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Remote Work and Sustainability Analysis Through FedData Technology Solutions

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Remote Work and Sustainability

Analysis Through FedData Technology Solutions

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Thesis:

Remote work has many sustainable benefits: reduced commuting, flexible work hours, lower fuel emissions, less office space, and a more diverse workforce. While interning with FedData, we experienced the impact of Sustainable Development Goals (SDG) Nine: industry, innovation, and infrastructure, Goal Eight: decent work and economic growth, and Goal Seventeen: partnerships to achieve the goal.

Introduction:

Remotely working has significant sustainability impacts locally and globally. Though remote work is not a new concept, mandated lockdown restrictions at the beginning of the COVID-19 pandemic prevented most citizens from working in their business offices. As a result, companies were challenged to re-evaluate their practices and determine whether their employees could work from home. In reviewing all the benefits of remote work, such as less commuting, flexible work schedules, lower fuel emissions, less office building space, and a more diverse workforce, we experienced these changes first-hand interning remotely for Mercom Corporation and FedData. Mercom Corporation and FedData is a technology firm specializing in providing solutions to the Federal government. The Sustainable Development Goal (SDG): Nine: industry, innovation, and infrastructure, eight; decent work and economic growth, and seventeen; partnerships to achieve the goal; all reflect what remote work is doing in meeting these goals locally and globally. While interning at Mercom, SDG 9- innovation is actively implemented while supplying the federal government's IT needs. This, in turn, fosters innovation by allowing the government to have the right equipment to grow. SDG goal eight is impacted by remote work

by allowing flexible work schedules, lower fuel emissions, less building space, and less utility usage which affects the economy positively. SDG goal seventeen is implemented by allowing a more diverse workforce. Remote work allows inclusivity for different minds, ideas, and approaches to come together. This research will highlight how employers shift to a remote workforce and the positive effects on the environment and employees.

Literature Review

I.   Environmental Impact

Due to the COVID-19 pandemic, remote work has become increasingly common. Despite the drastic change in the workplace, these unprecedented events created opportunities for sustainable development. A representative example is the article, T*he Role of Remote Working in Smart Cities: Lessons Learnt from COVID-19 Pandemic*. This article examines remote work in a sustainable context from an economic, social, and environmental standpoint. Beyond the improved work-life balance, flexible work hours, and reduction in office expenses, the decrease in commuting has lowered CO_2 emissions, fuel consumption, and other atmospheric pollutants (Kylili, 2020). Energy levels and office supplies also declined during the lockdown period. Since many companies and organizations switched to remote work, electricity was not being consumed. Mercom Corporation experienced this first-hand; located in Pawleys Island, South Carolina, Mercom operated out of a large facility. Since the pandemic hit, employees have been working remotely from home. As a result, energy consumption has decreased, and employees commute less (Kylili, 2020).

II.   The Impact on Employee's & Organization

The impact of remote work goes beyond the environmental, but impacts employees in more ways than one. A case study *Work from Home During the COVID-19 Outbreak* speaks about the impact on employees' remote work productivity, engagement, and stress during COVID-19. This case study focused on how remote work impacted work engagement, social isolation, and self-leadership on employees. The main reason Mercom Corporation went remote was because of the COVID-19 pandemic; Mercom employees said they believed they were more productive by working remotely. This case study used the methodology of cross-sectional study analyzed data through an online questionnaire completed by 209 employees. The results of this case study were that self-leadership and work engagement improved compared to working in-person. Mercom Corporation employees said they had similar experiences with the results of working from home. They also felt that it allowed them to have more family time together and strengthened work communication. Sustainability goals eight and nine are prominent on the impact of employees. This case study highlighted SDG goal eight by analyzing how employees that had to remote work felt more engaged and inclusivity. The case study emphasizes how telecommuting allows remote workers to have better communication and productivity. This is directly tied to SDG Eight since it provides more job opportunities for employment; easily accessible.
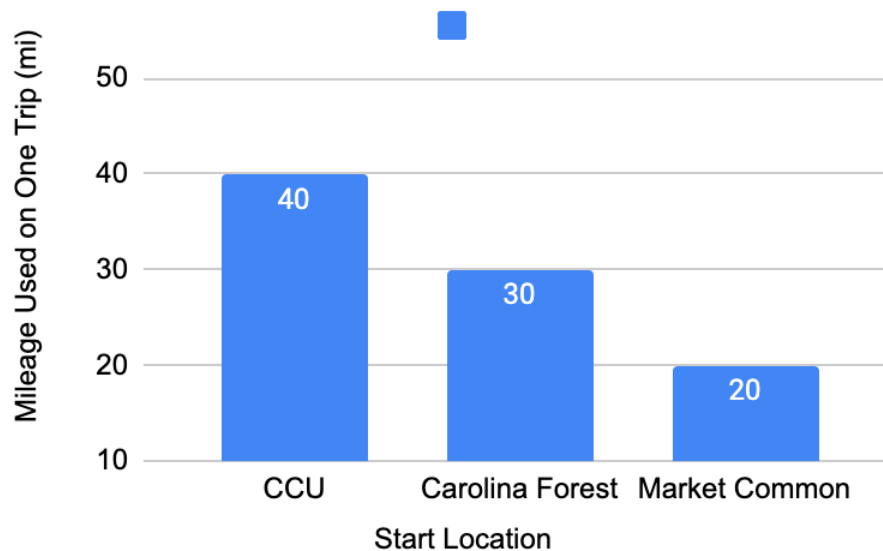
Empirical Data

Remote work has a lot of environmental benefits. For example, about 257 trillion sheets of paper are saved every year by working remotely. This is approximately 16 trillion trees saved from deforestation (House, 2021). According to data collected by WorldWide ERC (2020), there was a 67% decrease in waste production from businesses in the United States due to remote work in 2020 (House, 2021). Working from home, the average worker reduced their carbon footprint

by about 1,800 pounds (House 2021). Remote work is becoming very popular in Myrtle Beach, South Carolina. According to a newspaper article published by *Visit Myrtle Beach*, they advertised attending school and working remotely (Visit Myrtle Beach 2020). Since the pandemic, the Mercom employees have all worked from home. Although South Carolina does not offer any remote work incentives, virtual opportunities are expanding (Virtual Vocations, 2022). In 2020, South Carolina was ranked 28 on *WalletHub* as one of the best states to work from home and the unemployment rate decreased from 2018 (Virtual Vocations 2022). From 2014-2018, the average amount of minutes in Georgetown County it took for a one-way commute to work was 25.6 minutes. This is 3.2% longer than the state average (Stacker, 2021). Globally the number of remote jobs increased by 159% between 2005 and 2017. Just over the last five years remote work increased by 44%; over the past 10 years it grew 91%.

      While interning at FedData, we observed many benefits to remote work and the relationship the SDG goals have while we remotely worked. SDG goal eight, decent work and economic growth, was met by not commuting. This allows us to save gas which in turn reduces fossil fuel. Located below is a graph depicting the average gas and mileage we saved since working remotely. This data was collected from our gas tank intake and the number of miles it takes to get to Mercom Headquarters. To have more accuracy, we used three different locations: Coastal Carolina University (CCU), Carolina Forest, and Market Common. These three locations were the probable locations that we would have to travel from to get to Mercom headquarters. This internship is 13 weeks long, working 5 days a week; therefore, this would average around 65 days. The distance from CCU to Mercom is roughly 2,600 mileage driven per internship. The average for both interns for this commute would be close to 5,200 miles driven.

Estimated Mileage Drive to Mercom Corporation per Trip

According to the United States Environmental Protection Agency (EPA), the average vehicle emits about 411 grams of CO2 per mile (EPA, 2014). CO2 is not good for the environment nor living creatures; too much CO2 will raise the temperature on Earth. Although CO2 is a help to the earth, too much of it causes the Greenhouse effect. The greenhouse effect is when this incoming energy is absorbed by the earth then releasing infrared radiation (EPA, 2018). Remote work allowed us to save roughly 2.2 tons of CO2 from being released during our internship at Mercom. I had the internship for three terms, therefore tripling the amount to 6.6 tons of CO2 being released.

Sustainable Development Goals Analysis:

Goal Eight focuses on promoting sustained, inclusive, and sustainable economic growth and decent work for all; remote work meeting Goal Eight by providing a solution to unemployment and under-employment. Remote work allows employees to work a full-time job

from their home, different city, state, or even country from their employer. This can be seen from FedData, the headquarters is located in Maryland, but some employees are located and living in Georgetown County (Flexjobs 2019). CEO Sara Sutton of FlexJobs stated "The market no longer must be harnessed by time zones, geographic boundaries, or technological limitations"; this statement is perfect to highlight the impact of remote work (Flexjobs 2019). Remote work also assists in allowing more people to live in a rural location but contributes to the local economy.

Remote work also impacts the economy by allowing remote workers to earn more money than in-office. According to Global Workplace Analytics the average annual income for most remote workers is 4,000 higher than the non-remote (Flexjobs 2019). This data was broken down by the ways remote workers would save money: gas, car maintenance, food, clothing, and tax.

Sustainability Goal Nine focuses on inclusive and sustainable industrialization and foster innovation. This is exactly what FedData does for the Federal Government by providing technology solutions. Innovation is key to learning and educating for Georgetown County to develop more. FedData impacts globally not only by spreading innovation but by reducing greenhouse fuel emissions by not driving to work daily as seen on the chart above. Remote work helps achieve Goal Nine by allowing more employees to be added with different skill sets. This allows the Federal government to innovate since it allows FedData to bring in more people without the hassle of moving; talent can now include more accessibility and diversity.

Sustainability Goal Seventeen focuses on partnerships, I experienced this goal first-hand with the transition from Mercom Corporation to FedData. Partnerships allowed this small business to grow to a bigger business and grant the employees more benefits. Many employees that used to work in Mercom Corporation are from the Pawleys area; however, since they work remotely this allows them to work in FedData which is headquartered in Maryland. This allows

these employees to still contribute to the local economy and other small businesses just by living there. Partnerships to achieve a more sustainable world can lead to bigger and better opportunities on a local and global level.

Research Gaps

While conducting research there were a few information gaps that posed a counter for the positive effects of remotely working. To further the research more, I wanted to include statistics of the impact of remote work, however, the effect of COVID-19 pandemic swayed the data. The pandemic skewed the results since the majority remotely worked. Another research gap is the utility usage increase in individual homes. Remotely working also means a new outlet to use plug in devices needed to work. Further researching the impacts of remote work on the utility bill is needed to imply stronger environmental impacts.

Recommendations/Future Needs:

To help Georgetown County promote Sustainable Development Goals from the United Nations, I encourage business to incorporate remote work, if applicable to the job. I believe this has benefits for Georgetown County locally and globally. Working remotely has many benefits, such as lowering emissions since there is less commuting, less paper usage companies use, employee benefits, diversifying the workplace. Adapting to remote work will improve inclusivity and embrace hiring people for different backgrounds, since you're not grounded in one area. I believe Georgetown County needs to prioritize Sustainable Development Goals 8, 9, and 17 to make the county more sustainable and help make a global impact to meet the Sustainability Development 2030 Goal of creating a plan of action for people, planet and prosperity.

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