Andrew Whiteley

Economist Reviews

#1 - Companies: The Rise of the Superstars

September 17th, 2016

This special report is about the rise in massive corporations across the world. Since the early 1900s, a rise in corporations of considerable size and wealth has occurred. These companies, both new and old are consolidating market share and merging with competition to become as large as possible. The number of companies in countries like the United States has halved in recent years, and large corporations are being run by those who believe, "Competition is for losers". This report explores how the age of the entrepreneur is being pushed out for consolidation and poses the question, are these large corporations, superstars, a good or a bad thing?

1.a The first article in the report, "A History Lesson: What goes around", gives a brief history of American Corporations after the American Civil War. Alfred Chandler, a leading US business historian, describes this period as, "ten years of competition and 90 years of oligopoly". After the Civil War the two leading industries, oil and steel, were quickly grabbed by Barons of Industry. Since then, many other industries have suffered the same fate, as massive corporations utilizing economies of scale push out local and smaller competition. These corporations controlled large amounts of the market in their industries, with companies like GM and American Tobacco controlling more than 90% of their industries. The companies began to make their way into the local and federal governments, so steps were taken to prevent this. Trends can be seen in America, between heavy anti-corporate and heavy pro-corporate. These trends

continue to this day, as do the trends of corporations to control large market shares. Google controls 60% of all worldwide searches, and combined with Apple, they control 90% of all smartphone operating systems. The steps that were taken to control companies like Standard Oil will not work on the agile global corporations of today.

1.b The next article in the report, "Driving Forces: Why Giants Thrive" looks at why these large corporations operate as they do and why the rules are stacked against startups an smaller companies. The Tech companies that call Silicon Valley their home are part of an Aristocracy, where they control a significant market share of their industry and an extreme amount of wealth. With new technologies, most importantly the Internet, these companies can sit in the "heart of the web connected to users and devices that are constantly opening up further opportunities for growth." Combined with technological advances, globalization and an increase in regulation have helped secure these firms. By spreading their production, research, and development to lower cost countries, these firms are able to cut costs in ways that were previously impossible. They are fluid and can move from one country to the next as they please. They are also able to hire hundreds of lawyers and tax experts to help navigate the complex tax laws of the US. By doing so, they end up paying little to no taxes, while smaller corporations end up trapped in the rules of the IRS.

1.c "Misconceptions: The new Methuselahs" looks at the rise, and often fall, of major tech companies. Firms such as Nokia, Blackberry, and Enron seemed to be at the forefront of their respective industries. Yet, all these companies are now afterthoughts in the tech world, if not gone entirely. In most industries, the incumbent tends to get comfortable and complacent. Then a competitor comes in, who performs better and more efficiently than the last takes their

place. These large corporations we have today may fall victim to the same fate. The same factors that lead to their rise could also lead to their downfall. In addition, the global economy is becoming more and more fluid, with every person marketing themselves as an entrepreneur rather than a corporate employee. The rise of "alternative work arrangements" and the outsourcing of R&D to freelancers and startups is changing the preconceived notions of a corporation.

1.d In the next segment, "Key Attributes: The alphabet of success", the report looks at the similarities between these great companies. The first similarity is an obsession with talent. By finding and molding the most talented in their industry, these companies can create "loyal corporate warriors". The second is an investment in their core skills. From a light bulb company switching to high tech "Gorilla" glass to massive amounts of money being poured into R&D for a digital marketplace by Amazon, these corporations have the infrastructure and knowledge to diversify within their existing production. By being long term oriented the great companies can focus on their future in the industry, and less on their quarterly earnings. With strong attention to detail, an aversion to groupthink, and a healthy balance of global and local scales make these companies nearly unstoppable.

1.e "Joining the ranks: Do you blitzscale?" looks at how a new firm can enter the extremely competitive markets that these great companies control. On theory is that of "blitzscaling", starting with a niche market and growing to gain new customers bit by bit. This method worked for companies like Facebook and Paypal, but they are an easy way to burn lots of cash very quickly. Emerging markets have used this strategy well, and when the time comes they consolidate and merge with large companies.

1.f In "Downsides: The dark arts", the report looks at the darker sides of competition, specifically the practice of paying little to no taxes and lobbying governments to gain advantages against other firms. With large firms being good at the things they do, they have become increasingly good at the *dark arts.* Large firms use FDI to decrease the taxes they have to pay and push their money into low tax low regulation countries like the British Virgin Islands. In addition, as companies rely more and more on intellectual property as opposed to physical goods, it becomes easier to change the location of the property. With the recent increase in government intervention and regulation in the economy, lobbying has become more profitable for these large firms. Government Officials in the US and around the world are becoming more ingrained with companies, with some entering the political sphere after being heads of industry.

1.g In the final segment, "Future Policy: A delicate balance", the report looks at what can be done to deal with the Superstar companies but warns that the path is a hard one that is delicate. The trend of a pro to an anti-business sentiment can be seen across history, and the current feelings are not for making these companies any bigger. Yet, these superstars are organizations of change and progress. Companies like Apple have revolutionized out access to thousands of free to use sites that connect our world like Twitter and Facebook. Increased regulations on these companies can also backfire, making the entry for new firms harder. In addition, increased bureaucracy is as much to blame for the death of entrepreneurialism as these large corporations. Employees have more red tape to get through today than ever before, and without access to the armies of lawyers that large corporations have, it can kill a firm. The path to controlling these superstars in needed, and the dangers of them are clear in this report, but the execution of control can have many consequences.

This article was very interesting to read and review. As international management students, this subject and the problems that arise from it are very relevant. Corporations are becoming more global, either to reach new markets and to decrease costs. These superstar companies have immense power and many of us may end up working for them. The management practices they implement are new and always changing, based not only on their increasing size but also the diversity of the new global economy as a whole.

#2 The Future of the European Union: The Case for Flexibility

March 25th, 2017

The EU turned 60 on March 25th, 2017. The pact between most countries in Europe is not holding up as well as it should, however. Waves of nationalist sentiments have crashed over Europe and many are calling for their country to withdraw from the Union. Great Britain voted to leave, and the two-year process to remove them will be difficult for both the Union and Britain. Populists, xenophobia and anti-Europe candidates have been winning seats and elections across the continent. This report explores the promises that the agreement between these countries promised and sees how it has held up over the past 60 years as well as what the future of the Union has in store.

2.a To start the investigation into the EU the report begins with, "The Euro: That Sinking feeling". In this segment, the report looks at the shared currency of the majority of the European Union, the Euro. This currency came from a Franco-German agreement when Germany reunified. The currency was spread to other EU members, as they gave way their currencies for a shared one hoping it would solve debt problems and bring the Union closer together. The problems that arose from the formation of the Euro are still around today, with many countries

that accepted the Euro unable to follow the discipline of the currency. This inability to follow rules set in place made the idea of accepting the Euro a political move more than an economic one. Second, the Euro had no architecture in place to deal with countries that needed help, as there was a no bail-out rule. Countries found themselves with debt in a currency that was under foreign control. In addition, there is a fundamental disagreement between the two founding members of the Euro over how to deal with the problems. This causes many in the EU to have strong anti-German ideals as they have the most control over the Euro and are strong supporters of it.

2.b In a side article, "Euro Membership: Exit Strategy", the report looks at what the consequences of leaving the euro currency would be. The most likely candidate is Greece, whose national debt is 180% of GDP and rising, and did not meet the requirements to switch to the Euro in the first place. The Greeks do not want to leave, as the prospect of leaving is scarier than the current situation they find themselves in. Yet others, like the German Finance Minister, have spoken in favor of it. A system, though many say it is impossible, could be found for Greece's exit. The problem though is that if Greece drops the currency it may lead to others who contribute more to the EU's GDP would leave, setting up the ultimate demise of the Euro. Next is that the debt of Greece, around 70 billion Euro, would become unplayable if they left the Union which would be a huge cost to the EU.

2.c As countries in the EU have anti-german thought due to the euro-crisis, Germans find that EU members acted against their word with immigration. In, "Immigration: Compassion Fatigue", the report details the many immigration crises that have faced Europe, most notably the crisis the occurred after the Arab Spring and the Civil War in Syria. While Germany shares no

borders with the Middle East or the Mediterranean, it receives the greatest amount of migrants. Chancellor Merkel welcomed the migrants at first, but it was later revealed that European countries were funneling migrants into Germany from their countries. The EU has many laws that allow for the free movement of EU citizens within the bloc, but newer members and their citizens were exploiting the rules. They traveled to higher income countries and were able to undercut workers native to those lands. Germany and others have won lawsuits banning these practices, but with the influx of migrants from Northern Africa and the Middle East, the problems arise and lead to more anti-EU and xenophobic sentiment.

2.d Next the report looks at EU foreign policy in "Foreign and Security Policy: Home and Abroad". Mark Eyskens, a Belgium Foreign Minister, called the EU "An economic giant, a political dwarf and a military worm." The EU has relayed on its Allies and agreements like NATO to protect itself, but with increases in the powers to the East, Russia and Turkey, and a wave of American Isolationism the EU can no longer use these as a crutch. The EU has had successes with foreign policy with the pirates in Somalia, continuing to hold sanctions on Russia after its invasion of Crimea, and by establishing free markets and democracy in many former Soviet Bloc States. Yet pressures from the East with Putin and Erdogan coupled with the pressure from the West in Trump will force the EU to either come together, both with foreign and domestic policy.

2.e Next in the report is "Institutions: Democracy and its Dilemmas". The EU has a complex system filled with many departments all with Presidents and governing bodies. This causes the EU and its governing bodies to fall second to National Governments. The election process allows MEPS to be elected to the European Parliament by the people, not the

government, breaking the link between national governments and the EU Parliament. Many Officials regret this decision. The EU also employees fewer people in the government than many of the local governments of member countries. With a one person per country commissioner in the European Commission, the Commission has grown very large and receives a lot of pressure from MEPs in the Parliament.

2.f In a smaller article, "Safeguarding Democratic Rule: Who Rules the Rulers?", the report asks two important questions that the EU faced, what to do if a member country leaves and what to do if a member country tramples on the democratic criteria of membership? The founders thought the US response to its own succession crisis was too harsh, so the introduced article 50, in a hope that no country would ever use it. As far as wrangling member countries that move away from democracy it became clear the EU had considerable power over countries who wanted to join, but not over those who were already members. The EU can freeze voting rights under Article 7, but their influence ends there. This poses many problems and begs for a solution that has yet to be found.

2.g The report ends with an "A Multi-speed, Multi-tear Future: Differentiate or Bust", where it takes a look at a possible alternative structure to the EU. By creating multiple levels of involvement, starting with the 19 eurozone countries (countries that use the euro as their currency) who need to be closer politically and economically to survive. Next would be countries that are closely aligned with the EU but do not use the Euro. Next would be those who want to participate in the EU single market, but are not ready to be full members yet or do not want to be members. Finally would be those unwilling to accept the rules set out by the EU but still want free trade agreements with the EU. The criticism of this plan are valid yet the often are

short-sighted and do not fully represent the situation. Such criticism says that preferential treatment is unfair and would lead to a superior and inferior class of countries, but countries compete all the time and this system would allow the countries to choose their level of involvement. Other criticisms include the idea that the EU is a glorified reincarnation of the Holy Roman Empire, but the Holy Roman Empire brought many years of peace and prosperity to much or Europe.

The European Union is the largest and most ambitious union in modern history. The largest Economic Union in the world the EU is incredibly impressive to me. Though parts of their structure are complex and many of its policies favor Germany and France, I still believe its essential for the protection and development of Europe. As this article was written not to long after Brexit, it was interesting to see how even two years ago, they knew that leaving the EU would be alot harder, and possibly not happen. As the UK has only 3 more weeks to decide on an exit strategy learning more about the interworking and history of the Euro and EU was fascinating.

#3 Lifelong Education: Learning and Earning

January 14th 2017

The general conception in the US and much of the world is that the more schooling and education that you receive, creates a better chance for you to find gainful employment. Places suggest that each additional year of school can increase your income by 8-13 percent, and statistics show that the unemployment rate declines as you move up in education. Yet, in recent years the average income of those with college degrees increased at a lower rate than those without college degrees in addition to an increase in the cost of college tuition. Studies show that

the amount of high-skilled jobs in the US has been declining, and American are taking jobs that less demanding, pushing out the less educated workers. With estimates saying 47% of American jobs are susceptible to automation the possibility of uneducated workers being pushed out of the job force all together becomes more real. In order to combat this trend, continuous learning and training are needed. As Andreas Schleicher said about the vocational schools in Germany, "...Training someone early to do one thing all their lives is not the answer to lifelong learning."

3.a The report begins with a segment called "The Role of Employers: Cognition Switch". Employers in many sectors of business are investing in their employees to develop new skills. These skills range from firm to firm, but a need to be Creative and Empathetic are two of the most important. In an always expanding and changing market, being creative is exceptionally important to create new products, improve on old ones, and come up with solutions to problems that may otherwise be unsolvable. Empathy, more importantly, social skills, is also very important and not just for those who have lots of interactions with customers. Better social skills lead to better teamwork, the ability to divide tasks, and improved communication between departments. The most important skill that employers want an employee to have, is an ability to learn. Technology is changing the job market, and people need to be able to change and learn new skills to stay employed. Yet not everyone has this skill and it can be hard to tell if someone does. So the questions of, can you test for curiosity and can you teach it, arise. Both are being tested by startups, but the research is still very new.

3.b In a smaller article called "The Ageing Brain: Old Dog, New Tricks", the report states that starting in a person's 20s, their ability to process and retain information declines. Some believe this comes from a reduction in myelin, the fatty substance that coats the tendrils

responsible for carrying signals from one nerve to the next. Others believe it is dopamine receptor sites that decrease as you age. Fear not though, for this dog can still learn new tricks, as long as those new tricks are within fields that are familiar to you. Learning entirely new tricks, however, gets harder with age.

3.c With the need for continued education but the desire to maintain one's job, online Universities and MOOC (Massive Open Online Course) are on the rise, as described in "Upstarts and Incumbents: The Return of the MOOC". These MOOCs providing an alternative to the traditional education system, a system that costs a lot in both time and money. Tradition universities are still viable and preferred for those in their twenties, as they are able to commit the time to school as they usually do not have many other responsibilities. For those who have families to support and paying jobs but want more, these MOOCs are extremely sought after. Many are a paid service, but they are also working with companies directly to create programs that lead directly into employment, while others remain free. Research shows that half of the users on these platforms are doing so to advance their careers. These programs are broken up into micro degrees on varying subjects that can be placed together to create something bigger, almost like a single Lego can be placed on another. The problem that arises, however, is the credibility of the sites that are giving out these degrees as well as the students at have passed the courses. A fine line needs to be walked, "enough to be trusted, not so much as to block career transitions." Organizations are popping up to try to solve the problem of credibility, but no firm solution or frontrunner has emerged.

3.d The report continues with "Career Planning: Pathway Dependency" which looks at the path that people have toward employment after their education. Sometimes the path is very

direct, as with medicine and law. Vocational schools in countries like Germany also offer a concrete plan toward employment, but those types of programs do not exist in the US. Many new graduates find that they do not meet the qualifications for entry-level jobs that they studied to have, as their place of learning did not offer them the opportunities to do so. As most earning growth happens between the ages of 25-35, the need to move up the ladder is huge. Firms have popped up to help students and recent graduates get the experience need for entry-level jobs online, like LearnUp, a site that lets users take classes on how to be a cashier or a sales clerk. With some professions and school programs have clear paths, many need help deciding what path to take. Websites like Manpower and LinkedIn allow users to see the qualifications needed and how they would stack up against other applicants.

3.e The report closes with "Low-skilled Workers: The Elephant in the Truck" a look at how the trucking industry that employs 1.8 million truck drivers in the US is dangerously close to being wiped out by automation. Before automated cars drive you and I, they will be driving freight around the world. Estimates show that nearly two-thirds of truck drivers may be replaced. While these drivers can make the switch to another profession, many lack the financial means, and more importantly the confidence to do so. There is not an easy transition from a trucker to a coder. The problem is not an easy one to solve, even in a perfect world, but some hope still shines. One avenue is Unions. Unios are able to view the industry and market trends better than singular employees. Unions can offer training options to their employees and studies show that they will take the help. Union members were a third more likely to take classes offered by a British Trucking Union than non-Union members. The other path is Government help. By investing in human capital, the government can educate their population to better prepare them

for the time when automation comes. Singapore offers each citizen above 25 $500 Singapore dollars to use on training courses from Universities and MOOCs. Singapore's Political structure and climate make this program easier to work out, but it shows that investing in the education of your citizens can help them prepare for the future.

At the beginning of the semester, we read an article by Friedman. In the article he spoke about how in order prosper in the age of AI and automation investment into human capital was needed. This article was extremely relevant to that idea, that when jobs go away more and better education was needed. I think MOOC are going to increase in the future, as they are incredibly easy to access and are much cheaper than traditional education. I agree with the article when it says that traditional college needs to make itself seems more like a premium experience. I really enjoined when they compared the classes at colleges and MOOCs to albums and Itunes, that analogy was spot on in my opinion.

#4 Artificial Intelligence: The Return of the Machinery Question

June 25th 2016

Many who talk of the Industrial Revolution do not talk about the "Machinery Question". First proposed by Economist David Richardo, the questions is how does the influence of machines affect the different social classes. More specifically that the "...opinion entertained by the labouring class, that the employment of machines is frequently detrimental to their interests." This question posed almost 200 years ago is back due to the emergence of Artificial Intelligence, or AI. AI has the possibility to take 47% of jobs in America, reduce employment costs by $9 trillion, and is being compared to the Industrial Revolution but about 3000 times more impactful. Like the Industrial Revolution, people are scared, scared that machines will take their jobs and

leave them penniless without the proper skills to advance. However, the prospect of AI excites others as it is exceptionally advanced technology that the world has never seen or known. This report explores the rise of AI, its potential implications on the World, all while comparing our response to that of Britain 200 years ago.

      4.a The report starts with an article titled "Technology: From not Working to Neural Networking". At the beginning of AI, it simply didn't work. The idea was simply an idea of the future and the computers of that time simply couldn't handle it. The name AI was too sophisticated, so "neural network" became the known term for Artificial Intelligence. These neural networks were side-projects of computer scientists, a new technology that was simply being toyed with. It wasn't until the ImageNet Challenge came about in 2012 that AI became what we see it as today. The contest pitted computers against an image matching game. The computers did fine, but upon learning year after year, the code became more complex and the computers finally beat the humans in 2015. This spark was what AI needed to become real, and by replicating the human brain in a computer, modern AI was born. Experimentation with AI continued, as new systems and hardware took the learning process of machine learning from weeks and months to mere days. With the help of Video Games, AI became more sophisticated, as it learned about the real world through the virtual one. A big step came when researchers began working on AGI, Artificial General Intelligence. This AI was able to perform a wide array of tasks as opposed to a single one like previous AI. Industry and research work hand in hand on AI, as companies rolled out intelligent programs and researchers published their finding. For many, they interact with AI without even know it. When you email auto-suggests an ending that is AI, but not the kind that stealing jobs. Those are still to come.

4.b "The Impact on Jobs: Automation and Anxiety" is the next part of the report, and it explores how jobs usually held by humans are being taken by AI. In a test of three radiologists on their ability to read a CT scan, the AI was 50 percent better at identifying malignant tumors. It also had a false negative rate of zero compared to 7 percent from the three radiologists. The computer was able to diagnose patients better than medical professionals. AI is not just a worry for the unskilled laborers, but the highly skilled as well. The barriers that keep AI from doing a better job from humans in no longer if the job is highly skilled, but rather if the task is repetitive and mundane. Positions in transportation, logistics, and office support are at the most vulnerable to job loss. This threat of automation comes at a time where middle-skilled jobs are becoming rarer, and the world is being split into high-skilled and low-skilled. The idea that entire lines of work could be gone is entirely too real and this is not the first time it has happened. Textile workers in the Industrial Revolution said that never has human innovation been so good at expanding human labor. Problems of automation occurred in the US in the 1920s, 1930s, and 1950s. Contrary to the reaction, these innovations created more opportunity than they eliminated. People believed that ATMs would destroy the bank telling industry, but it actually increased the number of jobs in the sector. The reduced costs that came from ATMs allowed the banks to open more locations creating more jobs not only for tellers but bankers and security. We do not know all the jobs that AI will take from human workers, but we also do not know all the jobs that it has the capability to make. AI won't be taking the jobs overnight, as regulation and red tape stand in the way of it taking to the roads or into hospitals. The transition will be gradual, allowing those affected by it to get the proper training they need to stay or look for employment elsewhere.

4.c In the next segment, "Education and Policy: Re-educating Rita", the report looks at the changes to the educational and financial systems that will arise from advances in AI. As people are displaced from work they will need more education to move into another sector, but schooling costs both time and money. Online services like Udacity and Coursera have become alternatives to the masses and are called Massive Open Online Courses, or MOOCs. Traditional Education like college is simply too expensive and time-consuming for someone who has a family to support, so these MOOCs offer a nice alternative. Another point of focus is emphasizing trade and vocational schools. These schools are able to teach their students practical skills and have a direct path toward employment. Countries like Germany have programs like these in place, and many nations are beginning to implement them. By combining work and education, people can get good practical skills for little to no money. Another idea that has spawned in response to automation is Universal Basic Income or UBI. This replacement or sometimes supplement to welfare would give each citizen a monthly allowance to spend as they please. This would allow people to work as much as they please, go back to school, care for there family as is doesn't increase or decreased based on what you decided to do. Many countries have experimented with UBI, Canada notably and others such as Finland and the Netherlands are planning on experimenting with it. Whatever countries and organizations decide, change will have to come when automation arrives.

4.d AS AI becomes more advanced, the doomsday scenarios come out. The next segment, "Ethics: Frankenstein's Paperclips" explores these ideas. AI does not need to think or act like humans, it can have motivations and drives that seem foreign to us. This is ok, but if AI becomes advanced enough to create machines and AI itself could we as humans stop it?

Machines taking over and defying their masters is not a new idea, but with the emergence of AI and super intelligent computers, it seems less and less like fiction. The scariness of AI is perpetuated by those like Paypal and Tesla founder Elon Musk who said that AI is, "potentially more dangerous than nukes". Musk believes that in order to prevent a "Skynet" problem we need to spread AI out as much as possible, so it cannot consolidate itself. These fears are shared by many, but others see them as spooky stories and nothing more. First, intelligence is not the same as sentience. Just because the the computer is highly intelligent, doesn't mean that it will one day change its mind. Beyond rouge AI, the question of ethical AI is often not asked. Facial recognition software is incredibly accurate but violates privacy laws in countries like Ireland. Facial recognition can help fight crime, but it can also help governments spy on their citizens without them knowing. Machine learning and AI exist in many places and can sometimes discriminate against certain people. Another worry comes from a weapon that utilizes AI and questions of could that weapon turn and makes decisions without human intervention. AI has so many possibilities that it is almost guaranteed that our government will start to use it, but new laws will have to be written to control its power.

4.e The report finished with a "Conclusion: Answering the Machinery Question". The answer to the Machinery Question is it actually resolves itself. As automation and machines come in jobs are lost yes, but jobs are also changed and created. The question of what will happen to our job fades and new questions arise, such as working conditions with the Industrial Revolution. Who knows what questions we will end up asking once AI and automation change our job markets. AI will cause changes to our jobs, our education, and our welfare systems. AI poses many positive changes to our lives as well. AI will reduce the amount of driving deaths by

allowing people to call a car at any moment. AI will find its way into most if not all the products we have, allowing us to communicate and have greater control over them. AI will also be a rocket booster to the fields of medicine and scientific research. With the help of AI diseases that were believed to be incurable could one day be eradicated.

I believe that AI is the way of the future. I do not believe that it will take over humans like in the Paperclip problem, but I do worry about its impact on the job market. However, as the article describes, AI will take the jobs that are repetitive first, ones that need complex thinking but are similar day to day. That means that jobs of the future will not only be more exciting, but require more human skills than ever before. Skills like communication and empathy will become necessary in the world of machines. Having the management skills to deal with people is harder to replace with a machine. The ability to connect with a person or organization will be more important than ever, and the skills learned in a management class will lead that connection.

#5 Technology and Politics: The Signal and the Noise

March 26th, 2016

As the 2016 Presidential Election was coming around, the use of the internet was more than any campaign in history. Donald Trump at the time had 7 million Twitter followers, and the number was growing by the minute. Twitter, Facebook, and other Social Media sites were incredibly influential to the Trump's campaign, as they were incredibly influential to many other protests around the world. Starting with the Arab Spring, Social Media sites have fueled the fire for change and outrage, and Trump was able to utilize it in the same way. Yet, the true value comes not from the retweets or likes, but from the massive amounts of data that can be gleaned from the platforms. Obama leads to way with these tactics, and modern politicians are simply

picking up where he left off. Digital footprints are growing, and governments and politicians around the world are using that to their bidding. This report looks at electoral campaigns, protests, and local governments to see how data is used. Though the examples are American, the ideas and practices are not limited to the US.

5.a The report begins with "Election Campaigns: Politics by Numbers", a look at presidential campaigns and their use of data. By using the information on Facebook and Twitter, campaigns can maximize their output while minimizing costs. In the past, geographic and socio-economic data was key to a campaign in deciding where and how to advertise. If a certain area was considered to be Democratic, it would get more attention from Democratic candidates. Now, they can target specific people, with help from data collected by social media sites. This date, coupled with information that comes from the Help America Vote Act (HAVA), campaigns are able to have up to date data on each voter, including voting patterns. By using public records and the Freedom of Information Act, political campaigns are easily able to track private citizens. Whether or not this collection and use of data erode the democratic systems is up for debate, with some believe as long as it is simply collection it is ok and other believing these targeted messages destroy the shared commons, an essential basis of democracy.

5.b The report continues with "Tracking Protest Movements: A New Kind of Weather". Tweets and other online posts can and are tracked, especially if they are participating in hate or violence. Researchers collected this data to try to prevent events, such as researchers gathering pro Islamic State tweets to try to prevent Muslims in the UK from traveling to Syria to join IS. The information that can be collected is vast, and it can be analyzed to predict future events based on those of the past. These posts can be analyzed to determine their place of origin, even if

the user is trying to hide that. Though the information is vast to both the user and those collecting the data, filters, and bubbles often pop up on the internet. Researchers found that the American "Twittersphere" is highly polarised. This plays into how quickly misinformation or *Fake News* can spike online. People who agree with the headline believe it to be true, while those who don't call it fake news, yet neither think or read the information or the most part. The successfulness of a Tweet has little to do with the virtue of its content, rather who sees it. With increases in privacy laws, the data has been harder to access for average people, but tech giants like Facebook and Google continue to allow access to the data. In addition, many governments around the world, particularly authoritative governments, are forcing tech companies to collect data and store it within the country so that the government can keep an eye on its citizens.

5.c In a side article titled "Online Collaboration: Connective Action" the report poses the question of whether the idea that people "free-ride" of others efforts still exist and how does it manifest online? The answer is yes and no. People who engage in politics online do not have to belong to a particular party or organization. They are participating in the political discussion as much as the next person. Though people are taking views that they get from others or using rallying calls like MAGA or "We are the 99%", they are not necessarily free riding, rather they are obtaining their ride by participating with others.

5.d In the section "Local Governments: How Cities Score" the special report looks at how localities are using data to better their cities. New York, Chicago, and Boston all use the CityScore number, a metric that gauges how the city is doing from WiFi availability to the number of potholes. This initiative is going to call for more data to be mine as well as more people to decipher the data. Boston like many other cities hopes to use social media and other

online apps to commune directly with citizens to make their city better. Boston was one of the first cities to have a Chief Information Officer, who was to collect the data that Bostonians were able to give him through apps like Citizen Connect and Street Bump. Researchers are trying to show cities how much the can do with data, such as collecting sewage to test people for the flu. The structure of many local governments, however, could stop this information from being useful, as there are little communications between departments. Beyond collecting the data, local governments need to guardians of their data-spheres, protecting their citizens information just as they protect their citizens. By creating better frameworks for data these governments can provide never before seen information to their citizens.

5.e The report ends with "Living with Technology: The Data Republic" outlines how in order for us to safeguard our democracy, the collection and use of data on private citizens must be transparent. Data as show in this report is extremely powerful. It has the ability to power both governments and rebellion. New data sets will bring power to the users, as with block chains, but that data is still volatile. In order to maintain the level of freedom companies, campaigns, and governments must tell us how they use the information.

Data is becoming more prevalent in our world. Though data is not a key point of this course, the ability to decipher and manage data is an extremely important skill that is needed now in most professions. In addition the Internet and sites like Twitter and Facebook connect the world and create a common place for everyone. This is incredibly important to managers who are looking to move to new areas, as the information gathered from tweets and posts and offer incredible insight into the people and ideas of an area.