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Implementation of the Online Tax Payment Facility in a Philippine Local Government Unit

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Abstract: An online payment system plays a vital role in business by providing reliable services through the increased use of technology such as smartphones and internet services as new channels for offsite payments. This study evaluated the implementation of the online facility for paying local taxes, such as real property tax, business tax, and other fees, in the City of Muntinlupa, Philippines. It employed mixed methods research in (1) assessing taxpayers' attitude and behavioral intentions toward online payment, (2) evaluating local government unit (LGU) personnel's readiness to handle online payment, and (3) documenting local treasurers' experiences with their LGUs using online payments in connection to circulars, republic acts or national laws. The results revealed that the general attitude pertaining to the use of online tax payment facilities does not affect the behavioral intentions of taxpayers. Likewise, the technology readiness index of LGU personnel has no significant relationship with the taxpayer's general attitude toward online tax payment. Other LGUs through the online tax payment project have the same experiences in the implementation of the online facility in their respective locality.

Keywords: Behavioral Intention, Attitude, Self-Assessed Readiness, Online Payment Facility

Introduction

An online payment system involves an electronic device or facility that enables consumers to engage in electronic commerce (e-commerce) transactions, such as acquiring or purchasing products or services (Pattan and Agrawal 2018). An online payment system plays a vital role in business today by providing reliable services through the increased use of technology such as smartphones and internet services as new channels for offsite payments. According to Vidyashree, Harshita, and Darshini (2018), digital money has cost-transfer and time-saving features, making it more preferred over the traditional method. E-commerce users employ the following systems: debit card, net banking, e-cash/e-wallet, and credit card (Pattan and Agrawal 2018). However, Akana (2019) has argued that the adoption and growth of debit cards has shown signs of slowing down. The usage of credit cards has continued to grow, and younger consumers' payment preferences seemed driven by social and regulatory influences and the arrival of mobile wallets and person-to-person (P2P) technologies. Studies have shown that, in India, most of the respondents used e-banking services offered by the banks (Dhanya 2019), and some mainly used Paytm (Poongothai and Ranjithkumar 2018), which is an Indian digital payment system and financial technology company, for the following: recharge, price ticket reserving, invoice fee, and shopping. Still, some users, such as the minority groups in the United States, are more likely to utilize these online technologies particularly after a disaster, to request essential services (Xu and Tang 2020). Other studies found associations of digital payment adoption with certain variables, such as the consumer's perception (Gokilavani et al. 2018), age, education, and income (Kraiwanit, Panpon, and Thimthong 2019). Despite the assertions, an earlier study by Sumathy and Vipin (2017) noted some barriers to using digital payments. These barriers include incentive or offer from other modes of payment, such as the cash method, and possible fraud and hidden charges associated with the cashless payment.

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Local government units (LGUs) in the Philippines, such as the one in the City of Muntinlupa, intend to continue implementing and enhancing their online payment and collection system through an online payment service known as the internet payment gateway (IPG) for the processing and collection of real property taxes, business taxes, other fees and charges, or simply local taxes. With new developments in technology offered by the Philippine government banks to LGUs and the modernization of local finance using digital technology and government cashless and paperless transactions, new opportunities for a more convenient and faster public service emerged within the local setting. The emergence is consistent with the Philippine government's national initiatives on cashless payment—such as the “Go Digital” program launched in 2020 that involves a digital platform designed to contain the COVID-19 pandemic by providing online payment facilities to people to ensure their health and safety and thereby promoting economic activities at the same time.

The E-Commerce Act of 2000, otherwise known as Republic Act No. 8792, advocates the application of online transactions in the government, whether local or national, and the use of electronic payment or e-payment by the public (Republic Act No. 8792 2000). Another interesting document is the Joint Department Administrative Order Number 10-01 issued by the Department of Trade and Industry (DTI) and the Department of Finance (DOF). This document provides guidelines on the use of access devices such as personal computers, laptops, and mobile phones for the payment of charges such as local business tax, real property tax, and other fees. It also contains guidelines for the assessment of revenues due to the government through the e-payment and collection systems of the DTI and DOF (2010). Furthermore, it calls for the adoption of a proactive stance to further improve the efficiency of services provided by the LGUs such payment of local business tax, real property tax, fees and charges. Efficient services tend to attract more businesses, investments, and development in a particular locale.

According to Venkatesh, Thong, and Xu (2016), many researchers have conducted studies on the unified theory of acceptance and use of technology (UTAUT). The theory is a technology acceptance model (TAM) that defines the introduction of new technology in an organization. Can this model predict taxpayers' behavioral intentions whether acceptable or not in using online payment facilities in the participant LGU? This study employed the UTAUT model, together with the technology readiness index (TRI), to determine the factors influencing intention or acceptance to use the cashless tax payment or e-payment technology. Through this combined model, the researcher can find a more accurate explanation for the taxpayers' attitude and behavioral intentions toward acceptance of the new technology and for the LGU personnel's self-assessed capabilities and readiness in using an online tax payment facility.

Today, the Philippine government, property owners, entrepreneurs, professionals, workers, and other individuals are trying to proceed with a digital or cashless economy. However, any country's payment system is challenged by numerous problems and threats, such as failures and frauds, even if such a country's system is already progressive or modern (Jain and Jain 2017). These issues bring to light the main objective of this study: to evaluate the usefulness, convenience, conformity, risk, and trust of the newly installed online tax payment facility in Muntinlupa City and its impact on different stakeholders. The main objectives of the study are stated as follows:

1. To ascertain if the attitude of taxpayers has a significant effect on their behavioral intentions to use an online tax payment facility in terms of the following factors:

- a. Usefulness or Performance Expectation
- b. Convenience or Effort Expectation
- c. Conformity or Social Guidance
- d. Risk
- e. Trust

2. To determine if the attitude of taxpayers has a significant relationship with the capabilities and readiness of LGU personnel to use an online tax payment facility in terms of the following variables:

- a. Optimism
- b. Innovativeness
- c. Discomfort
- d. Insecurity

3. To explore the experiences of city treasurers/assistant city treasurers of other LGUs in using an online tax payment in connection with circulars, republic acts, or national laws.

Background of the Study

The study aligns with current circulars, ordinances, republic acts, or national laws related to E-Commerce or Electronic Commerce. The City of Muntinlupa, as per Ordinance No. 19-145 (2019), authorized the establishment and use of an online payments system for financial transactions. The system is designed to drive electronic governance (e-governance) as a means of facilitating transactions between the government and constituents (G2C and C2G), between the government and the business sector (G2B and B2G), and between the government and other government agencies (G2G), anchored on the principles of transparent and efficient government.

Some LGUs in the national capital region (NCR), the center of commerce in the Philippines, are new to this online tax payment facility. Examples of these LGUs are Muntinlupa City, Caloocan City, Valenzuela City, Pasay City, Paranaque City, Marikina City, Makati City, Mandaluyong City, Quezon City, Pasig City, San Juan City, Taguig City, and the City of Manila. For an LGU like Muntinlupa City, its online tax payment facility is called BeST, while in Valenzuela City, one of its automated transactions is called the 3SPlus Valenzuela City Online Services (PASPAS), which includes payment of local taxes and other charges. The City Governments of Muntinlupa and Valenzuela highlight, respectively, their BeST and PASPAS business permits and licensing application, wherein a taxpayer can process online and receive his provisional business permit within 10 seconds of successful payment. The City of Manila calls its online tax payment facility Go Manila Mobile App, a mobile application using mobile phones that can be used in the payment of online services such as real property tax; and Batang Maynila E-Business One Stop Shop (EBOSS) Manila, an online application in securing business permit. The other LGUs, respectively, call their online tax payment facility Caloocan Online Payment, QC E-Services, Marikina Online Payment Portal, Pasig City's Online Payment Facility, TOP App or Taguig Online Payment, MAKANA-Connect or Makatizen Online Assessment and Payment Portal, Mandaluyong City Online Services, San Juan City E-Commerce and E-Services, Pasay City Online Payment Facility, and Paranaque Online Payment Services.

Muntinlupa City, which is the participant LGU of this study, implemented the online tax payment facility for the tax services offered through the initiative of the City Treasury Department. Muntinlupa City employed the amenity in response to the pandemic and to address the effect of the ongoing lockdowns and restrictions during these trying times. The online payment facility is an innovative reform for the LGU with the expectation to attract investments, more businesses, and local development, which would redound to efficient and effective local governance. This may eventually influence an LGU's economic development (Mandigma 2019).

The automation of the government process in Muntinlupa City started in November 2020, with the integration and streamlining of the processes, followed by implementation of the online system. What started off as a convenient way of processing requests online soon became an instrument aiming for faster, more efficient and convenient, and safer government transactions

during the health crisis. This tax payment facility was also designed to mitigate the occurrence of graft and corruption through avoiding direct contact between taxpayers and LGU personnel. The study revolves within the City Government of Muntinlupa, which monitors and receives detailed reports, through the City Treasurer's Office, on all collections of business taxes, real property taxes, and other LGU charges received from taxpayers. The study delves into the use of the LGU's IPG and subsequent deposits by the bank on behalf of the LGU to its current or savings accounts. Since the facility is new, it becomes imperative to assess it at its early stage of implementation to make the adjustments required. The study is limited to the evaluation of the participant LGU's online tax payment facility, with a focus on the behaviors (perception and acceptance) of the users (taxpayers), readiness and preparedness of the service providers (LGU personnel), and the experiences of city treasurers/assistant city treasurers of other LGUs in comparison with Muntinlupa's use of e-payment.

Theoretical Framework

A model (Figure 1) and a matrix (Table 1) served as guides in the conduct of the current research. The basis of the study was UTAUT model, concerning taxpayers' behavior toward cashless payment. It was also anchored on the TRI, which can capture the readiness and preparedness of LGU personnel in handling an online tax payment facility.

The UTAUT Model

Whenever an organization adopts new technology, the most suitable model to employ is the UTAUT model (Venkatesh, Thong, and Xu 2016). Junadi and Sfenrianto (2015) claimed that the UTAUT model is an integrative representation of different theories on technology. The authors maintained that it fused ideas from the following: theory of reasoned action (TRA), TAM, motivational models (MM), theory of planned behavior (TPB), combined TAM and TBP (C-TAM-TBP), the model of personal computer utilization (MPCU), innovation diffusion theory (IDT), and social cognitive theory (SCT). Venkatesh, Thong, and Xu (2016) state that the UTAUT model explains performance expectancy, effort expectancy, social influence, and facilitating conditions that affect the behavioral intention toward and use of the new technology. However, this study considered only the first three variables in addition to risk and trust. The inclusion of risk and trust expanded the previous model. The basis was the importance of the added factors as reported in the extant literature reviewed and synthesized in Table 1. The following is an explanation of the five variables employed in this study:

- Usefulness or Performance Expectation involves how consumers feel about using an e-payment system and whether they can perform online transactions speedily, safely, and conveniently (Venkatesh, Thong, and Xu 2016).
- Convenience or Effort Expectation means that even if the consumers have no particular skill related to the new technology, they can still easily make cashless payments through it, such as paying local taxes on the e-merchant website (Venkatesh, Thong, and Xu 2016).
- Conformity or Social Guidance refers to the perceived guidance of families, organizations, and others who may have encouraged the consumers to use the e-payment system (Venkatesh, Thong, and Xu 2016).
- Risk signifies fear that there might be a disclosure of the user's information. The potential unauthorized access that could occur through this new technology (Chayomchai et al. 2020) compounds the risk.
- Trust denotes that the user perceives the technology provider to be honest and the service and quality of technology are noteworthy (Chayomchai et al. 2020).

In summary, based on the UTAUT model, the variables’ usefulness or performance expectation, convenience or effort expectation, and conformity or social guidance may affect consumers’ behavioral intention, while the added variables—risk and trust—are opposite variables that indicate fear of information leakage (risk) and trust, which countered the reliability of the possible adoption of the innovation.

TRI

According to Blut and Wang (2020), TRI seeks to have a clearer understanding of people’s preference for the use of cutting-edge technologies. Parasuraman (2000) developed this index to evaluate the degree of use of new technologies, the kinds of technologies to launch, the speed of implementation, and the types of customer support required. It has undergone validation as a predictor of the adoption of innovative technologies and as a scale to measure the level of readiness or preparedness to use technology. TRI defines four user groups on the basis of personal traits. The traits are optimism, innovativeness, discomfort, and insecurity. Blut and Wang (2020) have subdivided these traits into motivators (innovativeness, optimism) and inhibitors (insecurity, discomfort).

- Optimism refers to constructive thinking regarding a new technology that increases efficiency.
- Innovativeness is defined as a tendency of being first in the adoption of new technology.
- Discomfort pertains to the need for a sense of control.
- Insecurity means distrusting the technology used for certain reasons, such as personal privacy.

Figure 1 shows the proposed model for evaluating the facility in the participant LGU, Muntinlupa City.

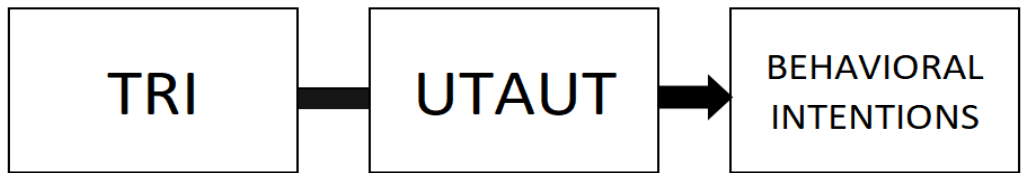


Figure 1: UTAUT and TRI Models for Predicting Taxpayers and Personnel Intentions to Use Technology
Source: Vibora and Mandigma

TRI and the UTAUT model provided the theoretical grounding of the study. TRI can identify the level of readiness of LGU personnel concerning the online payment facility implementation, which may redound to customers’ behavioral intention to adapt the innovation. On the other hand, the UTAUT model, with the variables such as risk and trust, can also predict behavioral intention toward and use of the new technology.

Synthesis Table for Extant Literature Reviewed

Several studies using the UTAUT model and TRI were reviewed to assess and examine the acceptance of technology and inclination to embrace new technology. There is an inclusion of four meta-analyses on UTAUT and one on TRI in the review. Furthermore, individual articles were analyzed to emphasize the seeming internationalization of the models to see the direct influence on usage behaviors, and integrates the notion of a research context.

Table 1: Synthesis of Studies Related to the Present Research

| <i>Author</i> | <i>Country</i> | <i>Method/Tools</i> | <i>Findings/Results</i> |
|--|----------------------------------|--|---|
| Meta-Analysis | | | |
| <i>Blut and Wang (2020)</i> | United Kingdom and China | Qualitative | The 193 separate samples drawn from 163 articles showed strong indirect effects on technology usage by the motivators (innovativeness, optimism) and inhibitors (insecurity, discomfort), with mediators offered in the quality–value–satisfaction chain and TAM. |
| <i>Author</i> | <i>Country</i> | <i>Method/Tools</i> | <i>Findings/Results</i> |
| <i>Dwivedi et al. (2019)</i> | United Kingdom and United States | Quantitative/ structural equation modelling (SEM) | Based on 162 studies, the SEM analysis showed that attitude was foremost in behavioral intentions, with a direct influence on usage behaviors, and it moderately mediated the effects of exogenous constructs on behavioral intentions. |
| <i>Patil, Dwivedi, and Rana (2017)</i> | United Kingdom | Qualitative/ Documentary Analysis | From the 21 studies reviewed, performance expectancy and perceived usefulness appeared to be the most significant predictors of behavioral intentions to use mobile payments, while perceived risk emerged as an inhibitor in the majority of the articles. |
| <i>Owolabi, Neil, and Mhlongo (2016)</i> | South Africa | Qualitative content analysis | A total of 1,582 articles, journals, and conference papers used the UTAUT theory, among which the United States had 311 publications, followed by Malaysia with 166. |
| <i>Venkatesh, Thong, and Xu (2016)</i> | Hong Kong and United States | Qualitative/ Documentary Analysis | The 858 articles that used the UTAUT model reveal several limitations; therefore, the proposal for a multilevel framework that integrates the notion of research context and cross-context theorizing with the theory evaluation framework. |
| UTAUT Model with correlation to Use New Technology Models | | | |
| <i>Ariffin, Ahmad, and Haneef (2020)</i> | Malaysia | Quantitative/Pearson Correlation, Multiple Linear Regression | Performance expectancy, effort expectancy, social influence, facilitating conditions, habit, privacy, and perceived security affected intentions to use mobile payment, but there was a negative correlation between privacy and intentions. |
| <i>Chayomchai et al. (2020)</i> | Thailand | Quantitative/ PLS–SEM | Performance expectancy, effort expectancy, trust, and perceived risk significantly affected intention to use online technology, which positively affected the behavior in using new technologies during the quarantine. |
| <i>Panhwer et al. (2020)</i> | Pakistan | Quantitative/ Correlation and Regression | Issue on system credibility, facilitating conditions, perceived ease of use, and perceived usefulness affected customer awareness and adoption of the e-payment system. |
| <i>Acharya, Junare, and Gadhavi (2019)</i> | India | Quantitative/ Multiple Regression | Major constructs of the UTUAT model, namely, performance expectation, effort expectation, and expediting circumstances correlated with behavioral intentions toward e-payment. |
| <i>Bansal and Joshi (2019)</i> | India | Quantitative/ exploratory factor analysis (EFA) | Perceived usefulness, perceived benefits, perceived security, perceived accessibility, and perceived popularity affected the decision to choose e-wallets. |
| <i>Lin et al. (2019)</i> | China and Korea | Quantitative/ SEM | DeLone and McLean’s information systems success model (D&M ISS) and task–technology fit model (TTF) directly influenced usage intention through client approval and performance expectation individually. |
| <i>Morales and Trinidad (2019)</i> | Philippines | Quantitative/ Multiple Regression Analysis | Performance expectation, effort expectation, and expediting conditions remarkably forecasted physiological aim at a 5% level of significance. |
| <i>Putri et al. (2019)</i> | Indonesia | Quantitative/ Spearman’s Rank Correlation Method | Effort expectancy, perceived security, performance expectancy, social influence, , and perceived risk predicted acceptance of the e-payment method. |
| <i>Rahi et al. (2019)</i> | Pakistan | Quantitative/ confirmatory factor analysis (CFA) and SEM | Performance expectancy and effort expectancy were positive significant mediator variables among website design, customer service, and customer’s intention to adopt internet banking. |
| <i>Witchutawo, Chaiyasoonthorn and Chaveesuk (2019)</i> | Thailand | Qualitative/ Documentary Analysis | Development of the research framework by integrating UTAUT with trust, perceived risk, and personal innovativeness in information technology. |

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| | | | |
|--|-------------------|--|--|
| <i>Gharaibeh, Arshad, and Gharaibeh (2018)</i> | Jordan | Qualitative/ Focus Group Discussion | The mass media, trust, effort expectancy, performance expectancy, facilitating conditions, and social influence significantly affected the adoption of mobile banking. |
| <i>Mozdzynski (2018)</i> | Poland | Qualitative/ Documentary Analysis | Based on TAM and UTAUT, the author proposed a representation with new variables for guidance in accepting or not a payment system and qualitative or quantitative moderators. |
| <i>Yuvaraj and Eveline (2018)</i> | India | Quantitative/ Chi-Square Analysis | Privacy and security, and convenience influenced consumers toward cashless transactions. Consumers were aware of the information security involved therein. |
| <i>Cheng (2017)</i> | Cyprus | Quantitative/ Multiple Regression Analysis | Expediting conditions and then effort expectations were the best predictors. Performance expectation slightly affects teachers' aim to employ in their classes experiments aided by remote robotics. Social influence had no impact. |
| <i>Gochhwal (2017)</i> | India | Qualitative/ Documentary Analysis | Unified payment interface was a significant improvement to the extant payment system in terms of cost, ease of use for consumers, settlement times, and security. |
| <i>Jain and Jain (2017)</i> | Sultanate of Oman | Quantitative/ EFA and Multiple Linear Regression | Easy, Secure, and Benefits of cashless instruments were significant predictors, but fast was not a significant predictor of the use of cashless instruments. |
| <i>Sarfaraz (2017)</i> | Jordan | Quantitative/ SEM | Performance expectation, effort expectation, and perception of risk affected client intent to use mobile banking. There was no connection between social influence and trust. |
| <i>Shankar and Kumari (2016)</i> | India | Quantitative/ EFA and Multiple Regression Analysis | Awareness, usefulness, ease of use, compatibility, self-efficacy, security and privacy, risk, social influence, and financial cost significantly affected the e-banking adoption intention of consumers. |
| <i>Tarhini et al. (2016)</i> | Lebanon | Quantitative, SEM | Performance expectancy, social influence, perceived credibility, and task-technology fit significantly influenced customers' behavioral intention to use internet banking. |
| <i>Junadi and Sfenrianto (2015)</i> | Indonesia | Qualitative/ Documentary Analysis | Addition of the dependent variable such as adoption of E-payment and independent variables such as culture, perceived security, performance expectancy, effort expectancy, and social influence to the UTAUT model is to examine the desire of customers in Indonesia to adopt the new payment technology. |
| <i>Moghavemi, Salleh, and Abessi (2013)</i> | Malaysia | Qualitative/ Documentary Analysis | The use of a new model to mitigate the limitations of the UTAUT and reduces the "distal nature" between intention and use behavior able to capture the causal flow between technological, environmental, and individual factors in predicting intentional behavior. |

Source: Vibora and Mandigma

Much of the extant literature showed some correlation, causal or otherwise, between several factors. The purpose of a correlation test is to predict the behavior of a certain variable on the basis of the behavior of another variable or of several variables (Mandigma and Magbata 2021). The factors that showed correlation include performance expectancy (e.g., Patil, Dwivedi, and Rana 2017; Ariffin, Ahmad, and Haneef 2020), effort expectancy (e.g., Morales, and Trinidad 2019; Acharya, Junare, and Gadhavi 2019), social influence (e.g., Shankar and Kumari 2016; Tarhini et al. 2016), trust (e.g., Chayomchai et al. 2020; Gharaibeh, Arshad, and Gharaibeh 2018), risk (e.g., Putri et al. 2019; Witchutawo, Chaiyasoonthorn, and Chaveesuk 2019), and behavioral intention to adopt the new technology. Thus, this study used these factors to represent taxpayers' attitudes. Likewise, it employed the motivators (innovativeness, optimism) and inhibitors (insecurity, discomfort) from Blut and Wang's (2020) meta-analysis to represent LGU personnel's TRI, as shown in the next section, Conceptual Framework.

Conceptual Framework

The following presents the null hypotheses and the proposition of the study based on the objectives ascertained in the introduction:

Ho1: Taxpayers’ attitudes—usefulness or performance expectation, convenience or effort expectation, conformity or social guidance, risk, and trust—do not forecast their behavioral intentions.

Ho2: There is no significant relationship between the attitude of taxpayers and the self-assessed capability of LGU personnel to handle online payment in terms of optimism, innovativeness, discomfort, and insecurity.

Proposition: The experiences of city treasurers/assistant city treasurers from other LGUs with their online payment facility are not far from those experienced in the City of Muntinlupa.

Figure 2 presents a paradigm based on the relevant theories and extant literature reviewed. The variables in the framework are the factors identified to be significant to this research. The null hypotheses and the proposition of the study are included in the diagram, making it the hypothesized model of this study.

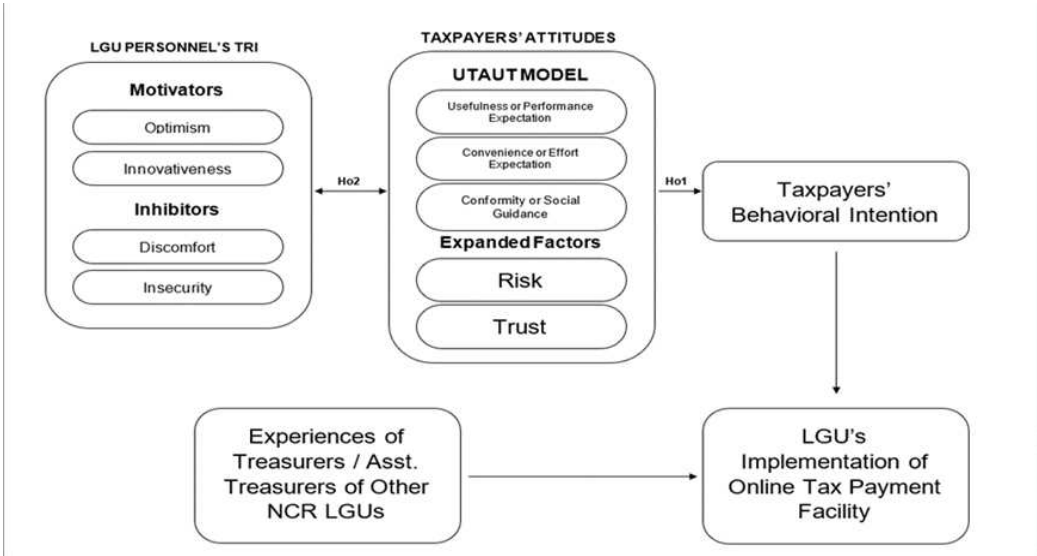


Figure 2: Hypothesized Model of the Study
Source: Vibora and Mandigma

Research Methods

In light of the fundamental point of the study on evaluating the implementation of the online tax payment facility in the City of Muntinlupa, a mixed methods research was followed that employed the systematic integration of both quantitative and qualitative data. This study used a questionnaire for quantitative data gathering, and a qualitative interview protocol (Badoc-Gonzales, Tan, and Mandigma 2021). A qualitative study approach was also employed to

generate data from other sources, that is, limited observation and extensive document analyses (Mandigma et al. 2016) were specifically carried out to address the third objective of this study.

After the variables were gathered and measured, connections between them were explored. The last stage involved the understanding of the outcomes. It provides an extensive framework of the exploration strategies utilized in this research. The different standards and methods of reasoning adhered to in the exploration sum up in the accompanying segments. In that point, the researcher detailed the quantitative and qualitative research paradigm on an overview survey and interview protocol-based methodology. Lastly, there is an investigation of the information or data collection and testing approaches.

Study Site and Respondents

The locus of the study was Muntinlupa City, one of the sixteen cities of the NCR, Philippines. For customer data, the 220 taxpayers of Muntinlupa City were the data source. The sampling size was computed using G* Power. A proportionate type of convenience sampling was used in order to get an exact percentage replica of the target population. Number of samples was based on a priori statistical power analysis using G* Power with power = .80 ($1 - \beta$), effect size = .50 and $\alpha = .05$.

Since the LGU had barely started with its online payment facility in December 2020, only a few taxpayers had availed of this mode from December 2020 up to present, with the rest still opting to do it face to face. The selection criteria for taxpayer respondents were legal age, smartphone user, and ability to read and write in English. Data collection was done from January 1, 2021, until March 31, 2021, because the cut-off for paying business license and mayor's permit is January 31, while for real property tax, it is March 31. The tax and fees are the subject taxes included in the online facility. There was a three-month period for data collection to give willing taxpayers ample time to be aware of the new facility.

LGUs train employees before involving them in the processing of online transactions. For Muntinlupa City, there was a collection of personnel data from all the eleven employees of the City Hall of Muntinlupa tasked to process and receive payments from taxpayers, that is, two employees from the Permit and Licensing Office, three employees from the Management Information Systems Office, six employees from the City Treasurer's Office (two from the Examination Division, two from the Business Tax and Miscellaneous Division, and two from the Real Property Tax Division). Therefore, no sampling was done because the whole population was considered in the survey of LGU personnel.

For the interview, the study chose the treasurers or assistant treasurers from other LGUs or cities of NCR that had online tax payment facilities. As of this writing, there were sixteen cities and one town in NCR for a total of seventeen LGUs. Only thirteen LGUs had adopted the new technology for their tax payment, inclusive of the participant LGU, Muntinlupa City. Thus, it became imperative to also include the treasurer or the assistant treasurer of Muntinlupa City in the interview to compare their experiences with the other LGUs—Caloocan City, Valenzuela City, Pasay City, Paranaque City, City of Manila, Marikina City, Makati City, Mandaluyong City, Quezon City, Pasig City, San Juan City, and Taguig City.

Research Instruments/Data Measure

Mixed methods research advances the systematic integration of quantitative and qualitative data, using onsite administered survey questionnaires, interview protocol, observation, and documentary analysis. The survey questionnaire for taxpayers consisted of twenty questions using the UTAUT model. The model had the components of taxpayers' attitude and behavioral intentions toward the online tax payment facility in the LGU: usefulness or performance expectation, convenience or effort expectation, conformity or social guidance, risk, and trust.

The survey questionnaire for LGU personnel using the TRI 2.0 model consisted of sixteen questions to test the capabilities and readiness of the personnel in handling an online tax payment facility (whether they were equipped, had the skills and expertise, could meet taxpayers’ needs, and could be trusted to carry out online transactions). The survey questionnaire for LGU personnel also identified the following: their computer knowledge when it comes to software and hardware engineering, confidence to handle other technological advances on the internet concerning the online tax payment facility, ability to immediately diagnose problems pertaining again to online tax payment facility or not.

The survey questionnaire included questions for Performance Expectation (4 items), Effort Expectation (4 items), Social Guidance (4 items), Risk (4 items), and Trust (4 items). Seven categories of responses (i.e., 7 = Strongly Agree, 6 = Agree, 5 = Neutral, 4 = Disagree, 3 = Strongly Disagree, 2 = Do not Know, and 1 = Refused) were used for all the items.

This research also measured the capabilities and readiness of LGU personnel in an online tax payment facility in City Government of Muntinlupa. Employing the TRI 2.0 model, LGU personnel’s self-assessed capabilities and readiness, that is, Optimism (4 items), Innovativeness (4 items), Discomfort (4 items), and Insecurity (4 items) were ascertained. A 5-point Likert scale was used in the survey instrument with the following response categories: 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly Disagree.

The study used the interview protocol to document the experiences of city treasurers and assistant city treasurers concerning the implementation of online tax payment facilities in their respective LGUs. The twelve questions included the role/experience of the city treasurer/assistant city treasurer in online tax payment services, including the motivations, benefits, strategies, and challenges in offering the facility. There were also questions about the features of the current online facility, the participating banks, and the training of LGU personnel.

Statistical Treatment of Data

The respondents’ data went through IBM SPSS processing and analysis (Badoc-Gonzales, Tan, and Mandigma 2020). The study also used SPSS to process the data gathered from the interview participants. The following were employed as statistical tools: (1) Descriptive Analysis—Frequency and Percentage, Mean and Standard Deviation and (2) Inferential Analysis—Pearson Correlation, ANOVA, and Multiple Regression Analysis. There was also a computation to measure the difference between the observed data and the fitted values, R and R^2 . For the interpretation of the Mean Score, the following equivalents were used:

Table 2: Interpretation of Mean Score for the Taxpayers’ Responses and LGU Personnel’s Responses

| <i>For the Taxpayers’ Responses</i> | | <i>For the LGU Personnel’s Responses</i> | |
|-------------------------------------|-------------------|--|-------------------|
| Mean Score | Interpretation | Mean Score | Interpretation |
| 1.00–1.86 | Refused to Answer | 1.00–1.80 | Strongly Disagree |
| 1.87–2.72 | Don’t Know | 1.81–2.60 | Disagree |
| 2.73–3.57 | Strongly Disagree | 2.61–3.40 | Neutral |
| 3.58–4.43 | Disagree | 3.41–4.20 | Agree |
| 4.44–5.29 | Neutral | 4.21–5.00 | Strongly Agree |
| 5.30–6.14 | Agree | | |
| 6.15–7.00 | Strongly Agree | | |

Ethical Considerations

A consent form was created and shown to the participants and respondents to guarantee that their participation was voluntary. The particulars of the conduct of the qualitative and quantitative study were explained to the participants and respondents. They were assured of the confidentiality of the information they provided, and their oral consent was sought before the data gathering.

Results/Findings

The City Government of Muntinlupa conducted an online launching of its online payment facility through Zoom, participated in by Barangay officials, home owners' associations, and the business sector. It released a video on how to pay online on the City Government's official website during the payment season, and the LGU personnel distributed flyers on how to pay online. Before the actual use of the facility, the Treasurer's Office was in charge of organizing a "Launching" through Zoom conference. Since the launch in December 2020, the Treasurer's Office also marketed the facility of the City Government to gain patronage. Considering that this was a new venture, several taxpayers who already tried the online tax payment facility still opted to pay face to face.

Attitude and Behavioral Intention of Taxpayers

Table 3 shows some measures of dispersion. These are mean, standard deviation, skewness, and kurtosis in the attitude of taxpayers in using online tax payment. The descriptive statistics are shown in terms of the following variables: usefulness or performance expectation, convenience or effort expectation, conformity or social guidance, risk, and trust.

Table 3: Descriptive Statistics—Attitude of Taxpayers in Using Online Tax Payment Facility

| | <i>N</i> | <i>Min</i> | <i>Max</i> | <i>Mean</i> | <i>Std. Dev.</i> | <i>Skewness</i> | | <i>Kurtosis</i> | |
|--------------------------------|----------|------------|------------|-------------|------------------|-----------------|-----------------|-----------------|-----------------|
| | | | | | | <i>Stat</i> | <i>Std. Err</i> | <i>Stat</i> | <i>Std. Err</i> |
| <i>Performance Expectation</i> | 220 | 1.000 | 7.000 | 5.53409 | 1.507772 | -1.342 | 0.164 | 1.611 | 0.327 |
| <i>Effort Expectation</i> | 220 | 1.000 | 7.000 | 5.37500 | 1.616394 | -1.183 | 0.164 | 0.808 | 0.327 |
| <i>Social Guidance</i> | 220 | 1.000 | 7.000 | 4.85605 | 1.474335 | -0.990 | 0.164 | 0.354 | 0.327 |
| <i>Risk</i> | 220 | 1.000 | 7.000 | 4.84850 | 1.617135 | -0.820 | 0.164 | 0.071 | 0.327 |
| <i>Trust</i> | 220 | 1.000 | 7.000 | 4.87882 | 1.406815 | -1.053 | 0.164 | 0.806 | 0.327 |
| <i>Valid N (listwise)</i> | 220 | | | | | | | | |

Source: Vibora and Mandigma

Usefulness or performance expectation got the highest mean of 5.53, interpreted as somewhat agree in acceptance of technology use by the taxpayers. The convenience or effort expectation—with a mean score of 5.375—follows, interpreted as somewhat agree in acceptance of technology use by the taxpayers. Trust and social guidance got mean scores of 4.879 and 4.856, respectively, interpreted as neutral in acceptance of technology use. However, risk got the lowest mean score of 4.849, interpreted as neutral in acceptance of technology use. The data shows negative skewness, with more values close to the means and distribution tails. Furthermore, the data presented in Table 3 exhibits a kurtosis value lesser than 3, which indicates that the distribution has lighter tails than the normal distribution. In the same manner, the examined behavioral intention of the taxpayers is reflected in Table 3.

Table 4: Descriptive Statistics–Taxpayers’ Behavioral Intention

| | <i>N</i> | <i>Min</i> | <i>Max</i> | <i>Mean</i> | <i>Std. Dev.</i> | <i>Skewness</i> | | <i>Kurtosis</i> | |
|-----------------------------|----------|------------|------------|-------------|------------------|-----------------|-------------------|-----------------|-------------------|
| | | | | | | <i>Stat</i> | <i>Std. Error</i> | <i>Stat</i> | <i>Std. Error</i> |
| <i>Taxpayers’ Intention</i> | 220 | 1.000 | 7.000 | 4.84391 | 1.546628 | −0.710 | 0.164 | −0.012 | 0.327 |

Source: Vibora and Mandigma

Table 4 shows the descriptive statistics of taxpayers’ behavioral intention. A measurement of the statistics, such as means, standard deviation, skewness, and kurtosis, revealed that the mean is 4.844. The data shows negative skewness, with more values close to the means and distribution tails. Besides, a distribution with a negative kurtosis value, like the data in Table 4 , indicates that the distribution has lighter tails than the normal distribution. A neutral acceptance of the use of technology is the interpretation of the result. The study employed ANOVA and regression analysis. The analysis tested whether taxpayers’ attitude has a significant effect on their behavioral intention. The results are inclusive of the model summary shown in Tables 5–7. However, before the examination of such causal effect, Table 8 presents the previously checked correlations among both dependent and independent variables.

Table 5: Model Summary—Attitude of Taxpayers’ Significant Effect on Behavioral Intentions in Using Online Tax Payment Facility

| <i>Model</i> | <i>R</i> | <i>R²</i> | <i>Adjusted R²</i> | <i>Std. Error of Estimate</i> |
|---|-------------------|----------------------|-------------------------------|-------------------------------|
| 1 | .905 ^a | 0.820 | 0.816 | 0.663965 |
| ^a Predictors: (Constant), Trust, Risk, Social Guidance, Performance Expectation, Effort Expectation. | | | | |
| ^b Dependent Variable: Taxpayers’ Intention. | | | | |

Source: Vibora and Mandigma

Table 6: ANOVA—Attitude of Taxpayers’ Significant Effect on Behavioral Intentions in Using Online Tax Payment Facility

| <i>Model</i> | | <i>Sum of Squares</i> | <i>df</i> | <i>Mean Square</i> | <i>F</i> | <i>Sig.</i> |
|---|-------------------|-----------------------|-----------|--------------------|----------|-------------------|
| 1 | <i>Regression</i> | 429.519 | 5 | 85.904 | 194.859 | .000 ^b |
| | <i>Residual</i> | 94.342 | 214 | 0.441 | | |
| | <i>Total</i> | 523.861 | 219 | | | |
| ^a Dependent Variable: Taxpayers’ Intention. | | | | | | |
| ^b Predictors: (Constant), Trust, Risk, Social Guidance, Performance Expectation, Effort Expectation. | | | | | | |

Source: Vibora and Mandigma

Table 7: Regression Analysis (Coefficients)—Attitude of Taxpayers' Significant Effect on Behavioral Intentions in Using Online Tax Payment Facility

| Model | | Unstandardized Coefficients | | Standardized Coefficients | <i>t</i> | Sig. | 95% Confidence Interval for B | |
|-------|-------------------------|-----------------------------|------------|---------------------------|----------|-------|-------------------------------|-------------|
| | | <i>B</i> | Std. Error | <i>Beta</i> | | | Lower Bound | Upper Bound |
| 1 | (Constant) | −0.184 | 0.174 | | −1.058 | 0.291 | −0.526 | 0.158 |
| | Performance Expectation | 0.080 | 0.076 | 0.078 | 1.054 | 0.293 | −0.070 | 0.230 |
| | Effort Expectation | 0.135 | 0.083 | 0.141 | 1.616 | 0.108 | −0.030 | 0.299 |
| | Social Guidance | 0.091 | 0.083 | 0.087 | 1.100 | 0.273 | −0.072 | 0.255 |
| | Risk | 0.287 | 0.046 | 0.301 | 6.273 | 0.000 | 0.197 | 0.378 |
| | Trust | 0.415 | 0.069 | 0.377 | 6.030 | 0.000 | 0.279 | 0.551 |

^aDependent Variable: Taxpayers' Intention.

Source: Vibora and Mandigma

Table 8: Correlations between Taxpayers' Attitude and Behavioral Intention

| | | Taxpayers' Intention | Performance Expectation | Effort Expectation | Social Guidance | Risk | Trust |
|---------------------|-------------------------|----------------------|-------------------------|--------------------|-----------------|-------|-------|
| Pearson Correlation | Taxpayers' Intention | 1.000 | 0.828 | 0.822 | 0.813 | 0.809 | 0.863 |
| | Performance Expectation | 0.828 | 1.000 | 0.893 | 0.870 | 0.764 | 0.846 |
| | Effort Expectation | 0.822 | 0.893 | 1.000 | 0.922 | 0.707 | 0.845 |
| | Social Guidance | 0.813 | 0.870 | 0.922 | 1.000 | 0.714 | 0.831 |
| | Risk | 0.809 | 0.764 | 0.707 | 0.714 | 1.000 | 0.761 |
| | Trust | 0.863 | 0.846 | 0.845 | 0.831 | 0.761 | 1.000 |
| Sig. (1-tailed) | Taxpayers' Intention | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | Performance Expectation | 0.000 | | 0.000 | 0.000 | 0.000 | 0.000 |
| | Effort Expectation | 0.000 | 0.000 | | 0.000 | 0.000 | 0.000 |
| | Social Guidance | 0.000 | 0.000 | 0.000 | | 0.000 | 0.000 |
| | Risk | 0.000 | 0.000 | 0.000 | 0.000 | | 0.000 |
| | Trust | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| <i>N</i> | Taxpayers' Intention | 220 | 220 | 220 | 220 | 220 | 220 |
| | Performance Expectation | 220 | 220 | 220 | 220 | 220 | 220 |
| | Effort Expectation | 220 | 220 | 220 | 220 | 220 | 220 |
| | Social Guidance | 220 | 220 | 220 | 220 | 220 | 220 |
| | Risk | 220 | 220 | 220 | 220 | 220 | 220 |
| | Trust | 220 | 220 | 220 | 220 | 220 | 220 |

Source: Vibora and Mandigma

With the use of IBM SPSS, the data revealed that the coefficient of multiple determination is 0.82; therefore, the factors of the UTAUT model explain about 82 percent of the variation in taxpayers' intention, namely, in usefulness or performance expectation, convenience or effort expectation, conformity or social guidance, risk, and trust. The regression equation seems to be very useful in predicting the value of taxpayers' intention because R^2 is near the perfect score 1. With $F(5, 214) = 194.859$ and $p\text{-value} = .000$ (which is lower than the significance level at

0.05), there is sufficient justification to assume that at least one of the independent variables helps predict taxpayers' intention. Therefore, the model is useful. About the slope for risk, the researchers are 95 percent confident that it falls between 0.197 and 0.378. This means that the researchers are 95 percent confident that should risk increase by one unit, an average taxpayer's intention increases between 0.197 and 0.378. Furthermore, the researchers are 95 percent confident that the slope for trust is somewhere between 0.279 and 0.551. In other words, the researchers are 95 percent confident that for every one unit increase in the level of trust, an average taxpayer's intention increases between 0.279 and 0.551. Altogether, however, the overall attitude in using an online payment facility does not affect the behavioral intentions of taxpayers; therefore, this study supports the null hypothesis H_{01} , stated as , "The taxpayers' attitudes—Usefulness or Performance Expectation, Convenience or Effort Expectation, Conformity or Social Guidance, Risk, and Trust—do not forecast their behavioral intentions."

Self-Assessed Capability and Readiness of LGU Personnel

Table 9 presents the descriptive statistics for the self-assessed capability and readiness of LGU personnel based on TRI. These statistics include the following: mean standard deviation, skewness, and kurtosis. Table 10 shows the relationship between the attitude of taxpayers and the self-assessed capability and readiness of LGU personnel in Muntinlupa City.

Table 9: Descriptive Statistics—Self-Assessed Capability and Readiness of LGU Personnel Based on TRI

| | <i>N</i> | <i>Min</i> | <i>Max</i> | <i>Mean</i> | <i>Std. Dev.</i> | <i>Skewness</i> | | <i>Kurtosis</i> | |
|-----------------------------------|----------|------------|------------|-------------|------------------|-----------------|-----------------|-----------------|-----------------|
| | | | | | | <i>Stat</i> | <i>Std. Err</i> | <i>Stat</i> | <i>Std. Err</i> |
| <i>Optimism</i> | 11 | 3.667 | 4.333 | 4.061 | 0.250 | -0.329 | 0.661 | -0.878 | 1.279 |
| <i>Innovativeness</i> | 11 | 2.25 | 4.50 | 3.4091 | 0.70065 | 0.157 | 0.661 | -0.748 | 1.279 |
| <i>Discomfort</i> | 11 | 1.75 | 3.00 | 2.2727 | 0.36150 | 0.295 | 0.661 | 0.585 | 1.279 |
| <i>Insecurity</i> | 11 | 2.25 | 3.50 | 2.9773 | 0.41010 | 0.010 | 0.661 | -0.779 | 1.279 |
| <i>Technology Readiness Index</i> | 11 | 3.063 | 4.063 | 3.555 | 0.347 | -0.152 | 0.661 | -1.358 | 1.279 |
| <i>Valid N (listwise)</i> | 11 | | | | | | | | |

Source: Vibora and Mandigma

The results in Table 9 reveal that optimism got the highest mean score of 4.061, interpreted as an agreement to their readiness in using the new technology. Innovativeness got a mean score of 3.409, interpreted as the personnel's slight agreement to their readiness in using the new technology. However, insecurity and discomfort got mean scores of 2.977 and 2.273, respectively, interpreted as "disagree." Besides, the data for TRI shows negative skewness with more values close to the means and distribution tails. The distribution also has negative kurtosis values, indicating that the distribution has lighter tails than the normal distribution. Therefore, a TRI of 3.555 indicates an average technology readiness among the LGU personnel.

Table 10: Correlations—Relationship between the Attitude of Taxpayers and the Self-Assessed Capability and Readiness of LGU Personnel

| | | <i>Performance Expectation</i> | <i>Effort Expectation</i> | <i>Social Guidance</i> | <i>Risk</i> | <i>Trust</i> | <i>TRI</i> |
|-----------------------------------|---------------------|--------------------------------|---------------------------|------------------------|-------------|--------------|------------|
| <i>Performance expectation</i> | <i>Pearson's r</i> | 1 | .893** | .870** | .764** | .846** | −0.361 |
| | <i>Significance</i> | | 0.000 | 0.000 | 0.000 | 0.000 | 0.275 |
| | <i>N</i> | 220 | 220 | 220 | 220 | 220 | 11 |
| <i>Effort expectation</i> | <i>Pearson's r</i> | .893** | 1 | .922** | .707** | .845** | −0.211 |
| | <i>Significance</i> | 0.000 | | 0.000 | 0.000 | 0.000 | 0.532 |
| | <i>N</i> | 220 | 220 | 220 | 220 | 220 | 11 |
| <i>Social guidance</i> | <i>Pearson's r</i> | .870** | .922** | 1 | .714** | .831** | −0.224 |
| | <i>Significance</i> | 0.000 | 0.000 | | 0.000 | 0.000 | 0.508 |
| | <i>N</i> | 220 | 220 | 220 | 220 | 220 | 11 |
| | | <i>performance expectation</i> | <i>effort expectation</i> | <i>social guidance</i> | <i>risk</i> | <i>trust</i> | <i>TRI</i> |
| <i>Risk</i> | <i>Pearson's r</i> | .764** | .707** | .714** | 1 | .761** | −0.305 |
| | <i>Significance</i> | 0.000 | 0.000 | 0.000 | | 0.000 | 0.362 |
| | <i>N</i> | 220 | 220 | 220 | 220 | 220 | 11 |
| <i>Trust</i> | <i>Pearson's r</i> | .846** | .845** | .831** | .761** | 1 | −0.370 |
| | <i>Significance</i> | 0.000 | 0.000 | 0.000 | 0.000 | | 0.263 |
| | <i>N</i> | 220 | 220 | 220 | 220 | 220 | 11 |
| <i>Technology readiness index</i> | <i>Pearson's r</i> | −0.361 | −0.211 | −0.224 | −0.305 | −0.370 | 1 |
| | <i>Significance</i> | 0.275 | 0.532 | 0.508 | 0.362 | 0.263 | |
| | <i>N</i> | 11 | 11 | 11 | 11 | 11 | 11 |

** Correlation is significant at the 0.01 level (2 tailed).

Source: Vibora and Mandigma

Table 10 shows the relationship between the attitude of taxpayers and the self-assessed capability and readiness of LGU personnel in using an online tax payment facility. The result revealed that the TRI of the LGU personnel has no significant relationship with the attitude of taxpayers in terms of the following variables: usefulness or performance expectation, convenience or effort expectation, conformity or social guidance, risk, and trust. Therefore, this study supports the null hypothesis H_{02} , stated as, “There is no significant relationship between the attitude of taxpayers and the self-assessed capability of LGU personnel to handle online payment in terms of Optimism, Innovativeness, Discomfort, and Insecurity.”

Experiences of City Treasurers/Assistant City Treasurers from Other LGUs

The interview of treasurers or assistant treasurers from other cities of the NCR with online tax payment facility—Valenzuela City, Caloocan City, Quezon City, Marikina City, Pasig City, Taguig City, Makati City, Manila City, Mandaluyong City, San Juan City, Pasay City, and Paranaque City—uncovered their experiences with the said facilities. The interviews were enhanced with documentary analysis and limited observations because of face-to-face meeting

constraints in view of the COVID-19 pandemic. Findings revealed that these experiences were almost the same as in the participant LGU, Muntinlupa City. Since they were not different, the ensuing discussions are about the experiences in the thirteen cities, unless otherwise stated that the specific statement is for a particular LGU.

Through this online tax payment project, LGUs intend to increase the revenue of their City Governments. These LGUs intend to increase taxpayers' usage of the facility through constant information campaigns and advertisements. The strategy is to increase its patronage by at least 30 percent of the taxpayers each year after implementation until full compliance. Before the adoption of this facility, some residents may have had a hard time paying their taxes if they needed to travel and stand in a queue.

The online facility aims to make it easier for the taxpayer to enhance their tax compliance. The taxpayer does not have to travel to the City Hall to pay taxes. This will save resources, such as time and money for transportation, as well as effort. This will also increase tax compliance because one can pay anytime and from anywhere they want. In a broader sense, everyone can make use of their resources wisely. For the City Government, resources are the following: the space of the City Hall to accommodate taxpayers, employees to control the crowd and facilitate traffic at the City Hall, employees to bill the client, employees to accept the clients' payment, and the office supplies used. There are many benefits of online payment for other stakeholders as well.

Several payment options are accessible to taxpayers, including e-wallet payment; personal/savings and corporate account payment; and credit, debit, and prepaid card payment. Thus, the payment partners also have several available options for the settlement of taxes due.

The city treasurer/assistant city treasurer of the LGUs is responsible for soliciting offers for e-payment facilities from government financial institutions and private banks. This includes offers for point-of-sale payment systems and IPGs with application programming interface. One of the roles of the Office of the City Treasurer is to verify and ascertain that there is a collection of e-payments due to the LGU and that these are duly received by the collecting bank/e-payment gateway provider. In addition, the officer ensures the deposit of all collections with the LGU's authorized government depository bank (AGDB).

Muntinlupa City, Valenzuela City, Caloocan City, Quezon City, Marikina City, Pasig City, Taguig City, Makati City, City of Manila, Mandaluyong City, San Juan City, Pasay City, and Paranaque City chose Land Bank and DBP as their AGDB for online tax payment. Currently, other LGUs are in partnership only with Land Bank. In the pipeline are negotiations with DBP, Union Bank, and G-Cash.

As of this research, the online facility was available only for the payment of business tax and real property tax. The LGUs were considering the use of the new technology for other types of payments in the future. Tax payments had the following features:

1. Account registration
2. Account enrolment
3. Online billing and payment
4. Manual billing, pay online
5. Bill online, pay over the counter at the City Hall

LGUs had trained employees involved in the processing of online transactions. Before they could proceed with the e-payments interface with any financial institution, the different LGU offices made sure that their internal processes were in place, namely, the following:

1. Properly working computer applications for billing and payment of taxes, fees, and charges
2. Back-office support to perform post e-payment procedures as follows:
 - a. Report generation of online payments made for the day (done on the next working day)
 - b. Print official receipts (ORs) for the said transactions (a practice that, due to a policy on virtual OR issuance, is still in discussion with the Commission on Audit)
 - c. Send original ORs (hardcopy) to the taxpayers.
3. Securing all required authorizations from the LGUs and other agencies, including authority of the city mayor to enter into different agreements with the financial institutions, such as the Mutual Confidentiality Agreement, the Memorandum of Agreement on Certain Conditions during the pre-implementation phase, and the Memorandum of Agreement on the Use of Electronic Payment Facility of the Financial Institution.

The LGUs encountered the following challenges during the implementation of the facility:

1. **Lack of online accounts (e-cash)/willingness to use:** Either the taxpayer did not have a valid account in a particular bank accepted by the LGU or they did not want to utilize that kind of payment method because of some reason.
2. **Unavailability of online payments facility in rural areas:** The physical payment facility is not available in for taxpayers living in rural areas.
3. **Transaction difficulty:** It took days for the LGUs' e-payment portal to reflect such payments due to the period of clearing from the banks. Another challenge is that the payments made are not valid in other banks. In addition, the majority of the taxpayers were not aware or open minded about the use of the online payment portal.
4. **Technical issues:** Online payment facility depends heavily on online platforms. The LGUs faced problems during the institution of the facility, and some of those were not easily resolved in due time.
5. **Security:** E-payments have a long history of schemes, misuse, and low reliability, so people tended not to trust an online payment service.
6. **Lack of awareness:** Due to lack of experience and negative perceptions about online payment facilities, people tended not to evaluate the advantages and positive outlook of the said program. Besides, many people were hesitant about technological advancement because of those undesirable insights.
7. **Additional workforce and supervision requirements:** Implementing the said program was not an easy task. It required additional and trained staff to manage the everyday undertaking due to complexity of the transactions.
8. **Technical integration:** The LGUs needed to adapt to the incorporation of the online payment facility into their daily routine. There were hardware requirements of the work and the physical and mental readiness of the employees who would handle the execution.
9. **Tight budgets:** The contracted system developer of the participant LGU had an online platform that they introduced as part of the original system integration. However, the other LGUs needed to address these challenges such as system upgrade and maintenance.

Online payment facility is one of the most significant developments for the LGUs. The project aims to provide an accurate and convenient way to pay taxes. With the changing environment and the swiftness of an online platform when it comes to application, this is indeed

a necessity, and there should be a perfect implementation as soon as possible to provide better services to the taxpayers. The implementation of such a program needs the willingness and full-fledged effort of the external as well as the internal users. Different challenges require different approaches. Although there was a comparison of some aspects of the online facilities among thirteen LGUs, complete parallelism to one another is not feasible. LGUs may be similar in nature, but their specific requirements differ. As a conclusive note, research and examination of prospective users and evaluation of the technical requirements of the online tax payment facility are key to the effective adoption of this kind of service.

Conclusions and Recommendations

This study focuses on the initial phase of implementation of the online tax payment facility in an LGU, Muntinlupa City. As per the directive for cashless government transactions from national government agencies to modernize local finance and to adapt to the challenges of the COVID-19 pandemic, Muntinlupa City launched the automation of tax payments in November 2020. This study aimed to contribute to the areas of e-governance services and digital services for cashless transactions at the local level.

On the basis of the results, the following conclusions were made related to the null hypotheses. Taxpayers' attitudes toward both usefulness or performance expectation and convenience or effort expectation were high. Taxpayers' behavioral intention was neutral in accepting the use of the new technology. The overall attitude in using an online tax payment facility did not affect the behavioral intention of taxpayers. The findings align with the results of the study by Cheng (2017), where performance expectation had little effect and social influence had no impact on intention. The period of implementation of the new payment facility was the basis of interpretation of the results of the present study. The data-gathering period lasted for three months after it was launched in December 2020. Since the facility was new, the basis of the respondents' acceptance and employment of the system was likely curiosity and enthusiasm to try out something different from the conventional method of payment and not expectations of its performance, ease of use, or social influence. This rationale, perhaps, could be the answer to why only a few tried the very new facility. Those who opted for face-to-face payment were probably still resistant to change.

The TRI among the LGU personnel indicated average technology readiness. Overall, there was no relationship between TRI and the attitude of taxpayers in the use of technology. This may mean that the taxpayers' expectations of the new payment facility were without regard to the readiness or capabilities of the LGU personnel handling the online payment. This may imply that the participant LGU should concentrate more on promoting the new facility with emphasis on the benefits that would accrue to the taxpayers themselves should they pay online. The focus should not merely be on the LGU's readiness to implement it.

Interviews of treasurers and assistant treasurers from other cities of the NCR revealed that their experiences were almost the same as those in the participant LGU, Muntinlupa City. This supports the proposition of the study. The new facility intends to increase the revenue of the City Government. On the part of the taxpayers, the project expects to enhance their tax compliance if it were easier for them to pay without the need to travel and stand in a queue for hours. LGUs intend to increase patronage of the system through a constant information campaign and by advertisement. Currently, the online facility is available only for business tax and real property tax payments. Local treasurers/assistant treasurers encountered certain challenges and issues such as slow internet, hardware and software concerns. The problems were not just for the LGUs, but also for the taxpayers or people transacting online. As of this research, the different LGUs, including Muntinlupa City, were continuing with the use of the online facility and finding solutions to these problems.

This research is significant because extant studies have considered the sustainable use of new technology very important if not critical (Mandigma 2017). Results of this study could help the leaders of the Philippines in charge of the “Go Digital” program to understand some of the country’s adoption patterns and challenges encountered in its initial phase. The leaders may also use the results to plan improved infrastructure related to cashless payment initiatives. In addition, LGUs not yet using an online payment facility could base their future decisions on the results of this study, together with those of some other studies, on how they could adopt cashless payments in their locale. Furthermore, this study may help those involved in promoting e-governance to improve the efficiency of the system. This study contributes to the literature on online payment and sustains the ongoing debate on the usefulness of cashless transactions.

The researchers assume that the study would have obtained more meaningful results if more taxpayers had used the facility and participated in the survey. Therefore, there should be a follow-up survey for other forms of taxes on the online tax payment facility to increase the data available for statistical manipulation. Meanwhile, the participant LGU, Muntinlupa City, has retained with the new facility but has instituted changes in its implementation on the basis of challenges encountered in this study. The improvements made are as follows:

1. **Business E-Payment System (BeST) or Business Permit Application Self-Service (BPASS):** Businessmen in Muntinlupa City can have a choice to renew their business permit online through BeST or via the physical BPASS kiosks located inside malls.
2. **Courier Service Delivery:** Business permits can now be delivered to businessmen’s doorstep by the official courier service partner, KeriDelivery, Inc.
3. **Integration of Barangay Clearance:** Barangay Clearance is now part of the other fees stated in the billing assessment of businessmen in Muntinlupa City. Businessmen or taxpayers can thus pay their business Barangay Clearance instantly as it is included in their initial billing assessment when they renew their business permit or apply as a new business in Muntinlupa City.
4. **Integration Community Tax Certificate or Cedula:** Community Tax or Cedula is now part of the billing assessment of business establishments when they renew their business permit or apply as a new business establishment in the LGU.

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