



**4th CITIES AND MUNICIPALITIES COMPETITIVENESS INDEX
ACADEMIC SYMPOSIUM**

“Transformational Leadership for Local Development in the New Normal”

Research Title	Predictive Effect of Business Permit Modalities on Selected Economic Indicators among the Municipalities in the Philippines
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ABSTRACT

Ease of doing business has become a popular global approach to boost economic growth. Indeed, it is much needed in the current situation like the Covid-19 pandemic. Ease of doing business related to business permit processing is an important factor affecting investors' or entrepreneurs' intention. This study examined the predictive effect of business permit modalities in terms of BOSS presence, e-BPLS adoption, and mayor permit to business tax collection and employment at the municipality level. A quantitative research method was applied, and the data was obtained from CMCI data from 2018-2020. A total of 70 municipalities were analyzed using an independent sample t-test and a general linear model univariate. The result revealed that the adoption of e-BPLS is less than the BOSS establishment. There is a statistically significant difference in employment among municipalities that have BOSS and not; in business tax collection among municipalities that adopted e-BPLS and not; and the business tax and employment among municipalities with shorter steps in acquiring the Mayor's business permits were also revealed. Finally, the interconnection between predictors can predict 40% of the value of the business tax collection, while only 12% of employment value. Based on the result, the study suggests advocacy to government leaders and policymakers in the municipality on their commitment to ease of doing business.

Keywords: ***Business Permit, BOSS, e-BPLS adoption, Tax Collection, Leadership, Municipalities***

I. Introduction

A. Background of the Study

One of the major challenges for the current Philippine administrators at both national and local levels is the economic recovery after the Covid-19 pandemic. This pandemic is damaging not only the health sector but also the economic sector. For example, Bangko Sentral ng Pilipinas reported that in the first year of this pandemic, the Philippine's gross domestic product (GDP) contracted by 9.6% in 2020 (Lara-Turpio et al., 2022). In addition, many Filipinos, especially from vulnerable communities, have lost their income and job opportunities due to the Covid-19 pandemic (Fallesen, 2021).

Ease of doing business (EoDB) is commonly accepted as a global approach to boost economic growth. Evidence from empirical studies revealed a significant effect of EoDB on a country's economic development; for example, a recent study from Betila (2021) on 44 African countries showed that EoDB positively and significantly affects the economic growth of (real annual GDP growth rate) on those countries. In addition, a case study report informed that Vietnam was able to change from a low-income country devastated by the war become a middle-income country within a few decades due to their reform in their ease of doing business policy and bureaucracy World Bank (2017).

Pieces of evidence about the EoDB effects have commonly come from studies conducted outside the Philippines or at big cities. Consequently, little evidence is available about the EoDB impacts in the Philippines context particularly at non-big cities. Thus, to fill this knowledge gap, this present study aimed to examine one of the EoDB's component, namely Starting a Business.

The study focused on the predictive effect of business permit modality, in the form of a Business One Stop Shop (BOSS), e-business process license service adoption (e-BPLS), and acquiring the Mayor's business permit, on the economic indicators in the municipalities. The research proponent believes that the availability of reports and analyses about the effect of business permit modalities is crucial to support decision-makers and policy-makers at the municipality level in setting up and improving business permit and licensing services.

B. Statement of the Problem

The present study aims to examine the predictive effect of business permit modalities, namely BOSS, e-BPLS, and the number of steps in acquiring the Mayor's business permit, on economic indicators like business tax collection and employment in the Municipalities. The following research problem statements guide the present study:

1. To what extent is business permit modalities status in the municipalities, in terms of the presence of:
 - a. BOSS,
 - b. e-BPLS, and
 - c. Number of steps in acquiring Mayor's business permit.
2. To what extent business permit modalities could predict economic indicators in municipalities in terms of:
 - a. Business Tax collection?
 - b. Employment.
3. Is there any significant difference due to the presence of business permit modalities among municipalities in terms of:
 - a. Business Tax collection?
 - b. Employment?

B. Significance of the study

This study will benefit the policymakers, municipalities leaders, LGU agencies, citizens, and academe.

- ◆ Policymakers and Municipality leaders, who can create or revise policies based on the result, may even decide to initiate the revision of the existing policy related to the business permit process and modalities.
- ◆ LGU agency may benefit from the area for improvement in business permit services.
- ◆ Citizens as a customer could benefit from improving public service in the municipality, specifically in the business permit process.
- ◆ Lastly, for academe, the result of this study may present an opportunity to conduct further research related to EoDB in the Philippines.

C. Scopes and Limitations

This study focuses on the EoDB topic; specifically, it examined the predictive effect of the business permit modalities on economic indicators. Business permit modalities were represented by three variables: BOSS presence, e-BPLS adoption, and the number of steps in acquiring the Mayor's business permit. At the same time, the economic indicators were presented by business tax collection and employment by the new business. This study also only covers municipalities in the Philippines as the research population.

This study is not extended to the other factors that affect economic indicators, such as infrastructure or tax. This study also acknowledges the lack of a similar topic in previous research studies in the Philippines and the limited data available on other economic indicators by municipalities.

II. Review of Related Literature

EoDB and economic growth

In 2003, the World Bank initiated a business environment friendliness survey, called the ease of doing business index (EoDBI), among its member countries annually. This index indicates the positive and negative aspects of regulations that directly contribute to or impede the development of a healthy business environment (Kumar and Kumar, 2020). Since it has been acknowledged that there is a strong relationship between EoDB and investment (Adepoju, 2017; Ani, 2015; Jayasuriya, 2011). For example, the World Bank Doing Business Report (2020) revealed that India is one of the countries with notable improvement in EoDB. Consequently, they enjoyed foreign direct investment (FDI) of **\$81.72 billion** despite the Covid-19 pandemic. In summary, a healthy business environment will attract more to many investors or new businesses than an unhealthy environment.

EoDB generally can be defined as how easy or difficult it is to start or operate a business in a particular area like a country, province, or city. More specifically, Kumar and Kumar (2020) define EoDB as a combined outcome of business environment components like simplified laws, rules and regulations, taxation process, etc. facilitating smooth business operations with a proper backup of advanced infrastructural facilities like transportation, law and order position, banking

and financial system along with the presence of conducive equality population having the role, both as consumers and human resources for the business. Therefore, World Bank set a minimum of 10 parameters for measuring EoDB: starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, and resolving insolvency.

One of the impacts of the EoDB index is that many countries have reformed their regulation and policies in order to attract investors or create new businesses (World Bank, 2020). It corroborates with the study from Kelley et al. (n.d) that demonstrated how World Bank's EDB ranking system affects a country's policy through bureaucratic, transnational, and domestic-political channels. Using observational and experimental data, they revealed that states respond to being publicly ranked and work with the Bank and reform strategically to improve their ranking. However, Kumar and Kumar (2020) cautiously remind that the government, especially the underdeveloped country, should not blindly copy reformation on policy and have to fix different priorities for themselves because the systems of developed countries in terms of labor reforms and legalities are different from underdeveloped countries. However, underdeveloped countries still require massive reforms in their economic and social system.

Many studies have revealed the strong effect of EoDB on a country's economic growth and development. For example, in his thesis, Adepoju (2017) obtained key evidence that EoDB has an overall statistically significant effect on the annual GDP per capita growth rate. However, when the countries were grouped by income, the effect of EoDB revealed a mixed result. Thus, it might be concluded that the effect of EoDB may vary among countries. Ani (2015) explained the effect of ease of doing business on economic growth among selected economies in Asia for the year 2014. The study has established a positive relationship between economic growth and ease of doing business in the desired economies of Asia like Singapore, China, Korea, etc.

Ease of Doing Business status and its implementation in the Philippines

Rules and regulations

In response to providing a friendly and healthy business environment, The Philippines government has reformed their regulation and rules in the country. The two Republic Acts, namely RA 9485 in 2007 and RA 11032 in 2018, were issued to improve EoDB in the country. Those regulations aim to streamline the current systems and procedures of government services. Indeed in 2021, Anti-Red Tape Authority (ARTA) and three agencies issued a joint memorandum circular #1 series 2021 to strengthen BOSS and BPLS implementation where the national government mandated all local government units (LGUs) in the Philippines to set up an electronic Business One-Stop Shop - BOSS (ARTA, 2021). This memorandum aims to improve public service and simplify the process of business applications and other transactions through a business one-stop-shop (BOSS) approach.

However, since its realization in the Republic of the Philippines, many LGUs have established BOSS. However, several LGUs across the Philippines still have not set up or have a BOSS presence until now. Commitment from the local government's top level is a requirement for the successful establishment and operation of Business One-Stop-Service. It corroborates with the finding of a systematic review from Howard (2017). He argued that the OSS literature shows it almost invariably requires top-down political endorsement to proceed. In other words, implementing a one-stop service may depend on strong transformational leadership in the government agencies or LGUs, as a transformational leader is a leader who can inspire and motivate others and puts a great deal of effort and energy into its realization.

Business Permit Modalities

A few decades ago, citizens had to go through many steps, visit many agencies and spend much time accessing public services. A similar situation in the business sector also emerged when they wanted to renew or apply for a permit. Consequently, it added to the operational cost. Ultimately, customers or end-users have to pay more expensively for the product or services or decline their motivation to start a new business. BOSS is one form of integrated public service from the government to their citizen to answer that issue. As an integrated public service system, it should offer smooth service delivery from various government organizations and create efficiency and experience of service for service providers as well as service users themselves (Trochidis et al., 2008). Thus, in the BOSS, citizens could access many required services in one place and short time for renewal or application of new business.

Many different models or levels of BOSS have been implemented by countries globally (Gashi and Krasniqi, 2019). However, generally, it can be categorized into three levels (Kubicek and Hagen, 2000 as cited from Howard, 2017), namely a relatively superficial first shop (physical or virtual) where users enter and are then directed to service providers, who remain separate. The second level is the convenience store, where different agencies locate themselves together, so users don't need to move around. The third level is the true one-stop service, where users can obtain all services from one organization. However, OECD describes no universal one-stop- service model for all circumstances (OECD, 2017).

Another business permit modality in the Philippines is e-BPLS. It is a form of e-government and cloud-based software that will allow taxpayers to apply for a new business permit and business permit renewal online; with the advancement of digital technology, the traditional methods like paper and pencil and face-to-face transactions have slowly become obsolete. Scholta et al. (2019)

mentioned two reasons why the government wants to implement e-government: paper and pencil are perceived as cumbersome, and the pressure from citizens or customers demanding proactive government services - to offer services to citizens or customers actively.

The Philippines has started this initiative by establishing a National Government Portal (NGP) as a single gateway for easy access to information and effective public service delivery (Onate, Omorog, and Babol, 2018). Furthermore, Onate et al. (2018) argued that the function of e-BPLS is to promote e-government services and streamline the processing of business permits.

Studies related to EoDB and Business permit modalities

There is also a rich body of literature providing evidence that EoDB, like the presence of BOSS, has brought benefits for the government and also its end-user. Consequently, several studies reported the positive effect of EoDB. It has been practiced by many governments in developed countries and developing countries.

In their study, Kelley, et al. (n.d) presented that the EoDB index from World Bank motivates policy and regulation reformation among countries to improve their rank and shape investor perception of investment opportunities. In addition, Canare (2018) analyzed a nine-year panel data of about 120 countries from the World Bank EDB report and presented that EoDB has a positive effect on business creation. However, none of its components are significant for middle and low-income countries. Meanwhile, using panel data analysis, Adepoju (2017) and Bonga and Mahuni (2018) revealed that EoDB significantly affects economic growth.

Kamal et al. (2021), in their study about OSS, revealed that the implementation of OSS in Makasar City, Indonesia, has increased the number of business license applicants. A similar result was also found in the study of Fransisco et al. (2020). Their study on SMEs in the Philippines revealed that e-BPLS was associated with an 11.4% higher probability of growing

for SMEs that access and use it. It indicates that e-BPLS could help SMEs in reducing their operational cost. However, Gebreselassie (2020), in his case study at Mekell City, Kazakhstan, about OSS and small and medium enterprises, by using a mixed method, revealed that SMEs did not benefit from the OSS center since the center lacked the major decisive factors for successful implementation of the one-stop-service concept and the existing setups of one-stop centers are not inclusive. Several barriers in the center have been identified like haven't established a communication system promoting the type of services, procedures, time, fees, and standards to customers to improve transparency; lack of well-trained and adequate staff, lack of office facilities; attractive and well-coming reception; quick and fair case handling and management mechanisms; feedback and solicitation mechanisms, in order to enhance efficiency and effectiveness. It is similar to Pramita, Rochmah, and Pratiwi's (2014) study. They presented several challenges in implementing OSS by IILSA of Pasuruan city, Indonesia, related to the internet connection and the lack of facilities and infrastructure.

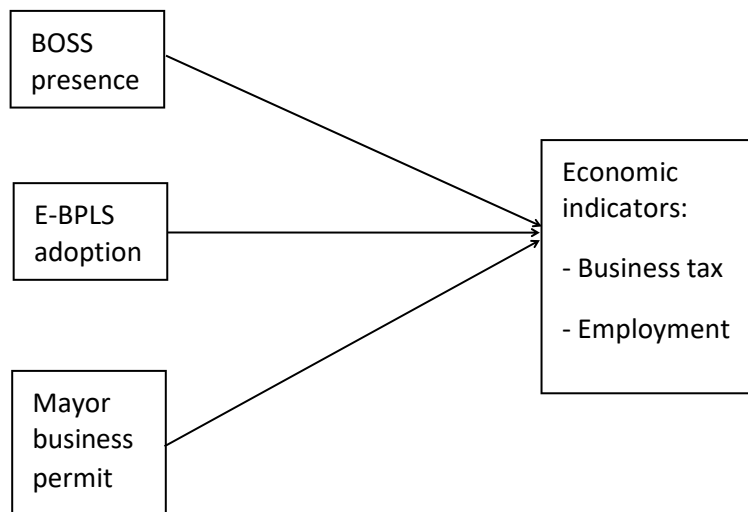
Conceptual Framework

The World Bank annually releases a report on EDB Index among countries globally. The Philippines' rank in the index is at the middle level (#95) in 2020. This rank is lower compared to 2014 (#86) (Millan, 2014). Consequently, the government of the Philippines continuously campaigns for EoDB to improve a business-friendly environment, most especially in the Local Government Units both in cities and municipalities, through the issuance of regulations like joint memorandum to strengthen the existing Republic Act. However, there are still some LGUs in the Philippines who have had no BOSS presence till now.

A business-friendly and healthy environment for doing business is a way to attract more investment and new business creation. Evidence also acknowledges that EoDB positively correlates with economic growth and development. In addition, several sub-components from the EoDB index also positively affect countries. Canare (2018), for example, reported that sub component - starting a business - able to improve new business creation and private sectors growth, and - paying taxes- also helps to enhance awareness of small and medium enterprises on tax policy.

Tax and employment are the lifelines for LGUs since these factors directly affect economic and development growth in the municipality. Creating a business is one way to improve tax collection and employment. Therefore, many LGUs compete to provide business-friendly policies. One of them is the ease of doing business permits. Thus, it was assumed that a good implementation of starting business indicators, in terms of the presence of BOSS, adoption of e- BPLS, and complementary with short steps in acquiring the Mayor's business permit correlate to the amount of business tax collection, the number of employees hired by new business,

Finally, based on the evidence from literature and empirical studies, this present study presents a research paradigm as follows:



III. Methodology

To investigate the effect of business permit modalities on municipalities' economics, the research proponent collected and analyzed data from the Cities Municipalities Competitive Index issued by the Department of Trade and Investment period 2018-2020.

The collected data includes:

- the BOSS presence,
- E-BPLS adoption
- Number of steps in acquiring the Mayor's business permit;
- Number of declared employees for new business;
- Business tax collection;

The research proponent defines these variables as follows:

BOSS presence represents the establishment and availability of BOSS.

The Number of steps in acquiring the Mayor's business permit refers to how many steps are needed for a new business entity to obtain the Mayor's business permit.

The employment for new business refers to the total employee hired or declared by the new business entities.

Business tax collection refers to the total amount of business tax that can be collected in a certain period (annually)

Municipality refers to an autonomous government created by a congress and governed by the Municipality Law. Municipalities in the Philippines are classified according to their average annual income for the last four fiscal years.

Sample and sampling procedure

The research population of this study is municipalities in the Philippines. Israel (2012) suggested several approaches to the sample size like using a census for the small population, a sample size of a similar study, a published table, and a formula to calculate the sample size. This study selects the Cochran formula for determining sample size by using parameter confidence level 95%, margin error 10%, and population proportion 50%, resulting in 92 municipalities as the research sample.

A proportional cluster sampling was applied to draw municipalities as respondents in the study. In the first step, municipalities are classified into the following categories: 1st class, 2nd class, 3rd class, 4th class, 5th class, and 6th class. In the second step, assign the number of representatives of each cluster proportionally and group municipalities based on the BOSS presence and no BOSS presence. The third step was to set criteria for each cluster: 50% with boss presence and 50% without boss presence, then randomly select from each sub-group. After data cleansing, only 70 municipalities from the selected 92 municipalities can be processed for further analysis. Municipalities in the 6th class were dropped from the analysis since only 1 municipality has no BOSS presence.

Table 1
Number of selected municipalities per class.

Municipalities	Total number	Number of sample
1 st class	302	8
2 nd class	155	4
3 rd class	221	18
4 th class	317	18
5 th class	208	22
Total		70

Statistical treatment

Several test analysis were used in this study. First, a descriptive statistic with frequency and percentage was used to describe status of BOSS, and e-BPLS adoption in the municipalities. Second, to test the difference between two groups, a independent t-test was applied since the independent t-test was used when the two groups under comparison are separate. While one-way Anova was used to compare more than two groups. As the sample size is more than 30 or 40, the normality of the difference was not an issue since it should not cause major problems (Pallant, 2007, as cited from Ghasemi and Zahediasl, 2012). Finally, research proponent used the general linear model - univariate to test the effect of the predictor variables. The researcher then evaluated the difference between the municipalities using 2018-2020 data in this study.

Statistical Package for Social Science version 15 was used to perform the analyses.

Analytical Results and Discussion

The statistical analysis from the obtained data has resulted several findings as follow:

Table 2
Description of BOSS and e-BPLS adoption by Municipality classification

Municipal ity classificati on	N	Municipalities with No BOSS presence	Municipaliti es with BOSS presence	Municipaliti es with No e- BPLS adoption	Municipaliti es with E- BPLS adoption
6 th class	15	1	14	8	7
5 th class	208	21	187	89	119
4 th class	317	13	304	104	213

3 rd class	221	15	206	80	141
2 nd class	155	3	152	26	129
1 st class	302	4	298	41	261
	1,218	57 (4.6%)	1,161 (95.4%)	348 (28.5%)	870 (71.5%)

Based on the data from CMCI-DTI, there are 1,218 municipalities in the Philippines. The majority are in municipality class 4th and 1st, and the least one is class 6th. In general, most municipalities have established BOSS in their region, but only 57 or 4.6% of municipalities do not show BOSS. Special attention should be paid to municipalities class 5th since it still has more than 10% that have not established BOSS, followed by class 3rd (8%) and 4th (3%). In terms of e-BPLS adoption, many municipalities have not yet adopted e-BPLS in their business permit process (28.5%). Similar to BOSS presence, the lower-class municipalities like 3rd, 4th, 5th, and 6th. are the least adopter of e-BPLS compared to the higher class.

The study also presented data about the number of steps in acquiring a Mayor's permit for the business. The range of steps in obtaining the Mayor's permit during 2018-2020 is a minimum of 1 step and a maximum of 10 steps. The average number of steps to get a Mayor's permit in the municipalities is 3 steps, and again, more steps are needed to get a Mayor's business permit at the lower-class municipality

Between Group difference analysis by BOSS presence, e-BPLS adoption, and number of steps in acquiring mayor permit

Table 3
Independent sample t test result for BOSS presence

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
tax business collected period 2018-2020	Equal variances assumed	8.365	.004	-1.834	208	.068	-5039783.509	2748578.578	-1.046E7	378859.561
	Equal variances not assumed			-1.883	115.317	.062	-5039783.509	2676234.164	-1.034E7	261166.137
employment new business period 2018-2020	Equal variances assumed	5.048	.026	-2.118	208	.035	-88.747	41.909	-171.368	-6.126
	Equal variances not assumed			-2.169	127.426	.032	-88.747	40.919	-169.716	-7.778

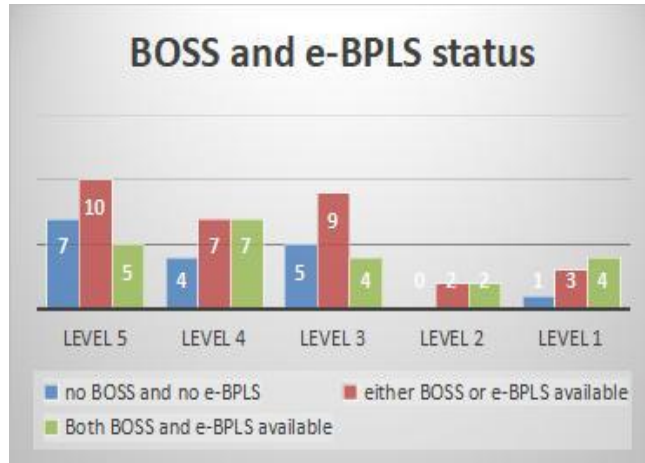
Table 3 informs us about the result of the independent sample t-test between municipalities with BOSS established and municipalities with no BOSS regarding business tax collection and employment from new business. There was a statistically significant difference in the mean of employees hired from the new business between the municipalities with the BOSS presence and those without the BOSS presence ($t_{127.426} = -2.169$, $p < .05$).

Moreover, the average number of employees hired from new businesses in the municipalities with a BOSS presence was 89, which was higher than the average number of employees hired from new businesses in the municipalities without a BOSS presence. On the other hand, the difference between the two means (No BOSS and with BOSS presence) on business tax collection is not statistically significant ($t_{115.317} = -1.883$, $p > .05$). The mean of municipalities with BOSS presence is statistically equal to the mean of municipalities without the BOSS presence ($M_{boss} = 8.75E6$ and $M_{noboss} = 3.71E6$) in term of business tax collection.

Table 4
Independent sample t test result for e-BPLS adoption

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
tax business collected period 2018-2020	Equal variances assumed	9.368	.002	-2.216	208	.028	-6106815.566	2755494.182	-1.154E7	-674538.834
	Equal variances not assumed			-2.470	124.918	.015	-6106815.566	2472551.712	-1.100E7	-1213297.355
employment new business period 2018-2020	Equal variances assumed	7.628	.006	-2.541	208	.012	-106.652	41.974	-189.401	-23.903
	Equal variances not assumed			-2.807	136.554	.006	-106.652	37.991	-181.780	-31.524

Table 4 informs about the result of the independent sample t-test between municipality that has adopted e-BPLS and municipality that have not adopted e-BPLS regarding business tax collection and employment from new business. There was a statistically significant difference in the mean of employment hired from new businesses between municipalities that adopted e-BPLS and municipalities that did not adopt e-BPLS ($t_{136.554} = -2.807$, $p < .05$). Furthermore, the average number of employees hired from new businesses in municipalities that adopted e-BPLS was 107, which is higher than the average number of employees hired from new businesses in municipalities that did not adopt e-BPLS. In addition to the business tax collection, there was also a statistically significant difference in the mean between municipalities that adopted e-BPLS and the municipalities that did not adopt e-BPLS ($t_{124.918} = -2.470$, $p < .05$). The average amount of business tax collection in the municipalities that adopted e-BPLS was 6.106.815,00 pesos higher annually than the average amount of business tax collection in municipalities that did not adopt e-BPLS.



Graph 1
Municipalities' status on BOSS presence and e-BPLS adoption

From graph 1, the data informs that only a small portion of municipalities in this study have both no BOSS and adopt e-BPLS (N=17). In contrast, most municipalities either have BOSS or adopted e-BPLS (N=31). It can be a sign that more and more municipal leaders are aware of the importance of a business-friendly environment for new business.



Graph 2
Mean of new business tax collection and employment of new business based on status BOSS and e-BPL

In graph 2, the data shows that those municipalities with BOSS presence and adopted e-BPLS enjoy higher new business tax collection and employment compared to municipalities with only one either BOSS or adopt e-BPLS and municipalities with no BOSS and do not adopt e-BPLS. It means municipalities applying BOSS and e-BPLS are more attractive for investors or entrepreneurs to start a business.

Table 5
One way ANOVA for combination of BOSS and e-BPLS
ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
tax business collected period 2018-2020	Between Groups	4.157E15	2	2.078E15	5.404	.005
	Within Groups	7.961E16	207	3.846E14		
	Total	8.376E16	209			
employment new business period 2018-2020	Between Groups	975640.000	2	487820.000	5.429	.005
	Within Groups	1.860E7	207	89862.409		
	Total	1.958E7	209			

Table 5 informs us about the result of one-way ANOVA on the combination of BOSS and e- BPLS regarding the new business tax collection and employment from new businesses. Table 5 informed there was a statistically significant difference between groups for business tax collection as determined by one-way ANOVA ($F(2,207) = 5.404$, $p = .005$) and a statistically significant difference between groups for employment hired by new business ($F(2,207) = 5.429$, $p = .005$). This finding informs that there is a statistically significant difference between municipalities whose has to apply both BOSS and e-BPLS, municipalities that have used either BOSS or e-BPLS, and municipalities that have not applied BOSS and e-BPLS in term of new business tax collection and employment from new business.

Table 6
One way ANOVA for acquiring Mayor’s business permit (by number of steps)
ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
tax business collected period 2018-2020	Between Groups	1.279E16	8	1.598E15	4.526	.000
	Within Groups	7.098E16	201	3.531E14		
	Total	8.376E16	209			
employment new business period 2018-2020	Between Groups	806899.116	8	100862.389	1.080	.378
	Within Groups	1.877E7	201	93384.376		
	Total	1.958E7	209			

Table 6 informs us about the result of one-way ANOVA on several steps in acquiring the Mayor's business permit regarding the business tax collection and employment from new business. Table 4 informed there was a statistically significant difference between groups for business tax collection as determined by one-way ANOVA ($F_{(8,201)} = 4.526$, $p = .000$). Meanwhile, there was no statistically significant difference between groups for the employment hired by new business ($F_{(8,201)} = 1.080$, $p = .378$). This finding indicates a statistically significant difference between groups among the municipalities with shorter steps for Mayor's business permits and municipalities with longer steps for Mayor's business permits in terms of new business tax collection. In comparison, the shorter or the longer steps in acquiring the Mayor's business permit are not statistically different among municipalities. However, this result should be read with caution because of the unequal number of municipalities between groups.

Interaction effect of BOSS presence, e-BPLS adoption, getting mayor permit to business tax collection, and employment from new business in the municipality.

Table 6

Effect BOSS presence, e-BPLS adoption and steps in acquiring the Mayor's business permit on business tax collection

Tests of Between-Subjects Effects

Dependent Variable: tax business collected period 2018-2020

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.392E16 ^a	23	1.475E15	5.503	.000
Intercept	1.620E15	1	1.620E15	6.045	.015
BOSS	1.857E15	1	1.857E15	6.931	.009
E_BPLS	1.856E15	1	1.856E15	6.927	.009
mayorpermit	4.649E15	8	5.811E14	2.169	.032
BOSS * E_BPLS	1.886E15	1	1.886E15	7.039	.009
BOSS * mayorpermit	4.427E15	4	1.107E15	4.130	.003
E_BPLS * mayorpermit	4.269E15	5	8.537E14	3.186	.009
BOSS * E_BPLS * mayorpermit	3.500E15	3	1.167E15	4.354	.005
Error	4.985E16	186	2.680E14		
Total	9.209E16	210			
Corrected Total	8.376E16	209			

a. R Squared = .405 (Adjusted R Squared = .331)

The result from General Linear Model (GLM) analysis informed there was statistical significant interaction between BOSS presence and e-BPLS adoption ($F_{(1,209)} = 7.039$, $p = .009$); BOSS presence and the number of steps in acquiring the Mayor's business permit ($F_{(4,209)} = 4.130$, $p = .003$); e-BPLS adoption and the number of steps in acquiring mayor permit ($F_{(5,209)} = 3.186$, $p = .009$) and; BOSS presence*e-BPLS adoption*the number of steps in acquiring the Mayor's business permit ($F_{(3,209)} = 4.354$, $p = .005$) towards business tax collection. It indicates that when BOSS presence, e-BPLS adoption, and the number of steps in acquiring the Mayor's business permit are combined, either two or three, it can significantly predict the value of business tax collection. For example, in Figure 1, the amount of business tax collection increased when they established BOSS presence to complement the e-BPLS adoption.

The R-Squared (R^2) of the model shows a value equal to .405. It means that the proportion of variance in the business tax collection could moderately be predicted as much as 40% by the predictor variables (BOSS, e-BPLS, and steps in mayor permit).

Figure 1
Interaction BOSS presence*e_BPLS adoption on business tax collection

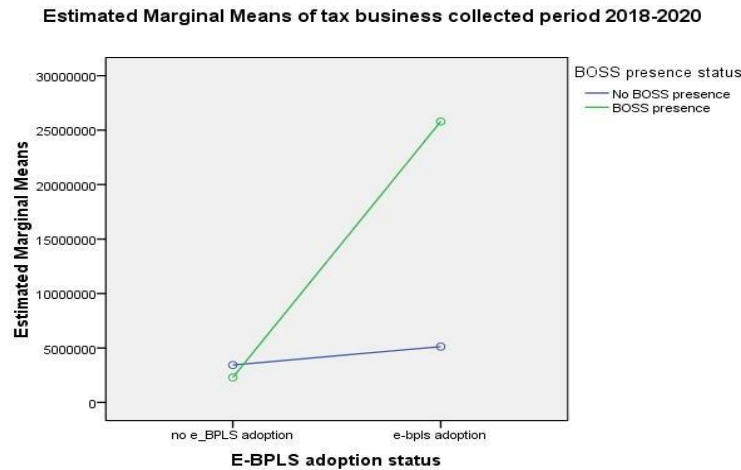


Table 7
Effect of BOSS presence, e-BPLS adoption and steps in acquiring the Mayor's business permit on new business employment

Tests of Between-Subjects Effects

Dependent Variable: employment new business period 2018-2020

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.472E6 ^a	23	107463.340	1.169	.278
Intercept	732089.530	1	732089.530	7.961	.005
BOSS	100746.951	1	100746.951	1.095	.297
E_BPLS	87358.972	1	87358.972	.950	.331
mayorpermit	172995.817	8	21624.477	.235	.984
BOSS * E_BPLS	4060.917	1	4060.917	.044	.834
BOSS * mayorpermit	426573.561	4	106643.390	1.160	.330
E_BPLS * mayorpermit	127781.066	5	25556.213	.278	.925
BOSS * E_BPLS * mayorpermit	97872.482	3	32624.161	.355	.786
Error	1.711E7	186	91965.064		
Total	2.551E7	210			
Corrected Total	1.958E7	209			

a. R Squared = .126 (Adjusted R Squared = .018)

The result from General Linear Model (GLM) analysis informed there was no statistical significant interaction between BOSS and e-BPLS ($F_{(1,209)} = .044$, $p = .834$); BOSS and steps in acquiring mayor permit ($F_{(4,209)} = 1.160$, $p = .330$); e-BPLS and steps acquiring mayor's business permit ($F_{(5,209)} = .278$, $p = .925$) and; BOSS*e-BPLS*step mayor permit ($F_{(3,209)} = .335$, $p = .786$)

toward employment by the new business. It indicates that when BOSS, e-BPLS, and steps in acquiring a Mayor's permit are combined, two or three cannot significantly predict the value of employment by the new business.

The R-Squared (R^2) of the model shows a value equal to .126. It means that the proportion of variance in the employment by the new business can be weakly predicted, only as much as 12% by the predictor variables (BOSS presence, e-BPLS adoption, and the number of steps in acquiring the Mayor's business permit).

Discussion

This study addresses an important gap in knowledge about the effect of the EoDB component - starting a Business, specifically related to business permit, on economic indicators in the LGU at municipalities (e.g., business tax collection and new business employment) in the Philippines. In terms of BOSS presence and e-BPLS adoption, study results revealed that more than 10% of LGUs in the municipality have not yet adopted e-BPLS, though only a small percentage (5%) left have no BOSS presence.

The adoption of e-BPLS is considered a benefit for citizens or end-users. It corroborates the study from Fransisco et al. (2020) that revealed that SMEs in Luzon benefit from e-BPLS adoption. However, the lack of connectivity and low internet coverage in the Philippines may hinder the municipalities from implementing e-BPLS. One requirement in online e-government like e-BPLS adoption is the interconnection of all public authorities, even if these services are provided by different departments or authorities (Wimmer and Tomboris, 2002).

Meanwhile, the result of this study may indicate the area for support for leaders and policymakers in the 3rd, 4th, and 5th class municipalities. Compared to other municipalities, these three classes have a bigger number of municipalities with no BOSS presence. According to World Bank (2017), it needs strong commitment and political will from the government leader related to the implementation of EoDB. Therefore, it is important to continuously advocate for a commitment from government leaders in municipalities with no BOSS presence, no e-BPLS, and that take longer steps in acquiring the Mayor's business permit.

The study also found a statistically significant difference between groups regarding the BOSS presence, e-BPLS adoption, and the number of steps in acquiring the Mayor's business permit. Municipalities with a BOSS presence may benefit from the employment provided by the new business rather than from business tax collection. It is because municipalities with a BOSS presence have no statistical difference in the mean amount of business tax collection in 2018- 2020. The result does not seem necessary that BOSS has no positive effect on business tax collection. It can rely on the human resource factor (Howard, 2017), the capacity, and the capability of the municipality when it comes to tax collection.

On the other hand, the result of this study also identified a significant difference in the form of business tax collection and employment offered by the new business between municipalities that adopted e-BPLS and municipalities that did not adopt e-BPLS. It seems municipalities that have adopted e-BPLS like to enjoy more comprehensive benefits. This result may show that citizens or end-users prefer to use digital technology like email or applications when accessing business permit transactions or paying business tax.

Last, regarding the number of steps in acquiring the Mayor's business permit, this study also identified a significant difference in the business tax collection among municipalities, but not in employment offered by the new business. It may mean that municipalities that have shorter steps

in acquiring the Mayor's business permit can enjoy creating new business in their municipalities. In the end, it affects their business tax amount receivable.

Conclusion, Recommendation, Policy implication

Conclusion

This study was conducted to answer the following question in the problem statement.

1. To what extent is business permit modalities status in the municipalities?

The finding of this study revealed positive news that most municipalities (95%) have applied one-stop business service (BOSS), and adoption of e-BPLS has reached 75% of municipalities. In addition, the average step to acquire a mayor permit in the municipalities in three steps. Breaking into detail, special concern needs to be addressed to the municipalities at level 3, 4, and 5 since the proportion of municipalities whose has applied BOSS is still more than 10% and getting bigger in term of e-BPLS adoption, more than 20%.

2. To what extent business permit modalities could predict economic indicators in municipalities?

This study's finding revealed that combining BOSS and e-BPLS complement with shorter steps in acquiring a Mayor's business permit could predict less than 40% of new business tax collection in the municipalities. Unfortunately, it only could predict more less than 12% of the employment offered by the new business.

3. Is there any significant difference due to the presence of business permit modalities among municipalities?

This study revealed a statistically significant difference between municipalities with no BOSS and those not adopting e-BPLS. These municipalities only have BOSS or e-BPLS, and municipalities with BOSS adopt e-BPLS. The latter group showed better performance

regarding new business tax collection and employment offered by the new business. In summary, the study argues that adopting e-BPLS combined with BOSS presence in the business permit process has given municipalities an economic advantage, especially in new business tax collections. To research proponent's knowledge, this is the first study that examines the predictive effect of combined business permit modalities in the municipalities in the Philippines.

Recommendations

There are a few municipalities that have not yet applied for BOSS presence. However, still, many municipalities have not adopted e-BPLS in their business permit processing. Thus, the research proponent, based on the result of the study, suggests recommendations as follows:

1. Encourage adoption and application of online service (e-BPLS), not only the BOSS presence, in the business permit processing among the municipalities and using digital technology thru cashless transactions (e-payment), which promotes fast and transparent financial transactions. The advancement of ICT has proven to increase effectiveness and efficiency in business permit processing. This innovative usage of e-BPLS and e-payment will provide an advantage for both municipalities and citizens as they can have the convenience to do transactions anytime and anywhere, which save time and costs, especially for investors and entrepreneurs. For the municipalities, applying ICT could help simplify the work and process; thus, this ease of doing business will attract new businesses, bring employment to the area and increase the business tax collection.
2. Review the current regulation and policies regarding BOSS, e-BPLS and the establishment of e-payments. The new revision should include mandatory starting time for Municipalities to apply BOSS, adopt e-BPLS and use e-payments.
3. Intensify promotion, advocacy, and participation for a commitment to use online service (e- BPLS) and digital technology like e-payments in business permit processing from Municipality leaders, policymakers, and citizens.
4. Capacity building on business tax collection to the officer in charge of tax collection in municipalities with BOSS.

Policy implication

This study brings implications to the policy related to business permit processing for starting a business. The government, specifically the policymakers, should review the existing policies and procedures regarding the business permit process. Establishing BOSS is not enough without support from e-BPLS adoption and e-payments in the Municipalities because, shortly, digital technology will be more dominant. The government should think about improving the infrastructures in the Municipalities to support the smooth implementation of e-BPLS and e- payments. It brings consequences that the National and LGU need to allocate sufficient funding to support the implementation of online service (e-BPLS) in the business permit processing.

Limitation

This research proponent acknowledges several limitations in conducting this study. First, the statistical analysis using a general linear model in this study is not powerful enough due to the normality distribution issue in the data. Second, the study did not consider other factors to be included in the analysis that may have a bigger effect on tax collection and new employment. Therefore, the research proponent suggests that future research interests with the same topic should consider expanding and refining the current research design of the study

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