The Impact of Communication Technology on Employee Productivity During Government Mandated Lockdown in Canada

July 2023

A Literature Review

Trevor Woodman

Student, Post-Graduate Diploma - Computer Science

Website: <https://trevorwoodman.ca>

ePortfolio: <https://essex.trevorwoodman.ca>

TABLE OF CONTENTS

[Abstract 4](#_Toc139354788)

[Objectives 4](#_Toc139354789)

[Methods 5](#_Toc139354790)

[Search Terms 5](#_Toc139354791)

[Introduction 6](#_Toc139354792)

[Literature Review 7](#_Toc139354793)

[Digital Literacy Among Canadians Pre- and Post-Lockdown 7](#_Toc139354794)

[Adoption and Efficiency of Communications Technology Use by Canadians During Lockdown 9](#_Toc139354795)

[Conclusion 12](#_Toc139354796)

[References 13](#_Toc139354797)

# Abstract

## Objectives

With the outbreak of the COVID-19 pandemic the Canadian government, like many other governments around the world, began imposing lockdown measures, forcing organizations to rapidly adapt to hiring, training, retaining, and enabling a remote workforce. This literature review examines the efficiency of these technologies by reviewing the digital literacy of Canadians pre- and post-lockdown (Theme 1), as well as the adoption and efficiency of communications technology use by Canadians during lockdown (Theme 2). This literature review will examine two main themes, digital literacy among Canadians during lockdown (Theme 1), and Canadian adoption of communication technologies during lockdown (Theme 2).

## Methods

By synthesizing and evaluating scholarly articles, empirical studies, and reports by trusted sources, this review provides insight into the impact that communications technologies had, and continue to have, on Canadian employee productivity and digital literacy in the workplace under unprecedented circumstances. The goal of this paper is to present existing research and to provide additional data where knowledge or information is lacking.

## Search Terms

Common terms used during this literature review were various forms of “Canada” or “Canadian” and “pandemic” or “COVID-19”, mixed with “productivity”, “telehealth”, “telework”, “ICT”, “communication technology”, “statistics”, and “digital literacy”.

# Introduction

For many Canadians, the lockdown caused by the COVID-19 pandemic was an immediate and jarring series of events, culminating in several provinces and territories implementing lockdown policies, procedures, and processes over only a few days, overnight, or even the same day in some cases. This immediacy disrupted countless organizations, both private and public. As employees moved from an on-premises workforce to a remote one, the importance of communications technology became paramount.

“Lockdown” in Canada is a ubiquitous term that encompasses various lockdowns as they were imposed by provincial and territorial governments. The Canadian federal government did not impose lockdowns at a federal level (Lowe, et al., 2022) but did restrict or impose on specific groups or individuals at a federal level, including prohibiting entry into Canada (Government of Canada, 2022), and mandating vaccination for the Core Public Administration (CPA, federal employees) and Royal Canadian Mounted Police (RCMP, national police) (G.C., 2023).

# Literature Review

## Digital Literacy Among Canadians Pre- and Post-Lockdown

According to Statistics Canada, 94% of all Canadians had household internet access in 2020 (Statistics Canada, 2020), showing that Canadians have, mostly, adopted a connected lifestyle. This does not speak to digital literacy, however, which is among the worst in developed countries, ranking 23 on the 2021 Digital Skills Gap Index (Wiley, 2021). Historically, the Canadian government has placed an emphasis on digital literacy as being a key proponent in the future of the Canadian workforce, although this goal has been marred over the years by the differences in elected political parties and, of course, the COVID-19 pandemic. As was evident and researched several years before the pandemic, the Canadian federal government has been lethargic in their pursuance of the incorporation of digital literacy most importantly into K-12 education and workplace training or upskilling, despite private sector research and reports and federal acknowledgement that digital literacy is an important factor (Hadziristic, 2017).

As I touched on previously, the Canadian government has recognized the importance of digital literacy, implementing initiatives such as the Digital Literacy Exchange Program. This program, although it is under-funded and a very typical bandage on a greater issue, it has reportedly supported the training of 400,000 Canadians in its first phase. This appears to be a good statistic, although the root cause of digital literacy issues in Canada is the lack of a federal plan for education in schools and upskilling post-graduation (Hadziristic, 2017).

A study by Wavrock, et al., published by Statistics Canada, claims that from 2018 to 2020, nearly 1.4 million Canadians went from what they call the “have-not” to the “have” side of the “digital divide”. This indicates that these Canadians went from “either non-users or basic users of the internet and digital technologies” to a higher classification. Wavrock outlines five classifications or groups: non-users, basic, intermediate, proficient, and advanced. The study claims that, in 2020, the number of advanced users totalled 36.7% or 11.6 million, proficient 21.8% or 6.8 million, intermediate 22.5% or 7.1 million, basic 11.2% or 3.5 million, and non-users 7.7% or 2.4 million. Advanced users had an increase of only 4.5% over the study period. A surprising takeaway from this study is that these classifications were based on what was, predominantly, basic lifestyle and digital technology operation, such as changing privacy settings, accessing news, listening to music, updating an operating system, downloading files, and basic computer functions like copying or moving files or folders (Wavrock, 2022). These functions and services are quite often automatic or made so intuitive by the companies offering them that they are “foolproof”. Measuring digital literacy against these data points, it is evident that not only is Canada in dire need of further research as it pertains to digital literacy, but also for the federal government to provide decisive direction and proper funding to institutions and initiatives to raise this level of digital literacy to one that reflects a level expected from a developed country.

## Adoption and Efficiency of Communications Technology Use by Canadians During Lockdown

The COVID-19 pandemic, and subsequent lockdown, significantly accelerated the adoption of communication technologies among Canadians. The shift to remote work and the need for virtual communication to facilitate not only work, but social interaction among friends and family, have prompted individuals and organizations alike across Canada to rapidly adopt various digital communication technologies, including the federal government themselves, opting to instead suggest using any communications technology available to employees, as long as the material of the conversation was not classified (G.C., 2020).

When it comes to the workplace, it is safe to say that the culture and processes of organizations everywhere, not just Canada, have changed forever. Over one third (36%) of Canadians have stated that they would be unwilling to work for an organization that does not allow remote work, showing just how much Canadians value the opportunity to work from home (CIRA, 2021). Employees during the pandemic that frequently worked from home accounted for nearly half (48%) of the population. Older Canadians from 35-44 were the highest age group, at 57% (Bilodeau, et al., 2021).

The solution for the lockdown was, of course, working from home or working remotely, something that was previously only available to the privileged few. This presented unique opportunities and challenges for the Canadian workforce. On one hand, this shift in mindset and procurement of tools enabled and encouraged seamless communication and collaboration, bridging the physical divide between employees. Video conferencing platforms became extremely popular, very quickly. For example, Zoom’s stock price rose over 700% during the initial waves of the pandemic, going from USD $76.02 on January 6th, 2020, to USD $559 on October 20th the same year (Vailshery, 2023). Instant messaging software rapidly grew in popularity as well, eclipsing email usage by multitudes in only a few months. Microsoft Teams grew from 32 million daily active users on March 12th, 2020, to 44 million a week later (Spataro, 2020). By October 27th, 2020, Teams had tripled their daily active users to 115 million (Warren, 2020).

On the other hand, the suddenness of the lockdowns and the rapid adaptation of work from home lifestyle has introduced challenges, both human and technical in nature, that need to be navigated. Technological barriers including technical ability and disparities in access to internet in Canada, especially in rural areas, is a formidable challenge in of itself, affecting the ability of some Canadians to fully leverage the tools required to effectively work from home. Moreover, the increased reliance on digital communications has led to informational overload and digital fatigue as employees are inundated by communications from multiple sources, including email, instant messaging, and video conferencing. Fatigue can very quickly lead to burnout, as these sources are also used in a personal context outside of work to talk with family and friends also in lockdown, to watch presentations or seminars for education, or to learn or build on new or existing skills or hobbies (Sharma, 2021). Furthermore, the boundaries of work and life become increasingly blurred in a work from home environment, as many employees find it difficult to establish clear and personally enforceable separations between their professional and personal lives.

According to an academic study on the labour productivity of Canadians, the labour productivity index rose 15% from Q4 2019 to Q2 2020. This increase, as the study outlines, is actually converse; the rise in the index is due to various causalities, including the reduction of over 15% in business sector GDP and the disproportionate wage and work hour loss by low-income workers (Blit, et al., 2020).

Small and medium businesses had the greatest loss in work hours, with small businesses losing approximately 9.4% of their hours and medium businesses losing 11.1%. Larger businesses actually had an increase in work hours of 1.2%. Presumably, larger firms could afford to roll out the processes and equipment for work from home faster than their smaller counterparts. That being said, all firm sizes saw a real output decline, 2.1% for small, 1.1% for medium, 1.5% for large, and an overall real output decline of 1.7% across all firm sizes, indicating a national loss of productivity across all businesses (Gu, 2020).

# Conclusion

In conclusion, the findings from this literature review indicate a need for research regarding the impact of communications technology as it pertains to employee productivity. Studies on long-term productivity are limited as the pandemic is ongoing, but by consolidation of relevant and topic-adjacent literature, we can deduce that the overall productivity of Canadian employees during lockdown decreased, which also answers our primary question of “what was the impact communications technology had on Canadian employee productivity during lockdown?”. Unsurprisingly, productivity decreased nationally during the pandemic. This acute decline of productivity was owed to rapid, demanding, extraordinary adjustments from both organizational and individual standpoints as jobs were lost, remote work was implemented, and Canadians adjusted to a new way of living.

Overall, the literature suggests the notion that communication technology played (and continues to play) a pivotal role in the productivity of Canadian employees, augmenting and enhancing productivity during lockdowns. Without technologies like Microsoft Teams and Zoom and having to rely on typical technologies like email or phone, productivity would undeniably have dropped an even greater amount and posed a significant challenge and a dire situation on the Canadian workforce.

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