

## TECHNOLOGICAL INNOVATIONS FOR PUBLIC SERVICE DELIVERY IN PANABO CITY: A SYSTEMATIC LITERATURE REVIEW

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### ABSTRACT

This study examines how technological innovations enhance the delivery of public services, particularly in Panabo City. Using a systematic literature review, the study has identified key technological innovations such as government websites and social media, electronic systems for payment, queueing, document management, and cloud computing. Some challenges that were found critical in implementing these innovations are also identified, such as the digital divide, data privacy & security issues, lack of skills, and resource constraints. The study's findings provide substantial insights for policy-making, infrastructure development, and strategic use of technology in governance. The study also recommends addressing the technological challenges to ensure a sustainable public service delivery.

**Keywords:** Technological Innovations, Public Service Delivery, E-Governance, Local Government Unit (LGU)

### 1. INTRODUCTION

Public service delivery has transformed with the advent of technology across the globe. This enabled the government to streamline projects and services aimed at improving citizen satisfaction (Liu & Yuan, 2015). E-governance and digital platforms have become essential tools in addressing the demands of modern governance (Salam, 2017). While success stories abound in larger urban centers, adaptive access to technological innovations is thus faced with very different challenges in smaller cities such as Panabo (Urbina & Abe, 2017).

This paper focuses on technological innovations and the challenges in public service delivery in Panabo City. In the course of this study, which follows a systematic review of existing literature, actionable insights for the challenges and efficiency gain in local governance will be provided.

#### Objectives:

- a. Identify technological innovations implemented in Panabo City to improve public service delivery.
- b. Analyze challenges faced in implementing these innovations.

### 2. METHODOLOGY

This study utilizes a systematic literature review, drawing on secondary data from peer-reviewed journals, academic databases, government reports, and credible online sources.

**Data Collection:** Studies relevant to the topic were identified through purposive sampling, targeting technological innovations and their effects on public service delivery in local government units (Rai & Thapa, 2015).

**Analysis:** This study used thematic analysis to draw out recurring themes regarding technological innovation and challenges. Findings are triangulated for reliability with the help of reports from the government and previous literature.

### 3. RESULTS

#### Technological Innovations

- Government Website & Social Media: Panabo City uses online platforms (website and social media) for transparency and citizen engagement, including compliance with the Full Disclosure Policy and online advisories (Lagura, 2017).
- Electronic Payment System: The implementation of the Enhanced Tax Revenue Assessment and Collection System (ETRACS) has streamlined tax collection and compliance (City Government of Panabo, 2024b).
- Cloud Computing: Integration of cloud-based systems has improved data storage, accessibility, and management (Ali, Manzoor & Alouraini, 2021).
- Electronic Queueing System: Automated queueing in healthcare and civil registration services has enhanced efficiency and reduced waiting times (Fares & Amir, 2021).
- Electronic Document Management System: An electronic document management system could help a government attain its goal of delivering effective and efficient services and become more responsive to the needs of its citizens (Yatin et al., 2015).

- Closed-Circuit Televisions (CCTVs): The installation of CCTV units has improved public safety and facilitated better monitoring of city operations (City Government of Panabo, 2024a).

#### Challenges in Implementation

- Digital Divide: A significant portion of the population lacks access to technology, limiting the reach of e-governance initiatives (Abdulkareem, 2015; Pariso & Marino, 2020).
- Data Privacy and Security: Concerns over data breaches and inadequate security measures hinder full adoption (Owusu, 2024; Banday, 2016; Bertot, Estevez, & Janowski, 2016).
- Limited Resources: Insufficient funding and infrastructure pose barriers to implementing advanced technologies (Wipulanusat et al., 2019; Arduini et al., 2010).
- Skills Gap: Inadequate ICT skills among civil servants require training in the application of technology to efficiently use technology (Agarwal, 2018; Shava & Hofisi, 2017; Villaseñor, 2024).

#### 4. DISCUSSION

Technological innovations provide a much wider scope of improving public services within Panabo City. Websites, social media, cloud computing, electronic systems for payment, queueing, document management, and CCTVs have proven the enhancement of public service delivery. However, intertwined with these innovations are challenges like the digital divide, privacy and security, the resource constraint, and the skills gap.

Addressing these gaps calls for investment in ICT infrastructure and digital literacy programs to ensure inclusion (Urbina & Abe, 2017). Policies regarding data privacy and security call for further strengthening, while specifically designed training programs could help resolve the skills gap among government employees.

The findings strongly resonate with the models of TAM, and Diffusion of Innovations Theory as ease, usefulness, perceived, and innovation adoption are factors with significant influences (Davis, 1989; Rogers, 2014).

#### 5. CONCLUSION

This study shows how technological innovations serve as the enabling factors in public service delivery. It further opens up vulnerabilities for areas in the implementation process. Despite the growth seen in Panabo City as regards the usage of technology, issues on accessibility, resources, and skills still prevail and have to be addressed.

#### 6. RECOMMENDATIONS

- Invest in Digital Infrastructure: Expand internet accessibility and create ICT hubs in disadvantaged areas.
- Enhance Digital Literacy: Train citizens and government employees to enhance the use of technology (Villaseñor, 2024).
- Strengthen Data Security: Establish comprehensive cybersecurity policies and systems to secure sensitive information (Bertot, Estevez, & Janowski, 2016).
- Allocate Funding for Innovation: Increase the budgetary provisions for technological upgrades and maintenance (Wipulanusat et al., 2019).
- Promote Collaboration: Engage with private technology vendors to utilize the latest solutions (Ali, Manzoor, & Alouraini, 2021).

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