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Recommended Citation

Pinga, Joaquin Carlos, "Online vs. In-Person Work Environment: Is Productivity Really Maintained in the Hybrid Work Model?" (2022). *Faculty Curated Undergraduate Works*. 74.
https://scholarworks.arcadia.edu/undergrad_works/74

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LONI INPR 310: Work in Thought and Action

Dr. Joanna Simos

14 December 2022

Online vs. In-Person Work Environment: Is Productivity Really Maintained in the Hybrid
Work Model?

Introduction

Hybrid Work Model

Throughout the COVID-19 pandemic, the term “hybrid work” has been popularized in an attempt to maintain productivity while maintaining social distancing. Hybrid work is a combination of working partly online at home, and partly in the typical office setting. Its existence predates the pandemic; however, it has increased in usage due to the frequent need to quarantine. Hybrid work has also exceeded the boundaries of traditional work, most notably extending into the education field, affecting students’ learning. Come the tail-end of the pandemic, many institutions have adopted the hybrid work model in attempts to suave people’s concerns about returning, as well as to cater to their convenience and accessibility, all while maintaining productivity. Despite all of the research done in hybrid work throughout the pandemic, there are still many discrepancies as to the maintenance of productivity between both work environments.

The Research

This case study is an attempt to provide some clearance on the influence of office and home work environments on productivity. This will be done through an observational study of my internship placement, which operates in the hybrid model. My

productivity will be ranked based on the 5 point Likert scale. Using this method, the results will yield lower productivity in an online work environment.

This paper will provide a literature review of the mixed results, and cover the methodology used to conduct this research, any ethical considerations, my findings, and highlight any questions raised for future research.

Ethical Considerations

Since I am performing a case study on my own productivity, this research is susceptible to my own bias. I will be the one conducting and filling out data based on my perceived productivity. Since I am aware of my research, this knowledge can skew my ratings to conform with what I previously perceive to be the norm, or even serve as extra motivation to become more productive.

Despite these potential biases, performing a case study on myself is still the best way to answer the research question because I will be able to accurately account for all the data and critical incidents produced in my work placement. This is also the best way to quickly and cheaply achieve the research objective given the limitations faced.

One of the benefits of performing a case study on myself is that I don't have to worry about anonymity. However, some critical incidents may involve other people, so it will be important to practice confidentiality. In order to maintain participation, I have to remember to note all of my observations after every shift. This is all the more important given the small sample size.

In addition to a case study, I will also be doing a literature review in order to identify which side of the argument my research will validate. I have to make sure I don't plagiarize and cite my sources correctly. While my research doesn't directly connect to

cultural sensitivities, I will have to keep it in mind when performing my literature review since a lot of the research has been done outside of the US and UK.

Literature Review

Online vs In-Person Learning

Throughout the COVID-19 pandemic, a lot of research has been conducted on the influence of online learning and working on society with varying results. While this research mainly focuses on productivity, it is also important to understand research focused on online learning as it had a direct influence on my experience as a student.

It has been noted that being online has a very different effect on learning than traditional education. Most students felt that face-to-face interaction is essential for learning, mainly due to the accessibility issues of going online faced by the population sample (this study was performed in Indonesia). In addition to these obstacles, it was also found that only a few students believed learning online increased their motivation (Bestiantono, 2020). In contrast, a similar study was performed in Indonesia with contradicting results. While they agreed that online learning proved to be tricky for some students in regards to a good network connection and technical literacy, they found an increase in motivation and an interest in learning with most of their students by using Zoom (Fajiri, 2021).

In addition to their motivation, online learning has had an effect on students' learning style. Learning in person has led to students taking a more hands-on approach, something that cannot be replicated with online learning. This means that online learning has favored the visual-learning style, where students learn by watching instead

of doing and feeling (Brockman, 2020). This suggests an explanation as to why some students may prefer one mode of learning over the other.

Online vs In-Person Work

In addition to students' learning styles and motivation, the work environment has shown it can influence the workforce. For the most part, it seems that employees in Bulgaria have a positive outlook on working from home. However, similar to education, employees have found it harder to communicate with their colleagues virtually, having a negative impact on relationships and teamwork. However, there hasn't been any impact on their motivation and achievement (Anguelov, 2021). Similar results have been found in a study in China. While performance and work satisfaction improved from working from home, the number of sick days and promotion rates based on performance fell (Bloom, 2014).

In contrast, a study performed in Italy has provided conflicting results. Comparing the perceived empathy levels from a psychotherapist with a patient, their patient reported improved satisfaction with their empathy received from the psychotherapist. However, the psychotherapists disagreed, believing that they were less empathetic towards their patients due to the online environment (Sperandeo, 2021).

Similar to how online learning can lend itself more favorable to more visual learners, working in an online environment can prove beneficial to certain people. In a study researching different work patterns, it was found that people working from home were highly self-motivated and self-disciplined. Working online has also been shown to be more effective for certain jobs. These jobs require minimal physical requirements,

defined goals, relatively low need for communication, individual control over the work space, and concentration.

Motivation in Education vs Work

While both fields of study have found some uses for the virtual environment, there have been different attitudes towards the offline environment. Students really seem to enjoy the face-to-face interactions the traditional education model offers to a variety of degrees. However, employees prefer the online work environment as it gives them more control over their work. Even though the results of both sets of studies are different, both are equally important to this research as the internship placement incorporates both learning and working, and online and in-person environments.

Methods

The Approach

This primary research will take the form of a case study, gathering both qualitative and quantitative data through journaling observations. This case study will look at my internship placement, where I am expected to work within the hybrid work model. In order to answer the research question, I will have to take note of whether I am working online or in-person, my productivity, and any critical incidents that may alter the results. I also decided to observe what I did to prepare for work in case there was a correlation between that and my productivity. If I rated my productivity to be much higher in one work environment over another, there will be a correlation. In addition to my preparedness, I also wrote down the tasks I completed. This was in order to identify any bias in my research by looking if there was any variation between how much I did and how much I perceived I did.

Data Collection

My productivity will be measured using a 5 point Likert scale right after my shift is over. The scale ranged from 1-5, with 1 being the least, and 5 the most productive. These ratings will also be influenced by critical incidents, such as feedback from my supervisors. The Likert scale was the best tool to use to measure my productivity since it wasn't time consuming, and simplified the rating process. It was also important to take it right after work since I was allowed to gather my thoughts when my work was still fresh in my mind, allowing for me to produce the most accurate rating. I opted for the 5 point Likert scale as opposed to other scales because it allowed for both extreme and neutral responses. In addition, it is simpler when compared to the 7 point scale, limiting the variation in results.

After taking note of all the observations, the productivity ratings will be averaged based on the mode of work. In other words, all of the ratings for online work will be averaged together, and the same for in-person shifts. Then, the means of each rating will be compared against each other. If the means are significantly different, we can conclude that the work environment has some influence over productivity. Preparedness will also be compared against productivity to see if it's related to each variable, including whether or not I had breakfast, if I had a sufficient amount of sleep the night before, and if I stayed in my room or not for work. The same process used to compare productivity and work mode will be repeated for these variables, however, each value for preparedness will be given a code. Each negative variable such as not eating breakfast, getting less than 8 hours of sleep, and working in my bedroom will be given a value of 1.

A value of 2 will be given to positive variables such as eating breakfast, getting a sufficient amount of sleep, and working in a space outside of my bedroom.

Limitations

The research project will go on for 2 months, from the end of September to the end of November. Due to the short time span, the sample size is not expected to be large, consisting of an average of 4 work days per week. The research will take place in my work environment, whether that is online or in the office. Since the sample size isn't large, it will be heavily susceptible to bias and other external factors to the research project.

Results

Productivity vs Work Environment

Table 1. Productivity Ratings for Online Work

Date	Tasks	Preparedness	Critical Incidents	Productivity Rating
21/9	- Induction - 30-60 goals	- Ate breakfast - Slept >8 hours - Went to separate study room		3
23/9	- attended strategy meeting - introduced to coworkers - reviewed leaflet design - familiarized myself with the organization	- Ate breakfast - Slept >8 hours - Went to separate study room		1
26/9	- prepared two social media posts - set up Canva	- Ate breakfast - Slept >8 hours - Stayed in	- received negative feedback on social media posts	1

	<ul style="list-style-type: none"> account - attended meeting for promotional video - wrote BLM blogs 	<ul style="list-style-type: none"> same room (desk) 	<ul style="list-style-type: none"> - had to rush to write BLM blogs 	
30/9	<ul style="list-style-type: none"> - revealed official rebranding on Instagram and Twitter - sent out monthly newsletter 	<ul style="list-style-type: none"> - Didn't eat breakfast - Slept >8 hours - Stayed in same room (desk) 	<ul style="list-style-type: none"> - needed to be reminded of monthly newsletter 	2
3/10	<ul style="list-style-type: none"> - rebranding on LinkedIn - posted BLM blog - IG and Twitter post - provided suggestions to programme curriculum 	<ul style="list-style-type: none"> - Didn't eat breakfast - Slept <8 hours - Went to separate study room 	<ul style="list-style-type: none"> - received positive feedback on programme curriculum 	2
7/10	<ul style="list-style-type: none"> - attended staff meeting - social media post 	<ul style="list-style-type: none"> - Didn't eat breakfast - Slept <8 hours - Stayed in same room (bed) 		1
10/10	<ul style="list-style-type: none"> - designed Activism Academy presentation - social media post 	<ul style="list-style-type: none"> - Didn't eat breakfast - Slept <8 hours - Stayed in same room (bed) 	<ul style="list-style-type: none"> - received negative feedback on presentation 	2
11/10	<ul style="list-style-type: none"> - social media post 	<ul style="list-style-type: none"> - Didn't eat breakfast - Slept <8 hours - Stayed in same room (bed) 	<ul style="list-style-type: none"> - sick day 	1
14/10	<ul style="list-style-type: none"> - redesigned presentation - social media post 	<ul style="list-style-type: none"> - Didn't eat breakfast - Slept <8 hours 	<ul style="list-style-type: none"> - received positive feedback on revised presentation 	4

		- Stayed in same room (bed)		
17/10	<ul style="list-style-type: none"> - prepared social media posts for the week - social media post - attended staff meetings - engaged on social media - set up LinkTree 	<ul style="list-style-type: none"> - Didn't eat breakfast - Slept >8 hours - Stayed in same room (bed) 	<ul style="list-style-type: none"> - received positive feedback on social media posts - received positive feedback on engaging with followers (DMs) 	5
21/10	<ul style="list-style-type: none"> - gathered local business contacts for funding 	<ul style="list-style-type: none"> - Didn't eat breakfast - Slept <8 hours - Stayed in same room (bed) 		1
31/10	<ul style="list-style-type: none"> - social media posts - followed up with Activism Academy schools 	<ul style="list-style-type: none"> - Ate breakfast - Slept <8 hours - Stayed in same room (bed) 		3
4/11	<ul style="list-style-type: none"> - gave feedback on promotional video - social media post 	<ul style="list-style-type: none"> - Didn't eat breakfast - Slept <8 hours - Stayed in same room (bed) 		1
7/11	<ul style="list-style-type: none"> - made first reel - sent out emails for local business sponsorships - shared promotional video with schools 	<ul style="list-style-type: none"> - Didn't eat breakfast - Slept <8 hours - Stayed in same room (bed) 		4
11/11	<ul style="list-style-type: none"> - social media posts - followed up with Activism Academy schools - worked on grant 	<ul style="list-style-type: none"> - Didn't eat breakfast - Slept <8 hours - Stayed in same room 	<ul style="list-style-type: none"> - left grant application really late - received positive feedback on grant 	4

	funding application	(bed)	application	
14/11	- attended staff meeting - social media posts	- Didn't eat breakfast - Slept <8 hours - Stayed in same room (bed)		1
18/11	- social media posts	- Didn't eat breakfast - Slept <8 hours - Stayed in same room (bed)	- given day off	1
21/11	- social media posts	- Didn't eat breakfast - Slept <8 hours - Went to separate study room	- Based in Madrid	1
25/11	- social media posts	- Didn't eat breakfast - Slept <8 hours - Stayed in same room (bed)		1
<p><i>Productivity</i> Standard Deviation, s: 1.3529262199858 Count, N: 19 Sum, Σx: 39 Mean, \bar{x}: 2.0526315789474 Variance, s²: 1.8304093567251</p>				
<p><i>Preparedness</i> Standard Deviation, s: 0.95513386588184 Count, N: 19 Sum, Σx: 69 Mean, \bar{x}: 3.6315789473684 Variance, s²: 0.91228070175439</p>				

Table 2. Productivity Ratings for In-Person Work

Date	Tasks	Preparedness	Critical Incidents	Productivity Rating
27/9	<ul style="list-style-type: none"> - set up Instagram account - designed Activism Academy flyer - set up work email - office induction 	<ul style="list-style-type: none"> - ate breakfast - slept >8 hours - went to office (1 hour early) 		4
28/9	<ul style="list-style-type: none"> - Impact Survey Data Meeting - finished designing flyer - designed email newsletter - drafted onboarding email 	<ul style="list-style-type: none"> - ate breakfast - slept >8 hours - went to office (on time) 	<ul style="list-style-type: none"> - received positive feedback on Activism Academy flyer - received positive feedback on email newsletter 	5
4/10	<ul style="list-style-type: none"> - worked on social media - set up Calendly 	<ul style="list-style-type: none"> - ate breakfast - slept >8 hours - went to office (1 hour early) 		3
5/10	<ul style="list-style-type: none"> - attended staff meeting - more social media 	<ul style="list-style-type: none"> - ate breakfast - slept >8 hours - went to office (on time) 		3
12/10	<ul style="list-style-type: none"> - researched school contacts and input into spreadsheet 	<ul style="list-style-type: none"> - ate breakfast - slept <8 hours - went to office (on time) 	<ul style="list-style-type: none"> - only one in the office 	3
18/10	<ul style="list-style-type: none"> - finished 	<ul style="list-style-type: none"> - ate breakfast 		4

	researching school contacts	- slept <8 hours - went to office (1 hour early)		
19/10	- started researching Birmingham school contacts - reviewed grant application - started emailing schools to onboard for Activism Academy	- ate breakfast - slept <8 hours - went to office (on time)		5
1/11	- designed sign-up sheet - attended staff meeting - promoted BLM blog	- ate breakfast - slept <8 hours - went to office (1 hour early)	- received positive feedback on sign-up sheet design	3
2/11	- social media posts - researched how to improve social media following	- ate breakfast - slept <8 hours - went to office (on time)		2
8/11	- social media posts - followed up with Activism Academy schools	- ate breakfast - slept <8 hours - went to office (1 hour early)		4
9/11	- social media posts - research eligible grants	- ate breakfast - slept <8 hours - went to office (on time)		5

15/11	- worked on homework	- ate breakfast - slept <8 hours - went to office (1 hour early)	- supervisor in meeting all day	1
16/11	- social media posts	- ate breakfast - slept <8 hours - went to office (on time)		3
23/11	- social media posts - answered panel questions - Activism Academy follow ups and documented updates	- ate breakfast - slept <8 hours - went to office (on time)	- said goodbye to colleagues	3
<p><i>Productivity</i> Standard Deviation, s: 1.1578684470437 Count, N: 14 Sum, Σx: 48 Mean, \bar{x}: 3.4285714285714 Variance, s²: 1.3406593406593</p>				
<p><i>Preparedness</i> Standard Deviation, s: 0.4688072309385 Count, N: 14 Sum, Σx: 74 Mean, \bar{x}: 5.2857142857143 Variance, s²: 0.21978021978022</p>				

Table 3. P-Values of Productivity and Preparedness

Variable	Productivity vs Work Environment	Preparedness vs Productivity (Online)	Preparedness vs Productivity (In-Person)
P-Value	p < 0.01	p < 0.01	p < 0.01

Discussion

Given both p-values came out below 0.01, we can confidently say that the results are statistically significant. The productivity rating for online work was significantly lower than that for in-person work. This means that the work environment does have an effect on productivity, with my work ethic increasing when I'm working in the office.

My preparedness rating was also much lower online than in-person. This means that I prepared and worked better in-person than I did online. The fact both of these variables correlate to productivity, there is no clear answer as to which variable directly affects my productivity.

The productivity ratings are also biased given they were based on how I felt right after my shift. These ratings could've been heavily influenced by the critical incidents, or even the number of tasks I completed that day. Since work environment and preparedness are just correlated to productivity, we can't infer any causation. This signifies a point of interest that will be worth exploring rather than a concrete conclusion directly from this research.

Conclusion

There are definite correlations between productivity and the work environment and preparedness. However, the causal relationship between the work environment and preparedness were not explored, and could possibly have an effect on the parallel results. It was shown that productivity reduces when working online, directly contradicting the literature. However, the results show that productivity decreased when I didn't prepare sufficiently, such as not eating breakfast, not sleeping enough, and working in the bedroom. These results support the literature in how not to be successful

when working online. More research will need to be done in order to gain a more concrete understanding of the effects of hybrid work on productivity.

Additional steps to take in order to more clearly understand the nature of hybrid work will be to explore the relationship between preparedness and work environment. It will also be important to make sure to measure each variable without the presence of any confounding factors such as preparedness so we can measure the true effect of the work environment on productivity.

References

- Anguelov, K., & Angelova, M. (2021). Home Office effects on the motivation of ICT companies' employees. *Entrepreneurship and Sustainability Issues*, 8(4), 10–28. [https://doi.org/10.9770/jesi.2021.8.4\(1\)](https://doi.org/10.9770/jesi.2021.8.4(1))
- Baxter, P., & Jack, S. (2008). Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers. *The Qualitative Report*, 13(4), 544-559.
- Bestiantono, D. S., Agustina, P. Z., & Cheng, T.-H. (2020). How students' perspectives about online learning amid the COVID-19 pandemic? *Studies in Learning and Teaching*, 1(3), 133–139. <https://doi.org/10.46627/silet.v1i3.46>
- Bloom, N., Liang, J., Roberts, J., & Ying, Z. J. (2014). Does working from home work? evidence from a Chinese experiment*. *The Quarterly Journal of Economics*, 130(1), 165–218. <https://doi.org/10.1093/qje/qju032>
- Brockman, R. M., Taylor, J. M., Segars, L. W., Selke, V., & Taylor, T. A. (2020). Student perceptions of online and in-person microbiology laboratory experiences in Undergraduate Medical Education. *Medical Education Online*, 25(1). <https://doi.org/10.1080/10872981.2019.1710324>
- Fajri, Z., Baharun, H., Muali, C., Shofiatun, Farida, L., & Wahyuningtiyas, Y. (2021). Student's learning motivation and interest; the effectiveness of online learning during COVID-19 pandemic. *Journal of Physics: Conference Series*, 1899. <https://doi.org/10.1088/1742-6596/1899/1/012178>

Olson, M. H. (1983). Remote office work: changing work patterns in space and time.

Communications of the ACM, 26(3), 182–187.

<https://doi.org/10.1145/358061.358068>

Sperandeo, R., Cioffi, V., Mosca, L. L., Longobardi, T., Moretto, E., Alfano, Y. M.,

Scandurra, C., Muzii, B., Cantone, D., Guerriera, C., Architravo, M., & Maldonato,

N. M. (2021). Exploring the Question: "Does Empathy Work in the Same Way in

Online and In-Person Therapeutic Settings?". *Frontiers in psychology*, 12,

671790. <https://doi.org/10.3389/fpsyg.2021.671790>