Chapter II

REVIEW OF RELATED LITERATURE/SYSTEM

This chapter includes the related literature and systems that provide a general overview of existing features or projects relevant to this study.

Local Literature/System

According to Go (2022) the augmentation of e-governance websites through the contribution of Information and Communication Technology to local government results to acquire new opportunities for the public sector. The use of the website acts as medium for both citizens and government wherein enable for online access of public services and gather information that will be needed by the government to support improvement of community. This holds enhancement of the relationship between citizens and government because of better communication gained by e-governance, thus, governments receive feedback from citizens and use it as the opportunity to improve citizen engagement towards provision of public services.

Mallari et al. (2022) state that their developed queue management system is a better solution for the clients than the traditional queueing process since it allows the clients, staff, and admins to track and monitor queues, reducing confusion for the clients upon entering the Office of the

University Registrar and allowing for more efficient assessment of clients. Therefore, their system has enabled everyone involved to manage the queueing process more effectively.

According to Solivio et al. (2021), having a constant desire for improvement in every business and industry, technology has become a tool for developing and exchanging concepts or processes in certain aspects of a method made to deliver products or services to society efficiently and more effectively. With the increasing demand for customer satisfaction, the importance of customer satisfaction has been recognized by many companies. As a result, the owners build ideas and show their perspectives on how they prioritize the satisfaction of every customer by adopting various measures to improve the quality of their services.

Moreover, Capistrano et al. (2021) also discussed that the use of technology in government is an advantage to maximize the capability of government to provide services, however, clients are not fully trusting to e-government because of opposed circumstances towards government. This points to Information Technology is also designed to produce a systematic and protected transparency of data of citizens, wherein, implies to a reliable website generated by government will eventually patronize by citizens in order to build trust towards e-government.

Villena et al. (2021) explain the difference of acquiring between walk-in and online transaction of (CRD) Civil Registry Documents usually occurred at Philippine Statistic Authority (PSA). This alter to the preference for paperless documents that less to consume time in a line, paying for transportation, and inconvenient of walk-in services, wherein satisfaction rate of CRD clients with online transactions was assessed. This implies that maintaining a convenient service for the client increases the likelihood that they will value the technology, which will result in successful transactions.

Salvio (2020) stated that ICT towards the website of the government has made a huge contributing factor to provide accurate public services but in particular situations Persons With Disability (PWDs) are disregarded. Stating the fact that establishing equality towards community is required in order for them to understand, evaluate and foresee the performance of the website and be part of the governmental societal process of decision-making. This means that a website must be applicable to reach all types of users.

Polancos et al. (2020) share their thoughts about creating a machine which is an Automated Payment Machine. It is a self-service kiosk that is guaranteed and tested in providing a convenient way to make payments, send money, and

top-ups to the user. Its user-friendly interface allows customers to simply tap on the screen to complete each transaction. The system is designed to ensure a smooth and easy experience that will help the customer with their transactions in a fast and safest way.

Pitogo (2019) stated that in consequence of technology advancement, adaptation for government websites was an acceptable platform for delivering public services and perceived transparency of government to community, in this matter, personal data and confidential information of citizens must be privately stored. As Data Privacy Act (DPA) 2012 not yet proclaimed, the government was faced with constraints of information privacy. Thus, data privacy towards the e-governance system of Local Government Units (LGU) must be addressed through re-engineering of the system that will increase the production progress of the government from citizens' trust and satisfaction.

Balahadia (2019) stated the improvement of the existing system to enhance the proficiency of delivering public services to local citizens and help government employees to be responsive in assisting clients' concerns. This implies that increasing the knowledge of people is along with the potentiality of technology to continuously evolve. Hence, the government seeks to update the advancement of their website

for sustaining the needs of citizenry to be part of the decision-making process of the government for community expansion of growth. Furthermore, innovation of the existing system is not only pertained by the government to inform but also people give feedback to its management that will help to optimize the government operations.

Tortor et al. (2019) discussed in their study that the use of technology can improve the management of waiting lines (or queues) in both manufacturing and service settings. A mobile application is proposed which would allow customers to monitor the estimated waiting time, helping them manage their time better by allowing them to do other tasks while they wait in line. Ultimately, this could reduce the number of unsatisfied customers. Panganiban (2019) stated that the E-government provides a great platform for the government to streamline its services and create a more efficient and effective public sector. By using Information and Communication Technology and the Internet, the government can provide citizens with easier access to services such as online registration, e-filing of taxes, and online payment systems. This helps to reduce the amount of paperwork and bureaucracy associated with traditional service delivery. Furthermore, e-government services can also help to reduce costs and improve the quality of government services.

Foreign Literature/System

Maramba et al. (2022) state that the kiosk machine is not only for business rather it is also a vital part of the health care system, providing access to web-based health services and information to those who may not have access to the internet, or the skills required to use it. They can also be used to collect important clinical measurements and data, which can be used to inform healthcare delivery and decision making. In order to ensure that health kiosks are used to their full potential, it is essential that the study is fully conducted in the given areas. This study focuses on the types of technology training needed to make the most of teleconsultations as well as the best approaches to usability testing and evaluation.

The study by Lindgren et al. (2021) states that local government organizations in Sweden are facing pressure to digitalize their administrative tasks. The pressure is coming from policymakers and leading politicians who see digital transformation to make public service provision more efficient and effective. Such a statement is proof that in our time there is no advancement when it comes to technology, all governments and municipalities are encouraged to join in the advancement of new technology systems to facilitate the process of our tasks. There are many advantages to digital

transformation, including improved communication and collaboration, increased transparency and accountability, and faster efficient service delivery. However, there are also some challenges that need to be addressed, such as ensuring data security and privacy, and that the digital transformation is inclusive and accessible to all.

Choudhary (2021) discussed that ICT has taken hold of society in the emerging era of liberalization, privatization, and globalization. In today's world, technology has become vital. ICT is the tool that aids in the completion of a task in a swift and effective manner. Information and communication technology (ICT) is a growth stimulant. The perks of ICT have been recognized by people all around the world. Technology is the starting point of the growth of a municipality as we notice those areas that are progressive are technology oriented. They use technology platform such as biometrics, CCTV's, computers etc.

Moreover, Rüttimann and Stöckli (2020) said that the main idea behind Industry 4.0 is that it will be able to process transactions faster with less human intervention, which means less waiting time for customers and more profit for businesses. It enables the queueing system to help in reducing labor costs because there will be less number of employees needed when compared to traditional systems where

humans are involved in processing transactions manually or through cash register machines.

According to the study of Cuesta et al. (2020), titled "Welfare technology, ethics and well-being a qualitative study about the implementation of welfare technology within areas of social services in a Swedish municipality" the potential for digitalization is aiming to improve health and well-being. By providing individuals with the tools to develop and strengthen their resources, digitalization can help to increase independence and participation in society. This can lead to a better quality of life for all, as well as increased equality.

According to the study of Lee et al. (2020), titled "The effects of information literacy on trust in government websites: Evidence from an online experiment" express their thoughts about the Information and communication technologies in use in government systems where can bring expected benefits only when citizens are willing and able to use such systems. However, it is also important that the government systems are designed in a way that makes it easy for citizens to use them. If the government systems are designed in a way that is difficult to use, then even if citizens are willing to use them, they may not be able to do so.

According to Egbunu et al. (2020), service disciplines are an important part of any organization as they help to ensure that customers receive the best possible service. Service disciplines provide structure to the process of providing service, by defining the formation of a queue or queues and the method by which the client is chosen for service among those waiting. This helps to ensure that all customers are treated fairly and that their needs are addressed in a timely fashion.

In addition to that, the study of Xanthopoulus et al. (2020) titled "A smartphone-enabled crowdsensing and crowdsourcing system for predicting municipality resource allocation stochastic requirements" cited their study that Smart Cities are the future of human habitation, which is evangelized by the Internet of Things (IoT) technology. It suggests that the future of human beings will be determined by the technological advances that allow cities to become smart. This is an interesting claim because it presupposes a lot about the future of technology and human beings, and this will continue to advance at a rapid pace.

In accordance with the previous article of Munoz et. al. (2020), the challenges faced by low- and middle-income countries in establishing efficient civil registration and vital statistics (CRVS) systems were discussed. It proposes

the use of process management as an effective tool to identify gaps and bottlenecks in the CRVS process, enabling stakeholders to collaborate and improve the quality and completeness of vital statistics. The article presents the experiences of Myanmar, Papua New Guinea, and Rwanda in implementing process management to demonstrate its usefulness for all CRVS systems, regardless of their level of development. The article concludes that process management can produce reliable and timely vital statistics, which can aid health planning and monitoring the progress of the 2030 Sustainable Development Goals.

Moreover, Bhuyana M. et al. (2020) state wherein in today's business world the government must be very efficient in order to keep up with the ever-changing technology. In the past, the government was very behind when it came to technology, but now they are starting to catch up. They are now using social media to communicate with the public, which is a very efficient way to reach out to people. They are also using online services to provide people with information and services. This is very convenient for people who may not have the time to go to a government office to get the information they need. Information and Communication Technology has made a positive impact on the government's ability to deliver services to the people.

According to Varpe (2020), as of today's era technology has brought remarkable change in the lives of people in every respect also enabling government to deliver better services even at remotest corners of the country ICT acts as a provider of major opportunities to rural livelihoods and contributes towards poverty reduction. Productivity in rural areas can be enhanced by usage of ICT. Through various E- Governance initiatives like E-Choupal, Akashganga, Gyandoot, Tata Kissan Kendra, Kissan Call Centres etc. It just proves that a municipality or small areas can have a development through the use of technology specially some of the areas in our province are not technology oriented it may increase their productivity. Putra et al. (2019) state that internet has become a necessity in developed countries and its importance is only increasing. The government should take advantage of this and use information technology to accelerate the development process. It gives promises in terms of efficiency, speed of information delivery, global reach, and transparency. Additionally, the global reach of information technology can help the government to reach more people with development initiatives. It has a responsibility to the people to use the best possible means to accelerate development.

Tay et al. (2019) state that the global digitalization trend, known as Industry 4.0, is driving a new era of innovation in manufacturing and business processes. This is when a group of business leaders came together to create an industry standard for the digitalization of manufacturing processes. The goal of this is to integrate Information Technology into all areas of industrial production, allowing machines to communicate with each other and with humans, making it possible for companies to produce more efficiently and at lower costs while reducing waste.

Vakulenko et al. (2019) state that the use of Kiosk machines was proven to improve customers' convenience and experience, reduce waiting time, and increase customization, therefore it helps to improve the productivity of the business. The kiosk machine is a great way to add value to the business by improving customer satisfaction. It is used for many different purposes including self-checkout and retail sales. Even though it has been around for decades, there are still new technologies being developed that make the kiosk machine even better than ever before.

Lee-Geiller S. & Lee T. (2019) state that technological advancements added benefits in the improvement of citizens' quality of life. Governments are embracing technology to provide more efficient and effective public services mostly

through websites. This also addresses the concern about the government's ability to meet citizens' expectations for immediate responses to their needs. Furthermore, adapting technological advancements is important not only for the government-citizen relationship, but also to keep transactions systemized, strengthen citizen trust, and optimize the availability of facts and information in government. This has a significant impact on the community's sustainable and productive economic progress.

According to Frennert S. (2019), major digital transformations have occurred in the banking sector, postal services, travel industry, and music industry. These changes have affected the working processes and occupations within these industries, but also people's everyday lives. We refer the digitalization as the way our everyday life is changed and reorganized around digital communication and communication infrastructures. To understand how this transformation has affected our daily lives, one must consider that these changes are not only about technology but also about how we use it, for instance, the usage of logbook manuals is a crucial part for the clients in the specific industry. They need to state their name, age, and address in a book for them to create a systematic way of managing cases but using digital technology enables customers to log in to

an electronic logbook without manually writing their information.

Basori et al. (2019) explain that a Smart City is one of the huge transformations in these millennia, where it combines the latest and advanced technology to overcome the daily basis problem of humans. The infrastructure is designed to be sustainable and resilient and to support a high quality of life. It uses technology to manage its resources and services and to engage citizens in decision-making. This explanation served as proof that in our time we should be using technology systems that can speed up the work and be united in the economic growth of our municipality where a more livable city that can improve the quality of life for citizens, making the city a more attractive place to live, work, and visit.

According to the study by Wolniak R. et al. (2019), the issue of equal opportunity for people about access to public services is an important factor influencing sustainable development. This is not only a matter of fairness but also a matter of practicality – if everyone does not have access to different offers of public services, then it is more likely to they will not be able to receive aid from the government. There are several ways to ensure equal opportunity for people regarding access to public services. One way is to ensure

that there is the ability to access all information connected to the Municipality. Another way is to provide subsidies or other financial assistance to people who cannot afford to access these services. Ensuring equal opportunity for people with regard to access to public services is an important step toward sustainable development.

David (2019) stated the emerging technologies are important for the generation. It is a part of a series of government initiatives and offers potential benefits to create public value because they improve the processes within governments different transactions, as well as the delivery of services for citizens. And the use of technologies in governments is conceptualized as electronic governance, which has gained strength by involving citizens. In this sense, some forms for the inclusion of citizenship are: a better and easier interaction with the government, improvement in the services so it can be more efficient, and transparent.

Based on Suthar et. al (2019), as governments become more complex and rely on information and communication technology to meet the needs of their citizens, it is necessary to implement developments and changes in the framework to provide an improved and sustainable living and working environment. The smart city concept has been developed as a strategy to work with different cities, with

a focus on local government and stakeholder engagement to organize and direct smart city programs. To achieve the goals of the organization, an essential practice is the Information System Strategic Plan (ISSP), which helps organizations define strategic applications and match their approach with successful information systems. This research study aimed to develop an ISSP for the municipality of Nueva Era, Ilocos Norte, with a focus on people first and civic leadership, ensuring that the municipality's business operations are supported by information technology.

Synthesis

The studies above discussed how the relationship of Information and Communication Technology (ICT) with e-governance websites in the public sector has opened up new opportunities for citizens. The further adds how digitalization and technological advancements are driving a new era of innovation in manufacturing and business processes, allowing machines to communicate with each other and with humans. This has resulted in increased efficiency, cost savings, and reduced waiting time.

Furthermore, technology has enabled Municipal Civil Registry Office to provide more efficient and effective services to citizens, as well as expand transparency, data security, and increased access to public services. It

emphasizes the importance of citizen engagement in the decision-making process of the government and the need to prioritize customer satisfaction. Hence, technology has enabled municipalities to improve their productivity and quality of life, while providing citizens with access to the different transactions of information and services that allowed for better outpouring to public services, improved communication and collaboration, and more efficient service delivery.