

# Factors Influencing LGU Efficiency and Employee Productivity during COVID-19 Work from Home Arrangements: A Mediation Analysis

Margarita De Sagun Tipanero

Partido State University, Philippines

DOI: <https://dx.doi.org/10.47772/IJRISS.2024.8110248>

Received: 16 November 2024; Accepted: 19 November 2024; Published: 22 December 2024

## ABSTRACT

The Work from Home (WFH) business model emerged as a crucial strategy for maintaining operational continuity during the COVID-19 pandemic, becoming a common response to outbreaks. In the Philippines, WFH was implemented across both public and private sectors. This study assesses the indicators affecting the effectiveness of local government units (LGUs) in the Partido District, with employee productivity serving as a mediating variable. The analysis focuses on efficiency data and competitiveness pillars at the municipal level, given the localized nature of employee productivity. Results indicate a decline in economic dynamism within the LGUs of Partido, evidenced by reduced business formation rates, lower labor market turnover, and workforce mobility. Infrastructure, including roads and buildings, suffered due to incomplete workforce mobilization during the pandemic. Consequently, the LGUs' capacity for economic execution diminished, and their resilience in adapting to challenges like COVID-19 also waned. The study concludes that productivity and efficiency were not significantly affected by the competitiveness metrics of economic dynamism, infrastructure, and resilience. It recommends that LGUs in Partido establish strategic and contingency plans to prepare for future pandemics, medical emergencies, or crises that could restrict worker mobility. By implementing these measures, the LGUs can enhance their preparedness and maintain effective performance in challenging situations.

**Keywords:** LGU efficiency, employee productivity, covid-19, work from home arrangements, mediation analysis

## INTRODUCTION

Employees is seen to be the most significant factor determining an organization's production and efficiency. To emphasize the worth of the workforce in enterprises, management must establish an atmosphere where employees can work productively, and workforce demographics are closely associated with output, productivity, and efficiency.

However, the COVID-19 pandemic has created a particularly challenging environment for businesses to operate in 2020 in order to support their workforce in adjusting to and coping with the dramatic changes taking place in the work and social contexts. The pandemic has reached even small communities in underdeveloped countries like the Philippines, making it challenging for locals to adapt to the demands of the new normal.

According to Ramajan & Reid (2013), employees commonly fail to maintain distinct boundaries between work and leisure time. At the height of the pandemic, employees were required to work from home, but many face challenges because their homes don't have enough space for a workspace. Since they must go through other people's space, employees who live with others experience more challenges than those who live alone.

They might have had an impact on their efficiency and productivity as a result. Given the likelihood that COVID19 will accelerate trends toward WFH beyond the immediate effects of the pandemic, it is obvious that these working arrangements will require increasing amounts of attention for both research and practice (Gartner, 2020).

It has been established that WFH has an impact on both physical and mental health outcomes (Gavoille & Hazans, 2022). Kurdy et al. (2023) found that teleworking boosts both participants' and their subordinates' productivity. Because they are working from home and possibly saving time on their commute, employees are likewise ready to put more time into their employment. Isolation and a lack of distinction between work and personal life may have the opposite impact. Additionally, when given the option, respondents select remote employment (Kurdy et al., 2023). Working from home gives employee's greater freedom, which raises their level of job satisfaction. It also decreases the stress and exhaustion associated with traveling (Clark et al., 2020).

It can be challenging to discern between business and personal life at the conclusion of the workday when you work remotely frequently. A few organizational measures that Teng-Calleja (2020) claims assist employees in with the COVID-19 crisis include flexible work arrangements, mental health and well-being programmers, physical health and safety measures, financial support, the provision of material resources, and communication of short- and long-term plans.

This study is anchored with SDG 3: Good Health and Well-Being; SDG 8: Decent Work and Economic Growth and SDG 9: Industry, Innovation, and Infrastructure.

The impact of teleworking or working from home on employee productivity and wellbeing, particularly in Local Government Units (LGUs), will ultimately determine how prevalent these practices become. While some studies observed a general increase in productivity (Barrero et al., 2021; Blom et al., 2020), others (Morikawa, 2022; Kitagawa et al., 2021; Gibbs et al., 2021) reported the opposite. During an extended emergency like the COVID19 era, little is understood about the factors influencing the local government unit's efficiency with productivity of employees on work from home arrangement. As a result, this study seeks to fill that gap by addressing this issue.

## REVIEW OF RELATED LITERATURE

### Organizational and Economic Efficiency

Organizational leaders play a critical role in fostering organizational efficiency. He/she motivates everyone to strive toward the same objectives while ensuring that everyone is aware of these objectives and willing to contribute (Georgopoulos, B. S., & Tannenbaum, A. S., 1957). The United Nations Economic and Social Commission for Asia and the Pacific cited eight essential characteristics of good governance, namely, participatory, focused on reaching a consensus, accountable, transparent, responsive, effective and efficient, equitable and inclusive, and upholding the rule of law. This kind of governance is certain to reduce widespread corruption. In the decision-making process and activities offered, consideration is paid to the voice of the communities' marginalized members., and vigilant in addressing the needs of constituents, both now and in the future.

Worthington & Dollery (2000) expressed that smaller rural councils may be inefficient due to the necessity to keep a planning and regulatory department operational. This shows that efficiency improvements in this area may be possible through regional cooperation. Politics is not only allocating resources and responsibilities through effective decision making; it also entails processing occurrences in an approach that influences people's objectives, morals, mindsets, as well as viewpoints.

When it comes to efficiency, different sorts of efficiency can be assessed in the area of public services (Barrow and Wagstaff, 1989). The study of Garca, J. et al. (2021) believed that technical and allocative efficiency provide economic efficiency. This is because a technical efficiency necessitates a comparison between the quantity of inputs and outputs according to the pioneers of this concept, Koopmans and Debreu (1951), and Afonso and Fernandes (2006) agreed that the efficiency in this sense refers to either increasing output from a set amount of productive components (output focused) or, alternatively, reducing input from productive elements (input orientated). Also, knowledge of input pricing data is necessary for "allocative efficiency" (Farrell, 1957). Once the local government units delivered or produce public services efficiently, local efficiency occurred in such government institution. Garca, J. et al. (2021) mentioned in their study that economic efficiency has two components, namely, 1) cost efficiency, which applies when cutting costs is the goal; and 2) revenue efficiency

or profit efficiency, which applies when maximizing revenues or profits is the goal.

### Economic Dynamism

Cities and Municipalities Competitiveness Index of the Department of Trade and Industry, abbreviated as CMCI-DTI provide yearly data on the rankings of municipalities and cities in the Philippines. This was developed with help from the National Competitiveness Council, the United States Agency for International Development (USAID), and the Regional Competitiveness Committees (RCCs).

This provides data on the pillars of competitiveness of the cities and municipalities in the Philippines, namely, government efficiency, economic dynamism, infrastructure, resiliency, and innovation. Figure 1 shows the usages of the CMCI-DTI. (cmci.dti.gov.ph). federalism strategy's potential to facilitate more effective local government funding allocation. This emphasizes how important resource management is for achieving economic efficiency. (Tiebout, 1956; Musgrave, 1959; Oates, 1972; Oates, 1985, 1993).

Economic dynamism, which is a pillar in the competitiveness of the municipalities, pertains to the skills in using the municipalities' resources to improve the quality of life for its citizens. The ability to create jobs, the cost of living, the cost of doing business, financial deepening, productivity, and the presence of business and professional organizations are among the eight indicators for this pillar that are listed by the Department of Trade and Industry Competitiveness Bureau (DTI-CB, 2018)

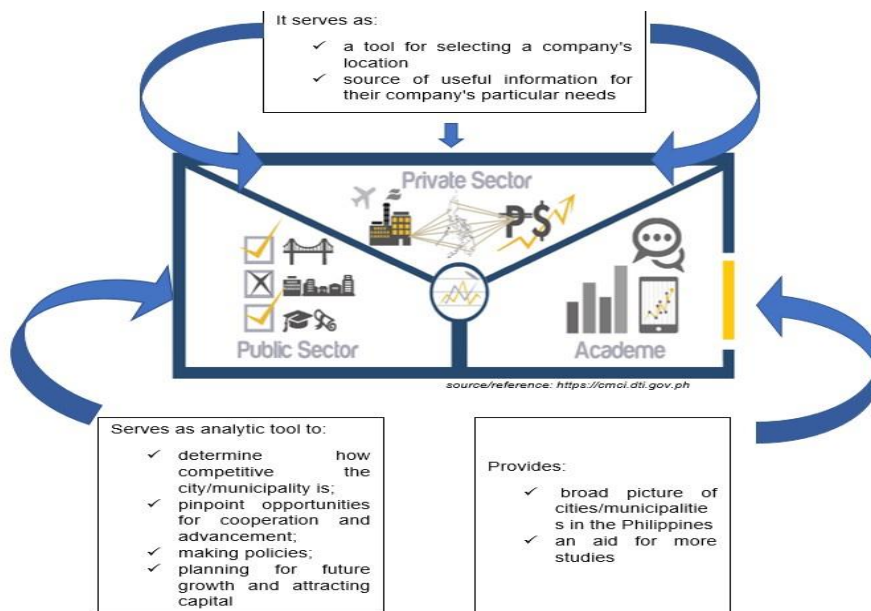


Fig. 1. Uses for the Department of Trade and Industry's Cities and Municipalities Competitiveness Index (CMCI-DTI)

### Infrastructure

Economically speaking, infrastructure typically refers to basic public services like the distribution of electricity and water, public transport, telecommunications, roads, and educational institutions. (uslegal.com) The following are the indicators of road network, distance to ports, availability of basic utilities, transportation vehicles, education, health, LGU investment, accommodation capacity, information technology capacity, financial technology capacity (CMCI-DTI).

### Resiliency

Adam Rose on the paper Economic Resilience: Concepts and Measurement in Center for Risk & Economic Analysis of Terrorism Events and Price School of Public Policy University of Southern California, as posted in wto.org., stated that resiliency is used to describe any action that lowers risk losses. The CMCI-DTI stated the indicators for the resiliency of the local government units, namely, **land** use plan, disaster risk reduction plan, annual disaster drill, early warning system, budget for DRRMP, local risk assessments, emergency infrastructure, utilities, employed population, sanitary system

## COVID-19 and Work-from-Home Arrangement

Three years have passed since the COVID-19 initially surfaced. According to statistics obtained by the World Health Organization (WHO) as of May 31, 2023, there had been 767,364,883 confirmed cases and 6,938,353 reported deaths (WHO Dashboard, 2023). Governments have implemented a number of preventative measures, such as international quarantines, to stop the spread of this lethal disease. In times of crisis, corporations and even governmental organizations have turned to WFH to sustain business operations and employee safety (Parilla et al., 2022).

WFH has been characterized as an output-oriented work arrangement that enables employees to create outputs/results and accomplishments while away from the office as a result of the COVID-19 outbreak. A "work-from-home" employee is one that works remotely but from their home to complete tasks and perform commitments (Civil Service Commission, 2020). For everyone's health and safety to be maintained, a home office setting is necessary.

These orders to remain at home are necessary to preserve everyone's physical health (CSC, 2020). A person who works for a business or is an employee of an organization, actual work engagement on specific tasks with a business or organization, work completed outside the business's physical premises, and electronic communication with the employer are the four main components that define WFH. The Civil Service Commission of the Philippines released Memorandum Circular No. 10, section 2020, or Revised Interim Guidelines for Alternative Work Arrangements and Support Mechanisms for Government Employees. This document offers temporary amended guidelines for employee assistance programs and flexible work schedules. When a national emergency has been declared, this is especially true (Civil Service Commission, 2020).

As a result, most workers—if not all—were forced to work remotely in some capacity. The majority of governments now prioritize encouraging work-from-home opportunities above everything else. Throughout this process, the regulations have been developed with the practicality of both employers and employees in mind. During the COVID-19 pandemic at the beginning of 2020, a record number of people were forced to work from home. Urban planning, infrastructure development, and investment reallocation away from inner cities and towards residential regions would all be impacted, even if just a portion of this change is long-term. This inevitably has a big impact on how companies organize and manage their workforces (Gibbs et al., 2021). Although these interventions might be helpful, it is important to be aware of the possibility of social and economic disruption (Thunström et al., 2020).

Employees who opt to work remotely are self-disciplined and self-motivated, and they do so either to be close to their families or to soothe concerns about social isolation, according to research by Elshaiekh et al. (2018). However, working remotely might provide difficulties such as inadequate time management, social isolation from coworkers, and a shift in daily routine. Additionally, it might be challenging to control work hours at home, which may have a detrimental effect on productivity in families, especially for LGU employees (Elshaiekh et al., 2018; Kurdy et al., 2023) and family connections.

In reality, these interventions (preventive measures) may have negative psychological repercussions on people affected, including a decline in social support, a rise in loneliness, melancholy, anxiety, and financial difficulties. Working from home may have an impact on productivity and effectiveness at work. Working from home frees the employee from geographical and scheduling restrictions, according to Aithal et al. (2015).

Government-enforced lockdowns and the need to deal with cutting-edge technology difficulties for which they may be unprepared are forcing workers to work from home on a regular basis for the first time in modern history. Administrative rules apply to people who have never requested or been refused the right to work from home. According to Bick et al. (2021), businesses expect to permit employees to work from home long after the outbreak. They eventually realized that it was beneficial to certain workers and companies. The authors of the research also advocated making more significant adjustments to a certain workforce's employment policies.

### LGU's efficiency

Efficiency is the connection between the inputs used and the outputs generated by its producer. (Farrell 1957;

Boyle 2006; Dunleavy & Carrera 2013). In order to increase the effectiveness of their public sectors, governments have developed performance evaluation systems (Bouckaert & Halligan 2008). It is well known that assessing public sector efficiency is not an easy undertaking (Boyle 2006).

Jacques, M. author of the Efficiency Measurement of Local Public Sector in International Perspective: a literature survey, stated that there were three categories of efficiency indicators, namely, inputs, outputs, and negative outcomes. According to her, to gauge the effectiveness of local governments, many different metrics are utilized; because of data availability (or lack thereof), local government authority differences, and economic and institutional differences between nations, an indicator that is utilized in one country frequently cannot be used in another.

Peter Ferdinand Drucker, who popularized the term "knowledge worker," wrote in his book *The Effective Executive: The Definitive Guide to Getting the Right Things Done* that "doing things right" is the very simple definition of efficiency. Drucker is a writer, management consultant, and university professor at Claremont Graduate University.

The value of fostering efficiency through the system of intergovernmental financial aid is becoming more and more apparent to the Commonwealth government. According to Andrew C. Worthington and Brian E. Dollery (2020), this is used to quantify local government efficiency in Australia reliably and meaningfully for the benefit of comparing performance and systems monitoring.

Efficiency is one of the five pillars used in the Philippines to gauge how competitive local governments are, both for cities and municipalities. Compliance with national directives, the presence of an investment promotion unit, adherence to the ARTA Citizens Charter, the ability to generate local resources, the capacity of health services, the capacity of school services, recognition of performance, obtaining business permits, peace and order, and social protection are all areas where government efficiency is measured.

**H<sub>01</sub>** The LGU efficiency's competitive pillars of economic dynamism, infrastructure, and resiliency do not influence relationship between productivity and efficiency on *work-from-home arrangements amidst the COVID-19 pandemic*

The competitive pillars of economic dynamism, infrastructure, and resiliency within LGU efficiency do not influence the relationship between productivity and efficiency in work-from-home arrangements amidst the COVID-19 pandemic.

## **Employee Productivity**

Western studies further argued that teleworkers' general encouraging factors were typically established under the notion of being self-starters, i.e., those who can work with little supervision (Day & Burbach, 2011) and primarily rely on technologically enabled communications for professional interactions (Chumpitaz & Paparoidamis, 2004). Their research also demonstrates positive associations between telework and organizational outcomes (Montoyo et al., 2012), a health benefit, and a culture of openness and trust (Beauregard et al., 2019).

But little is understood about the precise driving factors that lead to teleworking in a developing nation during a prolonged crisis like the COVID-19 era, particularly with regard to LGU personnel. Yang (2008) asserts that the way in which employee achievement is acknowledged, rewarded, and distinguished influences how productive each employee is. According to Abdulkadir et al. (2002), employee enthusiasm drove tenacity, productivity, and performance. Intuitive rewards have a significant beneficial association with worker performance and motivation, claim Shazadi et al. (2014). Employee performance is affected by enthusiasm to work more and do better (Azar & Shafighi, 2013). The organization's performance effectiveness and reward management system have a significant impact on employee morale and productivity (Gungor, 2011).

Knowing the self-motivated variables and timeframes needed for teleworkers to transition to such a new norm in a crisis is crucial, given the unanticipated rise in the number of teleworkers with low knowledge of ICTs (Ngamkroekjoti et al., 2022). Employee productivity measures how effectively outputs are generated by

maximizing inputs in a specific amount of time. Although they can comprise any service or commodity you provide to the market, outputs are unique to each business. Teamwork, tool effectiveness, process efficiency, and innovation are examples of inputs or "productivity enablers" that are prevalent across organizations (ActivTrak, 2023). By evaluating the quantity and quality of output, employee productivity or performance can be measured (Rahman et al., 2020).

What an employee does and does not do affects their performance. According to Shahzadi et al. (2014), employee performance encompasses output amount and quality, presence at work, helpfulness and flexibility, and timeliness of output. According to Yang's (2008) findings, individual performance cannot be validated. Similarly, he contends that organizations can implement direct bonuses and rewards based on individual achievement provided employee performance is clear (Yang, 2008).

At certain research, the changes brought about by COVID-19 at the workplace, as well as their effects on employee wellbeing and perceived infection risk, have been the main topics of study. The findings of these studies indicate that businesses have made an effort to respond by putting into place administrative changes and providing physical infection prevention measures (Hou et al., 2021). However, the study discovered that participants' and their subordinates' productivity both rises when they telework. Employees are also eager to put in more time at work because they are working from home and may save time travelling. Therefore, when given the choice of their preferred working method, respondents selected remote working (Kurdy et al., 2022).

**H<sub>02</sub>:** The employee productivity does not influence the relationship among economic dynamism, infrastructure, and resiliency on work-from-home arrangements amidst the COVID-19 pandemic.

### **Employee Productivity on Work-From-Home**

The study by Abiddin, N., et al. (2022) found that some Malaysian and Indonesian workers who had young kids, elderly relatives, or other responsibilities had a hard time focusing on their work or working from home. The adoption of a work life balance is predicted to increase productivity and worker performance. According to Anugrah and Priyambodo (2021), many employees struggle to draw clear boundaries between their personal and professional lives. Giorgi et al. (2020) found a correlation between COVID-19 and greater rates of mood disorders such as depression, anxiety, and sleep problems. The organization needs to create a work-life balance, including flexible working hours, to enable workers to pursue their interests and take care of personal needs outside of their work environment. Mokhtar (2020) listed six key benefits of working from home: (1) more energy and money saved; (2) more time spent with family; (3) reduced stress; (4) a comfortable workplace; (5) higher efficiency; and (6) quicker connectivity.

The goal of organizational management is to maximize the potential of its human resources. There are several ways to measure productivity. In a manufacturing organization, employee productivity is measured as work production per manhour worked. This statistic considers both effectiveness and quality. But effectiveness is not considered in this measurement. An examination of the costs and benefits of the human resources deployed in comparison to the results obtained is used to determine how successful employee productivity is. Management raises employee productivity, which increases organizational production. Employee productivity involves producing excellent work quickly. It is determined by the employee's output throughout a given time frame. The final product must be of a high standard, marketable, and usable. (IspatGuru, 2019).

### **LGU's Efficiency with Productivity of Employees on WFH as Mediating Variable**

The COVID 19 pandemic, according to Tabuga, A., et al. (2020), compelled national and local government organizations to create cutting-edge social protection and business-related concepts in order to keep up with the rapidly changing demand.

This pandemic was a wake-up call and a catalyst for developing governance frameworks and procedures. At the organizational level, the FGD participants cannot categorically state the productivity performance of their respective agencies during the community quarantine period. Quantitative performance data would be necessary to measure the actual productivity level and these are not yet available at the time of the study. Nevertheless, the

FGD participants stressed that most agencies are trying their best to deliver the services and expected outputs while dealing with the pandemic. With the adoption of alternative work arrangements, certainly, savings on utility bills, travelling expenses (e.g. for trainings), and the like were realized. Yet at the same time, additional expenses were incurred by the agencies, notably, the health kits provided to employees, fuel expenses to fetch employees, internet subscription to increase bandwidth, hazard pay for those who report onsite, and other expenses to observe the health and sanitation protocols. Some agencies also expect an increase in operating expenses once the internet connectivity subsidy and communication allowances for their staff e.g. teachers are approved.

The strategic performance management system (SPMS) is used in the Philippine government to gauge staff productivity. In order to improve the performance orientation of the remuneration system, it is a method that connects employee performance with organizational performance. According to the Civil Service Commission (2014), it makes sure that both the individual and the organization meet their goals for the strategic plan (Civil Service Commission, 2014). More crucially, the SPMS completes the Results-Based Performance Management System, which relates organizational performance to societal goals and is implemented by the Office of the President. It is also connected to the Productivity Enhancement Incentive (PEI) and Performance-Based Bonus under the Performance-Based Incentive System (PBIS).

According to the Civil Service Commission (2014), the SPMS has four stages: performance planning and commitment, performance monitoring and coaching, performance review and evaluation, and performance rewarding and development planning. Additionally, it has a five-point rating system that is as follows:

Table I Csc-Spms Five-Point Rating System

Numerical	Adjectival	Description
5	Outstanding	Performance represents an extraordinary level of achievement and commitment in terms of quality and time, technical skills and knowledge, ingenuity, creativity, and initiative. Employees at this performance level should have demonstrated exceptional job mastery in all major areas of responsibility. Employee achievement and contributions to the organization are of marked excellence.
4	Very Satisfactory	Performance exceeded expectations. All goals, objectives, and targets were achieved above the established standards.
3	Satisfactory	Performance met expectations in terms of quality of work, efficiency, and timelessness. The most critical annual goals were met.
2	Unsatisfactory	Performance failed to meet expectations, and/or one or more of the most critical goals were not met.
1	Poor	Performance was consistently below expectations, and/or reasonable progress toward critical goals was not made. Significant improvement is needed in one or more important areas.

Source: Civil Service Commission (2014)

When employees are left alone, it does not result in higher production; it necessitates cooperation, commitment, and teamwork. The COVID-19 pandemic outbreak is one of the challenges for the employee in this study, and it is challenging for them to boost their productivity by doing the activities on their own rather than being supported by their work in the organization or in the workplace (ILO, 2020). According to the goal setting theory, when difficult-to-achieve particular goals or targets are set up in an organization, it inevitably results in high levels of employee productivity since the individual works hard to fulfil the set targets (Debara, 2022).

This study, therefore, presupposes that when an organization sets goals or targets, it must consider the specific needs of its employees and assess whether or not these goals can be achieved while enabling people to work from home. The manner in which employee productivity is measured when working from home remains the same, despite the fact that the COVID-19 outbreak has caused some adjustments to the workplace. In order to assess the productivity of employees in local government organizations that have work-from-home policies, a measure of productivity was used in the study. Figure 2 depicts the research's conceptual framework.

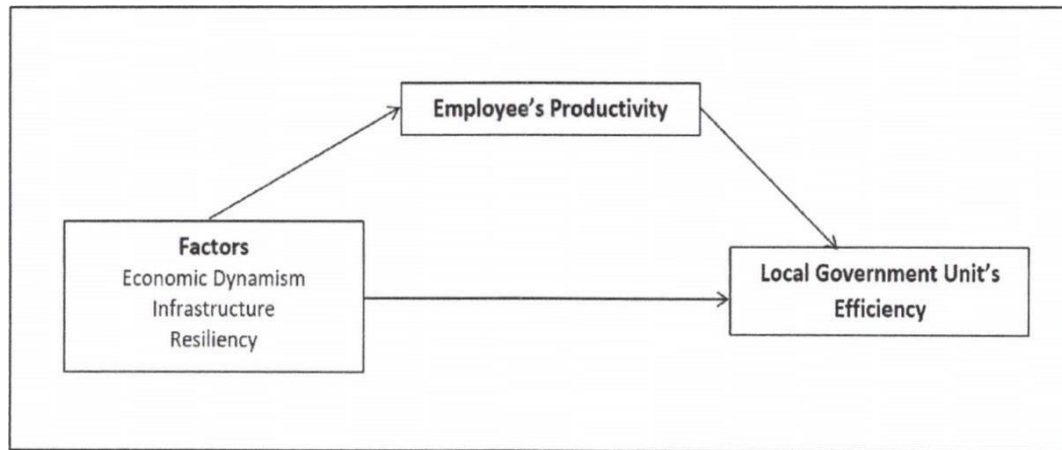


Figure 2. Conceptual Paradigm of the Study

The premise of this study is depicted in Figure 2. It demonstrates that, based on the research problem and objectives, the author examined the factors influencing local government unit's efficiency on work from home arrangement amidst COVID-19 pandemic with productivity of employees as mediating variable.

### Definition of Terms

The following terms were defined operationally and conceptually.

*Anti-Red Tape Authority.* The Anti-Red Tape Authority, or ARTA, is the institution that supervises and ensures adherence to the national policy on anti-red tape and ease of doing business. The Citizen's Charter provision is simply one of the legislative obligations that ARTA is expected to abide by under R.A.11032. ARTA hopes that by doing this, it will set a good example for other government organizations. (<https://arta.gov.ph/documents/citizens-charter-2019-1stedition/>)

### Cities and Municipalities Competitiveness Index CMCI.

Its goal is to give yearly data on Philippine cities and municipality rankings. The United States Agency for International Development (USAID) and the Regional Competitiveness Committees (RCCs) assisted the National Competitiveness Council in developing this.

### Economic dynamism

The Federal Reserve Bank of Atlanta defined it as a local economic disruption that has the potential to trigger a positive economic turn. It is a local economy's ability to continue to grow and produce positive economic performance. (Small City Economic Dynamism Index Version 3.0. February 2019. <https://www.atlantafed.org/>)

### Effectiveness

It is the process of achieving a desired aim or outcome, and it necessitates acting morally in order to do this (<https://www.diligent.com/>).

### Efficiency

It refers to preventing or minimizing the loss of resources such as time, money, energy, or materials. Economic



efficiency (<https://www.diligent.com/>).

### **Employee Productivity**

This pertains to the job performance of LGU employees in 2020 when they worked from home due to the COVID-19 pandemic. In this study, the Individual Performance Commitment and Review (IPCR) results were utilized to measure their productivity. The data were collected from the Human Resource Office of each municipality in accordance with the Civil Service Commission's performance rating guidelines.

### **Good governance**

This is what happens when institutions and procedures work well; they produce results that satisfy societal needs while making the best use of the resources at hand. (source: United Nations Economic and Social Commission for Asia and the Pacific)

### **Governance**

It is the process of making choices and the means by which they are carried out or not carried out. (source: United Nations Economic and Social Commission for Asia and the Pacific)

### **Infrastructure**

Infrastructure in terms of economics, it frequently refers to fundamental public services including electricity and water distribution, public transport, telecommunications, roadways, and educational institutions ([uslegal.com](http://uslegal.com))

### **LGU Efficiency**

A local government body has proven to be efficient if it has been able to prevent or minimize the waste of time, money, energy, and other resources. An LGU is efficient if it can accomplish a task or make the most of an opportunity (technical efficiency); allocate resources effectively to maximize value; and have better and easier ways to carry out the same task (dynamic efficiency) (Eisenstein, L. (2019).

### **Organizational efficiency**

Georgopoulos, B. S., & Tannenbaum, A. S. (1957) stated that organizational efficiency is sometimes referred to as "goal-attainment," along with other terms like organizational success or organizational value.

### **Productivity**

In the workplace, productivity simply refers to how much "work" is completed in a given amount of time. ([www.investopedia.com](http://www.investopedia.com))

### **Partido-LGU Remote Workers or Teleworkers**

Operationally defined as the permanent employees who were employed in the local government units in Partido District, performing their job functions and responsibilities at home during the work-from-home arrangement amidst the COVID-19 pandemic.

### **Work-from-home or Telecommuting or Teleworking**

This refers to the working environment of LGU employees during the COVID-19 pandemic, in which they work from home using technologies and other approaches.

### **Research Problem**

Employees, particularly those in local government units, were required to work from home during the height of

the pandemic. Many had difficulties because of core problems such as not having enough room in their houses to attend to, mental health, and intermittent internet connectivity. It is evident that people work in a variety of ways outside of the typical job. Employees frequently struggle to keep clear boundaries between work and personal time (Ramarajan & Reid, 2013). Since they must additionally manage other people's space, employees who live with others encounter more difficulties than those who live alone. This might have had an impact on their output as a result. Given the potential that COVID-19 would hasten WFH trends beyond the pandemic's immediate effects (Gartner, 2020).

The goal of this study is to examine LGU efficiency and its relationship to employee productivity on work-from-home arrangements during the COVID-19 period in the Partido district.

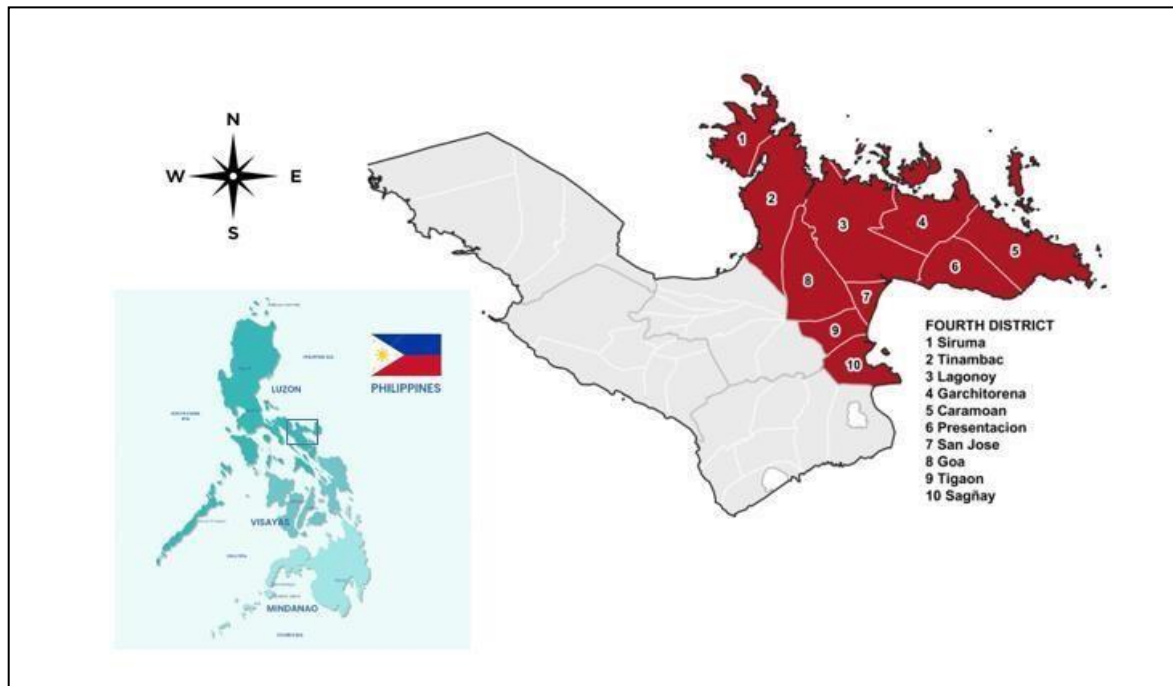


Figure 3. Locale of the Study

**Research Objectives**

Generally, this study aimed to analyze the factors that influence the local government's efficiency with productivity of employees on work from home arrangements amidst COVID-19 pandemic as mediating variable amidst the COVID-19 pandemic in Partido District, Camarines Sur, Philippines. Specifically, it sought to address the following:

1. Describe the demographic profile of the respondents in terms of:
  - a. Age
  - b. Sex
  - c. Civil Status
  - d. Educational Attainment
  - e. Length of Service
  - f. Estimated Monthly Income
2. Determine the local government unit's efficiency on work from home arrangement during COVID19 pandemic in Partido District, Camarines Sur.

3. Determine the productivity of employees on work from home arrangement amidst COVID-19 pandemic.
4. Analyze the factors influencing local government unit's efficiency on work from home arrangement amidst COVID19 pandemic with productivity of employees as mediating variable.

### **Significance of the Study**

The study's findings may be useful to local government unit authorities in understanding how efficiency and productivity of the LGU may impact the productivity of their employees who are working remotely during the COVID-19 epidemic. With the help of this research, the LGU administration may also build a comprehensive and logical framework for how staff may adjust to the demands of the pandemic and work-from-home arrangements. The results of this study may be used by local officials to help them carry out programmes and programmes that focus on the training of human resources for work-from-home situations during the pandemic.

### **Scope and Limitations**

With work from home arrangement serving as a mediating variable, this study primarily examined the impact of LGU efficiency on employee productivity among LGU employees in Partido District, Camarines Sur, utilizing the Department of Industry's Cities and Municipalities Competitive Index. While the productivity of the employees was measured using the Individual Performance Commitment and Review results of the employees thru the office of the Human Resource Officer of each municipality, with permission from the individual employees. The study only examined pertinent data gathered during the COVID pandemic of 2020. Other variables that are not used in this research were considered the limitations of this study.

## **RESEARCH METHODOLOGY**

### **Study Area**

The research was carried out in the local governments of the Partido District in Camarines Sur. The study area was chosen to be the municipalities of Garchitorena, Goa, San Jose, Tinambac, Tigaon, Siruma, and Caramoan as these were similarly impacted by the COVID 19 pandemic that broke out in the Philippines and implemented the work-from-home policies in 2020. In some communities, the quality of the services provided by the personnel is however affected even when there are no COVID-19 cases.

### **Research Design**

The quantitative approach utilized in this study was based on causal-explanatory research approaches. Using work-from-home arrangements as a mediating variable, this method was used to examine the influence of LGU efficiency on employee's productivity during the COVID-19 pandemic. This concept has been developed into more intricate interactions between variables using approaches such as logistic regression, hierarchical linear modeling, and structural equation modeling (Creswell, 2014).

This study uses both descriptive and causal analysis approaches to look at the demographics of local government employees in the Partido District. The descriptive component of the study seeks to provide a comprehensive overview and create a deeper understanding of the workers' demographic characteristics. The study considers age, gender, civil status, amount of education, length of service, and predicted monthly wage. Descriptive statistics were the primary analytical technique throughout this stage. This strategy enables the researchers to combine and provide demographic data in an easy-to-understand and handy format. This statistical method provides a comprehensive picture of the local government workforce by highlighting the distribution and composition of demographic components within the employee population. This approach also provides information about the size of the workforce. Furthermore, the study project includes a causal analysis component that investigates the link and causation pathways between employee productivity levels and demographic variables, as well as the efficacy of the work-from-home arrangement during the COVID-19 outbreak. We use statistical approaches like regression analysis and correlation to assess the possibility of causal correlations and connections between demographic factors and relevant outcomes.

Correlation research can identify any links or dependencies between demographic characteristics and evaluations of employee productivity and overall efficiency when working from home. In contrast, regression analysis enables academics to gain a more in-depth understanding of how demographic characteristics influence or predict the productivity and efficiency levels of a local government unit's workforce. In addition, this study looks at productivity as a potential mediating component. The statistics indicate that productivity may play a role in the association between the effects of working from home and demographic characteristics.

The Partido District local government unit carried out this examination employing a research methodology that included descriptive and causal analysis methods. The goal was to get a thorough understanding of the correlations between productivity and efficiency among employees who worked from home during the COVID-19 pandemic.

**Sampling Technique**

In keeping with the purposive and simple random sample designs, this study used probability and non-probability sampling. The participating municipalities were determined using a purposive sampling technique. The sample size for the employees of local government units who took part in this research study was established using a simple random sampling procedure, with equal allocations of respondents to each municipality, in accordance with Cochran's formula (Equation 1 & 2). The simple random approach was used to ensure that each respondent had an equal chance of being selected as a representative of this study.

$$[1] \quad n_o = \frac{Z^2 pq}{e^2} \quad [2] \quad n = \frac{n_o}{1 + \frac{(n_o - 1)}{N}}$$

where: n, no=sample size; p=estimate degree of variability; q=1-p (constant); Z=+/- 1.96 (statistical table) or linked to 95% significance level; e2= margin of error or desired precision level (0.04), and N=population size;

$$n_i = \frac{n}{c} \quad [3]$$

where: ni = the actual number of respondents per cluster (municipality); n = sample size, and C= 9 clusters (municipalities) of the respondents.

**Respondents of the Study**

The participants in this study were all regular employees of local government organizations. Permanent employees were chosen as the study's respondents because they must provide high-quality services while the COVID-19 outbreak is underway via work-from-home arrangements. Only 159 actual respondents, or 59% of the total expected respondents of 270, were taken into account for this study because the Lagonoy and Presentation officials took no action to the researcher's request to distribute questionnaires to their personnel. Additionally, some of the employees from nearby municipalities misplaced the questionnaire that was given to them.

Table 2 Actual Number of Respondents

Lagonoy	103	82	30
Presentacion	131		30
Garchitorena	120		30
San Jose	131		30
Goa	134		30
Tinambac	94		30
Tigaon	68		30

Siruma	78	30
Caramoan	941	30
<b>Total</b>		<b>270</b>

Note: Sagñay is not included in this study because the office of Municipal Mayor did not imposed work from home arrangement amidst COVID19 according to HRM Office.

**Data Collecting Instrument**

The primary data collection instrument used in this study was a survey questionnaire. The researcher requested that the HRMO send the questionnaire to their permanent employees in order to avoid having to speak with the responders in person. Faculty colleagues of the researcher validated the information using the Cronbach alpha reliability test. Data mining and key informant interviews (KII) were also employed to gather extra essential information needed for this study. Utilizing secondary data from the Cities and Municipalities Competitive Index (CMCI) and individual performance evaluation results, it will be possible to analyze the idea of local government unit efficiency and employee productivity with regard to work-from-home arrangements during the pandemic.

**Data Collection/Gathering Procedure**

The researcher discussed this study with the respective mayors of the municipalities in the Partido district of Camarines Sur in order to obtain their official approval. The researcher spoke with the municipal human resource officers with the mayors' consent so they could help her find potential respondents. To minimize face-to-face interactions, the identified permanent employee-respondents received the questionnaires from the human resources office. Such filled-up surveys were collected by the researcher through the office of the human resource officer. The researcher employed personal surveys and key informant interviews (KII) to individually collect additional important data from respondents for this study.

**Data Analysis/Statistical Tools**

The data was measured using the following statistical methods and data analysis:

Using descriptive statistics (percentage and weighted mean), the sociodemographic characteristics of the respondents were assessed.

Creation of an efficiency and productivity index: this application was used to assess the efficiency of local government units and the productivity of employees who work remotely in the municipalities of the Partido District. The data from the indicators used in the individual performance and commitment review (IPCR) form were the key components of employee productivity; the indicators used in the cities and municipalities competitive index were the key components of local government unit efficiency. The standardization was used to put equal level of measurement using the formula

$$\text{Indexsd} = \frac{\text{Sd} - \text{Smin}}{\text{Smax} - \text{Smin}}$$

where:

sd= is the original sub-component of  $S_{min}$  of the major components, -the minimum (lowest) value among all the respondents, and Smax= the maximum (highest) value among all the respondents.

The scale for productivity level of LGU employees employing the scale from the Civil Service Commission is indicated:

*Scale Verbal Interpretation*

5.00 Outstanding

4.00-4.99	Very Satisfactory
3.00-3.39	Satisfactory
2.00-2.99	Unsatisfactory
0.00-1.99	Poor

The scale for efficiency/productivity is 0 (Not Efficient/Productive/) to 1 (Highly Efficient/Productive), employing the scale from Mendoza (2013) as indicated below:

<i>Scale</i>	<i>Verbal Interpretation</i>
0.00-0.49	Not Productive/ Efficient
0.50-0.79	Moderately Productive/Efficient
0.80-1.00	Highly Productive/Efficient

### Structural Equation Modeling

This tool was used to measure the influence of LGU efficiency on work from home arrangement amidst COVID-19 pandemic with productivity of employees as mediating variable through SmartPLS software.

## RESULTS AND ANALYSIS

### Demographic Profile of the Respondents

The demographic distribution of the respondents is shown.

Table 3 Demographic Profile of the Respondents

Characteristics	Frequency	Percentage		
<b>Age</b>			<b>Years in Service</b>	
29-Below	14	8.80	Less than a year	3 1.90
30-34	27	17.00	1-5	44 27.70
35-39	16	10.10	6-10	42 26.40
40-44	22	13.80	11-15	25 15.70
45-49	21	13.20	16-20	17 10.70
50-Above	59	37.10	21-Above	28 17.60
<b>Sex</b>			<b>Estimated Monthly Income</b>	
Male	67	42.10	5,000-Below	5 3.10
Female	92	57.90	5,001-10,000	13 8.20
<b>Civil Status</b>			10,001-15,000	64 40.30
Single	31	19.50	15,001-20,000	26 16.40
Widow/er	10	6.30	20,001-25,000	15 9.40
Married	117	73.60	25,001-30,000	16 10.10
Annulled	1	0.60	30,001-35,000	8 5.00
<b>Educational Attainment</b>			35,001-Above	12 7.50
College Undergraduate	13	8.20		
College Graduate	133	83.60		
Post Graduate	13	8.20		

in Table 3. The findings indicate that 37.10%, are 50 years of age or older, with a higher percentage of women, married people, and college graduates. Twenty-seven point seventy or 27.70 % have been in service for one to five years, and 40.30% LGU employees with an estimated monthly salary of PhP10,001-PhP15,000

### LGU’s Efficiency on Work from Home Arrangement Amidst COVID-19 Pandemic

Even if everyone is taking safeguards against COVID-19, especially those who work for private or public entities, it is still important for everyone to exercise caution at all times. Working from home is a solution for employees to maintain their jobs during COVID-19. Additionally, this is a means for local government entities to keep serving their residents during COVID-19 pandemic. Table 4 manifested the LGU’s efficiency in the work from home arrangements during the COVID-19

Table 4 Lgu’s Efficiency

Municipality	Index	Interpretation
Caramoan	0.29	Not Efficient
Garchitorena	0.16	Not Efficient
Goa	0.51	Moderately Efficient
San Jose	0.59	Moderately Efficient
Siruma	0.74	Moderately Efficient
Tigaon	1	Highly Efficient
Tinambac	0	Not Efficient

Legend: 0.00-0.49 Not Efficient/Productive; 0.50-0.79 Moderately Efficient/Productive; 0.80-1.00 Highly Efficient/Productive

The results of measuring the effectiveness of the local government units during the COVID-19 pandemic shown were as follows: Tigaon is the only LGU with a high efficiency rating, while Caramoan and Tinambac received inefficient results. Goa, San Jose, and Siruma were moderately efficient.

In relation with the LGU’s efficiency, Table 5 reflected the economic dynamism, infrastructure and resiliency of the municipality’s competitiveness in Partido district from CMCI data (Cities, Municipalities Competitive Index of the Department of Trade and Industry). Economic dynamism as defined by The Federal Reserve Bank of Atlanta; it is a local economic disruption that has the potential to trigger a positive economic turn. This means that economic dynamism is a local economy's ability to continue to grow and produce positive economic performance.

Table 5 Local Government Unit’s Economic Dynamism, Infrastructure and Resiliency

Municipality	Economic Dynamism					Infrastructure					Resiliency				
	2019		2020			2019		2020			2019		2020		
	Rank	Score	Movement	Rank	Score	Rank	Score	Movement	Rank	Score	Rank	Score	Movement	Rank	Score
Caramoan	460	3.1854	Decreased	503	2.2340	438	4.6483	Decreased	491	3.2589	319	16.4112	Decreased	424	12.0839
Garchitorena	586	3.9074	Decreased	643	2.0583	454	4.541	Decreased	629	2.253	608	0.886	Decreased	639	8.0531
Goa	418	3.5282	Decreased	457	3.2314	241	8.7838	Increased	171	5.6623	328	16.3719	Increased	265	13.2887
San Jose	497	4.7405	Decreased	597	3.1712	196	5.4877	Decreased	631	2.1335	446	15.5539	Decreased	538	11.5712
Siruma	611	1.1496	Decreased	649	1.5874	585	3.2123	Decreased	635	1.4779	493	15.0088	Decreased	648	5.7761
Tigaon	242	5.9683	Decreased	335	4.8551	333	6.5425	Decreased	140	5.7939	27	17.2536	Decreased	177	13.469
Tinambac	479	2.8751	Decreased	505	2.2117	468	4.0109	Increased	427	4.6616	474	13.3482	Decreased	495	9.9727

Note: The data were generated from CMCI Score and Ranking data.

Economic dynamism, or the ability of a municipality's economic activities to change during a pandemic, has decreased. This includes the creation of jobs, cost of living, cost of doing business, financial deepening, productivity, size and growth of the local economy, the number of active establishments in the area, the presence of businesses that adhere to safety regulations, and the presence of business and professional organizations. This implied that the ability or capacity of the municipalities in Partido to act economically had decreased.

Infrastructure in terms of economics, it frequently refers to fundamental public services (uslegal.com) which included road network, distance to ports, availability of basic utilities, transportation vehicles, education, health, LGU investment, accommodation capacity, information technology capacity, financial technology capacity. The

findings stated that the workforce's infrastructure-related actions were minimal since they were not mobilized during the pandemic. Thus, implied that the LGU's ability to expand or improve its physical facilities had also declined. The ability of the municipalities to adjust to demanding or unpleasant circumstances, such as COVID-19, is known as resilience. It declined while the pandemic was at its worst.

### Productivity of Employees on Work from Home Arrangement Amidst COVID-19 Pandemic

Table 6 displays the productivity level of LGU personnel in the Partido District. When analyzing the productivity of personnel in government offices, this study utilized the scale of the Civil Service Commission's instrument.

A very satisfactory ratings for the employees from the municipalities of Caramoan, Goa, San Jose, Siruma, Tigaon, and Tinambac, while employees from the municipality of Garchitorena received a satisfactory rating of 3.61 during work-from- home arrangements

Table 6 Productivity Level of Lgu Employees

Municipality	Composite IPCR Results	Verbal Interpretation
Caramoan	4.51	Very Satisfactory
Garchitorena	3.61	Satisfactory
Goa	4.33	Very Satisfactory
San Jose	4.79	Very Satisfactory
Siruma	4.50	Very Satisfactory
Tigaon	4.36	Very Satisfactory
Tinambac	4.22	Very Satisfactory

Legend: 5-Outstanding 4.00-4.99 Very Satisfactory 3.00-3.99 Satisfactory 2.00-2.99 unsatisfactory 0.00-1.99 Poor in 2020, when the COVID-19 pandemic was in full swing. This suggests that LGU staff members are productive in carrying out their duties and obligations even when working remotely.

### Factors influencing LGU’s efficiency with the productivity of employees as mediating variable

Figure 4 illustrates the factors that influence the efficiency of the LGU with the productivity of employees as a mediating variable.

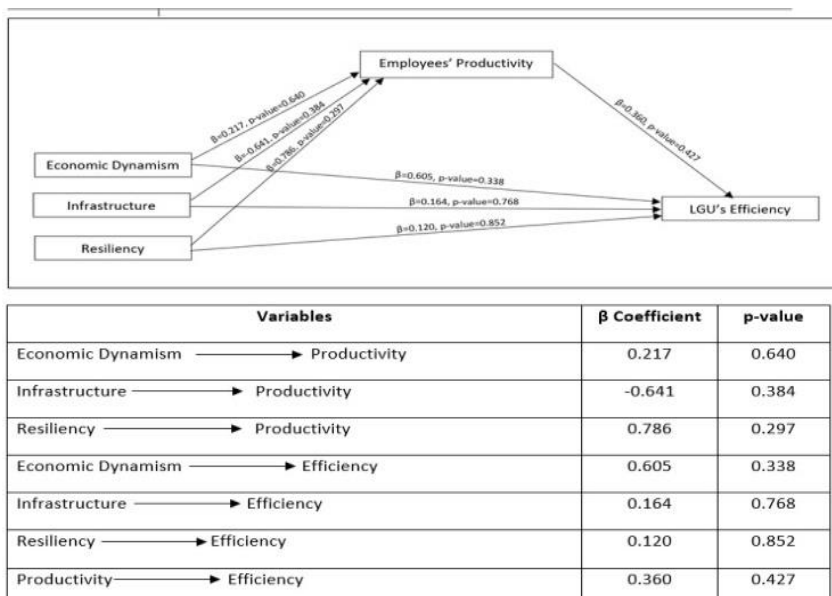


Figure 4. Factors influencing LGU’s efficiency with the productivity of employees as mediating variable



Employee productivity in this situation is at the municipal level because the competitiveness pillars and efficiency data are at the municipal level, ensuring that the datasets are equal. As per the criteria for making a decision, if  $0.05 > p\text{-value}$ , the factors significantly influence the variable. The end result accepts the first Null hypothesis, that the LGU efficiency's competitiveness pillar measures of economic dynamism, infrastructure, and resiliency has no significant influence in productivity and efficiency.

Figure 4 depicts variables that may have an impact on local government units' efficiency, with employee productivity serving as a mediating factor. As the competitiveness pillars and efficiency data were at the municipal level, so was employee productivity. The research indicates that economic dynamism, infrastructure, and resiliency—the three pillars of competitiveness—have no influence on productivity and efficiency. Employee productivity has no bearing on the link between economic dynamism, infrastructure, and resilience.

## CONCLUSION AND RECOMMENDATION

The local government unit leaders utilized their authority and duties to fulfill the expectations of the people that the government employees will work as efficiently as possible to maximize the usage of their taxes, obey rules and regulations, use funds wisely, and be accountable for their choices and actions. As what Wooll (2022) stated, leadership is essential in the organizational efficiency. A local government that is efficient ensure that its constituents have a high quality of life (Eisenstein, L., 2019).

When it comes to the ability of local government units for competitive and efficient, having a result with an insignificant variable allows other variables to have an impact on productivity and efficiency. The results also show that LGU performance in terms of infrastructure, economy, and resilience initiatives has declined. The results of this study could be used by local government unit authorities to better understand how the effectiveness of the LGUs influences the productivity of their staff members who are working remotely during the COVID-19 epidemic. The results of this study may be considered by local officials as they implement their projects and programmes aimed at fostering human resources for work-from-home scenarios during the pandemic.

The results show economic dynamism in the local government units' (LGUs') economic activity in the Partido District, including a decline in the rate of new business establishment, the frequency of job turnover, and the mobility of the workforce. Since the workforce was not fully mobilized during the COVID 19 pandemic, its infrastructure, including their roads and buildings, deteriorated. The capacity or proficiency of LGUs

Therefore, it is recommended that these LGUs have set better contingency and strategic plans in place before any pandemic, medical emergency, or other crisis to prevent undermining employee's mobility in the event of a health crisis, or other disaster that may occur at any time in this post-pandemic era. By doing this, the Partido LGUs will be prepared and able to maintain their performance.

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