cf. McCullough 2018, p. 53.

[54] Cf. Internet Service Providers 2011.

[55] Cf. Plusnet 2021.

[56] Cf. Farquhar 2018.

[57] Cf. Vaughan-Nichols 2015.

[58] Cf. McCullough 2018, p. 57.

[59] McCullough 2018, p. 59.

from the ISPs. The WWW and web browsers created the opportunity for users to gather information and be entertained wherever a website was created.[60]

This trend created an explosion of companies conducting business on the web. The list of companies creating websites was rising exponentially.[61] The website offered by The Bureau of Labor Statistics provided data on labor markets and customers were able to track packages before the internet was even mainstream.[62] Many companies were looking to monetize on this explosion of growth. As a result, advertising online quickly became a popular way to gain revenue. It was the Global Network Navigator created by Tim O'Reilly in 1993 that published the first online advertisement that was clickable.[63] However, these ads were only text-based, hyperlinked ads. Modem Media and Organic (two advertising and digital design firms hired by HotWired) can be credited for creating the first banner ads that appeared more like magazine-styled advertisements.[64] HotWired capitalized on these ads as the metrics were more easily calculated than billboard, radio, or other ad types.[65] The development of cookies even allowed advertisers to target specific internet users based on browser history. "Cookies are text files with small pieces of data — like a username and password — that are used to identify your computer as you use a computer network."[66] By being able to measure click-through rate (frequency of clicks per view) and impressions (total views), companies were able to truly measure return on investment. "In the age of ecommerce, advertisers could even measure clicks that led directly to a sale."[67]

Websites were growing at an exponential rate as the popularity of the WWW and web browsers grew.[68] However, in its early stages it was still difficult to find websites without some sort of prior physical reference or by simply clicking through links. This explains why word of mouth marketing and advertising were important factors of finding websites before search engines existed. When Jerry Yang and David Filo, two Ph. D. students at Stanford, started gathering and posting a list of websites found on the web, a directory was created where visitors could more easily search and find useful

---

[60]   Cf. McCullough 2018, p. 59.

[61]   Cf. Internet Live Stats 2021.

[62]   Cf. McCullough 2018, p. 71.

[63]   Cf. Norman 1993.

[64]   Cf. McCullough 2018, p. 77.

[65]   Cf. McCullough 2018, p. 80.

[66]   Kapersky 2021.

[67]   McCullough 2018, p. 81.

[68]   Cf. Gray 1996.

information.[69] This eventually led to another internet company called Yahoo!. Although venture capitalist firm Sequoia invested $1 million for one-fourth of this venture, the revenue model was still being developed as the creators believed that search engines needed to be free to function.[70] However, like many internet companies at the time, Yahoo relied on advertising (digital and traditional) to create revenue.[71]

Due to technological developments and increase in trust from consumers, internet companies have become increasingly credible since the 1990s. Although the dot-com crash of the Nasdaq in 2000 showed that previous large sums of investments in internet companies at the time were unsustainable, internet companies at present are continuing to thrive. This is portrayed by the billions of dollars invested into present-day internet companies by institutional and retail investors. Fig. 2 and Tab. 1 show the largest internet companies by market capitalization as of February 2021.
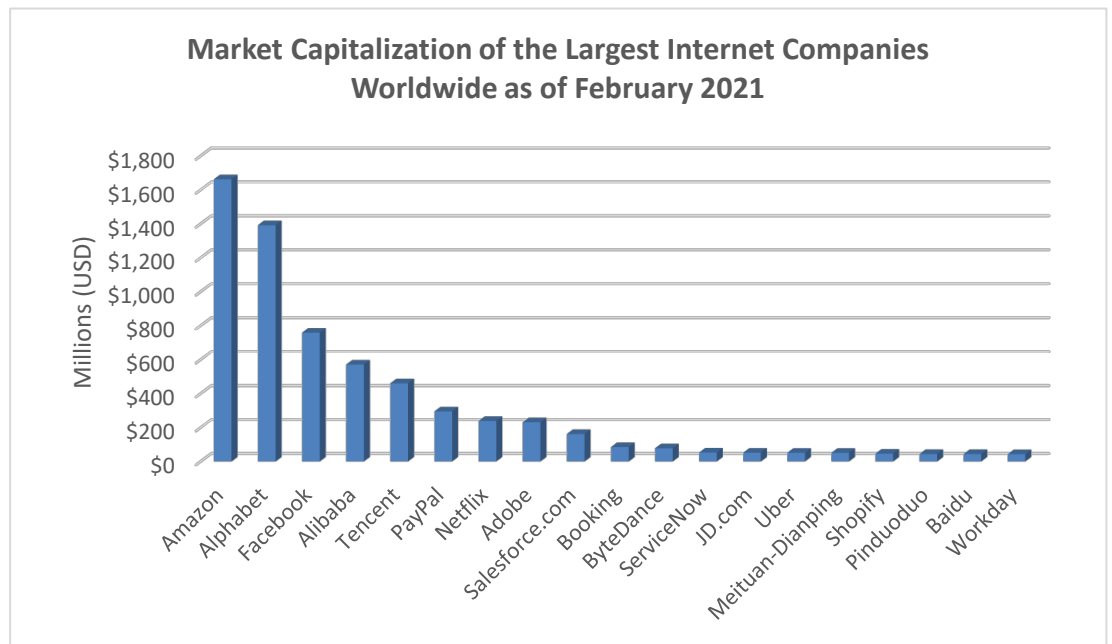
Fig. 2: Market Capitalization of the Largest Internet Companies Worldwide as of February 2021[72]

---

[69]   Cf. McCullough 2018, p. 85.

[70]   Cf. McCullough 2018, p. 85.

[71]   Cf. McCullough 2018, p. 89.

[72]   Recreated Figure Cf. Clement 2021.

Tab. 1: Largest Internet Companies Worldwide by Market Capitalization February 2021[73]

Company	Market Cap	Country	Industry
Amazon	$1.662 trillion	US	Internet Retail
Alphabet	$1.392 trillion	US	Internet Content & Information
Facebook	$759 billion	US	Internet Content & Information
Alibaba	$571 billion	China	Internet Retails
Tencent	$461 billion	China	Internet Content & Information
PayPal	$295 billion	US	Financial Services
Netflix	$239 billion	US	Entertainment
Adobe	$231 billion	US	Entertainment
Salesforce.com	$162 billion	US	Software—Application
Booking	$85 billion	US	Travel Services
ByteDance	$78 billion	China	Internet Content & Information
ServiceNow	$53 billion	US	Software—Application
JD.com	$52 billion	China	Internet Retail
Uber	$51 billion	US	Software—Application
Meituan	$51 billion	China	Internet Retail
Shopify	$46 billion	Canada	Software—Application
Pinduoduo	$44 billion	China	Internet Retail
Baidu	$44 billion	China	Internet Content & Information
Workday	$43 billion	US	Software—Application

Since the history of internet companies comes primarily from the US, the following sections will examine the top five US Internet companies by market capitalization (Amazon, Alphabet, Facebook, PayPal, and Netflix). These five companies are not all virtual companies with a WFA model, but each company is an example of companies that have scaled back the physical nature of its business and therefore can be used as examples of companies with business models that include significant virtual aspects.

Amazon.com, Inc.

On July 5, 1995, Amazon was officially incorporated.[74] The founder, Jeff Bezos, on a mission to create The Everything Store, niched down and started Amazon with the aim of selling books online.[75] The use of the internet was still unfamiliar to many and

---

[73] Recreated Table Cf. Clement 2021.

[74] Cf. Lebowitz 2019.

[75] Cf. Easter/Dave 2017.

thus were not confident in making transactions through websites. However, the book industry was $10 billion in the US in 1994 and books were a safer bet when attempting to sell products online.[76] The quality of books does not change significantly when bought online or offline and Amazon could offer thousands of more books than a physical bookstore since it did not hold much inventory.[77] At its beginning, Amazon was located in a garage in the suburbs of Seattle.[78] As an online store that shipped books from Washington, this company could sell to customers in multiple states without having a physical location in these areas. In addition, the need to charge or pay sales tax in these additional states was not mandatory.[79] This was a unique advantage because its competitors were bookstores (Borders and Barnes and Noble) that were paying sales tax in each of the states where the books were physically sold. Thus, Amazon was able to offer lower prices to customers through its online platform, have high margins, and ship books directly. "When a customer searched for a book, Amazon ordered the title itself, took delivery of it temporarily, and then turned around and shipped it to the customer."[80] Around this time, Amazon also added the review system to its website which is popular to date.[81] Although understandably not liked by the authors, this built trust for consumers using the website. If others wrote positive reviews and had a positive experience, then the user considering a purchase may also be likely to have a positive experience as well. In addition, Amazon pioneered the virtual shopping cart, so customers did not have to proceed to checkout after a desired book was found.[82] This is a standard that is still used today and ecommerce platform providing companies like BigCommerce automatically add these functions within the provided ecommerce store templates.[83] Amazon also introduced the recommendation algorithm which aims to predict customer preferences based on other customers' previous decisions.[84] This development is not only present in ecommerce, companies like Netflix and Spotify also use these services for their platforms to help guide users to continue having a positive user experience on the respective platforms.[85]

---

[76] Cf. Mohammad 2019, p. 10.

[77] Cf. Mohammad 2019, p. 10.

[78] Cf. Huddleston Jr 2021.

[79] Cf. Kim 2018.

[80] McCullough 2018, p. 98.

[81] Cf. Masters 2021.

[82] Cf. McCullough 2018, p.100.

[83] Cf. BigCommerce 2021.

[84] Cf. Hardesty 2019.

[85] Cf. McCullough 2018, p. 100-101.

As demonstrated, Amazon was not the first ecommerce store but made significant innovations in what are considered standards in ecommerce today. Bezos proved that physical presence is helpful but is not a must to provide a positive user experience. In fact, Howard Schulz, the CEO of Starbucks, once offered Amazon the ability to offer products in its physical stores and Bezos responded by stating that physical presence was not necessary.[86] This portrays the confidence Jeff Bezos had in the future of business conducted over the internet. The eventual and continued success of Amazon led traditional companies to create strategies to compete. In particular, Click and mortar strategies by physical retail stores have become common. "Click and mortar, also known as 'click and bricks', is a type of business model that incorporates both online and offline channels, usually combining a website and a physical store."[87] It must be noted that Amazon actually has physical locations; therefore, it is not a virtual company neither in its most extreme nor least extreme sense.[88] However, Amazon eventually went on to become the largest ecommerce store in the country by market capitalization and has changed the way in which commerce is conducted.[89]

Tab. 2: Top Ecommerce Companies by Market Cap[90]

Rank	Name	Market Cap	Country
1	Amazon	$1.834 Trillion	USA
2	Alibaba	$580.58 Billion	China
3	Shopify	$196.54 Billion	Canada
4	Sea (Garena)	$154.07 Billion	Singapore
5	Pinduoduo	$131.54 Billion	China
6	Jingdong Mall	$118.34 Billion	China
7	MercadoLibre	$79.32 Billion	Argentina
8	Coupang	$66.80 Billion	South Korea
9	JD Health	$41.38 Billion	China
10	Chewy	$35.17 Billion	USA

Google LLC

Today, Alphabet is the holding company of its largest brand, Google.[91] Although Yahoo essentially pioneered the search engine, Google arguably perfected it. One of

---

[86] Cf. Stone 2013, p. 54.

[87] Debitoor 2021.

[88] Cf. Amazon 2021.

[89] Cf. Companies Market Cap 2021.

[90] Recreated Table Cf. Companies Market Cap 2021.

[91] Cf. Zenger 2015.

Google's co-founders, Larry Page, noticed that the web was built on links. As a result, the curiosity was whether analyzing links pointing to other links could map out the entire web.[92] Google's aim was to create something based on the idea of citation. In research, "the most cited papers were understood to be the most authoritative".[93] Web links were like digital references and by analyzing the number of links pointing to a web page, one could theoretically determine its value and rank them accordingly.[94] Google uses a term called 'spiders' to essentially search for all the its web's pages.[95] This would create an encyclopedia of data and the web pages that have more 'important links' linked to them would be determined more valuable than similar web pages with less important links.[96] Previous search engines, like Yahoo, seemed to negate relevancy as a key factor to search which is why similar search engines were not as useful as Google eventually was.[97]

Google's business model is based on online advertising. In fact, "more than 80% of Alphabet's revenue comes from Google ads, which generated $147 billion in revenue last year".[98] After gaining a significant amount of daily web traffic, it could invite companies to advertise on Google's platform at an undeniably beneficial price. Advertisers could view if online advertisements were converting and could view data to determine how to improve upon existing online ad campaigns. Because Google integrated Quality Score for these ads, meaning that the ads were based on relevancy to the user and not the amount of money paid by the advertiser, this business model was a win for Google, the advertising companies, and most importantly the consumers.

---

[92] Cf. McCullough 2018, p. 184.

[93] McCullough 2018, p. 184-185.

[94] Cf. McCullough 2018, p. 185.

[95] Cf. McCullough 2018, p. 185.

[96] Cf. McCullough 2018, p. 185.

[97] Cf. McCullough 2018, p. 185.

[98] Graham/Elisa 2021.

Advertising Revenue of Google from 2001 to 2020
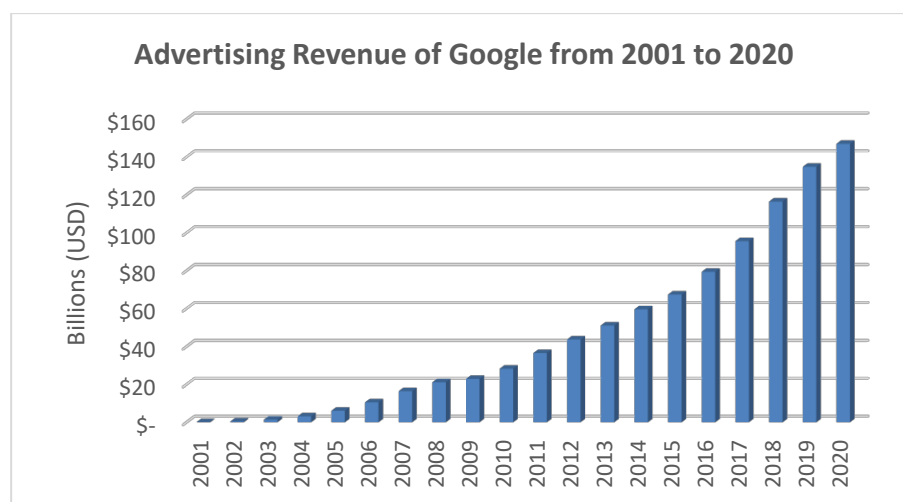
Fig. 3: Advertising Revenue of Google from 2001 to 2020[99]

The addition of YouTube to this business model was a perfect fit. "On October 9, 2006, Google announce that it was purchasing YouTube for $1.65 billion in stock."[100] Today, Google is the number one search engine in the world in terms of traffic. The second largest search engine in the world is YouTube. Video is growing at a significant pace and "by 2022, online videos will make up more than 82% of all consumer internet traffic — 15 times higher than it was in 2017".[101] The invention of smartphones made statistics like this this possible. Now internet users have access to the web in many locations. With infinite knowledge at the fingertips of users, Google is controlling the world of search for many users on this planet.

Like Amazon, Google is not entirely a virtual company. "In 2011, Google opened its first store in the UK to promote Chromecast, Chromebooks, and Nexus devices."[102] In its early years, it would have been considered virtual by definition; however, today Google has hardware products such as "Pixel phones, Nest smarthome gadgets, Fitbits, and assorted other devices".[103] Regardless, the development of Google's search engines has helped many companies establish their business models as relevant companies can now be found through internet search and online advertising. In addition, Google still has many virtual aspects that virtual companies can use as a reference when conducting its respective operations.

---

[99] Recreated Figure Cf. Johnson 2021.

[100] McCullough 2018, p. 256.

[101] McCue 2020.

[102] JBC & Associates 2020.

[103] Bohn 2021.

Facebook, Inc.

Social Media have changed the way in which consumers and businesses interact with each other. Facebook (originally 'The Facebook') was founded in 2004 by Mark Zuckerberg.[104] At the time, this newly launched social media platform created this idea of validity in that every user was a student and was therefore a confirmation of identity. Facebook began as a place of connection for Harvard and eventually grew by adding numerous college campuses to its network which created a sense of exclusivity. Not being able to compete as world leader with this strategy, Facebook eventually expanded to anyone who wishes to create an account. Social media companies competing with Facebook for attention in its early stages were YouTube and Myspace. It was not until 2007 that Facebook surpassed Myspace in terms of the number of users and overtook YouTube's users count by 2010.[105] Today, Facebook is the social media platform with the most active users with 2.85 billion in May 2021.[106]
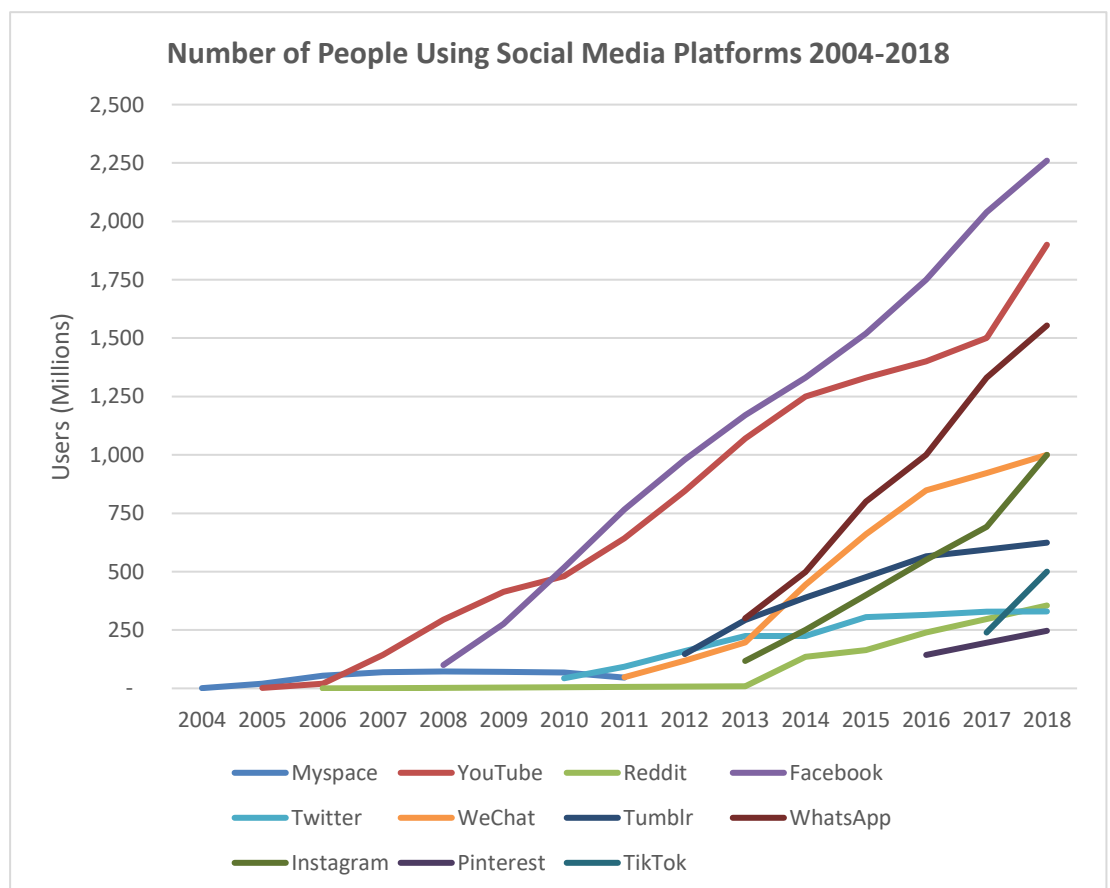
Fig. 4: Number of People Using Social Media Platforms 2004-2018[107]

---

[104] Cf. Barrabi 2020.

[105] Cf. Roser/Ritchie/Ortiz-Ospina 2019.

[106] Cf. Tankovska 2021.

[107] Recreated Figure Cf. Roser/Ritchie/Ortiz-Ospina 2019.
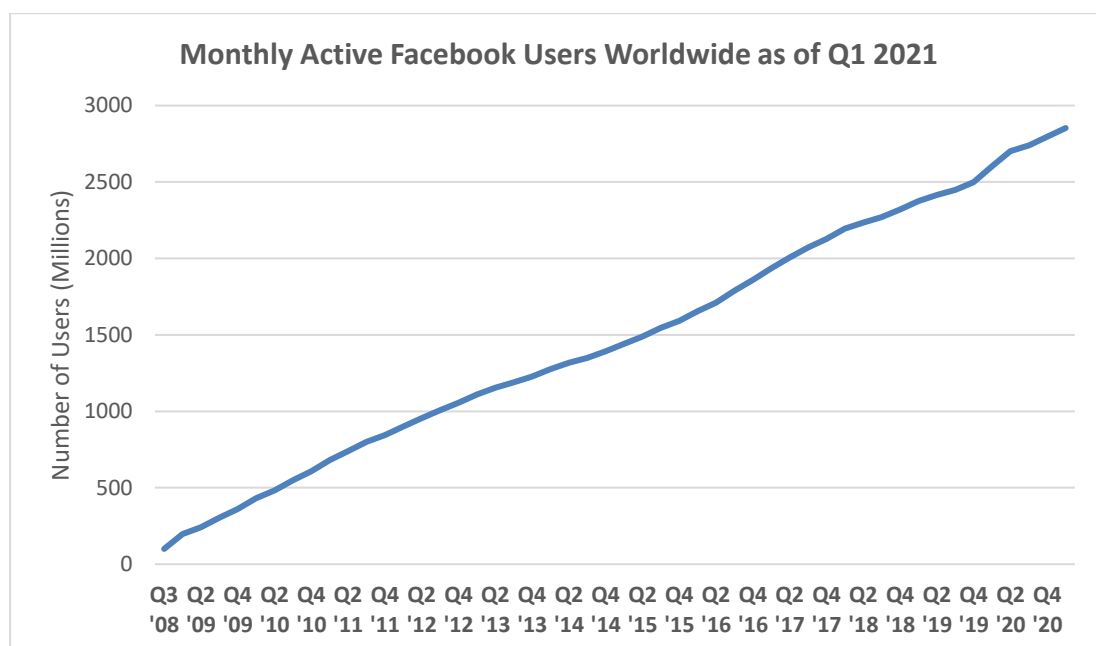
Fig. 5: Monthly Active Facebook Users Worldwide as of Q1 2021[108]

Like Google, Facebook generates most of its revenue through online advertising. In fact, according to Facebook's Annual Report, around 98% of the company's revenue in 2020 came from advertising.[109] Facebook success comes from the fact that it uses users' data to help companies make informed decisions when advertising on its platform. As a social media website, Facebook is about community and user engagement.[110] Users on Facebook willingly add information such as real names, gender, relationship status, and personal interests which is beneficial for companies looking to advertise to customers in relevant target markets.[111] This is a win-win for customers and advertisers because customers see relevant and, hopefully, less annoying advertisements and advertisers have access to an efficient method of targeting relevant customers.

Facebook is a virtual company but not a virtual company with a WFA model. The users are essentially the product, and the advertisers are the customers. The advertisers pay Facebook for the right to advertise on its platform and this is often on a cost-per-click or cost per 1,000 views basis. Facebook is continuing to grow and has acquired competitors such as WhatsApp and Instagram along its way.[112]

---

[108] Recreated Figure Cf. Tankovska 2021.

[109] Cf. Securities and Exchange Comission 2021.

[110] Cf. McCullough 2018, p. 293.

[111] Cf. McCullough 2018, p. 286.

[112] Cf. Shead 2019.

PayPal Holdings, Inc.

Making payments has changed significantly since the development of the internet. Technically, the first financial institution to extend internet banking to its customers was Stanford Federal Credit Union.[113] However, once consumers and sellers started conducting transactions freely online with each other, there was a need for innovation. Besides Amazon, eBay was a significant player in the ecommerce space in the early stages of internet companies. eBay, unlike Amazon, functioned on an auction system with the idea that a price is to be determined by the value that someone would be willing to pay for an item. eBay was one of the first internet companies to operate with a platform business model. A platform business creates value by offering a platform for interactions between sellers and consumers through supply and demand.[114] However, the transactions created on eBay's platform in its early stages, were generally made by checks per mail or by specific arrangements made between those selling and buying.

PayPal was created in 1999 as Confinity by Peter Thiel and Max Levchin and was a solution to this issue.[115] What made PayPal innovative was that it used users' email addresses to conduct transactions. At the time, checks and money orders were over 90% of transactions on eBay.[116] PayPal essentially made it easier for buyers and sellers to trust that deals would be conducted properly. In its early stages, Confinity's (PayPal's) competitor was X.com, a next-generation suite of banking and financial services that would be entirely virtual.[117] However, in 2000, X.com and Confinity merged to create today's known company PayPal.[118] Although PayPal was free at the beginning, it was still cheaper than traditional credit card companies when it initially started charging customers per transaction.[119] Being an intermediary proved to be a successful business model for PayPal and for many companies to come.

PayPal is also a virtual company. As no brick-and-mortar stores are currently established, it conducts its business online without physical customer interaction. PayPal has achieved this by creating a sense of trust. With PayPal, customers can make

---

[113] Cf. Sarreal 2019.

[114] Cf. Cuofano 2020.

[115] Cf. Richter 2018.

[116] Cf. Warner 2001

[117] Cf. McCullough 2018, p. 223.

[118] Cf. McCullough 2018, p. 223.

[119] Cf. McCullough 2018, p. 223.

transactions online without entering their official bank account information. Instead, customers can feel more comfortable by using the appropriate PayPal account to make transactions and thus avoid providing credit card details to companies when uncertain about how that information may be handled in the future.

Netflix, Inc.

Like PayPal and Facebook, Netflix was founded with the idea that physical presence is not mandatory to run a successful business. Netflix was founded in 1997 by Reed Hasting and Marc Randolph with the idea that digital versatile discs (DVDs) could be rented out without customers needing to physically go to a brick-and-mortar location.[120] Unlike Amazon, Netflix's overall aim was to be the global leader in video rentals as opposed to the global leader in everything.[121] As a dot-com company, Netflix officially launched its website, Netflix.com, with the aim of renting out DVDs by mail.[122] Customers essentially were able to rent DVDs through Netflix's website and Netflix would send the selected title to the appropriate address. Accordingly, customers would need to send DVDs back to Netflix once finished with watching these titles.[123] This was a change from traditional video stores like Blockbuster who were renting out DVDs to customers who had to physically pick up movies from physical locations and also had to return the titles as well. This was an issue as often Blockbuster did not actually have desired titles in stock and if one was too busy to make a return, late fees could pile up as well. This was a competitive advantage for Netflix as in 1999, Netflix offered its "subscription service debuts, offering members unlimited DVD rentals without due dates, late fees, or monthly rental limits".[124]

For internet companies (and for any successful business for that matter) it is important to adhere to the customer's needs. For Netflix this was not any less true. With the Internet Era emerged the demand for unlimited selection and nearly instant gratification.[125] A typical brick and mortar store could not offer this with its limited selection in its physical stores whereas Netflix could hold nearly unlimited titles having no fixed

---

[120] Cf. Netflix 2021.

[121] Cf. McCullough 2018, p. 217.

[122] Cf. Netflix 2021.

[123] Cf. McFadden 2020.

[124] Netflix 2021.

[125] Cf. McCullough 2018, p. 218.

physical location for storage.[126] As mentioned with Amazon, Netflix eventually integrated a recommendation algorithm for its users in the year 2000. This system used member ratings and users previously purchased DVDs to predict what members may be interested in purchasing next. This was significant especially when Netflix introduced online video streaming in 2007. With this addition, Netflix became even more virtual since the shipment of DVDs was reduced and returning DVDs by the customer became less necessary. As a result, Netflix, like PayPal and Facebook, is a virtual company. Netflix does not offer the ability for customers to physically go to a select location for customer support. With its options for viewing popular titles at any time without having to physically visit a retail store, Netflix changed the preference of where people desire to watch movies.[127]

Technological Advancements

Innovations in technology continually lead toward better and more efficient options for businesses and consumers. It is difficult to argue that without the development of ICT (Information and Communications Technology) that the idea of virtual companies would even be possible. Regardless of the dot-com bubble and the resulting caution of investments into internet companies, "the Internet Era created an infrastructure and economic foundation that would allow the Internet to mature".[128] With the increasingly economical cost of broadband and with more users connecting to the web, conducting virtual business is a reality. The increase in internet speeds, or broadband speeds, has shown how much the internet infrastructure has developed and the fact that prices have been reduced lets its usage become more common.[129]

---

[126] Cf. Chopra/Veeraiyan 2012, p. 3-4.

[127] See Appendix 7.7, p. 125.

[128] McCullough 2018, p. 180.

[129] Cf. The Internet & Television Association 2017.
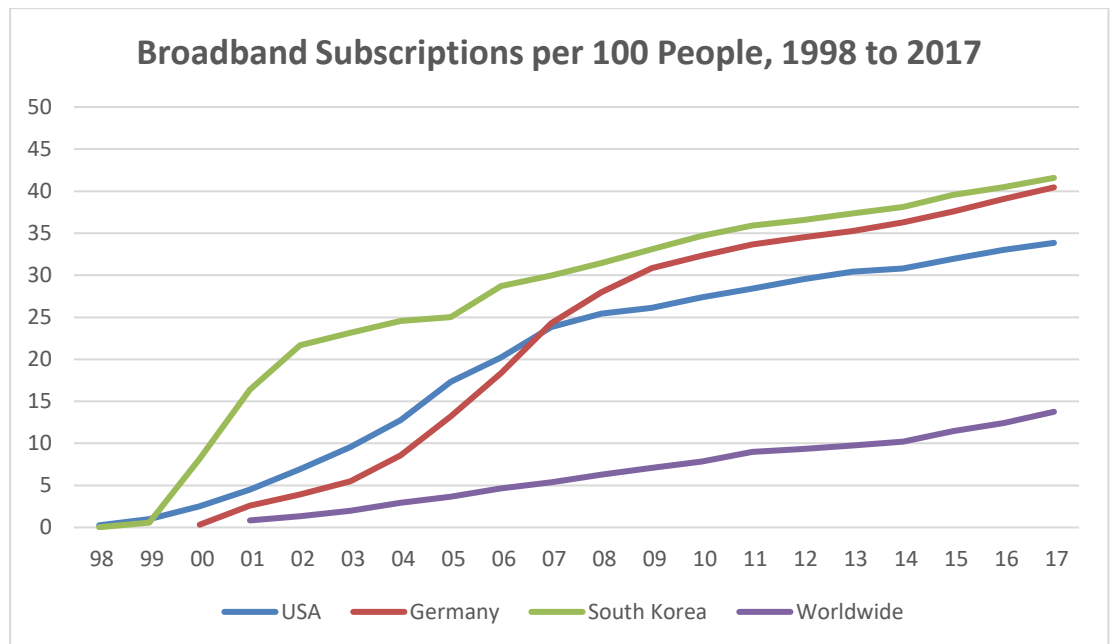
Fig. 6: Broadband Subscriptions per 100 People, 1998 to 2017[130]

The rise of the internet was an opportunity for low-barrier growth and therefore many businesses could not refuse to participate. "Businesses realized that the more data they were able to collect, the more it informed their actions. As if overnight, major businesses started to digitize their data. Away went the file cabinets and dossiers, in favor of file archives and spreadsheets."[131] Along with the internet came many additions that made business internally and externally for customers possible. In the early 2000s, Apple, Microsoft, and Logitech began designing and selling webcams to the masses.[132] With the establishment of video conferencing companies like Skype, users with the proper setup could connect face-to-face virtually from any location with broadband and a webcam.[133] Eventually, webcams were built into computers which made connecting with others at a distance even more feasible. In addition to video conferencing, interactive screen sharing software has been integrated into various programs with video conferencing functionality to aid in workplace collaboration.[134] This is a not only a must for companies operating in various locations locally and internationally, but within virtual companies, video web meetings are crucial.[135]

---

[130] Recreated Figure Cf. Roser/Ritchie/Ortiz-Ospina 2019.

[131] Kanell 2021.

[132] Cf. Devaney 2021.

[133] Cf. Cowling 2016.

[134] Cf. Condeco 2021.

[135] Cf. Microsoft 365 Team 2021.

The development of cloud computing software has also made virtual work sustainable. Cloud computing paved the way for users to save and store files.[136] This is useful for employees to work together on projects and have a shared space where files can be accessed. Cloud computing became popular in the mid-1990s and market share in this virtual environment was eventually dominated by Google and Microsoft.[137] Generally speaking, with cloud computing comes pay-as-you-go pricing.[138] "Instead of buying, owning, and maintaining physical data centers and servers, you can access technology services, such as computing power, storage, and databases, on an as-needed basis from a cloud provider."[139] The most popular models for cloud computing are PaaS (Platform as a Service), SaaS (Software as a Service), and IaaS (Infrastructure as a Service).[140]

Finally, the invention of the smart phone was pivotal in making the internet a necessity rather than a luxury. Internet browsing was possible in the 1990s, but it was the invention of the Apple iPhone that changed the way in which humanity interacts worldwide.[141] In developed nations, the availability of Wi-Fi is expected. This is beneficial to both businesses and consumers. For businesses, this means the ability to reach customers around the clock regardless of whether the consumer is on a PC or not. For consumers, this also means that information is available to make informed decisions about purchases and additional desires.

Internet companies like Amazon and eBay are still successful today, but since the dotcom bubble, various companies like Airbnb, Fiverr, and Uber have come to the market and use the internet extensively for its platform business models.[142] The fact that these platform internet companies do not even own physical inventory for customers shows that virtual companies, especially those using these models, indeed have a chance at survival. However, regardless of the business model, internet companies can thrive since internet users are continuing to be connected everywhere. In fact, internet users are increasing rapidly as first-time internet users are growing at a pace of about 27,000 every hour.[143] Virtual or non-virtual, if consumers need to find

---

[136] Cf. Strickland 2021.

[137] Cf. Scality 2020.

[138] Cf. Amazon Web Services 2021.

[139] Amazon Web Services 2021.

[140] Cf. Scality 2020.

[141] Cf.Leswing 2019.

[142] Cf. Moazed 2016.

[143] Cf. Roser/Ritchie/Ortiz-Ospina 2019.

businesses, and if businesses need to find consumers to portray unique value prop-
ositions, no longer is this only possible in a physical, untargeted way.

2.3 COVID-19 Impact on Consumers and Businesses

The reasons as to why many companies are increasing the virtual aspects of arguably
already successful business models are numerous. However, it must be noted that
the effects of the COVID-19 pandemic on society have accelerated the execution to
the question of virtuality. On March 11, 2020, Mr. Tedros Adhanom Ghebreyesus, the
Director-General of the World Health Organization (WHO) announced that COVID-19
was officially a pandemic.[144] First reported in December of 2019 from an office worker
in Wuhan, China, this disease has had a more significant effect on the world's popu-
lation than many could have even begun to imagine.[145] As a result of this virus, there
have been hundreds of millions of cases and millions of deaths reported at the time
of this writing.[146]
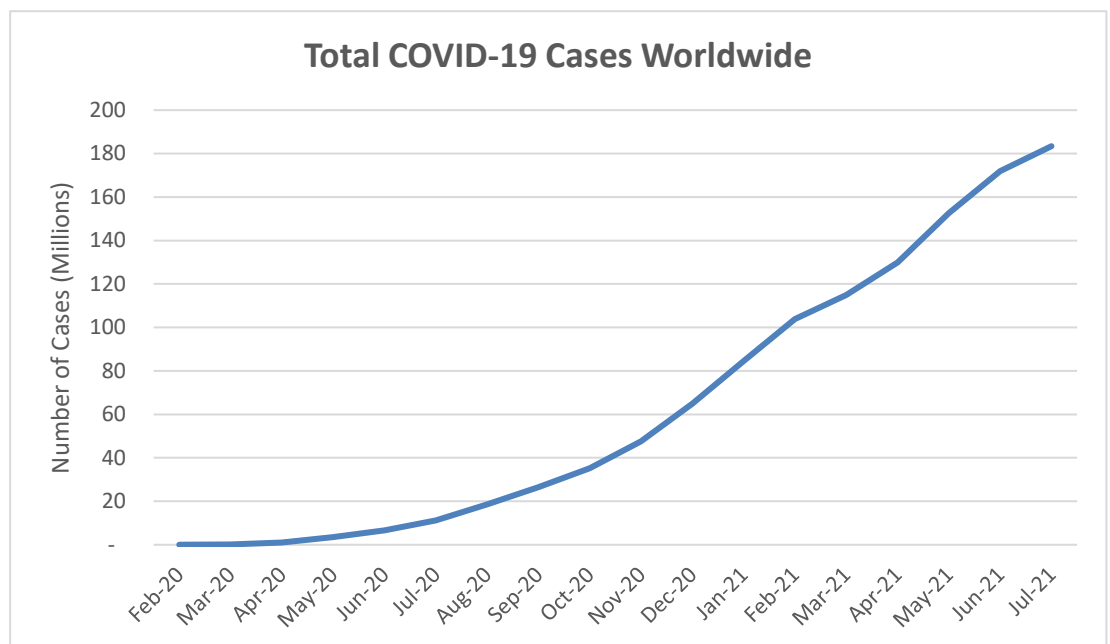
Fig. 7: Total COVID-19 Cases Worldwide[147]

---

[144] Cf. World Health Organization 2020.

[145] Cf. Mallapaty 2021.

[146] Cf. Worldometer 2021.

[147] Recreated Figure Cf. Worldometer 2021.
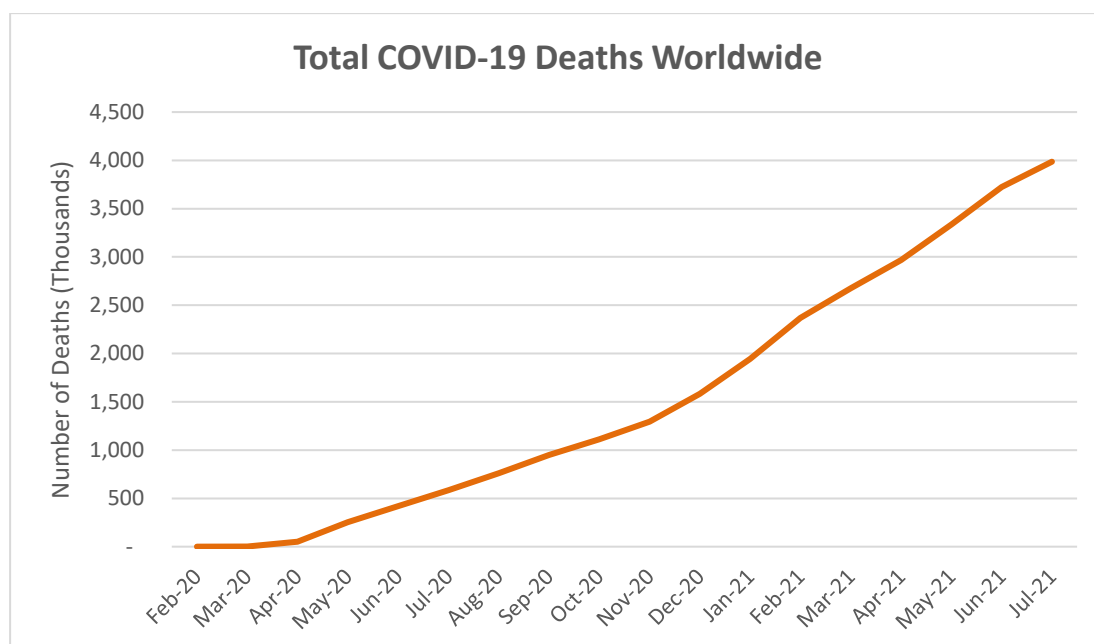
Fig. 8: Total COVID-19 Deaths Worldwide[148]

During the initial stages of the eventually declared pandemic, China quickly decided to quarantine its citizens in Wuhan and Huanggang from the rest of society resulting in a lockdown of approximately 18 million residents.[149] The entire Hubei province was on total lockdown and domestic and international travel was strictly controlled.[150] Fast-forward to early April 2020, a population of over 3.9 billion in more than 90 countries were on some sort of mandatory lockdowns from their respective governments.[151] Lockdowns may be effective in preventing the spread of a deadly virus but do not negate an important factor for many adults living on this planet: *one must somehow earn an income to survive*.

To understand COVID-19's impact on society, and to better understand how this virus has affected consumers and business, the following PESTEL (Political, Economic, Social, Technological, Environmental, Legal) Analysis has been provided.[152] This analysis provides a better understanding of the current macroenvironment.

---

[148] Recreated Figure Cf. Worldometer 2021.

[149] Cf. AJMC 2021.

[150] Cf. Barua 2020.

[151] Cf. Fahey 2020.

[152] Cf. Huber 2016, p. 67.

2.3.1 Political

Once it was clear that COVID-19 was a serious threat to the world population, political leaders were forced to make difficult but arguably necessary decisions. This disease is unfamiliar to the world and therefore many are unable to easily cope with or even survive its symptoms. Although many who contract the virus have symptoms like a mild flu, others may have symptoms such as a fever, cough, tiredness and difficulty breathing.[153] Generally speaking, this virus is contracted when an uninfected person breathes or swallows droplets from a contracted person who coughs or sneezes; however, the virus has also been proven to live on surfaces and contact with the virus from these surfaces can cause one to become infected.[154]

Because of the rising number of cases, and as a result a rising number of deaths, politicians around the globe were faced with the task of placing containment measures on society. Healthcare systems were becoming overwhelmed due to the virus and putting controls in place were meant to reduce this burden so that more individuals could be properly treated.[155] In addition, the race for a cure was necessary as the quicker that a cure is found, fewer individuals would need to visit hospitals and fewer individuals would die from the disease. As a result, the more individuals who become immune to the disease, the quicker a society can achieve herd immunity. "Herd immunity occurs when a large portion of a community (the herd) becomes immune to a disease, making the spread of disease from person to person unlikely."[156]

In the early stages of pandemic, developed nations were leading the globe in the number of cases and deaths which questions public health systems and political leadership whereas countries such as South Korea, Australia, and New Zealand had significantly fewer changes to the flow of society.[157] One notable measure imposed by governments was closing country borders. The closing of borders portrays that the threat is from outside of a country. This has an effect of making a country more nationalistic and reduces the opportunities for globalization.[158] This is a concern because tackling this pandemic, and post-pandemic society, will require global collaboration to

---

[153] Cf. Singh/Singh 2020, p. 168.

[154] Cf. Pathak 2021.

[155] Cf. Guan et al. 2020, p. 577.

[156] Mayo Clinic 2021.

[157] Cf. Sharma et al. 2020, p. 190.

[158] Cf. Donthu/Gustafsson 2020, p. 286.

tackle future challenges.[159] However, these measures are not necessarily viewed negatively as 'doing something' is better than 'doing nothing' as protecting the citizens of a country are a government's priority. As an aid to these border shutdown decisions, the Centers for Disease Control and Prevention "issued its highest-level travel alerts for Italy, Iran, South Korea, and China, also advising other countries to restrict travel in these places for the moment".[160]

There will always be political risk and uncertainty for governments but in order to attempt to improve or protect society, decisions are made constantly. Smaller businesses may not assess certain types of uncertainty and risks such as a pandemic; however, governments are responsible for protecting its citizens and business, especially essential businesses, when attempting to create a better and functioning society for everyone. As a result, programs by public health managers and politicians have been set to aid in this manner.[161] For example, in the US, these have programs have been launched following each health crisis during the last 20 years.[162] However, "programs were defunded, staff was allowed to depart, and Washington forgot the stark lessons it had just learned".[163]

2.3.2 Economic

Protecting the health of citizens is a major priority for governments worldwide, but without human capital, the world cannot continue to function. Broadly speaking, COVID-19 has inadvertently affected financial markets and the global economy by affecting global communities, businesses, and organizations.[164] Due to governmental border shutdowns and preventative lockdowns of citizens, supply chains were affected accordingly.[165] In fact, in late 2020 a survey of 200 senior-level supply chain executive conducted by Ernst and Young (EY) provides additional insight as to how the supply chain was affected by COVID-19. As a result of this EY survey, it was determined that 2% of managers were completely prepared for the pandemic and 57% of all respondents felt that COVID-19 created serious disruptions in its company's supply chain as well as 72% of those 57% reporting that it had a negative

---

[159] Cf. Donthu/Gustafsson 2020, p. 286.

[160] Singh/Singh 2020, p. 169.

[161] Cf. Sharma et al. 2020, p. 190.

[162] Cf. Sharma et al. 2020, p. 190.

[163] Diamond 2020.

[164] Cf. Nicola et al. 2020, p.187.

[165] Cf. Nicola et al. 2020, p.187.

effect.[166] Due to lockdowns and the rising number of cases of respective citizens as well as quarantine regulations, many employees were not able to work. Therefore, many gaps in the supply chain were evident and employers needed to find creative ways to deliver products and services. The fact that trade became less free created a serious effect on the global economy to the point of near de-globalization as "almost all global business activities either temporarily shut down or significantly slowed, including global supply chains, international passenger and cargo traffic, manufacturing and commercial services, hospitality, tourism and education".[167]. As a result, the expectation for GDP (gross domestic product) growth has been significantly altered.[168]
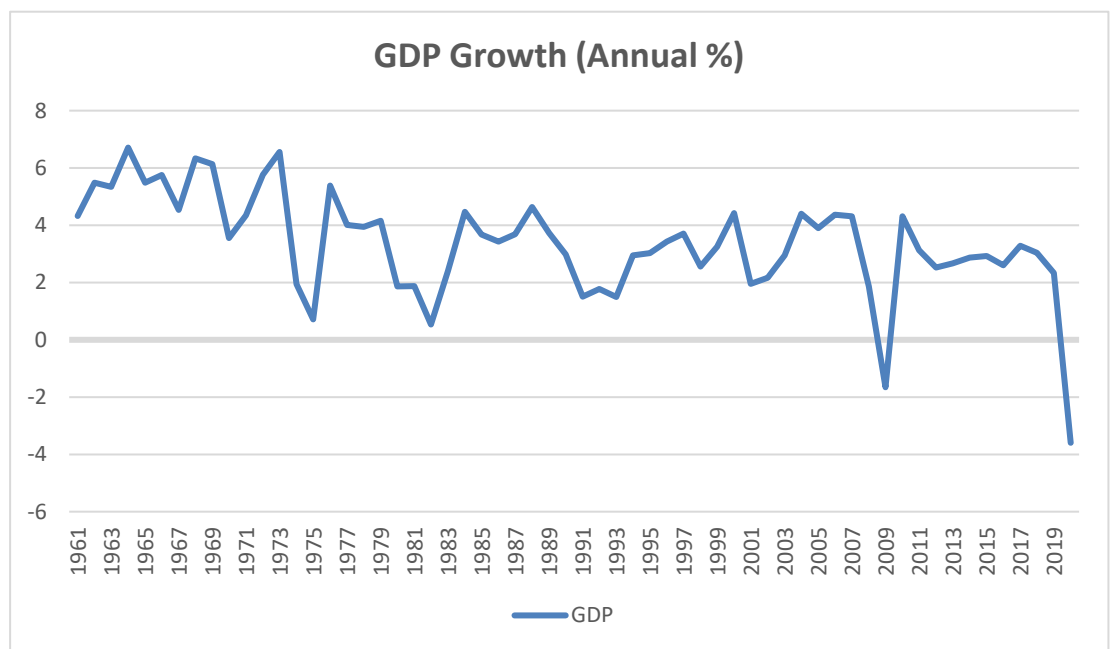
Fig. 9: GDP Growth (Annual %)[169]

Travel, food, agriculture, and retail chains were also affected by COVID-19. Some of these sectors were seriously affected by government restrictions but due to the internet and widespread access to information (whether accurate or not), many have becoming fearful of interacting with industries where physical contact may be necessary.[170] Businesses such as cafes, restaurants, and hair salons were forced to shut down due to their physical contact with customers by design.[171] As a result, many governments provided qualified businesses with the option of grants and loans to

---

[166] Cf. Harapko 2021.

[167] Barua 2020, p. 188-189.

[168] Cf. The World Bank 2020.

[169] Recreated Figure Cf. The World Bank 2020.

[170] Cf. Evans 2020, p. 7.

[171] Cf. Allure Magazine 2021.

continue business. For example, in the US, the Paycheck Protection Program was created to help businesses pay employees throughout the pandemic.[172] However, not every company has this luxury. Many startups, especially near the early stages of the pandemic, were putting a hold on hiring.[173] Many countries are attempting to stimulate its economies by keeping as much of the infrastructure in place so that citizen can remain productive or so that once pandemic restrictions start to ease, citizens can find employment or return to work as soon as possible.[174] Regardless of this fact, employees were losing jobs at accelerating rates near the beginning of the pandemic. Due to lack of demand, the highest rates of unemployment were those in sectors where physical presence was necessary.[175] This is also an issue as job experience will be lost as well as competition for job positions may be higher once returning.[176] Overall, furloughing or laying off employees was inevitable.[177] According to the Congressional Research Service Report, in March 2020 in the US, the unemployment rate peaked at 14.8% leaving millions of citizens at home without a way to provide for themselves or for their families.[178] "When access to a workplace is restricted because of a public health emergency, the workers who cannot work from home are likely to experience job disruption, hours reduction, or voluntary or involuntary layoffs."[179]

---

[172] U.S. Small Business Administration 2021.

[173] Donthu/Gustafsson 2020, p. 285.

[174] Cf. Donthu/Gustafsson 2020, p. 285.

[175] Cf. Donthu/Gustafsson 2020, p. 285.

[176] Cf. Donthu/Gustafsson 2020, p. 285.

[177] Cf. Zeidner 2020.

[178] Cf. Falk/Carter 2021.

[179] Baker 2020.

Civilian unemployment rate, seasonally adjusted
Click and drag within the chart to zoom in on time periods
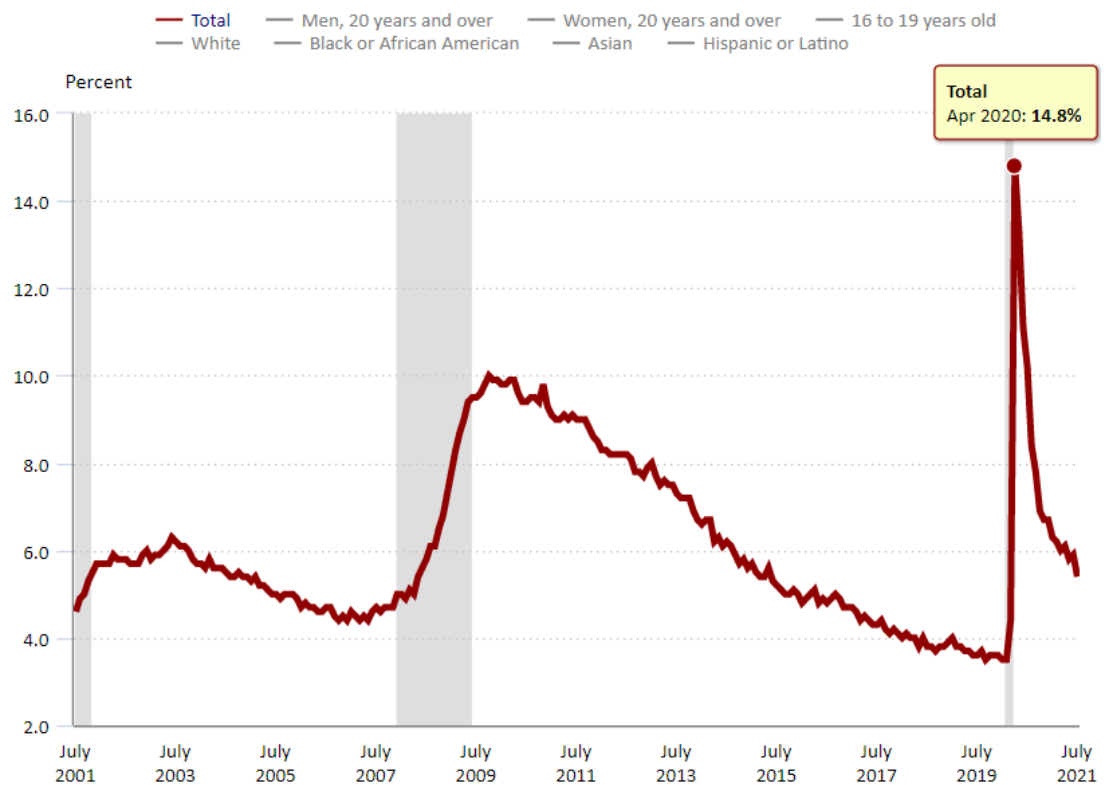
Fig. 10: Civilian Unemployment Rate, Seasonally Adjusted (US)[180]

Many relatively well-known brands have had to file for bankruptcy because of COVID-19's impact on society. Not every company filed for chapter 7 bankruptcy where ending business operations and liquidating assets is the norm; however, chapter 11 bankruptcy was used here to restructure the terms on debt. Several major companies with at least 500 employees filed for bankruptcy in 2020 including Foodora operations in Canada and JCPenny in the US.[181]

Although the tourism industry generally has proven to maintain successful operations during challenging times in history, this pandemic will have a more significant impact on this industry than most of the others affected.[182] This is likely due to the closing of borders, uncertainty about the virus, and the uncertainty of future government regulations surrounding the virus. As a result, the hotel industry and the airline industries were severely affected. According to STR, a hospitality analytics company, between March 29, 2020, and April 4, 2020, 21.6% of hotel rooms in the US were occupied

---

[180] U.S. Bureau of Labor Statistics 2021.

[181] Cf. Tucker 2020.

[182] Cf. Donthu/Gustafsson 2020, p. 288.

which is a 68% decrease from the previous year.[183] Due to the volume of cancellations and the reduction of demand, hotel groups like Marriott, Hilton, and Continental were faced with decisions regarding furloughing employees. In addition, airlines decided to reduce its employee workforce by 90% resulting in tourist destination seeing a large portion of expected profits to disappear.[184] This reduction of workforce equates to lowest since the mid-90s in the US.[185] Countries that are dependent on tourism will undoubtedly feel the economic impacts of the pandemic more significantly than other less-tourism dependent economies.[186] This will continue to be an issue until consumers are comfortable with traveling again.

At the initial stages of the pandemic, the stock market dropped sharply. The S&P500 is the most popular stock market index in the world and is followed by many investors trying to beat its return.[187] From the first confirmed case on December 31, 2019 through March 20, 2020, the S&P500 index dropped 29%.[188] As a result, retail and institutional investor's trust in the markets was in decline. This was due to several factors but includes the uncertainty of what the future would hold due to unknown government restrictions as well as the high rate of unemployment. However, on August 18, 2020 (6 months after the initial corona drop), the S&P500 recovered to an all-time-high after investor trust rose once again.[189]

---

[183] Cf. Asmelash/Cooper 2020.

[184] Cf. Donthu/Gustafsson 2020, p. 285.

[185] Cf. Josephs 2020.

[186] Cf. Behsudi 2020.

[187] Cf. Royal 2021.

[188] Cf. Akhtaruzzaman/Boubaker/Sensoy 2020, p. 3.

[189] Cf. Schneider 2020.

S&P 500

4.464,70

+2,280.80 (104.44%) ↑ past 5 years

INDEXSP: .INX

+ Follow

13 Aug, 11:47 GMT-4 · Disclaimer

| 1D | 5D | 1M | 6M | YTD | 1Y | 5Y | Max |

Fig. 11: S&P500 Index (5 Years)[190]

Although many businesses have been negatively affected, some industries are seeing positive results. Businesses with a foundation on online communication, online entertainment, and online shopping have seen significant growth.[191] "Internet-based businesses, such as those related to online entertainment, food delivery, online shopping, online education, and solutions for remote work" have also seen significant growth."[192] As a result, companies with already somewhat-established virtual business models were not as significantly impacted by COVID-19 as companies with traditional brick-and-mortar business models. Companies that were not as affected are able to consider opportunities of using the gains in revenue to search for new ways to aid customers during the pandemic with new offerings.[193] Thus, tech companies during COVID-19 have had a noticeable advantage. The revenue of tech giants trended positive,[194] while many small businesses were closed at least temporarily.[195] According to the latest Digital Commerce 360 analysis, "consumers spent $861.12 billion online with U.S. retailers in 2020, up 44.0% from $598.02 billion in 2019".[196] The airline in-

---

[190] Google 2021.

[191] Cf. Donthu/Gustafsson 2020, p. 284.

[192] Donthu/Gustafsson 2020, p. 285.

[193] Cf. Donthu/Gustafsson 2020, p. 288.

[194] Cf. Dwoskin 2020.

[195] Cf. Bartik et al. 2020.

[196] Digital Commerce 360 2021.

dustry specifically saw a decline from \$607 billion to \$189 billion in worldwide reve-
nue.[197] Online-based companies are not the only companies to show success through
the pandemic. It must be also mentioned that other industries like those related to
healthcare and medication as well as herbs and vitamins have also been success-
ful.[198]

2.3.3 Sociocultural

The COVID-19 pandemic has altered the way in which the world's population in vari-
ous countries act and interact daily. As previously portrayed in the *Political* section,
governments around the globe have enacted lockdowns and social distancing recom-
mendations so that citizens can take precaution regarding the virus. In addition, many
governments have enacted quarantines meaning those who have contracted the vi-
rus, those who have come from countries where there is a high risk of the virus, or
those who have come in close contact with someone who has the virus must stay at
home within closed quarters for a determined number of days.[199] This can be harmful
as it has been proven that humans are social beings.[200] Therefore, isolation brings
with it a risk of a sense of loneliness for many which can lead to "poorer cognitive
performance, negativity, depression, and sensitivity to social threats".[201]

In addition to lockdowns, even when countries are not on a complete lockdown, gov-
ernments may decide to keep certain organizations closed. This includes educations
institutions such as schools, colleges, and universities as well as festivals and reli-
gious ceremonies.[202] Since the organizations and events have been restricted, and
since social distancing has been encouraged, individuals have had to alter normal
patterns of social life. Social distancing which is a new and emerging terms refers to
"staying away from people to avoid the spreading and catching the virus".[203] As a
result, the fear of the virus has only increased and precautions have been in place
from employers and individuals themselves to work from home and to avoid social
gatherings as much as feasibly possible.[204] This is a complete switch from the normal

---

[197] Cf. Mazareanu 2021.

[198] Cf. Donthu/Gustafsson 2020, p. 285.

[199] Cf. Centers for Disease Control and Prevention 2021c.

[200] Cf. Cacioppo/Hawkley 2009, p. 447.

[201] Donthu/Gustafsson 2020, p. 285.

[202] Cf. Singh/Singh 2020, p. 168.

[203] Singh/Singh 2020, p. 169.

[204] Cf. Singh/Singh 2020, p. 169.

routine of social connections that human beings may often take for granted. Not having these deep and meaningful connections leads to "stressful states of anxiety both in the body and mind".[205] The impacts of these restrictions can impact the individual and society as a whole as well as lead to other issues including: "loneliness, anxiety drives, depression, panic states, mental disorders, health hazards".[206] These issues are not only relevant for families, one must also recognize that those who are single and childless may be at the greatest risk for these issues that have a negative effect on well-being.[207]

The COVID-19 restrictions imposed by governments are especially prevalent for those who are at high risk for the COVID-19 disease. "While people of all ages can be infected, the risk for complications increases with age."[208] In addition, those with underlying health conditions are also considered at high risk for COVID-19. This includes "diabetes, heart disease, lung disease, and obesity".[209] In order maintain mental health, it has been important for individuals to learn how to cope with these issues in a constructive way.[210] This is easier said than done, however, as many are no longer able to deal with the restrictions which has led to non-compliance in many cases.[211] Due to the restrictions set by governments, there have been an increase in cases of arguments, domestics violence among neighbors, and an increase in the purchase of firearms sales.[212] As educational institutions have been closed, this not only leads to a loss of education, but it also leads to an increase in reported child abuse cases.[213] In addition, social classes are affected on different levels as schools no longer are providing free meals for children who come from families with low income.[214] Especially when the unemployment rate is high, this can have an unevenly distributed impact for those who don't have some sort of backup funds.[215] In addition, low income families may not have the same access to technology.[216] Where remote learning was and still is common, children whose families cannot afford the best in

---

[205] Singh/Singh 2020, p. 169.

[206] Singh/Singh 2020, p. 169.

[207] Cf. Carnevale/Hatak 2020, p. 4.

[208] Katella 2021.

[209] Katella 2021.

[210] Cf. Centers for Disease Control and Prevention 2021a.

[211] Cf. The Guardian 2020.

[212] Cf. Campbell 2020, p.1.

[213] Cf. Evans 2020, p.7.

[214] Cf. Nicola et al. 2020, p. 186.

[215] Cf. Nicola et al. 2020, p. 186.

[216] Cf. Nicola et al. 2020, p. 186.

technology for education are more likely than not to be unable to achieve the same progress as those who are more fortunate.

However, COVID-19 restrictions have not only brought society negative impacts from a sociocultural perspective. Many are taking advantage of the time at home and are developing new skills and are taking better care of living environments. For example Udemy, the largest global marketplace for learning and teaching online, saw a 485% increase in consumer enrollment for courses by April 30, 2020.[217] In addition, many homeowners have started and completed major home improvement projects since the pandemic has started.[218] For-home consumer purchasing patterns have also seen significant changes as there has been an increase in demand for "takeout, snacks, and alcohol as well as cleaning products as we spend more time in our homes".[219]

In terms of social norms, many are starting to see the benefits (and frankly the negatives) of social media. Social media saw unprecedented growth and new records across the entire industry in 2020.[220] Specifically, Facebook saw an increase in messaging across all platforms at a rate of over 50% in March 2020.[221] In addition, the video game industry has also seen exponential growth due to lockdown restrictions. "As the coronavirus forces companies to shutter their offices across the world and lockdowns go into effect, people are increasingly turning to video games to pass the time and interact with friends and family they may not see in person for the foreseeable future".[222] This portrays a new social norm in that individuals are unlikely to force physical presence to communicate and will likely continue to use digital means for personal connections even after the pandemic is declared over. However, it will be interesting to further discover the demand for physical products and services once restrictions have been completely loosened.

2.3.4 Technological

As mentioned, technology companies have seen positive growth during the pandemic. In terms of the workforce, many of these companies were not severely affected because physical customer interaction was not even present before the pandemic.

---

[217] Cf. Ederle 2020.

[218] Cf. Morris 2020.

[219] Donthu/Gustafsson 2020, p. 285.

[220] Cf. Haynes 2020.

[221] Cf. Schultz/Parikh 2020.

[222] Howley 2020.

On the contrary, internet companies generally saw an increase in success as social media, and internet usage overall, increased.[223] This is not a surprising that as those who are forced to stay at home must occupy their time somehow. As first-time internet users are growing by the hour, COVID-19 accelerated this trend.

As mentioned in the sociocultural aspect, loneliness is one of the issues resulting from lockdown measures and restrictions from COVID-19. Research has shown that humans who are lonely are more likely to use social media and even prefer using social media rather than interacting physically with others.[224] However, restrictions have made social media the more likely target for communication between connections that are close and acquaintances alike. In addition, not only have the restrictions increased the use of the internet for making online purchases, but also for essential services.[225] For example, the telehealth market has seen exponential growth due to the COVID-19 pandemic and should continue to grow even thereafter. In fact, "the global telehealth market size is projected to reach USD 559.52 billion by 2027".[226] This market has seen growth as hospitals were becoming overwhelmed due to the exponentially rising number of COVID-19 cases and technological alternatives with a minimization of physical contact were in demand.[227] The Chinese medical community has been developing methods to tackle this challenge. Telepresence robots have been adopted with the goal of allowing "remote video communication, patient health monitoring and safe delivery of medical goods".[228] Technological innovation is also one of China's aims and therefore work-from-home apps have also been developed with an example being of drones that can deliver medications to patients.[229]

For schools, businesses, and healthcare providers, it has become imperative to become somewhat acclimated with today's digital technologies. Since the lack of face-to-face communication is prevalent, companies offering video conferencing opportunities have profited. Companies like Apple already offer videoconferencing in the form of Facetime installed on iPhones and MacBooks; however, this technology forces the users to have one of Apple's devices. Therefore, companies like Google, Zoom, and Microsoft offer companies and individuals the ability to communicate with each other

---

[223] Cf. Donthu/Gustafsson 2020, p. 285.

[224] Cf. Nowland/Necka/Cacioppo 2017, p. 11.

[225] Cf. Donthu/Gustafsson 2020, p. 285.

[226] Fortune Business Insights 2021.

[227] Cf. Nicola et al. 2020, p. 189.

[228] The Japan Times 2020.

[229] Cf. Nicola et al. 2020, p. 189.

over video and have had success doing so.[230] This is especially important for companies to connect with remote employees as well as certain companies to connect with customers as well.[231] This solution is practical because it avoids physical contact and it is possible to read facial expressions and sometimes body language unlike phone calls.[232] It is not the same as physical face-to-face contact, but it still has shown positive results in keeping people connected around the globe.[233]

Everything from this arguably temporary digital transformation is not all positive. The fact that more individuals are connected to the internet has shown that access to information is relatively easy. This can be positive in the fact that consumers can become more informed on the products and services purchased. However, the fact that information is easily accessible can also lead to misinformation. Because everyone on the web can share an opinion and many can portray themselves as knowledge experts, the ease at which one can be misinformed is prevalent.[234] Since everyone now has a voice on the internet, it can be difficult to decipher who is qualified as an expert, who is sincere, and who may or may not have alternative motives. As a result, this can also cause confusion with consumers. In the end, it is expected that many new consumer habits will remain, but it is expected that many of the old consumer habits will return to normal after the pandemic.[235]

Some countries appear to have been better prepared for the pandemic restrictions than others. These countries have had a focus on technology and digitalization and have thus not needed to make as many changes to the status quo. Finland is an example of a country that appears to have handled the pandemic well due to its digitalization standards. Therefore, Finland has had a relatively smooth transition for those who were forced to work and educate themselves from home.[236] Germany is an example of a country that has had not as much success in this regard. A study by the German society for digital literacy portrays that for every 68 students there is only one laptop and low-income households have issues with the idea of homeschooling.[237]

---

[230] Cf. Tillman 2021.

[231] Cf. Business Wire 2020.

[232] Cf. Kelly 2020.

[233] Cf. Donthu/Gustafsson 2020, p. 286.

[234] Cf. Sharma et al. 2020, p. 191.

[235] Cf. Donthu/Gustafsson 2020, p. 286.

[236] Cf. Höppner 2020.

[237] Cf. Höppner 2020.

Overall, it has been the push for a COVID-19 vaccine that will question what a return to 'normal' will look like. The goal of quickly providing the public an effective vaccine was a difficult task. Before this vaccine, "the fastest any vaccine had previously been developed, from viral sampling to approval, was four years, for mumps in the 1960s".[238] However, by December 2020, the Pfizer-BioNTech became the first immunization approved for emergency in the United Kingdom (UK).[239] At the time of writing, there are now over 100 vaccine candidates with over 40 vaccines in phase 3 clinical trials.[240] In the US in particular, every American above the age of 12 is now able to get the COVID-19 vaccine from Pfizer-BioNTech (two shots), Moderna (two shots), or Johnson & Johnson's Janssen (1 shot).[241] This appears to have lowered the number of cases and thus the death rate. Nevertheless, not all countries are so fortunate, even as late as July 2021, developing countries especially have had trouble gaining access to vaccines.[242] India is an example of a country that did not expect to face so many challenges with vaccinating its citizens as it is the world's largest vaccine producer.[243] Once the world's population has full access to qualified vaccines, the world will likely reopen and new forms of business will emerge that were not present before the pandemic.

2.3.5 Environmental

The environmental impacts due to the COVID-19 pandemic are numerous. Although many impacts on the environment are positive, the negative impacts cannot be overlooked. Air, water, and noise pollution reductions are examples of positive impacts from COVID-19 restrictions; however, negative factors include improper Personal Protective Equipment (PPE) disposal and the generation of hospital waste.[244] The following paragraphs will further elaborate on these relevant impacts.

As mentioned, there was a clear reduction in air pollution resulting from COVID-19. There was a 2.4 billion ton, or 7%, drop in global greenhouse gas emission this year from restriction resulting from COVID-19.[245] This is a result of companies, such as

---

[238] Ball 2020.

[239] Cf. Ledford/Cyranoski/Van Noorden 2020.

[240] Cf. COVID19 Vaccine Tracker 2021.

[241] Cf. Centers for Disease Control and Prevention 2021b.

[242] Cf. British Broadcasting Corporation 2021.

[243] Cf. British Broadcasting Corporation 2021.

[244] Cf. Rume/Islam 2020, p. 3.

[245] Cf. Newburger 2020.

transportation companies, shutting down or severely reducing operations.[246] Not as many drivers are on the road worldwide which has reduced the amount of Nitrous Oxide (NO_2) and Carbon Monoxide (CO) in the air. "Nitrous oxide is a potent greenhouse gas and also causes damage to the ozone layer."[247] "NOx has direct and indirect effects on human health. It can cause breathing problems, headaches, chronically reduced lung function, eye irritation, loss of appetite and corroded teeth. Indirectly, it can affect humans by damaging the ecosystems they rely on in water and on land—harming animals and plants."[248] "Carbon monoxide (CO) is a highly toxic gas produced when fuels burn incompletely. The typical internal combustion engine used in most cars and trucks, can produce extremely high concentrations of carbon monoxide."[249] However, these were just the initial stages of the pandemic as updated data shows that "global emissions of carbon dioxide picked up in the second half of the year".[250] Therefore, research has "urged governments to prioritize a shift to clean energy and policies that tackle climate change in their economic recovery plans".[251]

Air quality also affect water quality; however, scientists have the belief that the improvements to water quality due to COVID-19 restrictions will be short lived.[252] Water pollution is an issue that is seen in countries where significant amounts of industrial waste are dumped into waters.[253] During lockdowns, many have been left at home and production has been severely reduced. As a result, less is being dumped into waters and waters are becoming clearer. The touristic city of Venice that many recognize for its gondolas has seen clearer waters where fish were even able to be seen.[254] This came because of strong lockdowns resulting from Italy's significant number of COVID-19 cases.[255] This is not only limited to rivers, it appears that oceans have also seen improvements in quality. Since there are less pressures in certain sectors, "pollution, overfishing, habitat loss/conversion, invasive species introductions and the impacts of climate change" have been seen on the ocean.[256] Nevertheless,

---

[246] Cf. Rume/Islam 2020, p. 3.

[247] European Environment Agency 2021.

[248] Science X Network 2015.

[249] Greiner 1998.

[250] Tollefson 2021.

[251] Newburger 2020.

[252] Cf. Tedesco 2020.

[253] Cf. Rume/Islam 2020, p. 4.

[254] Cf. Chow 2020.

[255] Cf. Lawler 2020.

[256] Cf. Hudson 2020.

due to this reduction, supply and demand may impact the livelihoods and food securities of many around the globe.[257]

It must be mentioned that COVID-19 did not only have positive effects on the environment. A serious threat to public health and the environment has emerged as medical waste has increase significantly.[258] In one study conducted in five public and private hospitals in Iran, COVID-19 led to an average medical waste generation increase of 102%.[259] In addition, many are not properly disposing of PPE. In particular, trash in the US has increased at the domestic level.[260] On a world scale, plastic creation and disposal is increasing as well.[261] As a result, there are mixed results on the effects that COVID-19 has had on the environment. However, these results are likely to be altered once vaccinations are fully available to everyone and all countries begin to relax regulations.

2.3.6 Legal

Because political aspects of the virus are comparable, this section will strictly refer to laws that are in place for businesses and consumers. For employees, there have been laws in place that have not allowed work on site. This results in a change in mindset but also in a change of work structure. For many, this meant a change in routine as adjusting to remote work was a must.[262] For other, working from home was not at all possible and unemployment and furloughs often followed.[263]

Numerous businesses were forced to shut down. Due to the high risk of COVID-19, and due to the nature of some businesses, it was difficult to keep citizens safe within their establishments. These brick-and-mortar establishments lost business accordingly and often found it difficult to adjust due to the lack of customer demand.[264] Establishments that were shut down included "factories, restaurants, pubs, markets,

---

[257] Cf. Hudson 2020.

[258] Cf. Rume/Islam 2020, p. 5.

[259] Cf. Kalantary et al. 2021, p. 831.

[260] Cf. Calma 2020.

[261] Cf. Singh/Tang/Ogunseitan 2020, p. A.

[262] Cf. Carnevale/Hatak 2020, p. 3.

[263] Cf. U.S. Bureau of Labor Statistics 2020.

[264] Cf. Sharma et al. 2020, p. 190.

flights, super markets, malls, universities and colleges".[265] Essential workers were allowed to continue working. These are those who "who conduct a range of operations and services in industries that are essential to ensure the continuity of critical functions".[266] The list is extensive but includes occupations in healthcare, law enforcement, food and agriculture, education, energy, transportation, and government.

2.3.7 Impact on Workplace

COVID-19 has shown that digital-friendly companies have certain advantages over traditional, non-tech companies. With society trending toward a digital future, traditional companies must discover ways to adjust their business models and still provide value. This is already evident and also inevitable as many "companies have accelerated the digitalization of their customer and supply-chain interactions of their internal operations by three to four years".[267] In addition, "many are spending more time than ever inside their homes, as remote work, distance learning and social distancing shape the workweeks of many families".[268] "The COVID-19 pandemic, perhaps more than any other event in human history, has demonstrated the critical importance that telecommunications infrastructure plays in keeping businesses, governments, and societies connected and running."[269] With stay-at-home orders becoming common in western countries since the pandemic started, internet traffic has increased significantly.[270]

Since many companies were forced to close at least temporarily, inevitable changes to the flow of previously existing operations were required. From January 7, 2021 to March 15, 2021, for example, The Home Office Ordinance in Germany required "employers to offer eligible employees the option to work remotely to minimize the risk of contracting COVID-19 at work and to ensure the safety and health of all employees".[271] Therefore, "with rare exception, operating digitally is the only way to stay in business through mandated shutdowns and restricted activity".[272] As a result of government actions like these and the necessity of companies to continue competing

---

[265] Singh/Singh 2020, p. 170.

[266] Centers for Disease Control and Prevention 2021d.

[267] LaBerge et al. 2020.

[268] British Broadcasting Corporation 2020.

[269] International Finance Corporation 2020

[270] Cf. Schillinger/Weber 2020.

[271] Gesley 2021.

[272] Cohron/Yavar/Cummings 2020.

within these regulations, the percentage of companies offering 5+ days of remote work to employees in the US in particular raised from 17% before the pandemic up to 44% in April 2020.[273]
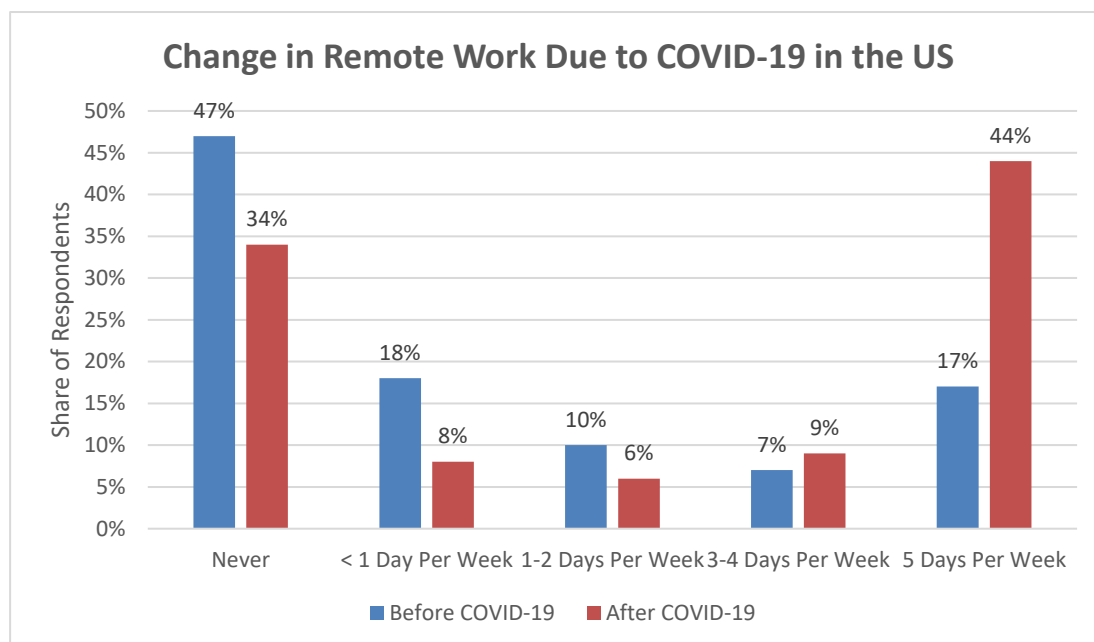
Fig. 12: Change in Remote Work Due to COVID-19 in the US[274]

As portrayed in Fig. 12, employees working fully remote was prevalent before COVID-19. In fact, since 2018 companies like Buffer have been surveying employees from various companies that have offered remote work even before the pandemic. According to Buffer's State of Remote Work Report for 2018, "90% of remote workers plan on working remotely for the rest of their careers".[275]

Now that the circumstances have determined that remote work is feasible and even at times beneficial, many have made the decision to offer remote work permanently.[276] "By 2025, 36.2 million Americans will be remote, an increase of 16.8 million people from pre-pandemic rates."[277] This is further strengthened by the fact that 81% of those responding to the Owl Labs 2020 State of Remote Work survey believe that their employers will offer or continue to offer remote work after the pandemic is over.[278] "As workplaces start to reopen, organizations are finding that their workforce is not keen

---

[273] Cf. Mlitz 2020.

[274] Recreated Figure Cf. Mlitz 2020.

[275] Griffis 2018.

[276] Cf. Courtney 2021.

[277] Ozimek 2020.

[278] Cf. Owl Labs 2021.

on giving up remote work. People who started working remotely due to COVID-19 overwhelmingly support it and want to continue doing so."[279]

As explained, the idea of remote work has only recently increased in relevance because of COVID-19.[280] Using the US as an example, only approximately 5 million US citizens worked remotely before the pandemic.[281] During the pandemic, the global aim of preventing the spread of a disease with many open questions regarding its lethalness and manner of contraction led to global legislation on telework.[282] Considering the circumstances before the pandemic, remote work was an exception. These issues are not as relevant for virtual companies as the idea of limited human contact between customers and employees was already prevalent. The idea of virtual work for employees however is not new and will likely continue to increase in the near future. To quote Richard Branson: "In 30 years time, as technology moves forward even further, people are going to look back and wonder why offices ever existed."[283]

Remote work is likely to remain, and the various remote working models were already portrayed in section 2.2. The following section reverts the focus back to the idea of virtual companies scaling back physical presence to the extreme level and further elaborates on the WFA working model.

2.4 Work From Anywhere Model

By definition, a virtual business is one that focuses on its digital capabilities to scale back its physical presence. At the most extreme level, this refers to the lack of employees working at the company's physical address. The WFA model for virtual companies refers to the extreme case and suggests two possible models of remote work for employees: *remote-first or all-remote*.

Depending on the company, deciding to use the WFA model for its employees does not necessarily refer to the fact that employees are not allowed to work from the company's physical location. "A **remote-first** model usually involves most employees working remotely by default--either from their homes or from anywhere."[284] "While

---

[279] Griffis 2021.

[280] Cf. Levanon 2020.

[281] Cf. Mekouar 2021.

[282] Cf. Rocchi/Krishnamurthy 2021.

[283] Hyken 2020.

[284] Hinds 2021.

there may be a company headquarters, or even an array of satellite offices, everything from how meetings are handled to onboarding new hires is structured through a remote lens."[285] "This approach means that employees can relocate away from the office, but that the company will keep its office space for those employees who value it."[286] "In an **all-remote** company, there is no single headquarters, and each team member is free to live and work in any place they choose. Everyone, including executives, is remote, as there are no offices to come to."[287]

There appears to be an imbalance of opinions as many employers want to bring employees back into the office, but many employees want to continue working from home.[288] First of all, any company considering using a WFA model for its workforce must be an internet company at minimum. The barriers to entry are low as with a low investment, almost any business can reach large markets quickly regardless of the physical location or size of the business.[289] Companies that are not internet companies are not able to function as virtual companies. This refers to those companies that offer products or services that, for various reasons, cannot be offered virtually. However, the emergence of companies offering employees the option to work away from the company's physical location has and will continue to be inevitable. It is estimated that "by 2025, some 70 percent of the workforce will work remotely at least five days a month".[290]

The importance of distance in business is reduced due to the rise of information technology.[291] In addition, the COVID-19 pandemic has resulted in the increase of companies moving towards a WFA work model.[292] The dotcom boom portrayed that the barriers of entry to starting an online business were not as numerous as those for traditional companies because only an idea, engineering talent, and execution were necessary.[293] Nowadays, even less is needed for a small business to establish itself virtually as starting a virtual business is easier than ever before and there are even

---

[285] Murph/Reeder/Bula 2021.

[286] Griffis 2021.

[287] Murph/Reeder/Bula 2021.

[288] Cf. McKinsey & Company 2021.

[289] Cf. Internet World Stats 2021.

[290] Molla 2019.

[291] Cf. Konsbruck 2001.

[292] Cf. See Appendix 7.8, p. 125.

[293] Cf. Lewis 1999, p. 168.

online guides for those who need assistance on getting started.[294] In addition, job offerings of virtual job positions is increasing.[295]

Whether a traditional company is, or can transition into, a virtual company with a WFA structure is dependent on each individual company's business model. For example, an individual may set up a blog and earn revenue solely through affiliate marketing, advertising, and digital products. A company with numerous employees who uses a dropshipping business model may never actually see the physical products but place product orders to suppliers on customers' behalf. Larger corporations with platform business models may provide the marketplace for the buyers and sellers but focus solely on customer service and gaining revenue through advertising and transaction fees.[296] During the dotcom boom, "the 'business model' of most Internet Companies was to attract a huge crowd of people to a website, and then sell others the chance to advertise products to the crowds".[297]

Due to government restrictions placed on businesses to protect its citizens from COVID-19, tech businesses led the way in offering remote work, especially in the US.[298] Internet companies with virtual aspects were prepared to send employees to work from home in 2020 and even encouraged employees to continue working from home even as areas in the US started to reopen.[299] However, 2021 is starting to look different. "Many of the same companies behind the technology that has made remote work possible for the past 15 months are not willing to buy into a fully remote workplace for themselves."[300] These same tech companies that proved that working from home was possible and even successful are now requiring employees to come back to work joint on site and remotely as a hybrid working model at minimum.[301] One of the reasons for this is employers' perspective on company culture and the fact that some of these tech companies have already invested a significant sum of funds into creative and expensive campuses.[302] Whether or not these tech companies will continue with this plan or not remains to be seen. However, many companies can learn

---

[294] Cf. Alliance Virtual Offices 2021.

[295] Cf. Molla 2021.

[296] Cf. Cuofano 2020.

[297] Lewis 1999, p. 333.

[298] Cf. Lerman/Greene 2020.

[299] Cf. Lerman/Greene 2020.

[300] Kelly/Lerman 2021.

[301] Cf. Kelly/Lerman 2021.

[302] Cf. Kelly/Lerman 2021.

from these tech giants in that some companies have the capabilities to function fully virtually. The question remains as to which companies are actually suitable to function and succeed as a fully virtual company. To understand what it takes to succeed as a virtual company using the WFA model for its employees, a company must recognize if it has the proper business model. This will be dependent on the unique job roles and responsibilities within each individual company.

Using previously conducted studies and current literature, an idea of which companies are more likely to have the potential to operate virtually can be examined. A journal article entitled *Nonrelocatable Occupations at Increased Risk During Pandemics: United States, 2018* written by Marissa G. Baker, Ph. D. was written due to the COVID-19 pandemic and uses the Occupational Information Network (O*NET) database to determine which sectors in the US are more likely to be suitable for employees to work from a remote location.[303] The O*Net project "collect[s] data from job incumbents and occupation experts using paper and web questionnaires that cover all the occupations in the U.S. workforce—including the knowledge required, work styles, education and training, work activities, work context, and tasks performed".[304] This journal article by Baker determines that the importance to which the use of a computer at work and the degree to which an individual interacts with the public are highly relevant factors to whether or not individuals can work virtually.[305] Although remote employment offers from companies are increasing yearly, not every role in society allows this possibility.[306] This is due to the fact that there are many different tasks and roles within society where physical presence is absolutely necessary. About 25% of the working population in the US can complete work tasks 100% remotely and as a result 75% of the workforce could not.[307] Two O*NET measures were used in this analysis and the degree to which the following questions were important to work were established:

• How important is working with computers to the performance of your current job?

• How important is performing or working directly with the public to the performance of your current job?

---

[303] Baker 2020, p. e3.

[304] Unangst 2021.

[305] Cf. Baker 2020, p. e3.

[306] Cf. Mann/Adkins 2017.

[307] Cf. Baker 2020, p. e3.
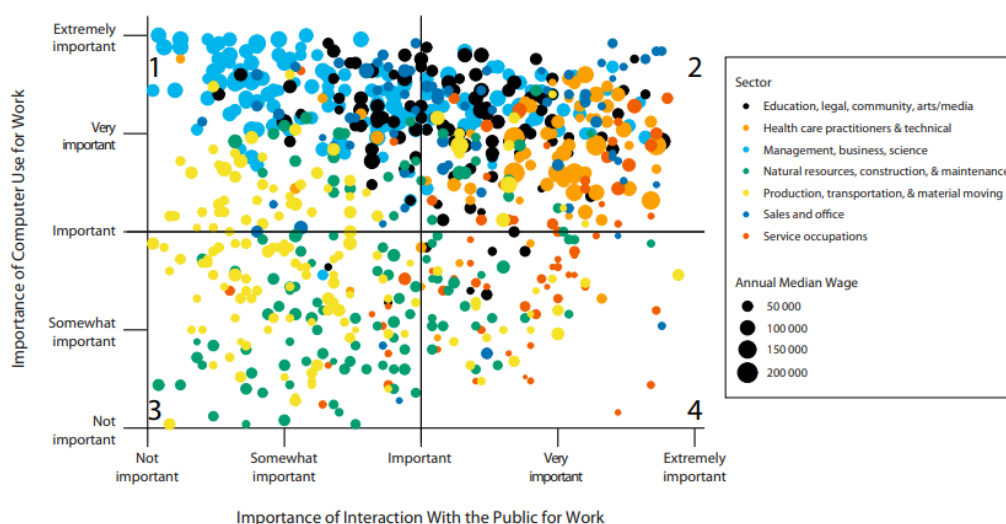
Fig. 13: Importance of Interaction with the Public for Work[308]

As portrayed in the scatterplot graph from Fig. 13, it is difficult to conclude that specific sectors are 100% suitable for employees to work remotely. However, it appears that there are sectors that are a better fit for employees to work from anywhere and therefore are a better fit for virtual companies. Using Quadrant 1 as the best fit for virtual work, it appears that the *management*, *business*, and *science* sectors have the highest potential. On the opposite end, those roles where both the importance of computer use and the significant need for interacting with the public is high (Quadrant 4) appear to be sporadic. However, Quadrant 3 can be used to understand which jobs cannot be performed simply with a computer and therefore will likely need some form of on-site presence. This appears to be many positions in *natural resources*, *construction*, *maintenance*, *production*, *transportation*, and *material moving*.

In an analysis entitled *What's next for remote work: An analysis of 2,000 tasks, 800 jobs, and nine countries*, McKinsey & Company also discovered which task and roles can be performed remotely.[309] This is different than the previously examined study because it not only analyzes specific tasks and jobs, but it also analyzes these details in relation to nine different countries: China, France, Germany, India, Japan, Mexico, Spain, the UK, and the US.[310] It appears that suitability for those who can work remotely are generally "among highly skilled, highly educated workers in a handful of industries, occupations, and geographies".[311] This study determined that more than

---

[308] Baker 2020, p. e3.

[309] Cf. Lund et al. 2020.

[310] Cf. Lund et al. 2020.

[311] Lund et al. 2020.

50% of the workforce in these nine countries could not work remotely as using specialized machinery and lab equipment, physically working with other employees and customers, and making physical deliveries is necessary.[312] On the other hand, "information gathering and processing, communicating with others, teaching and counseling, and coding data can theoretically be done remotely".[313] These tasks and jobs were analyzed using the MGI's (Material Genome Initiative) workforce model based on O*NET. As a result, the following graphic provided by McKinsey & Company uses two metrics for remote potential: "the maximum potential, including all activities that theoretically can be performed remotely, and a lower bound for the effective potential for remote work, which excludes activities that have a clear benefit from being done in person".[314]

---

[312] Cf. Lund et al. 2020.

[313] Lund et al. 2020.

[314] Lund et al. 2020.

Activities with the highest potential for remote work include updating knowledge and interacting with computers.

Potential share of time spent
working remotely for select activity
categories in the United States, %

● Effective potential (no productivity loss)   ⊘ Task that can be done remotely
● Theoretical maximum   ⊗ Task that cannot be done remotely

Updating knowledge and learning	Interacting with computers	Thinking creatively	Communicating with and guiding colleagues or clients	Processing, analyzing, and interpreting information
82–91	**70–75**	**43–68**	**43–63**	**54–61**

⊘ Attend online seminar | ⊘ Create electronic data backup | ⊘ Design layouts for print publications | ⊘ Discuss business strategies | ⊘ Analyze industry trends

⊗ Attend surgical skills course | ⊗ Set up computer hardware | ⊗ Create physical prototypes | ⊗ Direct fire fighting or prevention | ⊗ Analyze crime scene evidence

Communicating and establishing inter-personal relationships	Performing administrative and organizational activities	Training, teaching, coaching, and developing others	Monitoring processes, surroundings, or use of resources	Selling to or influencing others
29–57	**39–52**	**6–47**	**34–46**	**24–41**

⊘ Answer telephones to direct calls | ⊘ Arrange facility schedules | ⊘ Instruct college students | ⊘ Monitor market conditions or trends | ⊘ Market products, services, or events

⊗ Represent clients in legal proceedings | ⊗ Operate cash registers | ⊗ Train food-service personnel | ⊗ Patrol properties to maintain safety | ⊗ Distribute samples

Measuring products or surroundings	Assisting and caring for others	Equipment, materials, and machinery	Handling and moving objects	Controlling machines and mechanical equipment
24–33	**8–12**	**2**	**0**	**0**

⊘ Estimate building costs | ⊘ Make travel arrangements | ⊘ Test software performance | ⊘ No examples | ⊘ No examples

⊗ Measure water level or depth | ⊗ Provide assistance in emergencies | ⊗ Inspect cargo hazards | ⊗ Collect dirty dishes | ⊗ Operate equipment

Note: The theoretical maximum includes all activities not requiring physical presence on-site; the effective potential includes only those activities that can be done remotely without losing effectiveness. Model based on more than 2,000 activities across more than 800 occupations.
Source: McKinsey Global Institute analysis

Fig. 14: Highest Potential for Remote Work Include Updating Knowledge
and Interacting with Computers[315]

There are specific tasks that are obviously more qualified for virtual work. Tasks such as *Updating knowledge and learning*, *Interacting with computers*, and *Thinking creatively* are best suited for virtual work. On the other hand, *Equipment materials, and*

---

[315] Lund et al. 2020.

machinery, *Handling and moving objects*, and *Controlling machines and mechanical equipment* are unsuitable for remote work. As a result, if a company has employees who are performing any of these latter tasks, becoming a WFA virtual company is not currently an option.

The previous study by Baker showed that there are no perfect sectors for virtual work but there are sectors that have more potential. The study by McKinsey & Company further enhances this notion in that certain jobs and sectors are indeed more suitable as virtual companies. In fact, the highest potential for virtual companies appears to be in the *Finance and Insurance* sectors as not much productivity loss is present for around 75% of time spent on tasks in these industries.[316] Other sectors that have effective potential include *Management*, *Professional, Scientific, and Technology* sectors as well as *IT and Telecommunications*. On the other hand, *Construction*, *Accommodation and Food Services*, and *Agriculture* do not have much potential for virtual work.
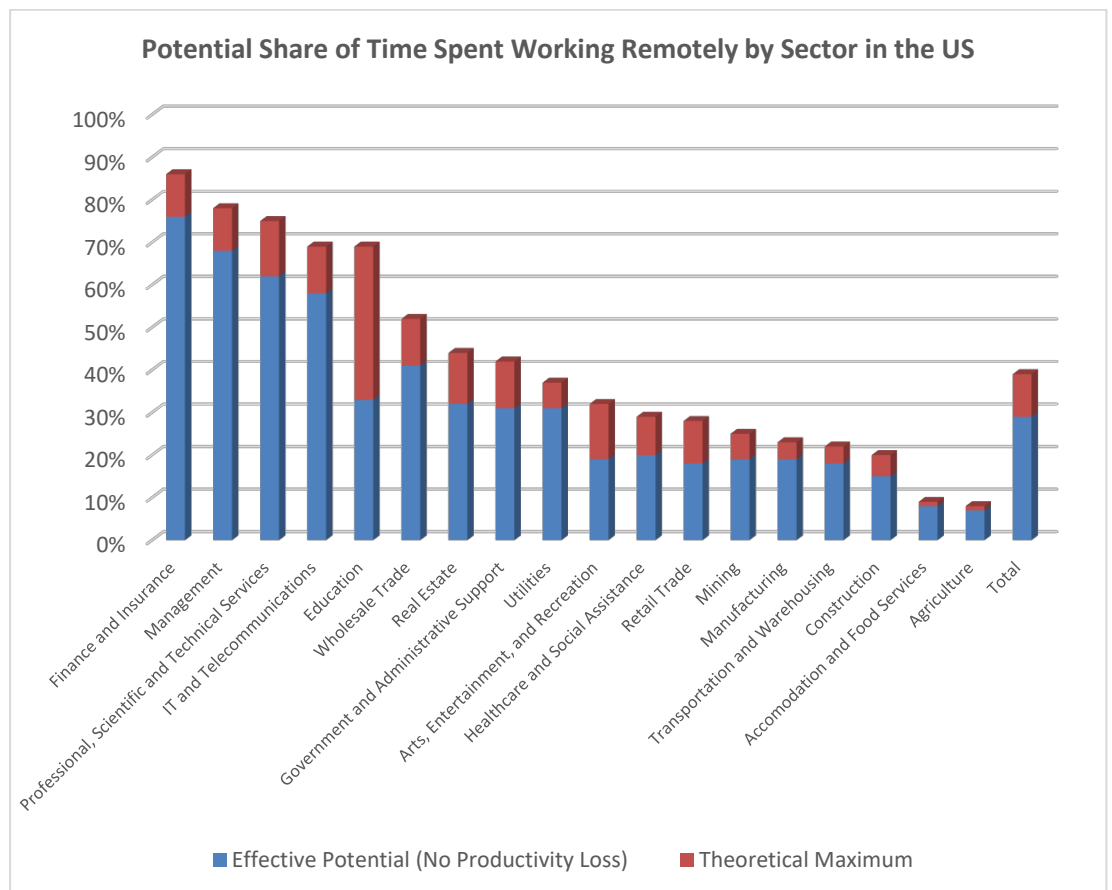
Fig. 15: Potential Share of Time Spent Working Remotely by Sector in the US[317]

---

[316] Cf. Lund et al. 2020.

[317] Recreated Figured Cf. Lund et al. 2020.

Finally, due to advancements in technology and society, some countries have better infrastructures in place for virtual companies to exist. "In emerging economies, employment is skewed toward occupations that require physical and manual activities in sectors like agriculture and manufacturing".[318] As a result, advanced economies have better potential for implementing the WFA models including the UK, Germany, and the US.
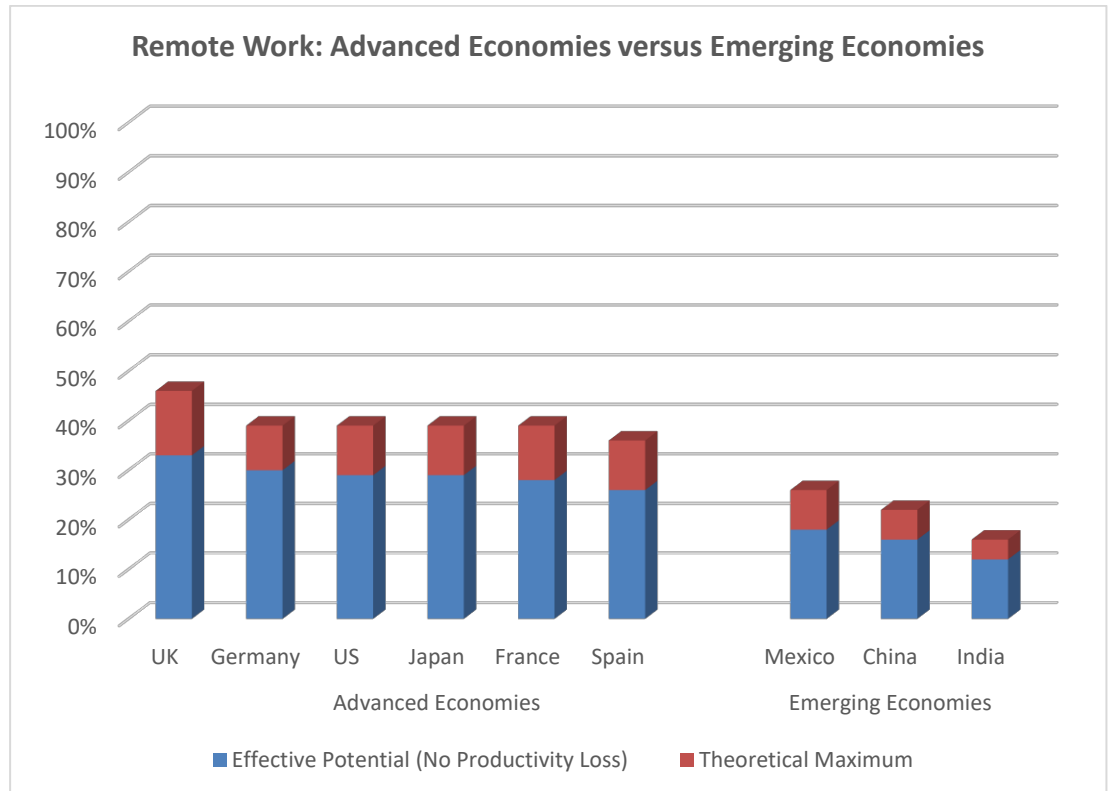
Fig. 16: Remote Work: Advanced Economies versus Emerging Economies[319]

Once determined based on its individual business model that a fully remote working model is feasible for a company, it can begin the transition into the new, virtual age. This denotes the transition into a WFA virtual company. Matt Mullenweg portrays the transition into the WFA model with his article entitled *Distributed Work's Five Levels of Autonomy*.[320] Matt Mullenweg is the co-founder of WordPress which is the world's most popular Content Management System on the web.[321] In 2021, almost 40% of all websites worldwide are WordPress websites.[322] "The distributed work paradigm

---

[318] Lund et al. 2020.

[319] Recreated Figure Cf. Lund et al. 2020.

[320] Cf. Mullenweg 2020.

[321] Cf. TED 2021.

[322] Cf. Southern 2021.

means that where you're located should not be a factor in your performance and participation."[323] The following pyramid created by Matt Mullenweg portrays the transitions from a company that requires physical presence to a company that performs better than those where physical presence is necessary.
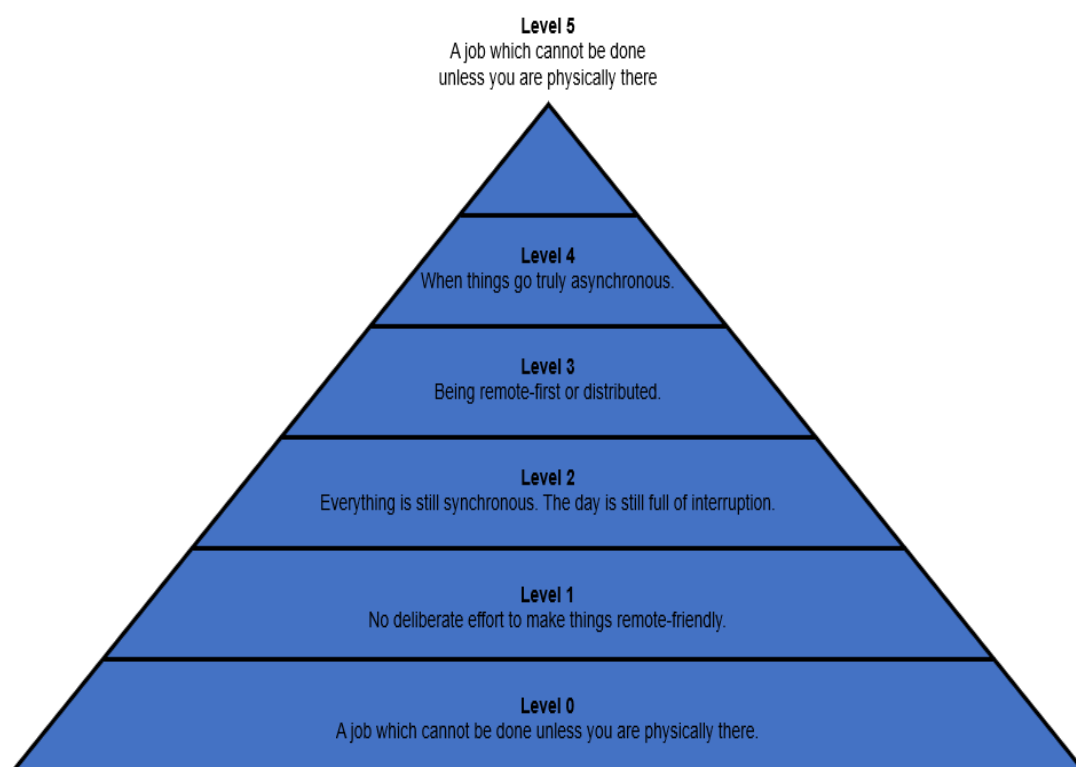
Fig. 17: Distributed Work's Five Levels of Autonomy[324]

Virtual work is here to stay. Without offering flexible working opportunities, the risk is that talented employees may eventually look for alternative options to have employments that fits to personal lifestyle desires.[325] To understand the fundaments of a virtual company, and how these companies can survive on the market, the most extreme case where even employees are expected to work on site has been examined. Therefore, the following chapters portray not only the advantages of a virtual company, but also how virtual companies are dealing with the challenges that come with the decision to scale back physical presence. After understanding the advantages and how the challenges that inherently come within are handled, one can truly understand why removing these fixed employee barriers for many businesses can lead to success.

---

[323] Kosner 2020.

[324] Recreated Figure Cf. Mullenweg 2020.

[325] Gerdeman 2021.

3 Advantages and Challenges: Work from Anywhere Model

3.1 Advantages

This chapter focuses on some of the advantages of a virtual company using the WFA degree of remote realization. Although not every advantage is portrayed here, one can gain a sense of why a company would even consider pursuing this route by reading further.

3.1.1 Lower Overall Costs

One advantage that is certain for virtual companies using the WFA model is the reduced costs for both employees and companies. Companies, for example, no longer need to rent significant amounts of physical office. Although IBM is not a virtual company with a WFA model, it offers remote work to many of its employees and have reduced more than 78 million square feet of office space.[326] In addition, the costs of maintaining office space are reduced as well. Companies who own or rent physical office space must consider "permits, licenses, maintenance, security, utilities, and insurance".[327] Some companies may decide to keep its office to impress clients.[328] This may work for some virtual companies in that when there are important meetings, on-site presence can be demanded. However, if the office is used sparingly or if not using a physical office at all is the preferred option, electricity costs are reduced if employees are not working on site. In general, even if a company decides to own physical space, rent is not the only significant expense that must be considered. These savings can lead to more options for a company. For example, the company could invest more funds back into the company or it could offer its employees more benefits or even time off. Essentially, a company can offer employees more benefits with those savings and use those additional funds to invest in company growth.[329]

In addition, employee burden rate can be reduced by running a fully virtual company. The burden rate is essentially the indirect costs associated with an employee.[330] Hiring and maintaining employees creates more financial costs for the company than just

---

[326] Cf. Fried/Heinemeir Hansson 2013, p. 31.

[327] Miles 2017, p. 61.

[328] Cf. Fried/Heinemeir Hansson 2013, p. 16.

[329] Cf. Miles 2017, p. 61-62.

[330] Cf. Keythman 2019.

the paid salary. For example, the cost of insurance can be reduced if a physical head-quarters is not used. "For employers, going virtual can save an estimated $22,000 per employee per year in an average US city, according to the consultancy Global Work-place Analytics, based on real estate and transit subsidy savings, increased produc-tivity, and reduced turnover and absenteeism."[331] In addition, companies save money by not having to compensate employees for travel. Nowadays, many meetings can be conducted over video, and this means less funds needed for employee travel.[332]

Within these virtual companies, employees also see financial benefits. This includes saving on clothing as the need to appear 'as professional' is minimized on camera, the need for gas is reduced if the employee is working from home, and home-made meals can be prepared rather than eating out for lunch during a physical company lunch break.[333] In fact, during the pandemic in the US, "motorists nationwide have cut fuel usage by almost 50 million gallons per day compared with last year, based on data from the U.S. Energy Information Administration".[334]

3.1.2 Hiring Pool

The range of candidates that a fully remote virtual company can consider are signifi-cantly higher than those of a traditional company. Some companies may decide to keep candidates in the same time zone. However, for those companies looking to extend their capabilities internationally, being fully remote can be beneficial. The issue remains that there are talented employees all over the globe, but it is not always the case that every individual wants to move to a company's physical vicinity.[335] Not only does this broaden the employee consideration pool away from those candidates that live near enough to the physical address of the company, but it also provides many companies opportunities to tackle more markets and especially global markets.[336]

As mentioned in the previous section, since these companies have fewer overhead costs, it is possible for these companies to consider expanding and hiring more em-ployees for growth. In addition, companies can choose to hire employees where the

---

[331] Johnston 2019.

[332] Cf. Miles 2017, p. 166.

[333] Cf. Miles 2017, p. 98.

[334] Fraser 2020.

[335] Cf. Fried/Heinemeir Hansson 2013, p. 25.

[336] Fried/Heinemeir Hansson 2013, p. 138.

pay is less than the average employee in the company's local area.[337] However, just because this is an option does not mean that it should be 100% used. Quality is often a better solution than just looking to reduce costs by hiring potentially less overall qualified candidates. It must be noted that fully remote companies have a 25% lower employee turnover than traditional companies.[338] This is likely due to the flexibility that remote jobs offer. Nevertheless, one challenge can be in determining the right candidates for a position if face-to-face contact is not a part of the hiring process.[339]

3.1.3   Flexibility and Work Satisfaction

The flexibility that remote work offers is something that employees are going to miss if respective employers intend to send workers back to working on site. Companies that are already fully remote understand that this is a part of the working structure and will attempt to make it function as such. As mentioned, the fact that employees do not have to commute is an advantage for employees financially due to gas savings. This lack of commute also saves employees time that can be used for other personal tasks (such as family tasks). This adds to the work satisfaction aspect because now employees have the flexibility to use the extra time to do something productive with the spare time. "According to the [US] census, there were a little over 139 million workers commuting in 2014. At an average of twenty-six minutes each way to work, five days a week, fifty weeks a year, that works out to something like a total of 1.8 trillion minutes Americans spent commuting in 2014."[340] In addition to commuting, employees who work at home can take care of personal tasks such as laundry or going to doctor's appointments. This is a benefit for the employee and does not disrupt as much time as it would if an employee needed to check-in to a physical work location. Even the weekend becomes burdened by the time away from home. Errands that may be completed during that commute are usually pushed back to the weekend which leaves less time for the individual employee.[341] Some companies will not be lenient when employees are late and keep strict track of time spent working.[342]

Flexibility for the employee is also given since the employee has more flexibility in what to wear for work (makeup and clothes included) because in many cases not as

---

[337] Cf. Miles 2017, p. 73.

[338] Cf. Simovic 2021.

[339] Cf. Fried/Heinemeir Hansson 2013, p. 152.

[340] Miles 2017, p. 68.

[341] Cf. Fried/Heinemeir Hansson 2013, p. 10.

[342] Cf. Miles 2017, p. 71.

many colleagues see the full body appearance of the employee during the day. However, if an employee decides to work away from home, in a coffee shop or a coworking space for example, then the flexibility extends to also choosing where one works.[343] This is important not only to give the employee flexibility in deciding how to structure the day, but also if an employee decides that moving from one location to another is necessary then this does not mean that the company will expect a resignation.[344] There are many reasons why individuals decide to move and this is not an issue for companies where a remote-first working structure is the minimum.

Employee work satisfaction is important for employees, but the effects reflect on the company. This satisfaction will show in the work that is given to the company because the company is showing that it truly trusts and cares about its employees which makes this a truly mutually beneficial relationship. Some consider being able to earn an income as a luxury, but now "the new luxury is the luxury of freedom and time".[345] Virtual work is not about letting employees be completely free to do anything including disregarding the job; it is about promoting quality of life.[346] If employees are satisfied with the employer situation, and are happy with life, it is more likely that the employee will be grateful and diligent with the work.

3.1.4 Environmentally Friendly

As mentioned in the COVID-19 Impact on Consumers and Business section within the environment-related subchapter (2.3.5), employees working remotely has shown to provide a positive impact on the environment. Virtual companies with a WFA model are digital by nature. Because of this, the use of printing physical paper will be heavily reduced.[347] According to Yale University, during the pandemic in March and April 2020, its procurement department tracked a 90% decrease in paper purchases and 96% decrease in printing costs.[348]

In addition, by not using company office, the use of energy is severely reduced. By not having a physical headquarters where employees are forced to attend, there is not a need to keep these offices air conditioned nor is it necessary to spend significant

---

[343] Cf. Fried/Heinemeir Hansson 2013, p. 20.

[344] Cf. Fried/Heinemeir Hansson 2013, p. 141.

[345] Fried/Heinemeir Chansson 2013, p. 23.

[346] Cf. Fried/Heinemeir Hansson 2013, p. 28.

[347] Cf. Miles 2017, p. 71.

[348] Cf. Yale University 2020.

amounts of energy on electricity.[349] As previously mentioned, the commute for employees also is taken out of the equation which means less air pollution as fewer motor vehicles are on the roads.[350]

3.2 Challenges

3.2.1 Communication and Culture

A major issue virtual companies must face is how to successfully manage communication and company culture. Unlike a regular company where face-to-face communication is the norm, virtual companies using the WFA model will have to rely on digital means of communication. This includes using email, instant messaging, or video conferencing. Companies must find an effective way to create a sense of virtual social intimacy between employees when employees are no longer in the office daily.[351] Although this is a possible advantage for introverted individuals who no longer miss the social bond that happens before and after meetings, those who are extroverted may find it difficult to cope without the social aspect that comes with working in a physical team.[352] Therefore, for a company full of extroverted individuals, it may be difficult to build a culture that is supportive of virtual work.[353] Building a company culture is arguably one of the most important aspects of a company and is no less important in a company that is virtual.

3.2.2 Employee Selection, Onboarding, and Development

Although the range of talent for virtual companies in terms of hiring is an advantage, selecting the right employees can be a challenge. Unlike face-to-face interviews where employers can read body language and have a confident feeling of what an employee is like, not every virtual company with a WFA model will have this luxury. Remote-first companies may be able to bring an individual into the office for an interview; however, this will take time away from the hiring manager and possible human resources if a longer commute is necessary depending on the respective physical home address of each individual. Many companies that are all-remote will not even

---

[349] Cf. Miles 2017, p. 71.

[350] Cf. Fried/Heinemeir Hansson 2013, p. 32.

[351] Cf. Kaufman et al. 2020, p. 7.

[352] Cf. Kaufman et al. 2020, p. 7.

[353] Cf. Larson/Vroman/Makarius 2020.

have this option to bring a potential candidate in for an interview because a physical headquarters does not exist. Therefore, a company may have to decide if meeting in a neutral location or conducting video interviews is the best option.

In addition, employee onboarding can become an issue. When an individual is hired virtual, it appears to be important that the individual is integrated as quickly as possible.[354] This will mean providing the proper training and assisting in helping individuals understand what the expectations are from the first day.[355] Virtual employees require a significant amount of personal responsibility since managers are not physically in the vicinity to assist.

Finally, developing employees can be challenging. Giving feedback to employees virtually can be different than receiving feedback one-on-one. Check-ins seem to be important for virtual companies and making sure that the employees are not afraid to ask questions and know where information can be gathered is useful for employee growth.[356]

3.2.3   Managing Productivity

Even after the pandemic has shown that work from home can bring about productive work from employees, many managers still have doubts.[357] Even though many workers are highly satisfied with working remotely, there are still many managers and employees who are concerned about the lack of physical supervision. In some companies there are employees who struggle to work with managers who are not easily reached or helpful in work from a distance.[358] The issue lies in control. Some managers are worried about losing control from employees and this often is due to a lack of trust.[359] The question is how managers can trust employees to complete the work from home and not surf the web of nonsense all day, for example.[360]

---

[354] Cf. Kaufman et al. 2020, p. 7.

[355] Cf. Miles 2017, p. 111.

[356] Cf. Kaufman et al. 2020, p. 7.

[357] Cf. Noguchi 2020.

[358] Cf. Larson/Vroman/Makarius 2020.

[359] Cf. Miles 2017, p. 83.

[360] Cf. Fried/Heinemeir Hansson 2013, p. 48.

The fact is that many companies are likely to outsource activities that are not possible to perform within the company itself. This includes outsourcing activities in the departments of "legal, accounting, payroll, advertising, [and] all essential business activities".[361] Although many companies outsource these activities, it seems to be more of an issue when it comes to a company's own employees. The question for virtual companies and its employees is therefore a question of trust. Virtual companies need to understand how to trust employees to be productive from home.[362]

3.2.4   Work/Life Balance

Although virtual work provides the flexibility of working from an array of locations, it is generally implied that remote work entails working from home. Therefore, it is not a surprise the issue of work/life balance for virtual company employees may exist. For virtual employees, the physical boundaries between work and living spaces may not exist. In fact, about 20% of employees working from home often report working during off time.[363]
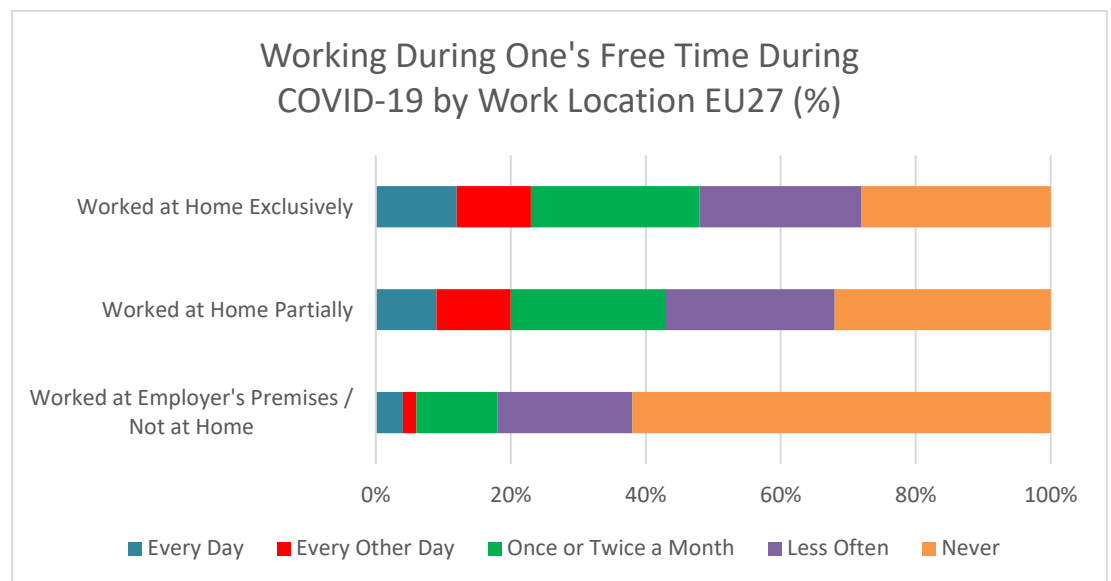
Fig. 18: Working During One's Free Time During COVID-19, by Work Location, EU27 (%)[364]

This is the 'issue' of having workers who are too passionate about work. On one hand, we have issues of companies worrying about employees not being productive enough and on the other hand arises the issue of employers working too much. This is an issue because a virtual manager may not be able to see possible burn out from a

---

[361] Fried/Heinemeir Hansson 2013, p. 40.

[362] Cf. Miles 2017, p. 84.

[363] Cf. Ahrendt et al. 2020, p. 33.

[364] Ahrendt et al. 2020, p. 34.

distance.[365] The challenge is in setting reasonable expectations.[366] If the expectations are reasonable, then the employer needs to understand why the employee needs to use off time to complete work tasks. Virtual employees must have time management and organization skills that are fit for the job. However, even if an employee is organized and has qualified time management skills, it can be difficult if there is not a dedicated workspace to complete the company's expected tasks.[367] Working in the same space where one sleeps could be a distraction, for example, as the place where one works is also the same place where one sleep. This can make it difficult to create a mental separation. In addition, being at home can bring other distractions that some employees may not be able to avoid. Especially during the period of COVID-19 restrictions, taking care of kids at home can be difficult while working if day cares are closed. In addition, if one is not properly organized, it is possible for employees to use work time to complete other tasks that need to be done around the house when a significant amount of company work is still left to be completed.

3.2.5 Managing Technology

An obvious fact about virtual companies is the use of the internet to conduct business. However, for virtual companies using a WFA working model, managing the usage of technology is even more important. Working from a virtual location has some minimal technological requirements. For example, most virtual employees require a laptop with a built-in web cam, a mouse, and a high-speed internet connection at minimum.[368] Some jobs may even also require the use of a second monitor.

Working from home is an experience and although nowadays having a laptop at home is standard, working from home is a different perspective. In the European Union, for example, more than 50% of the workers did not have prior experience working from a distance before the COVID-19 pandemic.[369] Therefore, not only must the proper equipment be provided, but also the proper training of how to use the equipment and software may be necessary.

---

[365] Cf. Fried/Heinemeir Hansson 2013, p. 116.

[366] Cf. Fried/Heinemeir Hansson 2013, p. 116-117.

[367] Cf. Miles 2017, p. 117.

[368] Cf. Miles 2017, p. 109.

[369] Cf. Milasi/González-Vázquez/Fernández-Macías 2020, p. 1.

In addition, the question of cybersecurity arises. In a traditional company within the Internet era, servers are kept in-house.[370] However, with cloud servers within virtual companies are the norm. External cyber threats are increased on cloud servers especially if employees are working on unsecured networks.[371] The question of maintaining security on the internet for virtual companies is a serious issue that must be addressed.

3.2.6   Regional and Cross-Border Considerations

For virtual companies with the WFA model, a company may decide to keep its employees in the same time zone and in the same country. Other companies may decide to extend its potential by becoming international. When the decision to go international is made, many more considerations are necessary. Every country has its own set of labor laws and if one can be exposed to unnecessary liability if not careful.[372] If a virtual company is in US and only hires within the US, for example, the stipulations may be that anyone within the company could work from anywhere from within the country and as a result accounting concerns and sales taxes for the company must be considered.[373] However, when hiring internationally, the option may be to establish a local office in the country in question or hire employees as contractors.[374]

Legal considerations are not the only issues to be considered. Even working in different time zones can bring challenges. Depending on the countries in which a virtual company operates, it may be necessary that each employee works within the respective company's time zone.[375] If US Eastern Time is a company's business hours, for example, it may be required that companies in other countries operate on these hours. This may be difficult for those working on the other side of the globe and therefore companies must be cautious about hiring employees in these areas. On the other hand, allowing employees to work from more locations may allow a company to operate 24 hours per day depending on the business model.

---

[370] Cf. Pratt 2014.

[371] Cf. Kaufman et al. 2020, p. 5.

[372] Cf. Fried/Heinemeir Hansson 2013, p. 132.

[373] Cf. Fried/Heinemeir Hansson 2013, p. 132.

[374] Cf. Fried/Heinemeir Hansson 2013, p. 132-133.

[375] Cf. Fried/Heinemeir Hansson 2013, p. 17.

4   Interview Methodology

4.1   Interview Research Approach

Interviews for this thesis were conducted in order to gain a better understanding of virtual companies using the WFA working model for its employees. As such, the questions not only relate to the industries, businesses, products, and services that are best fit, but also how these companies are currently having success and dealing with the challenges that come with it. Because this topic is relatively current and to gain knowledge from virtual companies directly, qualitative research, versus quantitative research, for the purposes of this thesis was chosen.

Quantitative research "encompasses a range of methods concerned with the systematic investigation of social phenomena, using statistical or numerical data. Therefore, quantitative research involves measurement and assumes that the phenomena under study can be measured. It sets out to analyse data for trends and relationships and to verify the measurements made."[376]

Qualitative research is "essentially 'exploratory', setting out to describe, understand and explain a particular phenomenon. It may address 'what?', 'why?' and 'how?' but not 'how many?' or 'how frequently?'."[377]

The qualitative research method that was used for this thesis is in the form of interviews with participants connected to the virtual company space.

4.2   Implementation and Data Collection

Various methods were used to find participants for the interviews conducted. The first method was through direct emails to existing virtual companies in search of employees and managers willing to aid in this research. The second data collection method was through the researcher's LinkedIn network requesting participation of employees currently working within virtual companies. Finally, the researcher used the network of accadis Hochschule Bad Homburg's professors to find qualified candidates who could help with the research in question.

---

[376] Watson 2015, p. 44.

[377] Barbour 2001, p. 156.

For this research, interviews of five participants were conducted. The interviewees were from an industry mix of human resources software, time-tracking software, professional services, and enterprise software. The companies of the interviewees were HRLocker, ManpowerGroup Germany, SAP, Toggle Hire, and Toggle Track respectively. The interviewee's job roles in these virtual companies were CEO and Founder, Managing Director-Country Manager, Senior Customer Engagement Executive, Product Manager, and Head of Engineering.

The questions were created with the aim of addressing the research questions regarding the success factors for virtual companies. The interviews consisted of three sections. Section 1 was company-related questions, Section 2 was employee-related questions, and Section 3 was general perspective questions. There was a total of eleven main questions; however, the number of questions were not evenly distributed between each section. In addition, some of the main questions included additional questions or follow-up questions making the total number of questions asked more than eleven. The company-related questions (1-6) were created to gain an understanding of the best industries, businesses, products, and services that are best suited for virtual companies with a WFA model. In addition, the questions from this section were created to gain an overall understanding of whether these companies believe that this model is the best for its respective businesses and to gain an understanding of each company's greatest advantages, challenges, success factors, and aspects for survival. The employee-related questions (7-9) focused specifically on the challenges that a company may face with its employee workforce and how these challenges are specifically addressed. The general perspective questions (10-11) were created to determine the overall sentiment toward virtual companies and to gain a perspective on the future of virtual companies globally.

The majority of the participants interviewed were from virtual companies using the WFA model (remote-first or all-remote), but all participants' companies are working with some degree of a remote-working structure. The final interview evaluation was done by collecting each the responses of the participants and determining the correlations and any interesting feedback. The results will be portrayed in section 5.2 Interview Content Analysis.

4.3   Interview Limitations

To receive timely responses, the majority of the interviews were sent to the participants electronically who then completed the interview questionnaire forms and returned them to the researcher. One of the five interviews was conducted orally and thus portray differences in the way the interview was controlled. Therefore, the responses of several interviews may be inconsistent compared to the single orally conducted interview. In addition, two of the five participants are from the same main entity (Toggl, now Toggle Track). As a result, 40% of the participants are essentially from the same legal entity and may result in a level of bias for this research. Finally, while the majority of the participants' companies use a WFA model for all of its employees, two of the participants do not work in a such an organization and thus this may reflect in the results accordingly.

5 Interview Analysis

5.1 Interviewee Details

5.1.1 Interviewee #1: Adam Coleman (HRLocker)

Adam Coleman is the CEO and Founder of HRLocker. HRLocker provides Human Resources software for companies who desire to better manage its workforce. The features provided include time management, employee database management, and recruiting and onboarding. The physical location of HRLocker is in Lahinch on the west coast of Ireland but the employees are located in various countries and work on a remote-first basis.

5.1.2 Interviewee #2: Eric de Jonge (ManpowerGroup Germany)

Eric de Jonge is a Managing Director-Country Manager of ManpowerGroup Germany. ManpowerGroup is "the world leader in innovative workforce solutions, connecting human potential to the power of business".[378] The main headquarters of Manpower-Group is in Milwaukee, Wisconsin, US but it has over 2,700 offices in more than 80 countries. ManpowerGroup Deutschland GmbH specifically is located in Eschborn, Hessen, Germany.

5.1.3 Interviewee #3: Dr. Max Schaifers (SAP Deutschland SE & Co.KG)

Dr. Max Schaifers is a Senior Customer Engagement Executive at SAP Deutschland SE & Co. KG. SAP is a software company that focuses on the needs of businesses for the purposes of business operations and customer relations. It is located in Walldorf, Baden-Württemberg, Germany, and since May 2020, per Dr. Schaifers, the software company has been 100% virtual.

5.1.4 Interviewee #4: Jan Rosa (Toggle Hire)

Jan Rosa is a Product Manager at Toggl Hire. Toggl Hire was formerly known as Hundred5 and is one of the newer products at Toggl Track.[379] The aim of the Toggl

---

[378] ManpowerGroup 2021.

[379] Cf. Nida 2021.

Hire product is to screen candidates and reduce hiring times.[380] Toggl Track is officially headquartered in Tallinn, Estonia but is a fully remote company.[381]

5.1.5   Interviewee #5: Paul Scharf (Toggle Track)

Paul Scharf is the Head of Engineering at Toggl. Toggl Track offers businesses productivity and time tracking software.[382] As mentioned above, Toggl Track is a globally fully remote company headquartered in Tallinn, Estonia.

5.2   Interview Content Analysis

5.2.1   Company-Related Questions

What industries and businesses do you believe are currently best suited for virtual companies?

Based on the responses from the participants, it appears that the industries and businesses that are best suited for virtual companies are related to software. Four out of five participants directly or indirectly mentioned that software was a great fit for virtual companies. Other common responses included companies in technology, service, consulting, education, and those companies where knowledge workers were commonly present. Other industries that were least often mentioned include marketing agencies, art studios, accounting firms, banks, insurance, and not-for-profits.

What industries and businesses do you believe will actually transition into virtual companies in the future?

In terms of companies actually transitioning into virtual companies with a WFA model, some responses were similar to the previous question, but there were also some mixed responses. Rosa believes that language courses, personal assistants, concierge services, travel and booking, learning and development, and human resources will transition into virtual companies. Coleman strongly believes that tech professional services and not-for-profits will surely continue to trend virtual. Schaifers believes that banks, insurances, and healthcare and automotive will make the transition. Schaifers

---

[380] Cf. Toggl Hire 2021.

[381] Cf. Toggl 2021a.

[382] Cf. Toggl 2021b.

and de Jonge would agree that a significant number of industries and companies will become virtual. De Jonge, however, would argue that fewer companies will become fully virtual because some companies require some sort of physical aspects to its operations. Scharf, on the other hand, argues that most businesses will become virtual in the future as many employees prefer working from home over returning to the office. One reason to this is because of the overbearing and expensive cities and because working from home is more flexible.

Are there products and/or services that are well-suited for virtual companies?

Scharf proclaims that any service that does not require physical presence can become a virtual company but agrees with Rosa that software is a well-suited industry. De Jonge believes that products in the form of advice that can be done and dealt with online are a good fit. This would agree with Rosa who believes that consulting is a well-fitting service for virtual companies. Rosa would also agree with Coleman in that Financial Services would fit for virtual companies. In addition, Rosa also believes that Human Resources will transition into virtual companies in the future which Coleman would likely agree with since HRLocker provides human resource software to its clients. Finally, Coleman reiterates that knowledge work-based companies are well-fit and strongly believes that anything to do with digital transformation could function well as virtual companies.

Do you believe that a virtual company with this Work from Anywhere model is the best structure for your business?

Four out of five interview participants believe that a virtual company is the best fit for its respective business. Scharf and Rosa both mention that this model reduces the limit of the hiring pool which correlates with section 3.1.2. In addition, Scharf notes that this model makes employees become better at communicating asynchronously as everything is documented. In addition, Scharf argues that this model makes it easier to understand and service the global market. De Jonge, however, argues that this model is not best for ManpowerGroup as the infrastructure and technologies must be in place for this and it also requires a large investment in technologies like Artificial Intelligence and Robot Automation. He argues that for companies in the staffing and services industry such as ManpowerGroup, physical presence is indeed necessary. This includes meetings with clients and candidates, as well as the question of creating a desired company culture. Stated explicitly, "If you want to ensure your own staff will

learn quickly and will adjust to the desired company culture, you will need an environment where one can influence each other and that is mostly in office."[383]

How does your company deal with technical support?

- **How do you make technology work for those employees who may not be technologically advanced?**

It appears that each interviewee was not seriously concerned about its employees' levels of technological ability. Scharf explains that Toggl Track has guidelines in place and employees who specifically assist in case of such issues. However, Scharf would argue that this is not such a relevant issue especially for the future since the vast majority are growing up around computers. De Jonge expresses that the proper processes must be in place to reduce the risk of such issues while Schaifers, Coleman, and Scharf would agree that virtual companies should seriously consider whether hiring individuals who are not technologically savvy is a good idea in the first place. In terms of specific aid, Rosa recommends companies offers chat support and video support.

- **How should these companies deal with the risks that come with cybersecurity?**

Dr. Schaifer's company deals with cybersecurity, so this issue was less relevant for SAP. However, Scharf explains that companies need to have experts that understand best practices, review hardware/software solutions, and can educate employees. Rosa believes that onboarding is critical. The opinion here is that security training should be a part of customer onboarding and retraining should also be in place. De Jonge believes that having the right infrastructure that supports security is extremely helpful while Coleman explains that having a VPN (Virtual Private Network) in line and having security up to speed are the most important factors.

The greatest advantages of a Work from Anywhere model?

Many of the advantages portrayed in subchapter 3.1 correlate with the responses of the interview participants. Relating to subchapter 3.1.1, Schaifers and De Jonge be-

---

[383] See Appendix 7.2, p. 102.

lieve that the costs associated with virtual companies with a WFA model are a significant advantage. Reiterated from before and from section 3.1.2, Scharf and Rosa both believe that the hiring pool is a significant advantage for virtual companies as the qualified talent is not limited to a feasible distance away from the headquarters. In addition, section 3.1.3 is further strengthened by the fact that Scharf, Rosa, and Coleman all agree that flexibility and work satisfaction are significant perks for the respective companies. Other benefits mentioned were improved efficiency, documentation of all decisions, relying less on individuals, and sustainability.

The most relevant challenges and best way to handle these challenges in a Work from Anywhere Model?

Scharf notes that human connection can be difficult in virtual companies which can be difficult to build without face-to-face interaction. This issue can also be viewed by Schaifers who states that working with no physical interaction of employees and employee engagement can become an issue. This correlates with Rosa views as team spirit, relationships, and finding those who do not need to be micromanaged and still deliver good results is still an issue. These issues appear to be solved with physical meetups that occur on a regular basis. This idea agrees with De Jonge who believes that not working virtually all the time can solve this issue. Although meetups do not necessarily have to be work-related and therefore these responses are not the same, the idea is that having physical meetings appears to be a key factor in dealing with these issues. However, it must be determined beforehand if individual employees are a good fit for this environment. Coleman suggests understanding the preferences of employees and HRLocker implements a psychometric evaluation of its employees, and each employee always has access to this information. This helps employees understand each other better even if the distance is relatively large. In addition, Schaifers suggests that virtual companies use a solid collaboration platform. This includes Microsoft Teams or Slack for example. The idea of building human connections, and as a result company culture, seems to be the most serious issue for virtual companies with a WFA model; however, it appears that solutions that appear to be working for its respective companies are being found.

The most important success factors?

It appears that the success factors for virtual companies are numerous. The most important factor appears in the form of human capital. Schaifer argues that the most important success factor is to hire the right workforce and Coleman would agree. It

has already been mentioned that the hiring pool is enhanced with a WFA model; however, Coleman argues that is important to make sure that the employees are connected and have a good experience working for the company. Although human capital is the most important success factor, it is up to the company to integrate its employees into a motivating and engaging environment. Not only does this include treating workers from all locations as equal as Rosa explains, but it also includes what Coleman would describe as creating a strong and open culture as well as allowing individuals to openly express vulnerabilities.

Scharf argues that it is important that employees are willing to work remotely. Embracing change is an important part of success in virtual companies. Some individuals may not be willing to work remotely for various reasons. One reason may be due to the remote working environment that an individual is in. A proper remote working space is imperative to the success of employees in virtual companies, and this is further reiterated by Coleman. In fact, part of the hiring process for Coleman is determining what type of working space an employee would work in once hired. De Jonge, however, would argue that being remote-first or all-remote is not destined for success as finding a balance of not having to work remote is more important. However, Scharf would state that it is the right training and coaching that are strong success factors for virtual companies as well as having the right technologies in place. Finally, Coleman and Scharf agree that virtual companies are results-based and not hours based. It is not important how many hours one has worked, but what work has been completed.

The most important aspects for survival

In terms of the bare minimum for survival, Scharf portrays that a company culture that changes as the company grows is important. De Jonge argues that balance is important and Schaifers believes that the USP (Unique Selling Proposition) of the service offering is the most important for survival. However, Coleman strongly states that cash flow is, and always will be, the number one factor for survival. Essentially, if there is no money, there is not a chance that the company can survive.

5.2.2   Employee-Related Questions

How important is human capital in a Work from Anywhere model?

As mentioned in the success factors, human capital appears to be imperative in every company but especially for virtual companies with a WFA model. Rosa argues that it

is critical to have strong talent to compete globally. Scharf explains that it is extremely important for knowledge work which is one of the types of work that was shown to fit well for virtual companies. De Jonge would argue that human capital are the main assets especially in ManpowerGroup's industry. Coleman even ranked the importance in percentage terms: 40% people, 40% marketing, 20% everything in between.

How are the most qualified employees hired in a Work from Anywhere model?

The answer to hiring depends on each respective company but it appears that some participants do not feel that hiring is that much different than a traditional company. Scharf, however, explains that Toggl Track does not use a resume-based hiring process. Instead, a candidate takes a skills test for a job that he or she is interested in. De Jonge portrays that Manpower Group still uses a resume process, however, and these resumes are analyzed before conducting virtual interviews of candidates. SAP also offers virtual interviews of candidates to understand if the candidate is a proper fit for the company. However, Rosa and Coleman both state that it is the entire recruitment process that is important with Coleman going into further detail. Coleman elaborates that it is about having a solid process in place initially receiving resumes and asking candidates if he or she has worked from home before and if the candidate is legally allowed to work in the country of application. Following that, video recordings of candidates answering certain questions is analyzed and then a behavioral interview is conducted. There are more steps to the process but the important thing to note here is that for Coleman and HRLocker, a proper process must be in place to qualify candidates. More information about this process can be found in subchapter 7.1 in the appendix.

How is employee onboarding addressed in a Work from Anywhere model?

This correlates with the previous question on how the most qualified candidate are hired. Scharf would agree with Coleman and Rosa in that a proper process must be in place, and everything should be documented. Scharf also states that everything that has been documented must be public and in text. Rosa who also works at Toggl states that this is the managers responsibility to ensure that new hires are on the right track, but this also comes down to the entire hiring process as portrayed in detail by Coleman within HRLocker. On the other hand, De Jonge believes that physical interaction is necessary at some point in this process to have good discussions and to form a good corporate relationship.

Company Culture

Not much information has been provided for this section since company culture was already mentioned in the previous sections. However, when it comes to company culture, according to Rosa it needs to be understood during the recruitment process if the candidate is a fit to the culture and the culture needs to be strongly reiterated during onboarding. Coleman argues that in order to create company culture virtually, communication mechanism need to be used and HRLocker video records every single conversation in its company. There are many tools out there to supplement culture in terms of communication including Microsoft Teams and Slack, for example.

Compensation

Approaches to compensation for virtual companies with a WFA model are numerous and some of these approaches were portrayed by the interview participants. Two separate approaches were provided by Rosa in which one, a company can pay each employee based on job title regardless of location, or two, employees can be paid based on the local market rates. Each has its own advantages and disadvantages, and several factors will determine the compensation structure such as: culture, size, and situation. Coleman responded that stock options are a good choice for virtual employees and further elaborates that all compensation and bonuses that happens at HRLocker are based on how employees build and improve upon the culture of the business.

Motivation

For motivation, Rosa argues that employees need to understand what it is that needs to be done at work. There are different reasons for motivation, but each employee must understand his or her personal internal motivation for working. Coleman states that the company culture is an important factor for motivation. If employees like the job and the work environment, even if its virtual, then the motivation will surely follow. HRLocker focuses on improving adults and focusing on adult learning. Also, as previously mentioned in the success factors section, it is important that employees feel safe expressing vulnerabilities. Coleman argues that creating a safe place for employees to fail may sound counterintuitive, but it is significant in creating motivation.

Training

For virtual companies, like traditional companies, it is imperative to continue developing and training employees. Rosa states that learning by doing is important but other important aspects of training come in the form of learning from colleagues, books, and documentation. A more obvious solution to training employees is in the form of training courses. As Coleman states, every employee at HRLocker can request training at any point but it must be based on four things: current job, future job, communications, or well-being. Overall, it is important that virtual companies keep training up to date from an ISO (International Organization for Standardization) perspective but also to have a qualified and competent workforce.

Performance/Productivity

As previously mentioned, virtual companies with a WFA model are results driven. Therefore, it is not about the number of hours works but the results that the individuals and the company achieves. Rosa and Coleman both believe that is important to measure progress regularly and that manager-employee relationships are important. Coleman portrays that it is possible to allocate hours on specific tasks with tools. This is not necessarily recommended but it is something that companies can do to monitor its employees. Another option is to have real-time reviews. With this, employees set their own objectives and are scored against these every quarter. It is kept live so that employees can continue to add onto it at will as time goes on.

Work/Life Balance

Work/Life balance is an issue that was portrayed in section 3.2.4 and is something that must be addresses in virtual companies. The issue here is that for some employees it can be difficult to differentiate between work time and 'off' time. De Jonge argues that this requires discipline and that encouraging regular breaks can help aid with this issue. In addition, companies can offer physical activities for its employees like employee walking, biking, and jogging to stimulate physical and mental health when employees are working remotely. Toggl Track is a time tracking software, and this is something that can be used to track time of employees to make sure that employees are not overworking. Rosa also adds that out of office messages, turning off notifications, and just the ability to say 'no' are important in creating a digital divide. Coleman notes that employees can complete time sheets for the company and managers to gain an understanding of the hours that employees are working. Ultimately,

it comes down the managers to understand why someone is overworking. The question needs to be asked whether the employee is overworked of if the employee is not using the time wisely to complete the work. Either way, real-time reviews are a good way for managers to understand why employees are having difficulty creating a divide. In the end, it is up to the employees to decide as employees must take responsibility for their own careers respectively.

Unknown Knowledge

There are times when employees in a company may feel isolated and may not know who to turn to when knowledge is unknown. Solutions to this issue exist. One of the most obvious ones is in the form of searching on the web for solutions as there is a wealth of information available. In addition, Rosa mentions that books and training courses are also solutions for employees to gain more detailed information and knowledge. However, if a company has a strong company culture and individuals are not afraid to express vulnerabilities, it could be possible to ask anyone in the company for assistance when needed. If the employee already understands this standard, then finding knowledge that is unknown should not be an issue.

Conflicts

Company conflicts can be addressed with discussion. Rosa states that discussing the issue is the first step to mediating conflict and if that does not help then the manager should be integrated. However, sometimes the issue may be between the manager and the employee which is an issue that can also be addressed. If this issue were to occur, there should be a process in place to help address these issues. Constructive coaching on how to deal with individuals in a virtual environment can be encouraged. If everything in the company is documented, then one can go to someone else in the company in order to get guidance on how to best deal with a relationship. As mentioned, psychometric profiles are in place at HRLocker and that seems to be a solution that aids as well.

Communication

The section on communication also intercorrelates with company culture. In virtual companies, it is crucial to learn how to communicate properly as understanding can become lost in digital conversations. However, there are many tools that are useful

for communication and Slack was the one that was most often mentioned by the participants. Other communication mediums mentioned were email, Google Suite, and Microsoft Teams. Regardless of what tools are used, it appears that documentation is key. Everything should be documented in order to have a record and also to learn from the communication.

Do you see any specific challenges for employees working in these types of companies?

In terms of specific challenges, disconnecting from work was a common response. Some individuals who work from home seem to have issues disconnecting and as mentioned, this can be addressed by a caring manager. Rosa mentions the ability to self-manage and long-term motivation as challenges. De Jonge and Scharf argue that it may be difficult for some to work from home and this can also be due to personal reasons. Rosa and Schaifers explain that the physical connection will be missed and creating relationship may be more challenging. Finally, Coleman states that electricity is a challenge that those in the western world take for granted. This is something that must be understood when hiring certain employees from developing countries as entire power systems can leave some employees offline for an undetermined amount of time.

5.2.3 General Perspective Questions

Would you recommend that every eligible company transition from a traditional company into a virtual company?

Not every company agreed that every eligible company should transition into a virtual company with a WFA model. Scharf recommends that these companies should consider the option as there are many advantages and few disadvantages. Schaifers states that this is not a simple yes or no question as the world would be very pure if this was the case. De Jonge believes that there should be an optimal balance between virtual activities and physical activities and thus does not believe that every eligible company should choose this working model. However, Rosa and Coleman explicitly stated that they completely agree that eligible company should make the transition due to its benefits.

What is your personal perspective on the future of global virtual companies?

Every participant believes that we are trending toward a virtual future. Although not all participants believe that this is the best model for every eligible business, the belief is that we are undoubtedly trending toward companies that will at least offer a blended option. De Jonge believes that we will see a more blended future while Scharf believes that virtual companies are the future. Rosa believes that the trend will definitely increase while Schaifers believes that an increase in virtual work activities is inevitable (but luckily not all activities). Finally, Coleman believes that virtual companies and the lack of necessity of being physically present in offices is going to challenge society as it is.

5.3 Interview Summary

It appears that software companies are the most likely candidates to lead the way in the virtualization of companies. Industries, business, products, and services related to software were seen by the participants to be the most favorable for the future of virtual work. Nevertheless, it was agreed that many businesses have the capabilities to become virtual even if this was not completely agreed to be the best for every eligible company. Most participants did feel that the WFA model was the best business model for its respective business and most agreed that the staff is already technologically capable of handling virtual work. The advantages, challenges, success factors, and survival aspects of virtual companies with a WFA model were portrayed and the best way to handle these challenges was portrayed accordingly. There is not a 100% consensus as to whether virtual companies will continue to thrive in the future. Although the majority of participants believe that the world is trending toward such a future, it is not 100% agreed upon that companies that are eligible to become an all-remote company or a remote-first company is the proper structure. The challenges of virtual companies are numerous; however, there are also challenges that traditional companies face as well. The interview participants from remote-first companies appear to have already seen the challenges that come with being a virtual company and have found solutions accordingly. Overall, it cannot be determined from the responses that a remote-first or all-remote company is the absolute best option for many companies, but it does portray that there are options to deal with the challenges and succeed accordingly.

6 Conclusion

6.1 Summary

It is not news that the world is trending toward a virtual future. The way in which companies operate has changed over the years and this change was significantly impacted by the widely distributed use of the internet. Internet companies became prevalent during the 1990s due to the WWW and the increased usage of web browsers. Because information is now available to every individual with an internet connection at will, businesses can offer various products and services to consumers without the need of using a physical brick-and-mortar location. At present, the internet is not something that every human being on this planet has access to; however, the number of first-time internet users is growing at a rapid pace daily and thus will continue to create more opportunities for consumers and businesses.

Internet companies have proven that a company's physical presence can be scaled back. However, it was the COVID-19 pandemic that has proven to have a significant impact on the way in which businesses and consumers behave. A PESTEL analysis was provided to portray some of the main macroenvironmental effects of COVID-19 on society and how this virus has adjusted the mentality of the common individual. Due to government lockdowns and restrictions on businesses among other factors, businesses were forced to adjust. Because many businesses were shut down or were forced to offer remote working options to their employees, new business models have been developed and the question of whether scaling back physical presence permanently as a valid option has emerged. Therefore, this thesis focused on virtual companies with a *Work from Anywhere* model as these companies portray an extreme case of extending this non-existent level of physical presence to employees. However, since the idea of implementing WFA models is relatively new, even though several companies have used this model before the COVID-19 pandemic, the question arises as to what the success factors for such companies are. Depending on the structure, WFA models represent companies that are either remote-first or all-remote. Remote-first companies essentially have a physical headquarters but do not force their employees to work on site and communication is handled through virtual channels. All-remote companies do not possess a physical location for their employees to work and all employees are forced to work remotely.

The advantages to virtual companies cannot be understated. These include lower overall costs, an increased hiring pool, employee flexibility and work satisfaction, as well as contributing to the improvement of the environment. Costs reduced from maintaining a building for employees helps employers, but the reduced costs of commuting have a positive impact on virtual employees as well. In addition, this provides employees more options on how and where to work which also adds to employee work satisfaction. Global virtual companies are not limited in the talent pool and are able to hire qualified talent that is not necessarily living in a company's vicinity. This provides positives not only for employers, but also for employees as more job opportunities arise regardless of location. In addition, the idea of maintaining the environment is becoming more important than ever before and virtual companies with fewer commutes and less physical office space participate in environmental improvement. However, the idea of increasing the virtual nature of a company comes with its challenges as well. Some concerns are within the scope of communication, company culture, employee selection, onboarding, development, managing productivity, work/life balance, managing technology, as well as regional and cross border considerations. Because virtual companies already exist, these challenges have already been considered and adhered to by companies who are already successful with this model. To combat the challenges of communication and company culture, it is common consensus to have physical meetups, consistent documentation, and to use video conferencing tools to supplement the lack of physical connection. For employee selection, onboarding, and development, it is imperative to have a robust process in place. For managing technology, this also requires a process as well, but it is important to inform employees of expectations from the hiring phase forward. For productivity, trust is an important factor and communication plays a crucial role. Virtual companies are results-based and not focused on the hours worked. This leads to a better development of employees rather than just documenting the time spent at a specific location. It is apparent that those working in virtual companies are already technologically sound. This is portrayed by the fact that many virtual companies will not even hire employees who are not able utilize a computer properly.

The overall aim of this master's thesis was to portray the success factors for virtual companies. First of all, a virtual company must be an internet company. Companies like Amazon, Google, Facebook, PayPal, and Netflix have proven that a business can run properly without physically connecting with its target consumers. Virtual companies must communicate with target customers through ICT to provide quality customer service, but also to sell more products and services. Adding onto this point, the second important factor is the company's business model. There are many business models

that virtual companies can follow such as platform business models; nevertheless, the products and services that virtual companies offer will be determinant in whether the company can be successful. This is not much different than a traditional company in the sense that there must exist a demand for the products and services offered and for virtual companies these must be offered somehow through the internet. In addition, it must be determined which companies are actually suitable as virtual companies. As mentioned, this thesis focused on virtual companies with a WFA model and examined several studies that portrayed aspects that determine whether becoming this type of virtual company is feasible and whether maintaining this business model is sustainable. Some of the main points from these studies were related to the necessity of computer use and physical customer contact at work as well as the specific tasks, sectors, and countries related to specific employees. As a result, employees in the sectors of *management*, *business*, *science*, *finance*, *insurance*, *professional*, *science*, and *technical services* were overall the most suitable for virtual companies. Even though many companies have decided to make the transition into a WFA model, these results portray that a transition into a virtual company is not feasible for every company. However, for those companies that are eligible, leadership appears to have played an important role. Because proper communication is even more important in a virtual company than in a traditional company due to the lack of physical contact, managers must be able to maintain positive relationships with employees, and for employees to be successful, the ability to express vulnerabilities and the feeling of personal growth is crucial. If the employee feels that this is the case, the likelihood of employee happiness and satisfaction increases. As a result, this work satisfaction will translate to the customer and increase the success of the business overall.

6.2 Outlook and Recommendation

Virtual companies are the future, but it is likely that many companies will force employees to return to physical locations to work at least part time. The idea of virtual companies, especially virtual companies with a WFA model is still relatively new and thus there is still much skepticism as to whether such a working structure can succeed in the long run. Although this has been proven to function for companies working with this model at present, it cannot be concluded that this model would work for every eligible company. The advantages and success factors for virtual companies mentioned in the previous chapter may exist at present, but the future of remote work is forever changing, and society will likely see additional alterations to the common perception of physical presence in the workplace. To gain a better understanding of how

virtual companies with a WFA model work and this model's role in the future workplace, further surveys and/or interviews with more participants should be conducted. Overall, the state of remote work will continue to change, and it is likely that this will continue to evolve as the corporate world develops.

7 Appendix

7.1 HRLocker Interview

Interviewee: Adam Coleman[384]

Company: HRLocker

Position: CEO & Founder

Date: August 3, 2021

Coleman: Carlos?

McCrary: Hey! How are you?

Coleman: I'm very tired after a long bank holiday weekend. I've done a couple of crazy things this weekend so I'm tired.

McCrary: I completely understand. Thank you for taking the time to do this interview with me. I really appreciate that.

Coleman: No, not at all. This is what life's all about. Talk to me about your studies.

McCrary: Yea okay, so I am studying International Business Management at accadis Hochschule here in Germany. I'm from the United States but I moved to Germany about 7 years ago.

Coleman: Where are you from in the US?

McCrary: Yea I've moved around a lot but I would say I am from Atlanta originally but I've lived in North Carolina, Nebraska, Wisconsin… Yea several different states.

Coleman: Wherever the caravan stops, huh?

McCrary: Yea! Exactly!

---

[384] Conducted Interview Transcript Coleman 2021.

Coleman: So what is the thesis about in general? I know I got a small introduction into it.

McCrary: Yea, you work for a virtual company. I've done a little bit of research into HRLocker and basically what I am trying to figure out is - what are the success factors for a virtual company – and what I did was I tried to narrow that focus down a little bit more on the employee side but I also want to understand in general what does it take for all of that to work. I mean a lot of the companies in the traditional sense have a brick-and-mortar location where customers can come in and they can talk and ask for help and assistance, but in a virtual company, which I assume you will tell me more about it, you don't have these physical locations where people come in and start asking questions and start asking for assistance.

Coleman: Do you want me to record this so you have it for references later?

McCrary: Oh I wanted to ask you too. Maybe you can also record it but I'm already recording so I was going to ask you if I could continue to record. If not, I was going to stop recording once the interview started.

Coleman: No, I've started the recording on this now so hopefully it'll start working in a second. Once you're happy with the recording, that's great. Honest to God, anything we are going to say is going to be, as far as I'm concerned, public knowledge.

McCrary: Awesome, I appreciate that.

Coleman: Let me give you a little bit about the history because it's quite interesting. When I set up HR Adventures, we set up as an HR consulting company back in 2003, and we pivoted into software around 2012/13. One of the things that we had a problem with when we pivoted to software was finding the right skillsets because we are so rural. So, we started to hire people who were working from home and that consists of people from Vietnam, Spain, UK, and then back in 2015 when I saw it working really well, I started to talk about remote working way before the pandemic hit. If I knew the language then that I know now what it would be, we would have been implementing hybrid working but we didn't know what we were doing to be honest with you. Around 2015/16, I started to explore the whole remote working a little bit more and I got engaged with a tribe, which is the best way I can describe them, started up a company called Grow Remote which is a social enterprise to get companies to start looking at remote working to invigorate rural economies. We were sort of like a go-to company

because we were not necessarily promoting remote working at the time. We were promoting, probably, remote companies. I remember at our first event, in 2016/17 maybe, it was down on the west coast of Ireland in Kerry, and I was expecting maybe 100 people to turn up max. When I got there, it was myself, there was a guy who was a very senior guy at Microsoft, the director of customer services from Shopify, and there were all these locals in the county Kerry. The audience was about 250 people from politicians to notable educators to whoever and it was just a phenomenal event, and it began to take off and Tracy Keogh was one of the founders, co-founders, and all of a sudden, they released this absolute beast is how I would describe it. To give you an idea, to spin it forward, Go Remote have 125 chapters all the way around Ireland, UK, Portugal, whatever and they are now setup as a proper support company manageable workers and how to just bring on remote working in general and how important the communities are to get involved in these things. So, I continued on that journey in 2018, if you wanted, it's terrible but you can always access this as well, I was asked by it was a worldwide organization called DisruptHR, I did a 15 minute talk and it was one of my first talks because I'm a bit of a Backroom Billy as opposed to Frontroom Sam or Frontroom Freddy or whatever, and so I apologize when you do watch it but when you google Adam Coleman DisruptHR, you'll see it comes up. [It was] one of the most terrifying things I've ever done because you've got 15 slides in 10 minutes and you have to have it completed coordinated everything that you're doing and it's really professional and I was pretty nervous. I've grasped that vulnerability around myself and try to make myself better at it day-on-day. Then COVID his obviously, and our software enabled remote working. Therefore, it allows people to manage their careers no matter where they are within the companies they are in. They can request training, they can request performance reviews, they can record the holidays, they can create productivity timesheets and then there's the recruitment element and all of that sort of stuff and it's built specifically for professional services and non-profit companies who are in a 'knowledge' industry rather than the 'doing' industry. So when COVID hit, there were guys coming into the office all of the time and then there were some remote and then we went completely remote. The first thing we did, and it only took us a week, was we specified what desk everybody gets, what laptop everybody gets (that was already specified anyway), but what risers they get, ergonomically all that sort of stuff. Every one of those were shipped to each person's house that was working remotely. It took us a week to switch but the most important part of that switch was getting the systems instituted, which we had mostly and most important that everyone overlooks is to look at the habits and grooves of your business of how it works in terms of when people have to go on calls, when they don't, all that

sort of stuff and really looking at we use are time sheets to see. We don't really care about you clocking in and out but I want to make sure one, that people aren't over-working and they are engaging at appropriate times and getting those grooves and habits instituted and religiously sticking by them is absolutely essential. Since we've done that, nobody wants to come back to the office and I don't want them back either. But what we do now, this lovely office, small office, 600 square feet on the west coast. This is the sales room in here and there's a marketing room upstairs and there's an operations room. So, when people need to they can come here and work from her, or, it's such a beautiful place, we're right beside a surf beach, we're right beside a golf course, and it's in a really nice part of Ireland, if they want to come down for a week or two weeks and work from the office and have time with their family they can do that too. So, we put all of these things in to really help people with what I call work and life blend, rather than this work/life rubbish. Because if anything is balancing then some-thing's got to fall over. If it's a blend then at least you can do something with it. Then the idea and culture of the business is that it's very open and transparent and we put adults development at the center of our business strategy where basically the idea is that a person is learning all the time and there is a constant state of review. Not just for the business but also for their life in general. So that's us, Carlos. We're doing well. We've got 32 employees and we're growing the business by 40% year-on-year and life is good.

McCrary: I have so many questions, maybe not in line with my interview. I feel like you've answered some of them already. So, we can go through some of these be-cause you've given me some really good pointers there and I'm definitely going to go back and listen through our recordings and see the exact points so that I can add relevant points to my thesis, but if you don't mind, maybe I can go through some of my exact questions and see maybe what you've already answered and what you ha-ven't.

Coleman: Absolutely, we can go through whatever you want to now.

McCrary: Your employees are able to come into the company but you almost encour-age, in a way, for people to work from home and everything is done remotely. Okay.

Coleman: Absolutely 100% remote first

McCrary: Okay. Yeah, okay. Understood. So, then the first question I have is for you what industries and businesses do you believe are best suited for virtual companies, or remote first companies?

Coleman: Tech professional services, not-for-profit, and construction companies because that's our sweet spot market. If you haven't gotten to all the markets and you can do it for everybody you can't, you know, so we eventually restricted right down so yeah, I'd say, really tech professional services company and not-for-profits. Construction founded us because it's really handy for construction because traditionally have obviously big offices and whatever and the big yards where they can bring all this stuff too, but what they loved about it was they can move from site to site without any infrastructure teams. All they need is one tablet. That's it. There's a voice-activated tablet that when a guy arrives on site, he would go 1-2-3, it takes a photograph of him, and you can check whether the guy has the appropriate service to come on site or not. It's that simple. For your average knowledge worker, we call it, it's really really good for knowledge workers is the best way I can describe it.

McCrary: Okay. Yeah, so there's a very slight lag so if I respond maybe a little bit late, it's not that I'm not with you it's just that there's a very slight lag.

Coleman: I'm getting that.

McCrary: Okay, so, um, yeah so you told me some industries and businesses that you think are best suited. Do you think that a lot of these businesses, or maybe I can give you the exact question, what industries and businesses do you believe will actually transition into virtual companies in the future? So, which industries and businesses will go remote-first or all-remote in the future?

Coleman: Tech professional services and not-for-profits.

McCrary: Figured it would be the same. Okay. So do you believe that there are products and services, or are there any products or services that are well-suited for virtual companies or remote companies?

Coleman: Hello?

McCrary: I'm sorry, I guess there's a lag maybe there. Yeah, I just wanted to know what products or services are well-suited for a virtual company. I know your company

already offers the product of HR, HR services, so maybe there are other services or products that you believe are well suited.

Coleman: Absolutely. Anything, we're talking, financial systems, banking systems, anything to do with digital transformation 100%. No question. Right. When it gets down to the physical stuff of people doing physical stuff it becomes a little bit more difficult. That's why we always say that it's best-suited to knowledge work-based companies. So developers and all that sort of stuff that don't require tools basically. They're the first ones we're going to go to.

McCrary: Thank you. So maybe I didn't clarify. So we're talking about the Work from Anywhere Model. So like I spoke to you about your company is remote-first, but there are also companies that are all-remote, so they don't even have a location where customers or employees can even come in. So, those are both in the Work from Anywhere model. So do you believe that this Work from Anywhere model, in your case the remote-first model, is the best structure for your business?

Coleman: Absolutely 100%. Carlos, we were, we were about to before COVID We were actually negotiating to take on a bigger office space and it was blind stupidity on my behalf and it would cost us about 100,000 to get that space and whatever and when COVID came it was actually a real eye opener to say you don't need this, this is ego. From my perspective was like if Microsoft and Google started the Garage why can't we.

McCrary: Clearly understand. Okay, so you're in a remote-first company obviously. So, how did your company deal with technical support? Yeah, so I guess the first part of that question is how do you make technology work for those employees who may not be technologically advanced?

Coleman: You don't hire him. It's a stipulation when you come and join us is that you have to be in a place where you can work from home, you have to be in a place where you can actually have as an office of your own it could be a bedroom because we matter, your Wi-Fi has to be 14 basically down, a minimum, 4 up minimum. So, what we do is we get people to send a picture of where they're going to work from and we also get to send a reading on what the Wi-Fi speeds are before we even engage with them chatting wise.

McCrary: Okay, Interesting. Okay, and how should the virtual companies in general deal with the risks that come with cybersecurity?

Coleman: Make sure your VPN is in line and have your security up to speed. It's not rocket science has been done for years. Obviously, the insurance companies, I think it arrived last year, because I can see that premiums struggle going increasing on that but companies have been doing it for eons so it's not there's no major issue there. Okay.

McCrary: Okay, I'll move on to the next question then. For a company like yours with this Work from Anywhere Model, what do you consider are the greatest advantages?

Coleman: It allows people to live wherever they want and build their lives around us. It also gives a huge amount of flexibility to the employee and the employer for that matter. It allows you to get more deep into developing the person as well as just the careers of the people. I can't believe I'm saying this but it's very true. There's no reason why somebody would want to leave HRLocker because we allow them to do so much from wherever that they want, but there's always gonna be somebody who will pay more monies. You can't get around that. But at the end of the day if a person is committed to driving the company forward with you … like we also for instance in our organization, we've made 10% of the stock available to employees and employee options. So, the buy-in is huge, but it really really allows people to, like, forget about a certain element of going up because I remember when I went looking for jobs the first time, I come from the west coast of Ireland, I went to University of Dublin, then I propose that like I went to New York, and then I went to London. and then I went back to Dublin, and I had this thing in my head that we had to work where the company was. Which you don't. So, it was down to my mom getting very ill and leaving in the UK and I've been back to Ireland and she goes 'where are you going to live?' I said, 'I don't know' and she said well do me one favor, figure out where you want to live and build your life around it and that's why we set up HRLocker down around here. So, if I can give that same gift to other people that they can live and work for wherever they want to. Why wouldn't I?

McCrary: Wow, okay. Okay, so, yeah, that was good. Thank you for that. And so, what do you believe are the most relevant challenges and the best way to handle these challenges?

Coleman: Well, the first challenge that you're going to have is that, has somebody worked remotely? Have they done it before? It's like anything else. If you're learning to ride a bike and you can't get up on the bike from day one, that's okay, but if you're determined enough to get up on that bike and make it work? So, you really need to determine whether they're capable and want to make it work. There has to be good reasons for it, you know, and once you get that out the way and you hear people's preferences, like we use psychometric evaluation. We use insights discovery with everybody so we know what their preferences are, what their decision-making preferences are, what their communication preferences are. So, once you have that in line, you can even understand what it's about. Like I have one sales guy at the moment which working from home is a nightmare for him, we've actually agreed today that he's gotta come into the office on Thursday and Friday because he's just, he can't work from home property, and he happens to live within half an hour's drive so it's not so bad. Would be a problem if the person was in France like working from home, and what he does is he has to deal with the local hub, we say, and he, pays I think it's 10 years on a week or something for desk, but he can use it for anything he wants and there's people around him, and that works for him really really well, and like as an organization, what we do is we pay what we call the work from home allowance, which covers, not necessarily cover but it's supplements durability for Wi-Fi mobile phone etc. Once they get us receipts around that with some amounts every quarter we pay them the money.

McCrary: Wow, okay, that's interesting.

Coleman: Keep it really simple, keep it really simple it's part of the whole thing, you know?

McCrary: Sure. So, what do you think are the most important success factors for a company like yours that has Work from Anywhere employees?

Coleman: The people. Make sure that the people are connected and have a good experience of working for us. And then the habits and grooves of all of the meetings when they happen, how they happen. I had somebody basically come to me two months ago was salespeople she says 'well, you know I'm not getting any younger'. I said okay, she said I'm learning now to cover off and compress work and I said 'that won't work'. Then she goes, 'Well, why won't it work?' I said 'Because most of our customers needs are during the day. Not at nighttime. And if you're taking phone calls from customers at 8 o'clock at night, you know, you need to manage that. So I said to

her, 'I'll tell you what we do, why don't we operate in a way that you make yourself available on a Friday? You don't schedule any meetings. You don't do X, Y and Z but if you're needed on a Friday, then you show up for meetings.' And she said 'Okay that's fine'. Decision made and move forward.

McCrary: Okay. So, when we talk about bare minimums right so like, in terms of survival. Because that's the title of my thesis, the fundamentals or virtual company what is required to survive on the market. So, what do you think is like the bare minimum, like, what are the most important aspects for survival, like, what is definitely needed in those terms.

Coleman: Cash flow. Cash flow is number one. Always number one. Always number one. Since we're unusual, we don't have any investors, right, and we've started looking at the investment side, but we're not just looking for cash, for instance, we're looking for expertise, and I had a call last week with one guy who was interested in investing in the company, and he asked me what the valuation of the company was and I said to him 'well it really depends on who's asking' and he says well 'if you're a company who have helped scale a SaaS company across the UK, US, then our valuation is probably about 8 times AAR. But if you don't have that as your evaluation it is written to us as well as what we bring to you. So, if you've bring in the expertise, we want that so we pay more money for it. So, cash flow is massively important to get back to that, right. We're lucky, we just closed probably 350,000 Very recently of financial debt which is great, by the way, for a SaaS company to be able to do that is pretty phenomenal, or that's what they tell us. So, we make sure that our cash flow is good. We have a long runway that we can do what we need to do for that period of time. It gives us time to grow the culture within the business and to grow the actual organization, and at what stages we're at. So, cash flow is definitely the most important.

McCrary: Wow, okay thank you for that. So, that was the company kind of part so I have a few more questions, one of them is a little bit longer than the other. So right now I'm on question number seven. But when it comes to employees in a virtual company with a work from anywhere model, how important is human capital?

Coleman: Massively. Massively important. I would say if I take the costs of HRLocker, in general, I would say 40% is people 40% is marketing and 20% is everything in between. There you go, you know? So, you have about 40 marketing, 40 people, and then 20% Everything else, you know?

McCrary: Yeah, Of course. Okay. How are the most qualified employees hired?

Coleman: How are they hired?

McCrary: Yeah, so, I mean, you briefly spoke about it already, so maybe you've already answered this question, but in terms of like the hiring process like when you're hiring, how do you how do you qualify employees to make sure that they're the right fit for you.

Coleman: Okay. Okay, perfect. Well, we're a DDO were deliberately developed organization. What that basically means is that we put adult learning at the center of our business strategy. So, when it comes down to if we're hiring somebody new, what happens is there's a need that is generated within the business, okay. The manager in particular, right, writes a job specification. He comes to us, he writes to user story of why we need this person, what we need them to do, what are qualifications they require, where they're required to work, all that sort of stuff, etc. etc. etc., right? And you might say oh 'where they're required to work', is something of going back to the older days? No, they can work from anywhere but if we're actually servicing, let's say we're servicing the Vietnamese market, it's probably best that that person is working in Vietnam, or he could be Vietnamese living in Ireland. I don't care, you know, so you have to take criteria in consideration to regard to the job as well. We have seven principles in our business you might know them as competencies other people might know them as behaviors, and they've been built all internally and they are basically: flexibility, teamwork, I'll send you over a copy of this afterwards if you want because we have sort of a charter. Flexibility, teamwork, initiative and execution, trust and truth, business integrity, ownership, and resilience and empathy. And that's how we work as a business. So our whole interview process is based around those core six to seven principles. So, what we do is we look at a background review, we will do a background review session with the first. Actually, first off, what they'll do, because we're doing one really really good at the moment we're doing grad recruitment right where we're hiring graduates into our graduate program, and what they do is they see the job specification, we post that to HRLocker which is our own tracking system, and then that goes to Facebook, LinkedIn, Twitter, 10 job boards like Indeed Career Jet, Talent.com etc. and people apply. And when they apply, they have their own cover letter, they do their application based on job spec, and then we've supplemented with some additional questions. One of them is, basically, have you worked from home before? or do you have a work permit to work unrestricted within your location of choice? And so to answer those questions, and they can rule themselves in an out by

answering those questions and then we shut it down, and the next stage is they get asked to do a video recording for 10 minutes on certain questions, right, and then they send that on to us. And then we watch that and then we determine who we actually shortlist from that. When the shortlist happens we then do a behavioral interview for a competency based interview or principle based interview based on the principles of business. And they're all scenario based. Tell me about a time when you did x y and z? and the best examples we can get are the ones that are most recent was like a target job, and all the most impact, and you and you allow them to extrapolate to this, so you get a Task/Action situation, and you get behavior and results. Okay? After that, then we do an analysis on that and we score them, basically. And then we have what we call a level meeting against the last two or three, and then we make a decision, then we make them an offer pending references. The references, we want our most recent ones, at least two of the last three, that they work for. Because obviously there's always going to be one or two you don't get on with. Once you [inaudible] this is why I left this company. They're not one bad reference, if you understand me, but if they don't give us the latest one, then we ask questions. Now when I say the latest one we don't expect the reference of the person that they're working for if they're already working, but the one before that. Once that's done, we basically send them a medical questionnaire, which they fill out, and the main reason we have a medical question-naire is because we want to make sure that we give the person as many aids to be-come successful in the organization. So, for instance if that happens to be, to give you an idea, a person in a wheelchair that is having problems on doing X, Y and Z, or one guy in the company who's eyesight's terrible so we make sure that the equipment that we give him is the best equipment for him to be successful at his job. That's why we did a medical questionnaire, not to rule people out because they've got some dis-ease or they're not COVID vaccinated or something like that, for instance. Once that's done, then we send them a contract, and it's all the onboarding assumptions in the system. Once we say, does this person be added to HR locker? We have all these preset documents that automatic wires that people can digitally sign, so there's no need for paper in any way shape or form and when they started with the company then half the induction is already done remotely by themselves before it even starts. So, that's our cycle basically.

McCrary: Thank you for answering that. That was actually my next question I was going to ask you how employee onboarding is addressed but you just kind of an-swered that already.

Coleman: Yeah, I think I've answered that.

McCrary: Right, yeah, so you just kind of answered that one. So, the question number eight, then, from your perspective, what are the best ways and/or tools that work from anywhere virtual companies, like yours, can handle the following employee aspects? So, there's, like A-J I have on my list here, so we can talk about this openly it doesn't have to be in a specific order. So, the first one on here is company culture.

Coleman: For company culture in some form of employee communication mechanism and construction accordingly so, for instance, we use Microsoft Teams, okay. And that really helps us with the social channels all that sort of stuff. And the experience and we use video all the time. We video every single conversation that happens in the company. So, we've got the right to go back and watch them from a learning perspective, all that sort of stuff. So, I would say, from, from an employee experience perspective, teams is fantastic. And for communications we use our own product then as well obviously as part of that so we can record stuff for interviews and all that sort of stuff. But in terms of employee communications, there's a lot of software out there that is specifically built for employee communications but I think I think companies have to start thinking outside the box, they don't necessarily have to go for the ones that are out there and spend loads of money. I can mention the ones that we will partner with, like we partner with … There's one great one called Tribe. There's another one called WeTribe, there's one called Pep Talk, and there's one called Work fever, and we've already lined up, we say partnerships, with those to be inactive in the next six to seven months because it's one area that we feel that regardless of what works for us, there's other companies who want to make them fancier and bla bla bla bla. I don't think there's a need for it, but if they want it, we give it to him. That's not a problem. So, there are lots of tools out there that will help employee experience and employee communications. If you take the big two, obviously, if you want to do it yourself, it'll be the likes of slack and the likes of teams. Okay. And then you go beyond that and you start looking at other conferencing facilities as well as well. The goal is to adapt to whatever process you want within your business.

McCrary: Okay. So, in terms of like employee … well, you already answered this one so I'm just gonna maybe reiterate, I know you talked about do you give your employees, shares, or stock options from what I understand, so terms of compensation, that's the next part here. So, in terms of bonuses … Yeah, is it like based on results… Just compensation in general how is this handled?

Coleman: 90% of additional compensation that happens within HRLocker is based on the individuals building the culture of the business. You obviously have sales targets and sales bonus or whatever, but all of the bonuses in HR locker are contributed to how a person behaves within the business and builds a culture. There's an open, transparent culture within HRLocker. That's what gets rewarded. And you know they say about rewards. If you show me the rewards, I'll show you the behaviors.

McCrary: So, thank you for that. The next question I have is about motivation. So how do you motivate your employees?

Coleman: It depends on what you talk about motivation, like, because we motivate our employees by providing a really nice place to work. What I mean by that is, you know, the culture within the business motivates people to do well and the whole focus of the company is based on, you know, a person being a better person every day, not necessarily being good at work and what we always say internally, I wrote it down and actually today believe it or not again as I always do. Pain plus revision equals progress. So, we allow our employees to be to share their vulnerabilities and create a safe place to work. We create a safe place for them to fail so they can learn, so it's basically pain of failure diagnostic people's basic productivity and success. So, we provide them a safe place to fail. We understand the importance of work life/blend, when it comes to, as you call us a remote-first company, and then the reward has come with that. By exemplifying really, I suppose, how to work in the way we want to work with it in our culture, which is very open and transparent, people are encouraged to share their vulnerabilities. So, because most companies, most employees bring two people who work. They bring the person to work who does the job and then the other person who basically hides their vulnerabilities. So, by doing that it stops them from developing. So, we reward people by sharing their vulnerabilities. I know that sounds really bizarre, but that's honestly, because it's only when we do that that you can really see it working. So that's what motivates our people to come to work because it's a good place to work and it doesn't feel like work. It's feels like you're getting better every day.

McCrary: So, the next question I have has to do with training, so how do you handle training of employees in your company?

Coleman: Well we have in HR locker, we have a CPD section. Every employee can request any training that they want. They're not going to necessarily get it. But at any

stage they can request training and the request it based on four different things: current job, future job, communications, or well-being. Okay, so what they do is we have a list of training things that they can sign up to no problems. Did you have a 'no' before in the past, but they can also see if there's something that they want to do, they can look at it, they can put a case for it, and then it goes to your CPD manager, or Continuous Professional Development manager, and then a decision is made whether it happens or not but if it's in the schedule then it happens. So, it allows employees to take control over their own training that is validated by their manager, so that's for ISO perspective, because that's important to keep our training up to date. So, each of our managers can literally with three steps on the system can request the training needs analysis from a whole company, from a department, from a team, or from an individual, and then that employee knows that they have to go and look at what training that they require to become better at their job to look at their future job to look at their communication styles and preferences or to look at their wellness. So, it's that simple.

McCrary: Okay, and how do you track the performance, or like how do you track performance or like productivity, how do you measure that?

Coleman: We have two ways of doing that. We have a timesheet function within HRLocker, which everybody has most of their projects on and most of the stuff that they spend most their time on. So, for instance in mine I have quite a few because I cover a lot of departments, but if you take a standard person, let's say in sales, right. They obviously have their, they might have their business development part, they might have their qualification part, they might have their sales close part, they might have another project they're working on. So what they do is they allocate hours, against the time that they spend on enjoying a day so a person starts …. It's completely honestly based, but we can make it as coercive as you want to, you can make it voice activated, followed by GPS, blah blah blah, so you know exactly where they are at any moment in time, which we are not basically saying that you should do, but you can do and you can buy all that stuff on our software we quite happily sell it to you. We won't encourage you to buy it and that's what really messes with people's heads. Why aren't you encouraging me to buy this and then you'll make more money? No, no. We make more money when you add more employees so it's easier to do it this way, right. So, what we do is we allow the guys, the guys going today might work from 9:00 to 5:30 for instance an example they get out for lunch, and then they allocate the time against each project that they're doing. Now, the really important thing here to understand is that we're not strict on this but it can be strict if you want you can actually click on the thing and the timer goes off and then when you're finished you

can click it and it's the day and the project now all that sort of stuff, that's all capable in HRLocker and I said to the guys is right you have all that you can do it that way if you want or you can guesstimate. It's probably better. So like, for instance, if I look at any of my given days, I'm a poster boy for this by the way because I work 10 hours a day because I want to. Okay. And so, what I'll do is, at the end of the day, I say okay, I look at my Outlook, which is obviously my Outlook on my calendar and stuff, and I look at HRLocker and I go for how many hours they spend on these projects? 8.5 hours. So, I know, the way I work, that that's probably 2 hours is the perfect water cooler time for me on a daily basis. Things happen. You know what I mean? So what we're doing is we're doing an internal case study of what the perfect water cooler time is for every individual. So that's the time and productivity piece, right? And then we have these things called Real Time Reviews which is our performance management module. So, when somebody joins a company, they're a constant state of review. So, then they basically can go in and they can manage to get set objectives, the employee can put the objectives in. They write things that I want to talk about, they can schedule meetings you can do all that and then basically they scored them against the behaviors within the business every quarter. But that's kept live so if they want to add stuff to it, they can keep adding it as they go along. There's not a defined cut off except for every quarter that you have to have a conversation around performance and around development with the employee. So, we run a tour to our Real Time Review System within HRLocker. By the way, this is not outrageously expensive stuff, we're talking about, to do. On everything in our product to do everything, it's about six euros per employee per month to have that whole system instituted. So, it's not expensive by any stretch imagination. So, when people say 'oh it's too expensive', No it's not and it can it can work for companies with five employees upward. So, we drive the development piece, we drive the productivity piece in timesheets, and then the performance piece to Real Time Reviews.

McCrary: Understood, thank you. Yeah, so, I know you use a different word for this and I apologize I can't remember what it is right now I know it's not work life balance, that's what I have in my questions here…

Coleman: Work/Life Blend.

McCrary: Yeah, so how do you handle that that employees are not over working or not spending too much time.

Coleman: Well, the first thing that you need to do is you need to get the employees to fill in the timesheets. And when I say fill in the timesheets, it could be simply just recording when they start and when they finish, right, because that's, that's all you need for the working time. Okay. But then, basically, if they're being realistic with the manager review and once they're not doing more than 48 hours a week on average over a six week period, they're in compliance. Okay. But you know, when you have all of those everybody in the organization gets a half an hour with their manager every single week to talk about whatever, right. So, we call it the Whatever Half Hour or so on Whatever Hours so they can basically talk about work, home, pleasure, life, whatever, doesn't make any difference in Whatever Hours. Okay, so, and if they might start the Whatever Hour, and they might look at the manager and say look, 'Jesus I've you four times this week'. Okay great, Whatever Hour was gone for this week and then you move on. So, you just, you know, at the at the end of the day it's not beneficial for anybody if somebody is doing, like for instance, if you take a sales guy and he's working off the charts and he's, you know 60% behind target, there's a problem, that's obvious. And you need to go in and look at that issue and say 'Look, you shouldn't be doing this, why are you doing these amount of hours?'. Work smarter, not longer. It's up to the manager basically to ensure that happens, it's up to the employees as well but they have to take responsibility for their own careers.

McCrary: Understood. So, my next question has to do with unknown knowledge. I guess if employees have questions or they don't know where to find information, how can they get this information or find out like what kind of resources are available, I guess, in general, doesn't have to be your company but in general, how would you believe is the best way to handle that for employees in general,

Coleman: They can ask first, Carlos. And if you provide a safe place for them to fail, and that they could share their vulnerabilities, they can ask. They can ask anybody within the business. You know, they also have this amazing resource that's called Google. And you know, so, what we try to do is to get the company, get the people within the company to create solutions to their own money problems or ask for, you know, like for instance, if you think a training perspective. Most techies in HRLocker have their own Pluralsight account, right. We don't pay for it, they have it themselves. And if they're serious about the careers they're gonna have one because then they can bring it from company to company if they leave. Everybody has their own LinkedIn account, they're adding value to their own career every day by adding new connections to LinkedIn. We don't own that, you know.

McCrary: So, my last question in this section because we've already talked about communication within the company so it has to do with conflicts like when there's conflicts inside of the company, how do we handle that one? So in terms of like employee conflicts like that you have, like between employees maybe.

Coleman: Okay, so, we have a philosophy in here and its' that the most important relationship that you're ever going to have in a company is between the employee and their manager, okay. If there's a conflict between an employee and a manager. That's what you're talking about something like this. Okay, if there is a conflict between an employee and a manager, both employee or manager can go and seek console from anybody in the company, not HR, everybody goes running to HR, anybody within the company. Okay. But the important part here is that there's no intervention made between the employee and the manager unless it gets out of hand. So, for instance, this is on coaching better relationships rather than intervening. Because as soon as you intervene it's lost, the relationship is gone. So, for instance if I had a problem with you, Carlos, I might talk to one of my colleagues say 'I've got a really big problem with Carlos.". Okay. They listen to what you have to say, this is documented by the way it's the way we work, and they will suggest, possibly ways of you, of me, communicating with you better. So, and likewise you can be going talking to somebody else about it. Now, on top of that everyone's psychometric profile is available to everybody else within the company. So, we have all of those so the idea basically is that it coaches conflict out in the business rather than dealing with it directly. So that's the process that we use.

McCrary: Wow, that's interesting. All right, let me move on to question number nine, that's pretty much an add on to this. So, do you see any additional specific challenges for employees working in a company like yours or with Work from Anywhere model?

Coleman: Yeah, I do, and in countries that are not developed. It's not just about Wi-Fi, it's also about electricity. We found that out the hard way. Okay. So, when you ask people about the Wi-Fi coverage, you should also ask them about their electricity, their electric performance which we take for granted in the Western world. It's down to the individual. It's down to how does the person really want to work from home or are they going to be working from home to facilitate getting money. Okay so motivations of wanting to work from home is really, really simple.

McCrary: So we're coming to coming to the end of it now so the question number 10 I have here is, would you recommend that every eligible company transition from a traditional company into a virtual company?

Coleman: 100%. 100% on that Carlos because it increases their talent pool, it retains more employees. It does require work. It should be kept as simple as possible because I know what's going to happen, people are going to, people always talk, you see when you listen to, or if you listen to Disrupt HR, people always talk about the one that didn't work, they don't talk about the 50 that did work. You understand me? Because it's, like, you have the Industrial Revolution, right, that brought up the whole time in motion studies and how do we get people to work more efficiently. The only people who actually looked at anything about the welfare of the individuals were the Quakers who died to the Capris and Round Trees and all these people, and they actually established towns for their people to live, you know, healthy water, all that sort of stuff. That was a different era, and then the Industrial Revolution has gone on and on and on. The next thing that hit it was really the internet, it was the next big revolution. And when the internet had obviously you could do lots of other things that brought up lots of other options, whatever, but then the next thing that came along, interesting enough was and it was around 2013/14 And this is going to be a really strange thing for me to say but just bear with me. Okay. If you look at Peter Drucker you look at Jack Welch you look at all the psychologists, psychiatrists, everything, organizational psychologists, psychiatrists, neurologists, right. All of your neurologists have basically stated, since the 1930s that the human brain doesn't evolve past the age of 32. Okay, all the organizational psychologists, on the other hand, were saying yes it does. We have proof. They were like 'no, no we're the doctors we understand …' all this sort of stuff, it doesn't. So, all of this has been no money poured into development for years and years and years and years and years. It's all been specified specifically around child development purely out of development. So in 2013 that all opened up and eventually, the neurologists put up their hands and they go, 'hi guys, we need to actually train people to be adults or help them to be adults and help them to grow as people, and look at the effect that this is going to have on your organization. And I've read Everyone Culture from Robert Keegan. Do you know that, have you ever heard of him?

McCrary: No I haven't.

Coleman: It's called Robert Keegan and a lady by the name of Lisa Laslow are both organizational psychologists from Harvard. And they basically when this came out in

2013, they went to their pool 300 companies in the US, and they narrowed it down to three companies. One was called Bridgewater Associates, Ray Dalio's company. Most successful hedge fund in the world. Rewards and recognition it works out, and the third one was a company called Securian, an estate management company. Have you ever been to an archived cinema?

McCrary: No.

Coleman: Okay, when you get this text search out an archived cinema. Okay. Watch the experience that you'll have up there. And they basically went, they cut it down to these three companies or whatever, and they produced this book called An Everyone Culture, and as a HR professional and a management professional, when I read that, it certified, everything I was thinking about doing and where I was doing it, but it accelerated. So, the two things that was accelerated HR locker in terms of its culture is An Everyone Culture which is the GDL scenario, putting adult development at the center of everything you do. I now had a Bible to go to look at, rather than making it up out of myself and, obviously, the two dudes at Harvard are more credible than I am, to be fair. And so those that moved then from what we call the Industrial Revolution, into the entrepreneurial revolution. And what the entrepreneurial revolution is about it's not about being an entrepreneur, it's about a state of mind. And there's another great book that you can read on that basis, which is from a guy called Daniel Priestley, and it's called, funny that, the Entrepreneur Revolution. Now that wouldn't have as much freedom as to be the one that I've just given you from Harvard from Robert Keegan, but what that gives this guy, Daniel Priestley the multi-billionaire, and he talks about how he split the whole concept of people, and how they work into what they call lizard brains monkey brains and entrepreneurial brain, and it gives you a framework for that so it's, it's worth a good read to. But we're now in the entrepreneur revolution, as defined by Daniel Priestley, and we're applying DDO principles which deliver development organizational principles to that. So that's it really… I don't sound passionate about this do I?

McCrary: No, no, it's great, it's perfect. It's really helpful, thank you so much for giving me the giving me so much detail. So, the other last question is so what is your personal perspective on the future of global virtual companies

Coleman: Huge. It's actually going to challenge society as it is. What I mean by that is if you look traditionally down through the years you had sovereign states by killing each other over bits of land and X, Y, and Z, then you have the evolution to sort of,

let's call it democracy, or governments in general, right, managing estates. Now, the criterion there is called religion, which is a major issue, right. We have a ton of religions. We have Muslim Catholic, Protestant doesn't make a difference right Hind, whatever, and now you've got these huge corporations, Facebook, LinkedIn and all these people, right, who make more money than the average nation. Okay, so they're gonna have a massive influence on it to. So, if you take organization, sovereign nation, and religion, that's going to basically change the working ways of the future. Across the world. Absolutely 150%. Final answer as they say in Who Wants to be a Millionaire.

McCrary: Very great. Thank you so much. Thanks again. is there anything that we didn't talk about that may be important to you or that may be important or do you have any questions for me maybe.

Coleman: No, I'd love a copy of your dissertation when it's finished.

McCrary: Yeah, of course!

7.2   ManpowerGroup Germany Interview

Interviewee: Eric de Jonge[385]

Company: ManpowerGroup Germany

Position: Managing Director-Country Manager

Date: August 4, 2021

My name is Carlos McCrary and I am an International Business Management student at accadis Hochschule Bad Homburg. I am currently writing my Master's Thesis on the Fundamentals of a Virtual Company and would be grateful if you could take part in an interview to further assist me in my research.

For the purposes of this questionnaire, a virtual company is a company that does not have a physical location in which the customers can physically interact with employ-

---

[385] Conducted Interview Transcript de Jonge 2021.

ees (i.e. Amazon, Fiverr, Netflix, etc.). This questionnaire focuses on virtual companies using the Work From Anywhere Model for their employees (where employees are not required to work at the company's physical location).

Company

1. What industries and businesses do you believe are currently best suited for virtual companies?

de Jonge: Service (physical or intellectual) providers/companies.

2. What industries and businesses do you believe will actually transition into virtual companies in the future?

de Jonge: I think many companies can and will transform in part. Those which are already virtual will probably remain, but transformation of traditional companies in full, I think will happen less frequently (rationale below). Certain activities can be handled virtually, even in production companies.

3. Are there products and/or services that are well-suited for virtual companies?

de Jonge: Yes; those products which are in form of advice or which can be done and dealt with on-line. Training, coaching, advising, streaming suppliers etc.

4. Do you believe that a virtual company with this work from anywhere model is the best structure for your business?

- a. If so, why so?
- b. If not, why not?

de Jonge: No, this will only partially apply to our business at present. We still need a physical part, also based on legislative issues momentarily (physical documents for example). However many services can be done virtually, but you will have to have the infrastructure and technologies for this. This also requires large investment in technologies, like AI and Robot Automation. This in turn requires time. The staffing and services industry Manpower is in, will still need some live meetings with clients and candidates (who will work for our clients) for all kind of reasons (and not everybody is tech savvy yet!). And if you want to ensure your own staff will learn quickly and will

adjust to the desired company culture, you will need an environment where one can influence each other and that is mostly in office.

5. How does your company deal with technical support?

- How do you make technology work for those employees who may not be technologically advanced?

de Jonge: Providing training, coaching, tools and processes.

- How should these companies deal with the risks that come with cybersecurity?

de Jonge: This is a very important topic when applying more and more technology. One needs to invest in an infrastructure that supports such security. We have invested in people, training, tools and processes to create such a relative safe environment.

6. For a virtual company with a work from anywhere model, what do you consider are …:

- … the greatest advantages?

de Jonge: Cost savings, sustainability and efficiencies.

- … the most relevant challenges?

de Jonge: Productivity, training, company culture and ethics and most importantly the well being of the staff working and performing is such an environment (we have seen some issues in mental health etc.).

- the best way to handle these challenges?

de Jonge: Policies, not working remote all the time, physical meeting possibilities.

- … the most important success factors?

de Jonge: Finding a balance of not (having) to work remote all the time; the remote working space conditions, technologies, the right coaching, training and management.

- … the most important aspects for survival?

de Jonge: Related to the above, ensure to find the balance and avoid real pitfalls.

Employees

7. When it comes to employees in a virtual company with a Work from Anywhere Model:

- How important is human capital?

de Jonge: They are the main 'assets' and are very important, especially in our industry. It's people business.

- How are the most qualified employees hired?

de Jonge: This works via all social media and campaigns. CV´s will be received and analyzed and subsequently people are invited for virtual interviews. For example via MS Teams. There are however still people not used to online applications and use of technologies, so these are still serviced face to face with use office preises.

- How is employee onboarding addressed?

de Jonge: Mostly virtual. In my case it was entirely virtual, which actually worked pretty well. In the end you need the physical interaction to have good discussions and form a joint ´corporate glue´, which in my case followed after the onboarding. However I do work the majority of my time remote/online.

8. From your perspective, what are the best ways and/or tools that these types of virtual companies can best handle the following employee aspects?

- Company Culture
- Compensation
- Motivation
- Creativity
- Training
- Performance/Productivity Measurement
- Work/Life Balance

- Unknown Knowledge
- Conflicts
- Communication

de Jonge: As mentioned, one should find a balance and an exclusive virtual or remote working from anywhere is to be avoided in my view. Culture, training, motivation, creativity, knowledge, conflict handling and communication in general, are aspects that probably need some physical exchange between people. An online group discussion will never have the same implications and learnings compared to a physical interaction in a meeting or class room. Compensation, performance and productivity management are matters that can be dealt with virtually; the however follow the other aspects. Work life balance is another matter: this requires discipline and feedback both ways. It is very efficient and probably productive to work from 8am to 8pm online. But not in the long run as we have already noticed. It is healthy to take breaks and companies have for example also installed apps with certain physical activities like walking, biking and jogging with employee rankings to stimulate physical and mental health when only working remote.

9. Do you see any specific challenges for employees working in these types of companies?

de Jonge: The challenge is to learn from each other and ask easy questions or have casual discussions. This is after all also part of training on the job. Another challenge is to keep/change/create a common company culture when people are predominantly in their virtual 'silos'. On top you might have problems with staff that cannot easily work from home due to all kind off (sometimes personal) reasons. This has been proven by the Covid crisis and behavior/feedback of people that had to work remote. I am sure there are interesting surveys as well as research on the topic.

General Perspective

10. Would you recommend that every eligible company transition from a traditional company into a virtual company?

- If so, why so?
- If not, why not?

de Jonge: No, I would recommend to find an optimal balance between virtual activities and physical activities on the premises of the companies offices to ensure to avoid the pitfalls as mentioned in Q9.

11. What is your personal perspective on the future of global virtual companies?

de Jonge: The Covid crisis has proven that we can do much more around working remote/virtually. This however does not mean that a huge number of companies will transform to virtual companies like Netflix or so. And those will also not be virtual in full. I think we will see a further transformation towards a more balanced and healthy approach of many companies that used to just work in office mostly. Many activities can now be done remotely, due to an improved infrastructure and technology, which could contribute to our general well-being, also through an improving environment benefitting from less traffic and travel. Companies have overcome certain objections, concerns and boundaries, making such a transformation to more virtual work where possible, a trend that is here to stay.

7.3   SAP Interview

Interviewee: Dr. Max Schaifers[386]

Company: SAP Deutschland SE & Co.KG

Position: Senior Customer Engagement Executive

Date: July 27, 2021

My name is Carlos McCrary and I am an International Business Management student at accadis Hochschule Bad Homburg. I am currently writing my Master's Thesis on the Fundamentals of a Virtual Company and would be grateful if you could take part in an interview to further assist me in my research.

For the purposes of this questionnaire, a virtual company is a company that does not have a physical location in which the customers can physically interact with employ-

---

[386] Conducted Interview Transcript Schaifers 2021.

ees (i.e. Amazon, Fiverr, Netflix, etc.). This questionnaire focuses on virtual companies using the Work From Anywhere Model for their employees (where employees are not required to work at the company's physical location).

Company

1. What industries and businesses do you believe are currently best suited for virtual companies?

Schaifers: Service Companies, consulting companies are quite well positioned for virtual companies as well as Software provider, Banks, Insurancies, …

2. What industries and businesses do you believe will actually transition into virtual companies in the future?

Schaifers: Look to the market, banks and insurancies will move more and more to the virtual market but as well as healthcare, where you can get your diagnoses via specialists sitting anywhere in the world and making diagnoses of your x-ray image or MRT etc. Automotive will move over besides to produce cares to provide services for mobility, and a lot more industries are more and more moving over to services via Internet like Amazone, the Shops etc….

3. Are there products and/or services that are well-suited for virtual companies?

Schaifers: See the answers above and Industries and different services. I think in the future voice will change a lot and services will increase .

4. Do you believe that a virtual company with this work from anywhere model is the best structure for your business?

- If so, why so?
- If not, why not?

Schaifers: I am in the software industry and we work since May last year out of the home-office so 100% virtual.

5. How does your company deal with technical support?

Schaifers: Very good. All our business is related to our technical support structures, 18 Data-Center around the world, all our Cloud product served via Internet and our remote services ….

- How do you make technology work for those employees who may not be technologically advanced?

Schaifers: All our customers are somehow technical advanced and equipped.

- How should these companies deal with the risks that come with cybersecurity?

Schaifers: This is our world where we have to deal with cybersecurity all day → I can only refer to our SAP CLOUD Trust Center.

6. For a virtual company with a work from anywhere model, what do you consider are …:

- the greatest advantages?

Schaifers: Very good cost structure, no cost on office space, desks, etc…

- the most relevant challenges?

Schaifers: get a team spirit, work with no physical interaction of your employees, employee engagement.

- the best way to handle these challenges?

Schaifers: Difficult to say this in some words. You might need a very good collaboration platform where you could collaborate with customers, providing social events via internet for your people, have a very good knowledge base to train and enable your employees and onboard new hires.

- the most important success factors?

Schaifers: the "RIGHT" People as always.

- the most important aspects for survival?

Schaifers: Service Quality and USP of your Service offering.

Employees

7. When it comes to employees in a virtual company with a Work from Anywhere Model:

- How important is human capital?

Schaifers: Very important, essential see answers above.

- How are the most qualified employees hired?

Schaifers: In a virtual organization, virtual via a collaboration platform.

- How is employee onboarding addressed?

Schaifers: See my answer above.

8. From your perspective, what are the best ways and/or tools that these types of virtual companies can best handle the following employee aspects?

- Company Culture
- Compensation
- Motivation
- Creativity
- Training
- Performance/Productivity Measurement
- Work/Life Balance
- Unknown Knowledge
- Conflicts
- Communication

Schaifers: Software like SAP SuccessFactors and SAP Work Zone is supporting all of these topics, but there are 1000 different tools available to support one or more of these topics.

9. Do you see any specific challenges for employees working in these types of companies?

Schaifers: Yes it will be the missing physical connection and social communication under each other.

General Perspective

10. Would you recommend that every eligible company transition from a traditional company into a virtual company?

- If so, why so?
- If not, why not?

Schaifers: There will be not a strictly yes or no but my answer will is that the world will be very pure if everything would be only handled virtually.

11. What is your personal perspective on the future of global virtual companies?

Schaifers: A lot of services will be moving to virtual activities if possible but thank god not all.

7.4 Toggl Hire Interview

Interviewee: Jan Rosa[387]

Company: Toggl Hire (toggl.com/hire)

Position: Product Manager

Date: August 2, 2021

My name is Carlos McCrary and I am an International Business Management student at accadis Hochschule Bad Homburg. I am currently writing my Master's Thesis on the Fundamentals of a Virtual Company and would be grateful if you could take part in an interview to further assist me in my research.

---

[387] Conducted Interview Transcript Rosa 2021.

For the purposes of this questionnaire, a virtual company is a company that does not have a physical location in which the customers can physically interact with employees (i.e. Amazon, Fiverr, Netflix, etc.). This questionnaire focuses on virtual companies using the Work From Anywhere Model for their employees (where employees are not required to work at the company's physical location).

Company

1. What industries and businesses do you believe are currently best suited for virtual companies?

Rosa: Any tech or services or education company that does not require a physical presence in certain location - software development, consulting, coaching, teaching etc.

2. What industries and businesses do you believe will actually transition into virtual companies in the future?

Rosa: Language courses, personal assistants, concierge services, travel booking, learning & development, finance, HR.

3. Are there products and/or services that are well-suited for virtual companies?

Rosa: SW development, HR, finance, consulting, ...

4: Do you believe that a virtual company with this work from anywhere model is the best structure for your business?

- If so, why so?

Rosa: Yes, as it will give us access to global talent. Hiring strong tech talent with the limit of one office location is hard. If the company opens up to a few timezones and no geographical restriction, the talent pool is almost infinite.

- If not, why not?

5. How does your company deal with technical support?

- How do you make technology work for those employees who may not be technologically advanced?

Rosa: Chat support, video support, remote login to a machine, ordering a replacement hardware online with reimbursement.

- How should these companies deal with the risks that come with cybersecurity?

Rosa: Have strong security solutions and processes in place, make security training part of employee onboarding with regular retraining / refreshers, keep all the SW up to date all the time.

6: For a virtual company with a work from anywhere model, what do you consider are …:

- …the greatest advantages?

Rosa: Access to talent, attractive employer for employees due to flexibility and higher salary compared to a local offer in a lot of places.

- … the most relevant challenges?

Rosa: Team spirit, relationships, longterm motivation, finding people who do not need to be micromanaged and can consistently deliver a good results / outcomes of their job.

- the best way to handle these challenges?

Rosa: Regular physical meetups, strong onboarding, thorough recruitment process, a manager who cares about the team and develops people.

- … the most important success factors?

Rosa: Treating people from all locations as equals, creating strong and open culture, strong information sharing and documentation, honesty, trust.

- d. … the most important aspects for survival?

Employees

7. When it comes to employees in a virtual company with a Work from Anywhere Model:

- How important is human capital?

Rosa: It is critical for companies to have strong talent if they want to survive and be successful in the global competition.

- How are the most qualified employees hired?

Rosa: Through a thorough recruitment process, sometimes using executive hiring firms or staffing agencies.

- How is employee onboarding addressed?

Rosa: Managers should be directly responsible for onboarding new members of their teams.

8. From your perspective, what are the best ways and/or tools that these types of virtual companies can best handle the following employee aspects?

- Company Culture

Rosa: Culture fit needs to be checked during the recruitment process, and strongly reiterated during onboarding.

- Compensation

Rosa: This is a very hard question, there are different approaches to compensation - pay everybody the same, regardless of the location, or pay based on a local market. Both approaches have strong pros and cons, and it depends on the company culture, size and situation to select the best approach that works for them.

- Motivation

Rosa: Always make sure you understand what you need to do at work, why, and what your internal motivation for doing so is*.*

- Creativity

Rosa: Brainstormings, looking at the problem from several angles

- Training

Rosa: Learn from colleagues, books and documentation, learning by doing (with a mentor / tutor), training courses.

- Performance/Productivity Measurement

Rosa: Set goals together with the manager that are meaningful and achievable, measure progress regularly

- Work/Life Balance

Rosa: Time tracking, calendar, out of office messages, turn off notifications, ability to say no, I'll do it later when I return to work tomorrow.

- Unknown Knowledge

Rosa: Ask colleagues, internet research, books, training courses.

- Conflicts

Rosa: Discuss the issue, if it won't help, bring in the manager to help mediate the conflict

- Communication

Rosa: Slack, Email, Google Suite

9. Do you see any specific challenges for employees working in these types of companies?

- The ability to self manage
- Longterm motivation
- Ability to disconnect
- Relationships with colleagues who you never see in person

General Perspective

10. Would you recommend that every eligible company transition from a traditional company into a virtual company?

- If so, why so?

Rosa: Definitely yes, if possible, it brings huge flexibility and benefits for both companies and employees.

- If not, why not?

11. What is your personal perspective on the future of global virtual companies?

Rosa: I think that the trend that has been accelerated by Covid pandemic will continue to increase and more and more companies will go remote.

7.5 Toggl Track Interview

Interviewee: Paul Scharf[388]

Company: Toggl Track

Position: Head of Engineering

Date: July 22, 2021

---

[388] Conducted Interview Transcript Scharf 2021.

My name is Carlos McCrary and I am an International Business Management student at accadis Hochschule Bad Homburg. I am currently writing my Master's Thesis on the Fundamentals of a Virtual Company and would be grateful if you could take part in an interview to further assist me in my research.

For the purposes of this questionnaire, a virtual company is a company that does not have a physical location in which the customers can physically interact with employees (i.e., Amazon, Fiverr, Netflix, etc.). This questionnaire focuses on virtual companies using the Work From Anywhere Model for their employees (where employees are not required to work at the company's physical location).

Company

1. What industries and businesses do you believe are currently best suited for virtual companies?

Scharf: I generally think that any sort of company that employs only/mostly white-collar knowledge workers can operate entirely virtually or remotely. Software companies likely have it the easiest because so much of the tooling required is already online, but many other types of companies like marketing agencies, art studios, or accounting firms could work online just as well.

2. What industries and businesses do you believe will actually transition into virtual companies in the future?

Scharf: I believe that it is just a matter of time for most businesses that have this option to transition to this model. Flexible or remote working options were already seen as big benefits a couple of years ago, and this has only increased. From personal experience, many people I knew who were sceptical of working from home now prefer it over soon having to return to the office. The benefits and flexibility this allows are significant. Of course this transition will take time, perhaps decades. However, I would not be surprised if we will see a significant amount of decentralisation in the coming 20-50 years, and more and more people move away from overbearing and expensive cities because their work becomes more flexible. I also would not be surprised if we have already reached a point where this has become a self-sustaining feedback look, where more people moving away from cities increase demand for remote work, which in terms allows more people to move away from cities.

3. Are there products and/or services that are well-suited for virtual companies?

Scharf: Almost any kind of service that does not require physical presence is well suited. Software again is the obvious one, and it is an industry that will keep expanding for a while and possibly become (one of) the biggest industries in the world before too long.

4. Do you believe that a virtual company with this work from anywhere model is the best structure for your business?

- If so, why so?
- If not, why not?

Scharf: Yes. It allows us to hire great talent world wide, as well as understand and service a global market easier. There are many other benefits born from the necessities of working remote and across timezones as well: we have become very good at communicating asynchronously, documenting everything, and not being reliant on any specific person at any given time. All this allows us to move faster, at higher quality, and be less susceptible to risks.

5. How does your company deal with technical support?

- How do you make technology work for those employees who may not be technologically advanced?
- How should these companies deal with the risks that come with cybersecurity?

Scharf: We have various guidelines, and people who can help with these things, however (as a software company) we generally don't hire people who are not proficient with using computers and common software. I don't think this will be a big issue in the future, as the vast majority of people are growing up around computers anyways. With regards to security, companies need to have experts that understand best practices, review hardware/software solutions and can educate employees.

6. For a virtual company with a work from anywhere model, what do you consider are …:

- … the greatest advantages?

Scharf: Immense hiring pool, improved efficiency, significant benefits for employees (no commute, flexible schedules, ..), side effects like needing to document all decisions and relying less on individuals

- … the most relevant challenges?

Scharf: Human connection which is hard to build without face-to-face time difficulties communicating online, in text, etc.

- the best way to handle these challenges?

Scharf: Frequent company retreats and great emphasis on shared, ethical company values and teaching employees how to communicate effectively online

- … the most important success factors?

Scharf: Willingness to go fully remote (not just part of the company), embracing the necessary changes, focusing on results, not hours worked (the latter requires constant surveillance and erodes trust)

- … the most important aspects for survival?

Scharf: A company culture that improves iteratively

Employees

7. When it comes to employees in a virtual company with a Work from Anywhere Model:

- How important is human capital?

Scharf: Same as any other company, and since we're necessarily talking about knowledge work: very important

- How are the most qualified employees hired?

Scharf: Same as any other company (though we at Toggl believe that the resume based process is severely outdated, see more info about how we hire here: https://toggl.com/jobs/)

- How is employee onboarding addressed?

Scharf: Same as any other company, there needs to be a process to get new people on board and people available to help out. it's usually quite easy for us, because we're already documenting everything and most communication is public and in text

8. From your perspective, what are the best ways and/or tools that these types of virtual companies can best handle the following employee aspects?

- Company Culture
- Compensation
- Motivation
- Creativity
- Training
- Performance/Productivity Measurement
- Work/Life Balance
- Unknown Knowledge
- Conflicts
- Communication

Scharf: It's really not that different from other companies. Just the need for better communication and documentation becomes larger - but that tends to have very positive side effects anyways. Companies should probably some sort of internally public communication tool like Slack, or (better) solutions build on emails, but other than that the details will depend on the requirements of the company.

9. Do you see any specific challenges for employees working in these types of companies?

Scharf: It can be somewhat easier to over/underwork with the amount of freedom and flexibility. It can also be difficult for some to find a good place to work from or to disconnect well after work if they don't separate work/life well enough. A good and caring

manager keeps an eye on these things and helps their team work through any such issues. There are many resources available online to help with these problems too.

General Perspective

10. Would you recommend that every eligible company transition from a traditional company into a virtual company?

- If so, why so?
- If not, why not?

Scharf: I would recommend putting the option on the table. There are many potential benefits and only a few downsides to this. However for well established companies it can be an expensive change, so even if the change is desirable it may take a long time to execute well.

11. What is your personal perspective on the future of global virtual companies?

Scharf: I think they *are* the future. The benefits, especially for employees, but also for the companies can be overwhelming. Supply and demand will do the rest.
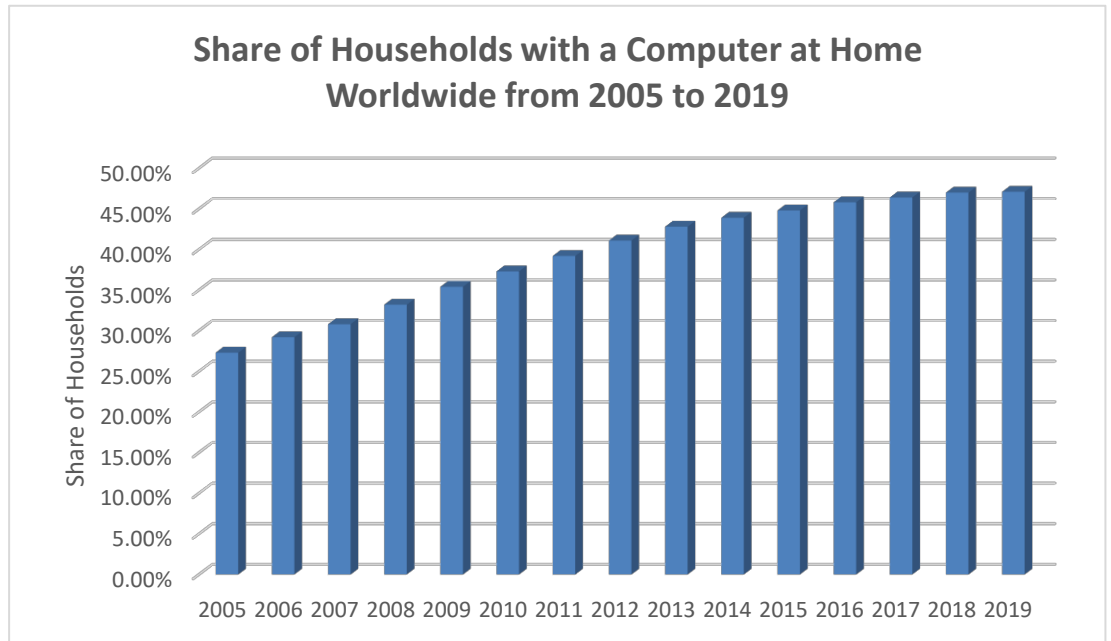
7.6 Global Statistics

Fig. 19: Share of Households with a Computer at Home Worldwide from 2005 to 2019[389]
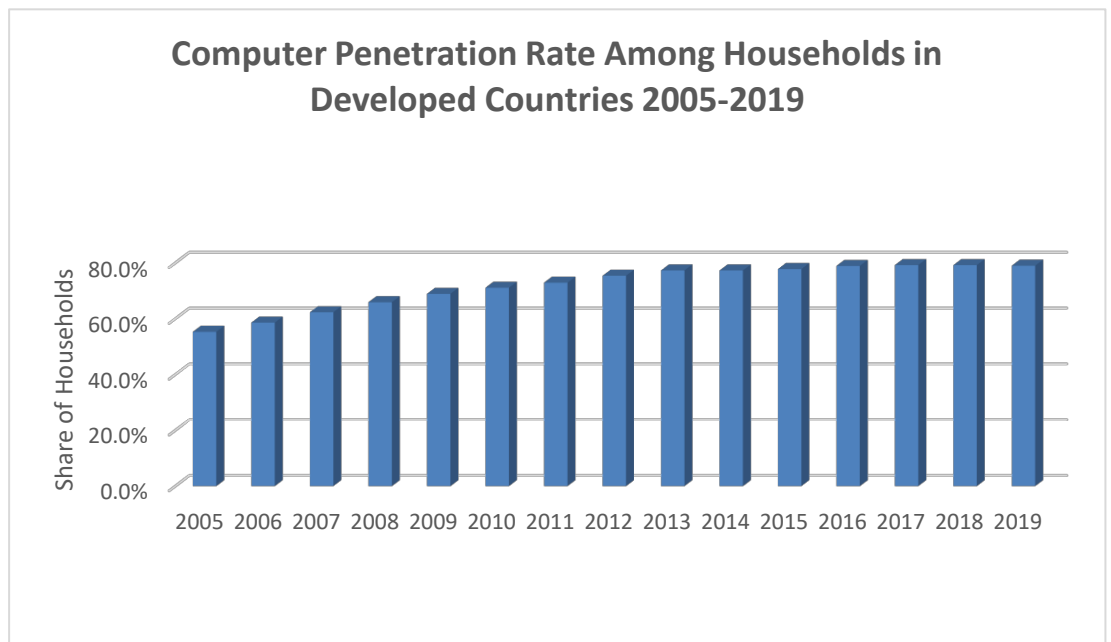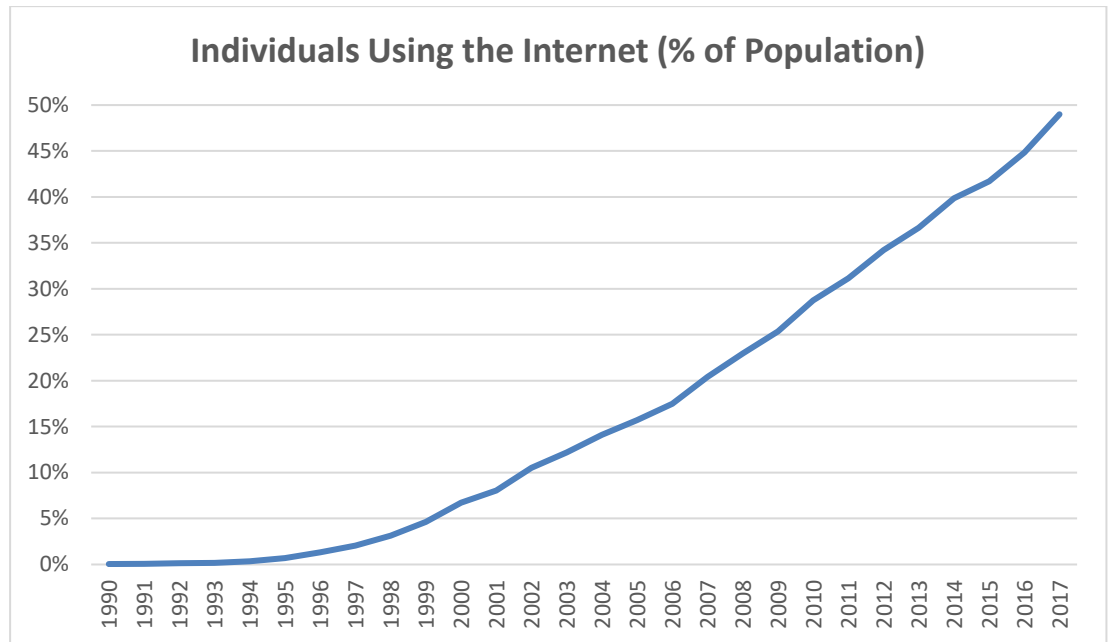

Fig. 20: Computer Penetration Rate Among Households in Developed Countries 2005-2019[390]

---

[389] Recreated Figure Cf. Alsop 2021b.

[390] Recreated Figure Cf. Alsop 2021a.

Individuals Using the Internet (% of Population)

Fig. 21: Individuals Using the Internet (% of Population)[391]

Tab. 3: History and Growth of the Internet from 1995 Until Today[392]

Date	Number of Users	% of World Population	Information Source
December, 1995	16 millions	0.4 %	IDC
December, 1996	36 millions	0.9 %	IDC
December, 1997	70 millions	1.7 %	IDC
December, 1998	147 millions	3.6 %	C.I. Almanac
December, 1999	248 millions	4.1 %	Nua Ltd.
March, 2000	304 millions	5.0 %	Nua Ltd.
July, 2000	359 millions	5.9 %	Nua Ltd.
December, 2000	361 millions	5.8 %	Internet World Stats
March, 2001	458 millions	7.6 %	Nua Ltd.
June, 2001	479 millions	7.9 %	Nua Ltd.
August, 2001	513 millions	8.6 %	Nua Ltd.
April, 2002	558 millions	8.6 %	Internet World Stats
July, 2002	569 millions	9.1 %	Internet World Stats

---

[391] Recreated Figure Cf. World Bank Group 2021.

[392] Recreated Table Cf. Internet World Stats 2021.

September, 2002	587 millions	9.4 %	Internet World Stats
March, 2003	608 millions	9.7 %	Internet World Stats
September, 2003	677 millions	10.6 %	Internet World Stats
October, 2003	682 millions	10.7 %	Internet World Stats
December, 2003	719 millions	11.1 %	Internet World Stats
February, 2004	745 millions	11.5 %	Internet World Stats
May, 2004	757 millions	11.7 %	Internet World Stats
October, 2004	812 millions	12.7 %	Internet World Stats
December, 2004	817 millions	12.7 %	Internet World Stats
March, 2005	888 millions	13.9 %	Internet World Stats
June, 2005	938 millions	14.6 %	Internet World Stats
September, 2005	957 millions	14.9 %	Internet World Stats
November, 2005	972 millions	15.2 %	Internet World Stats
December, 2005	1,018 millions	15.7 %	Internet World Stats
March, 2006	1,023 millions	15.7 %	Internet World Stats
June, 2006	1,043 millions	16.0 %	Internet World Stats
Sept, 2006	1,086 millions	16.7 %	Internet World Stats
Dec, 2006	1,093 millions	16.7 %	Internet World Stats
Mar, 2007	1,129 millions	17.2 %	Internet World Stats
June, 2007	1,173 millions	17.8 %	Internet World Stats
Sept, 2007	1,245 millions	18.9 %	Internet World Stats
Dec, 2007	1,319 millions	20.0 %	Internet World Stats
Mar, 2008	1,407 millions	21.1 %	Internet World Stats
June, 2008	1,463 millions	21.9 %	Internet World Stats
Sept, 2008	1,504 millions	22.5 %	Internet World Stats
Dec, 2008	1,574 millions	23.5 %	Internet World Stats
Mar, 2009	1,596 millions	23.8 %	Internet World Stats
June, 2009	1,669 millions	24.7 %	Internet World Stats
Sept, 2009	1,734 millions	25.6 %	Internet World Stats

|			
Dec, 2009	1,802 millions	26.6 %	Internet World Stats
June, 2010	1,966 millions	28.7 %	Internet World Stats
Sept, 2010	1,971 millions	28.8 %	Internet World Stats
Mar, 2011	2,095 millions	30.2 %	Internet World Stats
Jun, 2011	2,110 millions	30.4 %	Internet World Stats
Sept, 2011	2,180 millions	31.5 %	Internet World Stats
Dec, 2011	2,267 millions	32.7 %	Internet World Stats
Mar, 2012	2,336 millions	33.3 %	Internet World Stats
June, 2012	2,405 millions	34.3 %	Internet World Stats
Sept, 2012	2,439 millions	34.8 %	Internet World Stats
Dec, 2012	2,497 millions	35.7 %	I.T.U.
Dec, 2013	2,802 millions	39.0 %	Internet World Stats
June, 2014	3,035 millions	42.3 %	Internet World Stats
Dec, 2014	3,079 millions	42.4 %	Internet World Stats
June, 2015	3,270 millions	45.0 %	Internet World Stats
Dec, 2015	3,366 millions	46.4 %	Internet World Stats
Jun. 2016	3,631 millions	49.5 %	Internet World Stats
Dec. 2016	3,696 millions	49.5 %	Internet World Stats
June, 2017	3,885 millions	51.7 %	Internet World Stats
Dec 2017	4,156 millions	54.4 %	Internet World Stats
Jun 2018	4,208 millions	55.1 %	Internet World Stats
Dec 2018	4,313 millions	55.6 %	Internet World Stats
Mar 2019	4,383 millions	56.8 %	Internet World Stats
Jun, 2019	4,536 millions	58.8 %	Internet World Stats
Jun, 2020	4,833 millions	62.0 %	Internet World Stats
Dec, 2020	5,053 millions	64.2 %	Internet World Stats
Mar, 2021	5,168 millions	65.6 %	Internet World Stats

Retail E-Commerce Sales Worldwide from 2014 to 2024
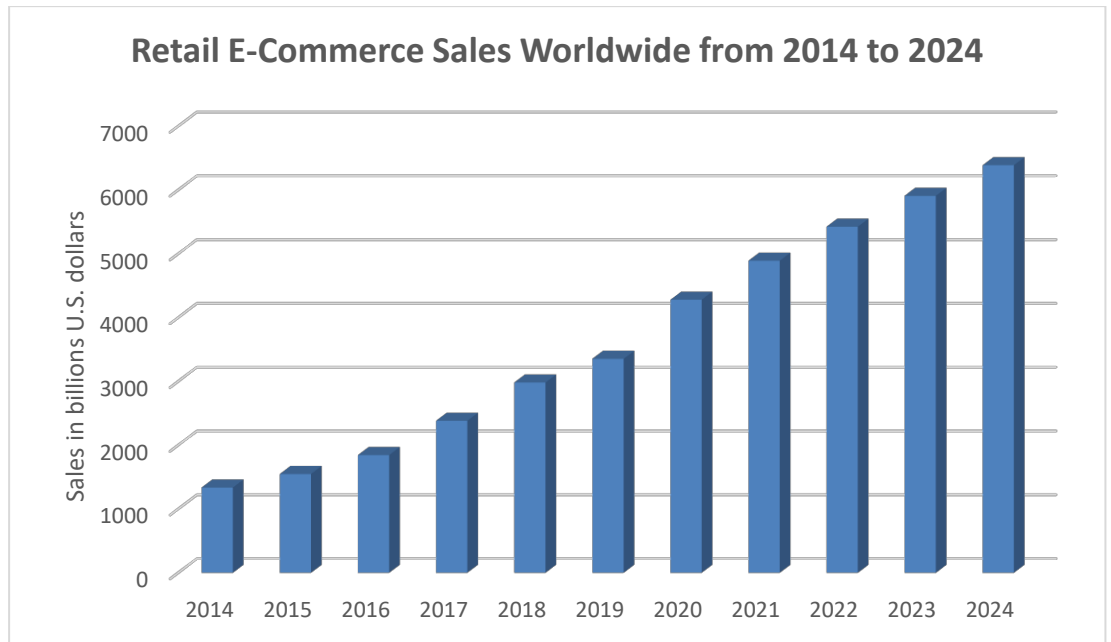
Fig. 22: Retail E-Commerce Sales Worldwide from 2014 to 2024[393]

7.7 Employee and Consumer Preferences

Would You Like to Work Remotely, At Least Some of the Time, for the Rest of Your Career?
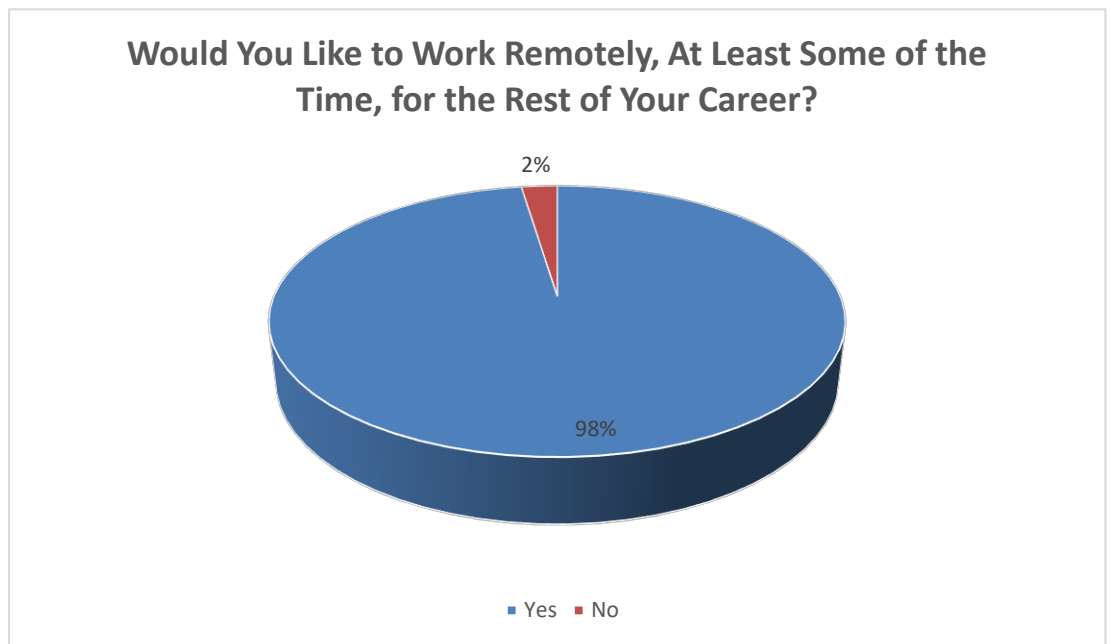
Fig. 23: Would You Like to Work Remotely, At Least Some of the Time, for the Rest of Your Career?[394]

---

[393] Recreated Figure Cf. Sabanoglu 2021.

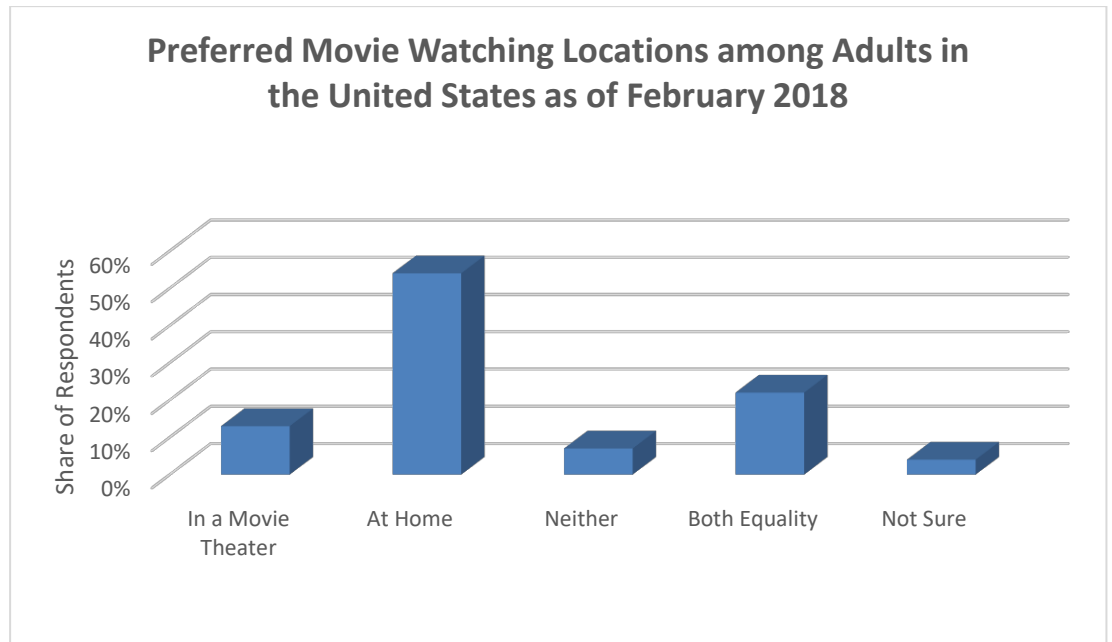[394] Recreated Figure Cf. Buffer 2021.

Fig. 24: Preferred Movie Watching Locations among Adults in the US as of February 2018[395]

7.8 Companies Transitioning into a WFA Model

Tab. 4: Companies Transitioning to WFA Model[396]

Company	Transition Title
HubSpot	The Future of Work at HubSpot: How we're Building a Hybrid Company
Dropbox	Dropbox goes Virtual First
Reddit	Evolving Reddit's Workforce
Figma	How work is changing at Figma
Coinbase	Post COVID-19, Coinbase will be a remote-first company
Shopify	Digital by default
Twitter	Moving to mandatory work from home globally + supporting our employees
Slack	A new guide for adapting to a radically different workplace
Sike Insights	EQ & Remote Managers Report
Spotify	Distributed-First Is the Future of Work at Spotify
Grammarly	The Future of Work at Grammarly

---

[395] Recreated Figure Cf. Stoll 2021.

[396] Recreated Table Cf. Murph/Reeder/Bula 2021.

List of References

Ahrendt, Daphne/Cabrita, Jorge/Clerici, Eleonora/Hurley, John/Leončikas, Tadas/Mascherini, Massimiliano (2020): Living, working and COVID-19. 1st ed. Luxembourg: Publications Office of the European Union.

AJMC (2021): A Timeline of COVID-19 Developments in 2020. Online: https://www.ajmc.com/view/a-timeline-of-covid19-developments-in-2020. [last access date: 2021-May-10].

Akhtaruzzaman, Md/Boubaker, Sabri/Sensoy, Ahmet (2020): Financial contagion during COVID–19 crisis.In: Finance Research Letters*, from 23.May.2020, No. 38.

Alliance Virtual Offices (2021): How To Run a Virtual Company. Online: 2021. [last access date: 2021-June-15].

Allure Magazine (2021): How 11 Beauty Entrepreneurs Are Handling Business Amid the Pandemic. Online: https://www.allure.com/story/beauty-business-owners-covid-19. [last access date: 2021-July-20].

Alsop, Thomas (2021a): Share of households with a computer at home in developed countries from 2005 to 2019. Online: https://www.statista.com/statistics/748557/developed-countries-households-with-computer/. [last access date: 2021-July-27].

Alsop, Thomas (2021b): Share of households with a computer at home worldwide from 2005 to 2019. Online: https://www.statista.com/statistics/748551/worldwide-households-with-computer/. [last access date: June-17-2021].

Amazon (2021): Amazon physical stores locations. Online: https://www.amazon.com/find-your-store/b/?node=17608448011. [last access date: 2021-July-16].

Amazon Web Services (2021): What is cloud computing?. Online: https://aws.amazon.com/what-is-cloud-computing/. [last access date: 2021-July-22].

Andrews, Evan (2019): Who Invented the Internet?. Online: https://www.history.com/news/who-invented-the-internet. [last access date: 2021-June-24].

Angelucci, Manuela/Angrisani, Marco/Bennett, Daniel/Kapteyn, Arie/Schaner, Simone (2020): Remote Work and the Heterogeneous Impact of COVID-19 on Employment and Health. National Bureau of Economic Statistics. Cambridge.

Arthur (2013): Yahoo chief bans working from home. Online: https://www.theguardian.com/technology/2013/feb/25/yahoo-chief-bans-working-home. [last access date: 2021-June-15].

Asmelash, Leah/Cooper, Aaron (2020): Nearly 80% of hotel rooms in the US are empty, according to new data. Online: https://www.cnn.com/2020/04/08/us/hotel-rooms-industry-coronavirus-trnd/index.html. [last access date: 2021-July-19].

Baker, Marissa G. (2020): Nonrelocatable Occupations at Increased Risk.In: American Journal of Public Health, from August.2020, No. 1, p. 1126-1132.

Ball, Philip (2020): The lightning-fast quest for COVID vaccines — and what it means for other diseases. Online: https://www.nature.com/articles/d41586-020-03626-1. [last access date: 2021-July-21].

Barbour, Rosaline p. (2001): The role of qualitative research in broadening the 'evidence base' for clinical practice.In: Journal of Evaluation in Clinical Practice, from 25.December.2001, No. 6, p. 155-163.

Barrabi, Thomas (2020): How Facebook was founded. Online: https://www.foxbusiness.com/technology/how-facebook-was-founded. [last access date: 2021-July-18].

Bartik, Alexander/Bertrand, Marianne/Cullen, Zoe/Glaeser, Edward L. (2020): The impact of COVID-19 on small business outcomes and expectations. Online: https://www.pnas.org/content/117/30/17656. [last access date: 2021-May-10].

Barua, Suborna (2020): Understanding Coronanomics: The Economic Implications of the Coronavirus (COVID-19) Pandemic.In: MPRA Paper, from 1.April.2020, No. 1.

Behsudi, Adam (2020): Tourism-dependent economies are among those harmed the most by the pandemic. Online: https://www.imf.org/external/pubs/ft/fandd/2020/12/impact-of-the-pandemic-on-tourism-behsudi.htm. [last access date: 2021-July-19].

BigCommerce (2021): What is A Shopping Cart?. Online: https://www.bigcommerce.com/ecommerce-answers/whats-shopping-cart/. [last access date: 2021-July-16].

Blitz, Matt (2019): Later, Navigator: How Netscape Won and Then Lost the World Wide Web. Online: https://www.popularmechanics.com/culture/web/a27033147/netscape-navigator-history/. [last access date: 2021-July-9].

Bohn, Dieter (2021): Google's first retail store opens this week. Online: https://www.theverge.com/2021/6/16/22535909/googles-first-retail-store-hardware. [last access date: 2021-July-18].

British Broadcasting Corporation (2020): Coronavirus: How the world of work may change forever. Online: https://www.bbc.com/worklife/article/20201023-coronavirus-how-will-the-pandemic-change-the-way-we-work. [last access date: 2021-May-10].

British Broadcasting Corporation (2021): India vaccination: Six months on, India's vaccine drive is lagging. Online: https://www.bbc.com/news/world-asia-india-56345591. [last access date: 2021-July-21].

Buffer (2021): The 2021 State of Remote Work. Online: https://buffer.com/2021-state-of-remote-work. [last access date: 2021-June-18].

Business Wire (2020): Impact of COVID-19 on the Video Conferencing Market, 2020 - ResearchAndMarkets.com. Online: https://www.businesswire.com/news/home/20200416005739/en/Impact-of-COVID-19-on-the-Video-Conferencing-Market-2020---ResearchAndMarkets.com. [last access date: 2021-July-22].

Cacioppo, John T./Hawkley, Louise C. (2009): Perceived social isolation and cognition.In: Trends in Cogniftive Sciences, from 31.August.2009, No. 1, p. 447-454.

Calma, Justine (2020): The COVID-19 pandemic is generating tons of medical waste. Online: https://www.theverge.com/2020/3/26/21194647/the-covid-19-pandemic-is-generating-tons-of-medical-waste. [last access date: 2021-July-22].

Cambridge University Press (2021): Cambridge Dictionary. Online: https://dictionary.cambridge.org/dictionary/english/virtual. [last access date: 2021-June-17].

Campbell, Andrew M. (2020): An increasing risk of family violence during the Covid-19 pandemic: Strengthening community collaborations to save lives.In: Forensic Science International. Reports, from 12.April.2020, No. 2.

Carnevale, Joel B./Hatak, Isabella (2020): Employee Adjustment and Well-Being in the Era of COVID-19: Implications for Human Resource Management.In: Journal of Business Research, from 13.May.2020, No. 116, p. 183-187.

Centers for Disease Control and Prevention (2021a): Coping with Stress. Online: https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/managing-stress-anxiety.html. [last access date: 2021-July-19].

Centers for Disease Control and Prevention (2021b): Different COVID-19 Vaccines. Online: https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines.html. [last access date: 2021-July-21].

Centers for Disease Control and Prevention (2021c): Interim Guidance on Management of Coronavirus Disease 2019 (COVID-19) in Correctional and Detention Facilities. Online: https://www.cdc.gov/coronavirus/2019-ncov/community/correction-detention/guidance-correctional-detention.html. [last access date: 2021-July-20].

Centers for Disease Control and Prevention (2021d): Interim List of Categories of Essential Workers Mapped to Standardized Industry Codes and Titles. Online: https://www.cdc.gov/vaccines/covid-19/categories-essential-workers.html. [last access date: 2021-July-22].

CERN (2021): The birth of the Web. Online: https://home.cern/science/computing/birth-web. [last access date: 2021-June-24].

Chakravorti, Bhaskar/Chaturvedi, Ravi Shankar (2020): Which Countries Were (And Weren't) Ready for Remote Work?. Online: https://hbr.org/2020/04/which-countries-were-and-werent-ready-for-remote-work. [last access date: 2021-June-18].

Chopra, Sunil/Veeraiyan, Murali (2012): Movie Rental Business: Blockbuster, Netflix, and Redbox.In: Kellogg School of Management Cases, from 8.February.2012, No. 1, p. 1-21.

Chow, Denise (2020): Coronavirus shutdowns have unintended climate benefits: Cleaner air, clearer water. Online: https://www.nbcnews.com/science/environment/coronavirus-shutdowns-have-unintended-climate-benefits-n1161921. [last access date: 2021-July-21].

Clement, Jessica (2021): Market value of the largest internet companies worldwide 2021. Online: https://www.statista.com/statistics/277483/market-value-of-the-largest-internet-companies-worldwide/. [last access date: 2021-June-19].

Cohron, Malcolm/Yavar, Eskander/Cummings, Susie (2020): COVID-19 IS ACCELERATING THE RISE OF THE DIGITAL ECONOMY. Online: https://www.bdo.com/insights/business-financial-advisory/strategy,-technology-transformation/covid-19-is-accelerating-the-rise-of-the-digital-e. [last access date: 2021-June-1].

Coleman, Adam (3. August. 2021, Frankfurt am Main). CEO and Founder. Interview.

Companies Market Cap (2021): Largest e-commerce companies by market cap. Online: https://companiesmarketcap.com/e-commerce/largest-e-commerce-companies-by-market-cap/. [last access date: 2021-July-23].

Condeco (2021): The History of the Workplace. Online: https://www.condecosoftware.com/modern-workplace/history-of-the-workplace/. [last access date: 2021-June-22].

Courtney, Emily (2021): 30 Companies Switching to Long-Term Remote Work. Online: https://www.flexjobs.com/blog/post/companies-switching-remote-work-long-term/. [last access date: 2021-May-10].

Courtney, Emily (2021): The Benefits of Working From Home: Why The Pandemic Isn't the Only Reason to Work Remotely. Online: https://www.flexjobs.com/blog/post/benefits-of-remote-work/. [last access date: 2021-June-18].

COVID19 Vaccine Tracker (2021): Vaccines Candidates By Trial Phase. Online: https://covid19.trackvaccines.org/vaccines/. [last access date: 2021-July-21].

Cowling, Jon (2016): A Brief History of Skype - the peer to peer messaging service. Online: https://content.dsp.co.uk/history-of-skype. [last access date: 2021-July-26].

Cuofano, Gennaro (2020): Platform Business Models In A Nutshell. Online: https://fourweekmba.com/platform-business-models/. [last access date: 2021-Jul-19].

Dans, Enrique (2019): Money: It's Going Digital Faster Than Anybody Thought. Online: https://www.forbes.com/sites/cognizant/2021/06/08/places-of-the-future-21-hotbeds-of-innovation/?sh=76659714778e. [last access date: 2021-June-18].

de Jonge, Eric (4. August. 2021, Frankfurt am Main). Managing Director-Country Manager. Interview.

Debitoor (2021): Click and mortar – What is click and mortar?. Online: https://sumup.co.uk/invoices/dictionary/click-and-mortar/. [last access date: 2021-June-19].

Devaney, Erik (2021): The History of the Webcam. Online: https://www.techwalla.com/articles/the-history-of-the-webcam. [last access date: 2021-July-22].

Diamond, Dan (2020): Inside America's 2-Decade Failure to Prepare for Coronavirus. Online: https://www.politico.com/news/magazine/2020/04/11/america-two-decade-failure-prepare-coronavirus-179574. [last access date: 2021-July-20].

Digital Commerce 360 (2021): Charts: How the coronavirus is changing ecommerce. Online: https://www.digitalcommerce360.com/2021/02/15/ecommerce-during-coronavirus-pandemic-in-charts/. [last access date: 2021-May-11].

Donthu, Naveen/Gustafsson, Anders (2020): Effects of COVID-19 on business and research.In: Journal of Business Research*, from 9.June.2020, No. 117, p. 284-289.

Dwoskin, Elizabeth (2020): Tech giants are profiting — and getting more powerful — even as the global economy tanks. Online: https://www.washingtonpost.com/technology/2020/04/27/big-tech-coronavirus-winners/. [last access date: 2021-May-10].

Easter, Makeda/Dave, Paresh (2017): Remember when Amazon only sold books?. Online: https://www.latimes.com/business/la-fi-amazon-history-20170618-htmlstory.html. [last access date: 2021-July-12].

Ederle, Romina (2020): New Udemy Report Shows Surge in Global Online Education in Response to COVID-19. Online: https://about.udemy.com/press-releases/new-udemy-report-shows-surge-in-global-online-education-in-response-to-covid-19/. [last access date: 2021-July-20].

European Environment Agency (2021): Nitrogen oxides, NOx. Online: https://www.eea.europa.eu/help/glossary/eper-chemicals-glossary/nitrogen-oxides-nox. [last access date: 2021-July-21].

Evans, Olaniyi (2020): Socio-economic impacts of novel coronavirus: The policy solutions.In: BizEcons Quarterly*, from March.2020, No. 7, p. 3-12.

Fahey, Ryan (2020): Half the world in lockdown: 3.9 billion people are currently called on to stay in their homes due to coronavirus. Online: https://www.dailymail.co.uk/news/article-8181001/3-9-billion-people-currently-called-stay-homes-coronavirus.html. [last access date: 2021-May-10].

Falk, Gene/Carter, Jameson (2021): Unemployment Rates During the COVID-19. Online: https://fas.org/sgp/crs/misc/R46554.pdf. [last access date: 2021-May-10].

Farquhar, Dave (2018): AOL history. Online: https://dfarq.homeip.net/aol-history/. [last access date: 2021-July-12].

Fortune Business Insights (2021): Telehealth Market Size 2021 | Is Projected to Reach USD 559.52 Billion by 2027 with a CAGR of 25.2%. Online: https://www.globenewswire.com/news-release/2021/05/18/2231503/0/en/Telehealth-Market-Size-2021-Is-Projected-to-Reach-USD-559-52-Billion-by-2027-with-a-CAGR-of-25-2.html. [last access date: 2021-July-20].

Fox, Susannah/Rainie, Lee (2014): The Web at 25 in the U.S.. Online: https://www.pewresearch.org/internet/2014/02/27/the-web-at-25-in-the-u-s/. [last access date: 2021-July-9].

Fraser, Trevor (2020): How much less are we driving? U.S. burns 50 million fewer gallons of gas per day. Online: https://www.orlandosentinel.com/business/os-bz-driving-less-during-covid-pandemic-20201127-twhx7kns5vhrlfsaqkeo7tyhim-story.html. [last access date: 2021-July-22].

Fresenius Medical Care (2020): Fresenius Medical Care Embraces Remote Working to Support Colleagues During the Pandemic. Online: https://jobs.fmcna.com/Working-Remotely. [last access date: 2021-June-15].

Fried, Jason/Heinemeir Hansson, David (2013): Remote: Office Not Required. 1st ed. New York: Crown Business.

Gerdeman, Dina (2021): COVID Killed the Traditional Workplace. What Should Companies Do Now?. Online: https://hbswk.hbs.edu/item/covid-killed-the-traditional-workplace-what-should-companies-do-now. [last access date: 2021-July-18].

Gesley, Jenny (2021): Germany: Requirement to Offer Remote Work Option Enters into Force. Online: https://www.loc.gov/law/foreign-news/article/germany-requirement-to-offer-remote-work-option-enters-into-force/. [last access date: 2021-May-10].

Goodwill Community Foundation (2021): What is a Computer?. Online: https://edu.gcfglobal.org/en/computerbasics/what-is-a-computer/1/. [last access date: 2021-June-22].

Google (2021): S&P500. Online: https://www.google.com/search?q=s%26p500&rlz=1C1CHBF_enDE911DE911&oq=S%26P500&aqs=chrome.0.35i39i285j69i59j0i512j0i10i512j0i512l6.5399j1j7&sourceid=chrome&ie=UTF-8. [last access date: 2021-August-2].

Goudreau, Jenna (2013): Back To the Stone Age? New Yahoo CEO Marissa Mayer Bans Working From Home. Online: https://www.forbes.com/sites/jennagoudreau/2013/02/25/back-to-the-stone-age-

new-yahoo-ceo-marissa-mayer-bans-working-from-home/?sh=5b3a8c101667. [last access date: 2021-August-8].

Graham, Megan/Elisa, Jennifer (2021): How Google's $150 billion advertising business works. Online: https://www.cnbc.com/2021/05/18/how-does-google-make-money-advertising-business-breakdown-.html. [last access date: 2021-July-16].

Gray, Matthew (1996): Web Growth Summary. Online: https://www.mit.edu/people/mkgray/net/web-growth-summary.html. [last access date: 2021-July-9].

Gregersen, Erik (2021): Browser. Online: https://www.britannica.com/technology/browser. [last access date: 2021-July-9].

Greiner, T.H. (1998): Carbon Monoxide Poisoning: Garages (AEN-207). Online: https://www.abe.iastate.edu/extension-and-outreach/carbon-monoxide-poisoning-garages-aen-207/. [last access date: 2021-July-21].

Griffis, Hailley (2018): State of Remote Work 2018 Report: What It's Like to be a Remote Worker in 2018. Online: https://buffer.com/resources/state-remote-work-2018/. [last access date: 2021-May-10].

Griffis, Hailley (2021): What Is a Hybrid Work Model, and How Do We Make It Work?. Online: https://builtin.com/remote-work/hybrid-work-model. [last access date: 2021-July-22].

Guan, Dabo/Wang, Daoping/Hallegatte, Stephane/Davis, Steven J/Huo, Jingwen/Li, Shuping/Bai, Yangchun/Lei, Tianyang/Xue, Qianyu/Coffman, D'Maris/Cheng, Danyang/Chen, Peipei/Liang, Xi/Xu, Bing/Lu, Xiaosheng/Wang, Shouyang/Hubacek, Klaus (2020): Global supply-chain effects of COVID-19 control.In: Nature Human Behaviour*, from 4.June.2020, No. p. 577-587.

Hajro, Neira/Hjatar, Kiemens/Jenkins, Paul/Viera, Benjamin (2021): What's next for digital consumers. Online: https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/whats-next-for-digital-consumers#. [last access date: 2021-June-18].

Harapko, Sean (2021): How COVID-19 impacted supply chains and what comes next. Online: https://www.ey.com/en_us/supply-chain/how-covid-19-impacted-supply-chains-and-what-comes-next. [last access date: 2021-July-20].

Hardesty, Larry (2019): The history of Amazon's recommendation algorithm. Online: https://www.amazon.science/the-history-of-amazons-recommendation-algorithm. [last access date: 2021-July-16].

Haynes, Ian (2020): Significant Increase in Social Media Usage Under Covid-19: Here's What That Means For Businesses. Online: https://www.insil.com.au/post/significant-increase-in-social-media-usage-under-covid-19-heres-what-that-means-for-businesses/. [last access date: 2021-July-20].

Hinds, Rebecca (2021): The 5 Hybrid and Remote Work Models for Your Business. Online: https://www.inc.com/rebecca-hinds/the-5-hybrid-remote-works-models-for-your-business.html. [last access date: 2021-July-22].

Höppner, Stephanie (2020): Why is Finland coping so well with the coronavirus crisis?. Online: https://www.dw.com/en/coronavirus-finland-sweden-role-model/a-55664117. [last access date: 2021-July-19].

Howington, Jessica (2018): 25 Virtual Companies Without Headquarters. Online: https://remote.co/virtual-companies-without-headquarters/. [last access date: 2021-June-18].

Howley, Daniel (2020): The world is turning to video games amid coronavirus outbreak. Online: https://finance.yahoo.com/news/coronavirus-world-turning-to-video-games-150704969.html?guccounter=1&guce_referrer=. [last access date: 2021-July-20].

Huber, Andreas (2016): Marketing. 3rd ed. Munich: Vahlen.

Huddleston Jr, Tom (2021): Jeff Bezos steps down as Amazon CEO — look inside the Seattle house where he started the company. Online: https://www.cnbc.com/2019/02/15/photos-inside-seattle-house-where-jeff-bezos-started-amazon.html. [last access date: 2021-July-16].

Hudson, 2020 (2020): The ocean and COVID-19. Online: https://www.undp.org/blogs/ocean-and-covid-19. [last access date: 2021-July-21].

Hyken, Shep (2020): Going Remote: When The Office Is Optional—Or Even Obsolete. Online: https://www.forbes.com/sites/shephyken/2020/09/13/going-remote-when-the-office-is-optional-or-even-obsolete/?sh=2ce65a2e2f49. [last access date: 2021-August-15].

International Finance Corporation (2020): COVID-19's Impact. Online: https://www.ifc.org/wps/wcm/connect/1d490aec-4d57-4cbf-82b3-d6842eecd9b2/IFC-Covid19-Telecommunications_final_web_2.pdf?MOD=AJPERES&CVID=n9nxogP. [last access date: 2021-May-10].

Internet Live Stats (2021): Total number of Websites. Online: https://www.internetlivestats.com/total-number-of-websites/. [last access date: 2021-July-26].

Internet Service Providers (2011): 10 Early ISP's and What Has Become of Them. Online: https://www.isp.com/blog/10-early-isps-and-what-has-become-of-them/. [last access date: 2021-July-16].

Internet World Stats (2021): INTERNET GROWTH STATISTICS. Online: https://www.internetworldstats.com/emarketing.htm. [last access date: 2021-July-22].

JBC & Associates (2020): Google's First Brick-And-Mortar Store Is On The Rise. Online: https://jbcassociates.net/googles-first-brick-and-mortar-store-is-on-the-rise/. [last access date: 2021-July-16].

Johnson, Joseph (2021): Advertising revenue of Google from 2001 to 2020. Online: https://www.statista.com/statistics/266249/advertising-revenue-of-google/. [last access date: 2021-July-16].

Johnston, Katie (2019): Who needs an office? Companies ditch headquarters and connect workers remotely. Online: https://web.archive.org/web/20200414080308/https://www.bostonglobe.com/busines s/2019/10/03/who-needs-office-companies-ditch-headquarters-and-connect-workers-remotely/JJxcjwyveEzGtUeajqqfTN/story.html. [last access date: 2021-July-13].

Josephs, Leslie (2020): U.S. airline employment to reach lowest levels in decades after pandemic cuts 90,000 jobs. Online: https://www.cnbc.com/2020/11/12/us-airline-employment-to-reach-lowest-levels-in-decades-after-pandemic-cuts-90000-jobs.html. [last access date: 2021-July-19].

Jowitt, Tom (2016): Tales In Tech History: Netscape Navigator. Online: https://www.silicon.co.uk/workspace/browser/tales-tech-history-netscape-navigator-197105. [last access date: 2021-July-9].

Kalantary, Roshanak Rezaei/Jamshidi, Arsalan/Mofrad, Mohammad Mehdi Golbini/Jafari, Ahmad Jonidi/Heidari, Neda/Fallahizadeh, Saeid/Arani, Mohsen Hesami/Torkashvand, Javad (2021): Effect of COVID-19 pandemic on medical waste management: a case study.In: Journal of Environmental Health Science and Engineering*, from 19.June.2021, No. 1, p. 831-836.

Kanell, Nai (2021): A Brief History of Digital Workplace Technology. Online: https://spaceiq.com/blog/history-of-workplace-technology/. [last access date: 2021-July-23].

Kapersky (2021): What are Cookies?. Online: https://www.kaspersky.com/resource-center/definitions/cookies. [last access date: 2021-June-9].

Katella, Kathy (2021): 5 Things Everyone Should Know About the Coronavirus Outbreak. Online: https://www.yalemedicine.org/news/2019-novel-coronavirus. [last access date: 2021-July-20].

Kaufman, Elizabeth/Lovich, Deborah/Bailey, Allison/Messenböck, Reinhardl/Schuler, Felix/Shroff, Abhishek (2020): Remote Work Works—Where Do We Go. Online: https://web-assets.bcg.com/92/24/ef7bd3564167b9ca6a403ced58c6/bcg-remote-work-works-where-do-we-go-from-here-aug-2020-1.pdf. [last access date: 2021-June-29].

Kelly, Heather (2020): The most maddening part about working from home: video conferences. Online: https://www.washingtonpost.com/technology/2020/03/16/remote-work-video-conference-coronavirus/. [last access date: 2021-July-22].

Kelly, Heather/Lerman, Rachel (2021): As offices open back up, not all tech companies are sold on a remote future. Online: https://www.washingtonpost.com/technology/2021/06/04/big-tech-office-openings/. [last access date: 2021-July-21].

Keythman, Bryan (2019): How to Calculate Fully Burdened Labor Costs. Online: https://smallbusiness.chron.com/calculate-fully-burdened-labor-costs-33072.html. [last access date: 2021-July-22].

Kim, Eugene (2018): Why Amazon is the winner of the Supreme Court sales tax ruling. Online: https://www.cnbc.com/2018/06/21/why-amazon-wins-with-supreme-court-sales-tax-ruling.html. [last access date: 2021-July-16].

Konsbruck, Robert Lee (2001): Impacts of Information Technology. Online: https://www.zurich.ibm.com/pdf/news/Konsbruck.pdf. [last access date: 2021-July-16].

Kosner, Anthony Wing (2020): The crucial difference between remote work and distributed work. Online: https://blog.dropbox.com/topics/work-culture/the-crucial-difference-between-remote-work-and-distributed-work. [last access date: 2021-July-22].

Larson, Barbara Z./Vroman, Susan R./Makarius, Erin E. (2020): A Guide to Managing Your (Newly) Remote Workers. Online: https://hbr.org/2020/03/a-guide-to-managing-your-newly-remote-workers. [last access date: 2021-July-26].

Laura LaBerge, Clayton O'Toole, Jeremy Schneider, Kate Smaje (2020): How COVID-19 has pushed companies over the technology tipping point - and transformed business forever. Online: https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/how-covid-19-has-pushed-companies-over-the-technology-tipping-point-and-transformed-business-forever#. [last access date: 2021-June-1].

Lawler, Dave (2020): Timeline: How Italy's coronavirus crisis became the world's deadliest. Online: https://www.axios.com/italy-coronavirus-timeline-lockdown-deaths-cases-2adb0fc7-6ab5-4b7c-9a55-bc6897494dc6.html. [last access date: 2021-July-21].

Lebowitz, Shaba (2019): Amazon is celebrating its 25th birthday. Here's how the e-commerce giant got its name.. Online: https://www.businessinsider.com/amazon-jeff-bezos-chose-company-name-2018-5. [last access date: 2021-July-12].

Ledford, Heidi/Cyranoski, David/Van Noorden, Richard (2020): The UK has approved a COVID vaccine — here's what scientists now want to know. Online: https://www.nature.com/articles/d41586-020-03441-8. [last access date: 2021-July-21].

Lee, Konsbruck Robert (2001): Impacts of Information Technology on Society in the new Century. Online: https://www.zurich.ibm.com/pdf/news/Konsbruck.pdf. [last access date: 2021-June-23].

Lerman, Rachel/Greene, Jay (2020): Big Tech was first to send workers home. Now it's in no rush to bring them back.. Online: https://www.washingtonpost.com/technology/2020/05/18/facebook-google-work-from-home/. [last access date: 2021-July-21].

Leswing, Kif (2019): The iPhone decade: How Apple's phone created and destroyed industries and changed the world. Online: https://www.cnbc.com/2019/12/16/apples-iphone-created-industries-and-changed-the-world-this-decade.html. [last access date: 2021-July-26].

Levanon, Gad (2020): Remote Work: The Biggest Legacy Of Covid-19. Online: https://www.forbes.com/sites/gadlevanon/2020/11/23/remote-work-the-biggest-legacy-of-covid-19/?sh=280f9a397f59. [last access date: 2021-June-18].

Lewis, Michael (1999): The New New Thing. New York: W.W. Norton & Company, Inc.

Lund, Susan/Madgavkar, Anu/Manyika, James/Smit, Sven (2020): What's next for remote work: An analysis of 2,000 tasks, 800 jobs, and nine countries. Online: https://www.mckinsey.com/featured-insights/future-of-work/whats-next-for-remote-work-an-analysis-of-2000-tasks-800-jobs-and-nine-countries#. [last access date: 2021-June-19].

Mallapaty, Smriti (2021): Where did COVID come from? Five mysteries that remain. Online: https://www.nature.com/articles/d41586-021-00502-4. [last access date: 2021-May-10].

Mann, Annamarie/Adkins, Amy (2017): America's Coming Workplace: Home Alone. Online: https://news.gallup.com/businessjournal/206033/america-coming-workplace-home-alone.aspx?utm_source=link_wwwv9&utm_campaign=item_236222&utm_medium=copy. [last access date: 2021-July-21].

ManpowerGroup (2021): About ManpowerGroup. Online: https://www.manpowergroup.com/about. [last access date: 2021-August-7].

Masters, Kiri (2021): A Short History Of Amazon's Product Review Ecosystem, And Where We Are Today. Online: https://www.forbes.com/sites/kirimasters/2021/03/22/a-short-history-of-amazons-product-review-ecosystem/?sh=32fe85b72b86. [last access date: 2021-July-16].

Mayo Clinic (2021): Herd immunity and COVID-19 (coronavirus): What you need to know. Online: https://www.mayoclinic.org/diseases-conditions/coronavirus/in-depth/herd-immunity-and-coronavirus/art-20486808. [last access date: 2021-July-20].

Mazareanu, E (2021): Worldwide revenue with passengers in air traffic from 2005 to 2021. Online: https://www.statista.com/statistics/263042/worldwide-revenue-with-passengers-in-air-traffic/. [last access date: 2021-May-10].

McCue, TJ (2020): The State of Online Video For 2020. Online: https://www.forbes.com/sites/deloitte/2021/07/01/why-women-are-leaving-the-workforce-after-the-pandemic-and-how-to-win-them-back/?sh=389c9bd2796e. [last access date: 2021-July-16].

McCullough, Brian (2018): How the Internet Happened: From Netscape to the IPhone. 1st ed. New York: Liverpool Publishing Corporation.

McFadden, Christopher (2020): The Fascinating History of Netflix. Online: https://interestingengineering.com/the-fascinating-history-of-netflix. [last access date: 2021-July-26].

McKinsey & Company (2021): COVID-19: Implications for business. Online: https://www.mckinsey.com/business-functions/risk/our-insights/covid-19-implications-for-business. [last access date: 2021-July-22].

Mekouar, Dora (2021): Is Working From Home Here to Stay?. Online: https://www.voanews.com/usa/all-about-america/working-home-here-stay. [last access date: 2021-June-18].

Merriam-Webster (2021): Company Definition. Online: https://www.merriam-webster.com/dictionary/company. [last access date: 2021-June-28].

Merriam-Webster (2021): Virtual Definition. Online: https://www.merriam-webster.com/dictionary/virtual. [last access date: 2021-June-28].

Microsoft 365 Team (2021): Using video conferencing to enhance remote work. Online: https://www.microsoft.com/en-us/microsoft-365/business-insights-ideas/resources/using-video-conferencing-to-enhance-remote-work. [last access date: 2021-July-26].

Milasi, Santo/González-Vázquez, Ignacio/Fernández-Macías, Enrique (2020): Telework in the EU before and after the COVID-19: where we were,. Online: https://ec.europa.eu/jrc/sites/default/files/jrc120945_policy_brief_-_covid_and_telework_final.pdf. [last access date: 2021-July-13].

Miles, Bryan (2017): Virtual Culture. 1st ed. Austin, Texas: Lioncrest Publishing.

Mlitz, Kimberly (2020): Remote work frequency before and after COVID-19 in the United States 2020. Online: https://www.statista.com/statistics/1122987/change-in-remote-work-trends-after-covid-in-usa/. [last access date: 2021-May-10].

Moazed, Alex (2016): Platform Business Model – Definition | What is it? | Explanation. Online: https://www.applicoinc.com/blog/what-is-a-platform-business-model/. [last access date: 2021-July-22].

Mohammad, Shah (2019): How Brands Build Their Sustainable Competitive Advantage?: The Key Success Factors -Amazon, Walmart, Starbucks, Netflix, Nike and McDonalds. Independently Published.

Molla, Rani (2019): How remote work is quietly remaking our lives. Online: https://www.vox.com/recode/2019/10/9/20885699/remote-work-from-anywhere-change-coworking-office-real-estate. [last access date: 2021-July-11].

Molla, Rani (2021): Many people don't want to work unless it's from home. Online: https://www.vox.com/recode/22543409/remote-work-from-home-jobs-supply-demand-hiring-platforms. [last access date: 2021-July-21].

Morris, Frank (2020): Why Home Improvement Has Surged And How It's Changing America. Online: https://www.npr.org/2020/09/11/909264580/why-home-improvement-has-surged-and-how-its-changing-america. [last access date: 2021-July-20].

Mullenweg, Matt (2020): Distributed Work's Five Levels of Autonomy. Online: https://ma.tt/2020/04/five-levels-of-autonomy/. [last access date: 2021-June-18].

Murph, Darren/Reeder, Jessica/Bula, Betsy (2021): Hybrid-Remote: understanding nuances and pitfalls. Online: https://about.gitlab.com/company/culture/all-remote/hybrid-remote/. [last access date: 2021-July-22].

Netflix (2021): About Netflix. Online: https://about.netflix.com/en. [last access date: 2021-July-26].

Newburger, Emma (2020): Covid pandemic drove a record drop in global carbon emissions in 2020. Online: https://www.cnbc.com/2020/12/11/covid-record-drop-global-carbon-emissions-2020.html. [last access date: 2021-July-21].

Nicola, Maria/Alsafi, Zaid/Sohrabi, Catrin/Kerwan, Ahmed/Al-Jabir, Ahmed/Iosifidis, Christos/Agha, Maliha/Aghaf, Riaz (2020): The socio-economic implications of the coronavirus pandemic (COVID-19):.In: International Journal of Surgery*,* from June.2020, No. 78, p. 185-193.

Nida (2021): Frequently Asked Questions: Toggl Track, Toggl Plan, and Toggl Hire. Online: https://support.toggl.com/en/articles/4338240-frequently-asked-questions-toggl-track-toggl-plan-and-toggl-hire. [last access date: 2021-August-7].

Noguchi, Yuki (2020): Laundry Between Emails: Working From Home Goes Viral In The Time Of Coronavirus. Online: https://www.npr.org/2020/03/09/812898220/laundry-between-emails-working-from-home-goes-viral-in-the-time-of-coronavirus. [last access date: 2021-July-26].

Norman, Jeremy (1993): Tim O'Reilly Launches the Global Network Navigator, the First Commercial Website with the First Online Advertising. Online: https://www.historyofinformation.com/detail.php?id=1049. [last access date: 2021-July-12].

Nowland, Rebecca/Necka, Elizabeth A./Cacioppo, John T. (2018): Loneliness and Social Internet Use: Pathways to Reconnection in a Digital World?.In: Perspectives on Psychological Science*,* from 22.September.2017, No. 13, p. 70-87.

Owl Labs (2021): State of Remote Work. Online: https://resources.owllabs.com/state-of-remote-work/2020. [last access date: 2021-May-10].

Ozimek, Adam (2020): Economist Report: Future Workforce. Online: https://www.upwork.com/press/releases/economist-report-future-workforce. [last access date: 2021-May-10].

Pathak, Neha (2021): Coronavirus and COVID-19: What You Should Know. Online: https://www.webmd.com/lung/coronavirus. [last access date: 2021-July-20].

PCMag (2021): Internet company. Online: https://www.pcmag.com/encyclopedia/term/internet-company. [last access date: 2021-July-11].

Plusnet (2021): What is the Internet and Who Invented It?. Online: https://www.plus.net/home-broadband/content/history-of-the-internet/. [last access date: 2021-July-16].

Powell, Adam (1997): Web 101: A History of the GUI. Online: https://www.wired.com/1997/12/web-101-a-history-of-the-gui/#:~:text=So%20where%20did%20the%20GUI,first%20prototype%20for%20a%20GUI.. [last access date: 2021-June-9].

Pratt, Micah (2014): In-House Server vs. Cloud: Which Option is Better for Your Business?. Online: https://www.business.org/it/data-storage/house-server-vs-cloud-server/. [last access date: 2021-July-26].

Richter, Briony (2018): PayPal history: looking back at the milestones. Online: https://www.electronicpaymentsinternational.com/news/paypal-history-milestones/#:~:text=PayPal%20history%20begins%20back%20in,in%202002%20for%20%20%241.5bn.. [last access date: 2021-July-23].

Rocchi, Valentina/Krishnamurthy, Shruti (2021): Global: Many countries introducing new regulations on teleworking. Online: https://www.willistowerswatson.com/en-US/Insights/2021/05/global-many-countries-introducing-new-regulations-on-teleworking. [last access date: 2021-June-18].

Rosa, Jan (2. August. 2021, Frankfurt am Main). Product Manager. Interview.

Roser, Max/Ritchie, Hannah/Ortiz-Ospina, Esteban (2019): Internet. Online: https://ourworldindata.org/internet#citation. [last access date: 2021-July-18].

Roubini, Nouriel (2021): The world's economic recovery from Covid-19 looks likely to be uneven. Online: https://www.theguardian.com/business/2021/may/24/world-economic-recovery-covid-19-us-china-europe. [last access date: 2021-May-2021].

Royal, James (2021): Best index funds in July 2021. Online: https://www.bankrate.com/investing/best-index-funds/. [last access date: 2021-July-20].

Rume, Tanjena/Islam, S.M. Didar-Ul (2020): Environmental effects of COVID-19 pandemic and potential strategies of sustainability.In: Heliyon*,* from 17.September.2020, p. 1-8.

Sabanoglu, Tugba (2021): Retail e-commerce sales worldwide from 2014 to 2024. Online: https://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sales/. [last access date: 2021-June-18].

Sarreal, Ruth (2019): History of Online Banking: How Internet Banking Went Mainstream. Online: https://www.gobankingrates.com/banking/banks/history-online-banking/. [last access date: 2021-July-26].

Scality (2020): The history of cloud computing. Online: https://www.scality.com/solved/the-history-of-cloud-computing/. [last access date: 2021-July-22].

Schaifers, Max (27. July. 2021, Frankfurt am Main). Senior Customer Engagement Executive. Interview.

Scharf, Paul (22. July. 2021, Frankfurt am Main). Head of Engineering. Interview.

Schillinger, Tanja/Weber, Dirk (2020): Impact of Covid-19: what are the effects of the crisis on the telecommunications industry? (Part 2). Online: https://www.telekom.com/en/careers/work-in-action/center-for-strategic-projects/trafo-talk/impact-of-covid-19-effects-on-the-telecommunications-industry-600998. [last access date: 2021-May-10].

Schneider, Avie (2020): The Big Comeback: S&P 500 Closes At Record High 6 Months After Coronavirus Plunge. Online: https://www.npr.org/sections/coronavirus-live-updates/2020/08/18/903252878/the-big-comeback-s-p-500-closes-at-record-high-6-months-after-coronavirus-plunge. [last access date: 2021-July-20].

Schultz, Alex/Parikh, Jay (2020): Keeping Our Services Stable and Reliable During the COVID-19 Outbreak. Online: https://about.fb.com/news/2020/03/keeping-our-apps-stable-during-covid-19/. [last access date: 2021-July-20].

Schupak, Amanda (2015): It's been 30 years since the first ".com". Online: https://www.cbsnews.com/news/com-domain-30-year-anniversary/. [last access date: 2021-June-24].

Science X Network (2015): NOx gases in diesel car fumes: Why are they so dangerous?. Online: https://phys.org/news/2015-09-nox-gases-diesel-car-fumes.html. [last access date: 2021-July-21].

Securities and Exchange Comission (2021): Facebook, Inc.. Online: https://www.sec.gov/ix?doc=/Archives/edgar/data/1326801/000132680121000014/fb-20201231.htm. [last access date: 2021-July-18].

Sharma, Piyush/Leung, T.Y./Kingshott, Russel P.J./Davcik, Nebojsa S./Cardinali, Silvio (2020): Managing uncertainty during a global pandemic: An international

business perspective.In: Journal of Business Research, from August.2020, No. 116, p. 188-192.

Shead, Sam (2019): Facebook owns the four most downloaded apps of the decade. Online: https://www.bbc.com/news/technology-50838013. [last access date: 2021-July-18].

Simovic, Dragomir (2021): The Ultimate List of Remote Work Statistics – 2021 Edition. Online: https://www.smallbizgenius.net/by-the-numbers/remote-work-statistics/. [last access date: 2021-July-26].

Singh, Jaspreet/Singh, Jagandeep (2020): COVID-19 and Its Impact on Society.In: Electronic Research Journal of Social Sciences and Humanities, from January-March.2020, No. 2, p. 168-172.

Singh, Narendra/Tang, Yuanyuan/Ogunseitan, Oladele A. (2020): Environmentally Sustainable Management of Used Personal Protective Equipment.In: Environmental Science & Technology, from 29.June.2020, No. 54, p. 8500-8502.

Southern, Matt (2021): WordPress Powers 39.5% of All Websites. Online: https://www.searchenginejournal.com/wordpress-powers-39-5-of-all-websites/391647/#close. [last access date: 2021-July-22].

Stoll, Julia (2021): Preferred movie watching locations among adults in the United States as of February 2018. Online: https://www.statista.com/statistics/264399/preferred-place-of-movie-consumption-in-the-us/. [last access date: 2021-July-27].

Stone, Brad (2013): The Everything Store: Jeff Bezos and the Age of Amazon. 1st ed. New York: Little, Brown and Company.

Strickland, Jonathan (2021): How Cloud Storage Works. Online: https://computer.howstuffworks.com/cloud-computing/cloud-storage.htm. [last access date: 2021-July-26].

Tankovska, H (2021): Number of monthly active Facebook users worldwide as of 1st quarter 2021. Online: https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/. [last access date: 2021-July-18].

Techopedia (2021): Computer. Online: https://www.techopedia.com/definition/4607/computer. [last access date: 2021-June-22].

TED (2021): Matt Mullenweg. Online: https://www.ted.com/speakers/matt_mullenweg. [last access date: 2021-July-22].

Tedesco, Marco (2020): Coronavirus Is Improving Water Quality — For Now, At Least. Online: https://news.climate.columbia.edu/2020/06/08/coronavirus-improving-water-quality/. [last access date: 2021-July-21].

The Guardian (2020): Resistance to lockdown rules is not just 'fatigue'. Online: https://www.theguardian.com/world/2020/oct/11/resistance-to-lockdown-rules-is-not-just-fatigue. [last access date: 2021-July-20].

The Internet & Television Association (2017): The Price per Megabit per Second has Gone Down 90 Percent. Online: https://www.ncta.com/whats-new/the-price-per-megabit-per-second-has-gone-down-90-percent. [last access date: 2021-July-23].

The Japan Times (2020): Coronavirus pushes robots to front lines of China's hospitals. Online: https://www.japantimes.co.jp/news/2020/02/07/business/tech/coronavirus-robots-china-hospitals/#.XnRD-ZP7RmB. [last access date: 2021-July-20].

The World Bank (2020): GDP growth (annual %). Online: https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG. [last access date: 2021-July-20].

Tillman, Maggie (2021): Zoom vs Microsoft Teams vs Google Meet: What's the best video conferencing service?. Online: https://www.pocket-lint.com/apps/news/151947-zoom-vs-microsoft-teams-vs-google-meet-what-s-the-difference. [last access date: 2021-July-26].

Toggl (2021a): Any Job is a Dream Job is a Dream Job with the Right Tools. Online: https://toggl.com/mission/. [last access date: 2021-August-7].

Toggl (2021b): Time tracking for better work, not overwork. Online: https://toggl.com/. [last access date: 2021-August-7].

Toggl Hire (2021): Hire. Online: https://toggl.com/hire/. [last access date: 2021-August-7].

Tollefson, Jeff (2021): COVID curbed carbon emissions in 2020 — but not by much. Online: https://www.nature.com/articles/d41586-021-00090-3. [last access date: 2021-July-21].

Tucker, Hank (2020): Coronavirus Bankruptcy Tracker: These Major Companies Are Failing Amid The Shutdown. Online: https://www.forbes.com/sites/hanktucker/2020/05/03/coronavirus-bankruptcy-tracker-these-major-companies-are-failing-amid-the-shutdown/?sh=6ec2bc6d3425. [last access date: 2021-July-19].

U.S. Bureau of Labor Statistics (2021): Civilian unemployment rate. Online: https://www.bls.gov/charts/employment-situation/civilian-unemployment-rate.htm. [last access date: 2021-July-18].

U.S. Bureau of Labor Statistics (2020): Ability to work from home: evidence from two surveys and implications for the labor market in the COVID-19 pandemic. Online: https://www.bls.gov/opub/mlr/2020/article/ability-to-work-from-home.htm. [last access date: 2021-July-22].

U.S. Small Business Administration (2021): Paycheck Protection Program. Online: https://www.sba.gov/funding-programs/loans/covid-19-relief-options/paycheck-protection-program. [last access date: 2021-July-20].

Unangst, Jennifer (2021): Occupational Information Network (O*NET). Online: https://www.rti.org/impact/occupational-information-network-onet#:~:text=Occupational%20Information%20Network%20%28O%2ANET%29%20Customizing%20survey%20methodologies%20to,of%20a%20robust%2C%20produ ctive%2C%20and%20constantly%20changing%20workforce.. [last access date: 2021-July-22].

Vaughan-Nichols, Steven (2015): Before the Web: Online services of yesteryear. Online: https://www.zdnet.com/article/before-the-web-online-services/. [last access date: 2021-July-12].

Ward, Susan (2020): What Is a Virtual Business?. Online: https://www.thebalancesmb.com/a-definition-of-virtual-business-2948416. [last access date: 2021-May-10].

Warner, Fara (2001): These Guys Will Make You Pay. Online: https://www.fastcompany.com/44186/these-guys-will-make-you-pay. [last access date: 2021-July-26].

Watson, Roger (2015): Quantitative Research.In: Nursing Standard (2014+)*, from* 1.April.2015, No. 29, p. 44-48.

World Bank Group (2021): Individuals using the Internet (% of population). Online: https://data.worldbank.org/indicator/IT.NET.USER.ZS. [last access date: 2021-June-17].

World Health Organization (2020): WHO Director-General's opening remarks at the media briefing on COVID-19 - 11 March 2020. Online: https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020. [last access date: 2021-May-10].

Worldometer (2021): COVID-19 CORONAVIRUS PANDEMIC. Online: https://www.worldometers.info/coronavirus/. [last access date: 2020-July-20].

Yale University (2020): What COVID-19 taught us about paper and printing sustainability. Online: https://your.yale.edu/news/2020/06/what-covid-19-taught-us-about-paper-and-printing-sustainability. [last access date: 2021-July-26].

Zeidner, Rita (2020): Cutting Staff in Times of Crisis. Online: https://www.shrm.org/hr-today/news/all-things-work/pages/cutting-staff-due-to-coronavirus-fallout.aspx. [last access date: 2021-May-10].

Zenger, Todd (2015): Why Google Became Alphabet. Online: https://hbr.org/2015/08/why-google-became-alphabet. [last access date: 2021-July-16].

Declaration

Affirmation

This thesis was written by me independently, and I have given indication of sources whenever content was taken directly or indirectly from other sources or media. Verbatim and analogous quotes have been indicated as such. Furthermore, I confirm that there is no factual concurrence with any dissertation, final paper or thesis that I may have submitted within the scope of any previous studies. This thesis has not been submitted to any other institution or individual within the framework of an examination.

Place, Date   August 19, 2021   Signature

Word Count   ?   ✕

Statistics:

Pages	81
Words	24,908
Characters (no spaces)	133,610
Characters (with spaces)	158,537
Paragraphs	784
Lines	2,432

☑ Include textboxes, footnotes and endnotes

Close