The Impact of Communications Technology on Employees' Productivity during Government Mandated Lockdown

Introduction

Communications Technology is a critical tool for many businesses in their daily work. With it being so important, how would the business world respond and continue, if they were forced into a governmentally mandated lockdown?

In late 2019/early 2020, a global pandemic caused by the Covid-19 coronavirus began (CDC, ND). Covid (covid19, ND) is highly contagious, and the virus caused widespread panic. The world reacted, and in many countries, a mandatory lockdown of businesses and people was enforced, necessitating a significant change in working practices.

This literature review will evaluate employee productivity, using Communication Technology and tools under lockdown conditions.

The knowledge obtained from this review, may be useful to business leaders or other decision makers. It can help them develop a sustainable and productive business model, and may be crucial in their decision making for business continuity under lockdown conditions. Post Covid, the data may be useful for employees working in a hybrid role.

Prior to the Covid lockdown, within the EU-27 (eu27, ND), statistics show that only 5.4% of people worked from home the majority of the time. Significantly, within the EU, ~ 40% of employees moved to a full-time working from home model during the pandemic (Ahrendt et al, 2020).

The Communications Technology typically made available to remote workers, would include their standard applications, but also tools that are collectively known as collaboration tools.
These include audio/video conferencing tools such as Zoom or Microsoft Teams/Skype among others, as well as other instant messaging applications. These tools would be seen to be the most significant, as they would allow "normal" communication between an employee and their manager or other colleagues to continue.

The global market for these tools, has strongly benefited from the Covid-19 pandemic, creating a strong demand for communication and collaboration tools (Tudor, 2022).

The IEEE (Affinito et al, 2020) released data showing that during Covid-19, some of the most popular Internet domains, were related to collaboration tools necessary for remote working.

Existing Literature Review

This review does not take into consideration any differences in working practices between companies, or their mandate for the use of the Communications Technology.
There is no common definition of what productivity means between the different reports, therefore, the interpretation of productivity or not, may be subjective.

In one report (Llag, 2021), it was stated "the collaboration and seamless communication that Microsoft Teams has been able to provide for the teams and firms that use it have been useful in improving overall productivity". This was a glowing report, and highlights that the use of a collaboration tool, helps to maintain productivity even under lockdown conditions.

Another study consisting of software engineers working from home, and employed by Scandinavian companies (Smite et al, 2022) found that companies that had a strong collaborative culture, coupled with rich tools supporting remote work, had a relatively easy transition to working from home. They did however, find that the developer's productivity in the latter months of the pandemic, show better results than those in the earlier months. Clearly, some adaptation is needed for full efficiency to be realised, when making the transition from the office.
Worker feelings of productivity, should also be taken into account when analysing the data.

The research available however, is not as conclusive as these papers would suggest.

As mentioned previously, developers working from home in Scandinavia (Smite et al, 2022), reported noticing no overall change in perceived productivity. It is however, important to note, that even though results show little obvious change to working from an office, a significant portion of the working population, were negatively affected by working from home, and complained about the challenges related to teamwork and collaboration.

Shareef et al (Shareef et al, 2021) found that most people are not happy to be locked in their homes for an indefinite period of time, as they find it quite boring. They also found that there is a perception that staying at home can stop or obstruct professional engagement. So, even when employees are provided with the right tools, their mental state may not be open to working under those conditions, and productivity may suffer.

Working under lockdown conditions, has been shown in other studies (Sharma et al, 2022), (Bertoni et al, 2022) to also be detrimental to mental health. Respondents complain about being on video calls all the time, so, the will to use the IT tools is lacking and the employee may lack motivation.

Videoconference fatigue also exists, and is evident in some workers when working remotely. The American Psychological Society (Bennett et al, 2021) performed an extensive study, to examine may aspects of the use of videoconferencing, and the effects it could have on the people using it. They noted a perceived lack of "chit-chat" before and during the calls, that would typically occur in face-to-face situations. They also found that fatigue may occur at different times, but they noted that conferences later in the day, more often show a higher level of fatigue being experienced.

A further study performed in Austria (Beno et al, 2021) again shows that on average, e-working remotely with technical tools, has resulted in increased productivity. This shows that communication technology as an enabler, can and does work to maintain or increase productivity. However, they also found a decline in productivity for those workers who were uncomfortable with e-working.

An interesting study that was performed in Luxembourg (Martin et al, 2022), introduced the concept of user profiles. They put users into 1 of 5 profiles, based on the tools used, their experience and length of time using them as well as their introduction, or not, to new tools during the lockdown period. They found productivity could be linked to many different factors such as age, education, earning potential/salary and people with previous teleworking experience. In some cases, the study showed a reluctance to start using any new tools introduced, and this had a corresponding observable decrease in productivity.

Whilst this is only a single study in Luxembourg, it introduces clearly, the fact that even if a company provides all necessary Communication Technology, as well as the associated training, different human behaviour in the working population, will generate differing levels of productivity for the company.

Some of the points discussed in the Luxembourg study, have been seen to be present in another study (Etheridge et al, 2020). This study corroborated that lower earners and women appear to show a decrease in productivity under lockdown, and that mental health is also a contributor to lower productivity.

Critically however, it states "managers report productivity increases is possibly very dependent on the current state of information technology". They then reflect that if the pandemic lockdown had occurred in the past, when the Communications Technology tools were less mature or not available, the resulting productivity may have looked very different. This report highlights the importance of the technology, regardless of other factors and how it directly relates to productivity.

Another study (Tleuken et al, 2022) stated that ICT and other enablers are identified as the primary physical parameters impacting remote work productivity and satisfaction. They go on to conclude that providing adequate ICT resources is important, but that training on the use of these ICT resources would be required for teleworkers as well. From a lot of the data reviewed, it was not stated clearly if training had been provided for employees working remotely, in many cases, perhaps using new tools. This could be detrimental to productivity, and should be explored more.

Conclusions

We can definitively conclude, that Communications Technology, is critical for remote white-collar workers to be productive under lockdown conditions. Without access to the right tools, it would be very difficult for them to function effectively.

A common theme discovered throughout the literature reviewed, is there are many different outside factors (Etheridge et al, 2020) that may affect productivity levels. These additional factors are varied, but the main ones noted in this review include things such as overuse of the technology tools that may lead to fatigue, mental health aspects working from remote the whole time, factors such as being female, self-employed, less educated or a lower earner. They all appear to contribute to productivity levels, even with the correct tools being available and need to be considered when developing a strategy.

With all of these different aggravating factors, it is not possible to conclude that Communications Technology tools being available, will increase or decrease productivity for everyone, and there will likely be noticeable differences even within the factor groups noted.

The Luxembourg report (Martin et al, 2022), goes on to provide some recommendations for improvements in digital skills, as well as being aware of the differences in human behaviour in the population and catering for those differences. Theoretically, that would lead to a corresponding increase in productivity, however, this is definitely an area that could benefit from significant further research and study.

However, whilst it is clear, that to be productive, employees must have access to the right tools, many of the studies have provided evidence in their conclusions that there were negative aspects alongside any positives.

Additionally, there appears to be a lot of bias, unconscious or otherwise, in business leaders' perception of remote working, and this bias may be manipulating some of the studies.

A World Economic Forum (WEF, 2020) report stated that 78% of business leaders believe that remote working will lead to a negative impact on worker productivity. If leaders are sceptical to begin with, any subsequent reports could be manipulated unfairly.

It is also not clear, if the productivity results observed through the presented studies, would remain long-term or change. It is possible that as people remain longer under lockdown conditions, they get used to it more, and productivity with the IT tools increases, or conversely it decreases through fatigue. It is important to note this, as productivity cannot be gauged from a single snapshot in time and could well be variable.

It is clear from recent mass media stories (unispace, 2023), that business world is split on the benefits of working remotely, and this is backed up by some companies reversing their previous policies. The Unispace study found that 72% of companies, are mandating that staff come back into the Office x number of days per week, with the number actually varying by company.

Zoom is a prime example of this, and provides something of a paradox to the situation. Zoom was one of the main proponents and beneficiaries of remote working under COIVD-19 lockdown, however, even they are enforcing rules about people returning to the office (BBC, 2023). If Zoom clearly do not believe that the productivity or benefit of working remotely is the same as being onsite, using their own product, it is easy to see how other companies would form a similar opinion.

Recommendations

Further analysis should be performed, to try and define a working guide for using Communication Technology when working remotely. The guide should focus on factors such as length of time, time of day etc, to maximise their productive value, and to reduce fatigue, similar to the recommendations in the America Psychology Association study (Bennett et al, 2021).

A further recommended course of study would be to perform a productivity assessment, under control conditions, where everyone has access to the same communication Technology tools, and it is clearly understood what is expected of them whilst remote working. Once analysed, productivity could be gauged to see if there is any difference when remote vs working from an office.

It might be possible to study the data and deduce an optimal hybrid split for remote and onsite working, in order to obtain maximum productivity of the employees.

Finally, analysis of the different outside factors that may prevent high levels of productivity should be studied.

If all 3 recommendations for further study were done, it may be possible to formulate an optimal lockdown/remote working model across industry using Communication Technology.

(1999 words)

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