



THE RELATIONSHIP BETWEEN TERMINAL MONITORING DEVICE INSTALLATION IN RESTAURANTS AND AN INCREASE IN TAX REVENUE IN SURAKARTA FROM 2014 TO 2021

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ABSTRACT

The purpose of this research is to analyze the effect of installing Terminal Monitoring Device (TMD) in restaurants on the increase in tax revenue in Surakarta City for 2014—2021, its contribution to regional taxes and Regional Original Income (*Pendapatan Asli Daerah/PAD*), as well as the obstacles. The method applied in this research is a descriptive quantitative approach. This research used primary and secondary data. Primary data include interviews with the Regional Revenue, Financial and Asset Management Agency (*Badan Pendapatan Pengelolaan Keuangan dan Aset Daerah/BPPKAD*) of Surakarta, while secondary data include reports on the realization of restaurant tax revenues, reports on the realization of regional taxes, reports on the realization of PAD, and data on the number of restaurants taxpayers in Surakarta. The results of this research show that the installation of TMD did not have a significant impact on increasing restaurant tax revenues in Surakarta City and increasing the restaurant tax contribution to regional taxes and PAD during 2018—2021. Several technical and non-technical factors cause the non-optimal installation of TMD to increase restaurant tax revenues in Surakarta.

Keywords: contribution; regional original income; regional taxes; restaurant tax; TMD

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INTRODUCTION

According to Article 1 Number 7 of Law Number 32 of 2004, Indonesia adheres to the principle of decentralization, which means that the central government handovers government power to autonomous regions based on the principle of autonomy. In regulating the region, each local government requires funds to carry out the government's and the public's interests. Regional tax is one source of revenue for the Regional Budget Revenues and Expenditures (*Anggaran Pendapatan dan Belanja Daerah/APBD*). As detailed in Law Number 28 of 2009, regional governments have the authority to collect regional taxes for the needs and prosperity of their citizens.

Regional taxes, according to Law Number 28 of 2009 Article 1 Number 10, are mandatory contributions to regions owed by individuals or entities that are coercive under the law, without receiving direct compensation, and are used for regional needs for the greatest prosperity of people. Regional tax collection by local governments to the community is intended to fund the implementation of government tasks, development, and community development efficiently and effectively to improve people's living standards (Anggoro, 2017). Based on the description, it is clear that tax collection is used for the benefit of the government and the public interest for the prosperity of the people. This regional tax will later be used for improving regional infrastructure, counseling on human resources (HR), and developing clean water resources.

Surakarta, as an autonomous region, must certainly work to increase its regional tax revenue, as it is the largest contributor to PAD. This is based on the report on the implementation of PAD in Surakarta from 2014 to 2021, which shows that regional taxes generate the most revenue. The restaurant tax is one of nine types of regional taxes in the city. The city known for its slogan "the Spirit of Java" (Suharsih, 2022) has culinary appeal for most people due to its culinary variety at relatively low prices. It is not difficult for first-time visitors to Surakarta to find a restaurant that suits their tastes and budgets. Based on data from the BPPKAD of Surakarta in 2021, Surakarta City has 1,390 units of restaurants or restaurants that have been registered as taxpayers.

A large number of restaurants has a positive impact on the Surakarta City Government by creating job opportunities. Furthermore, these restaurants can become potential for they attract tourists. The main point is that restaurants can increase the PAD through taxes, as regulated in Regional Regulation Number 11 of 2018 on the imposition of restaurant tax.

Based on the Surakarta City Regional Regulation Number 11 of 2018, a restaurant tax is a tax on services provided by a restaurant. A restaurant is a facility providing food and/or beverages for a fee, which includes restaurants, cafeterias, canteens, stalls, bars, and similar establishments, as well as catering services. Written law is the main basis for individuals or entities in managing administration. Several legal bases serve as references for the implementation of restaurant taxes: 1) Law Number 28 of 2009 is the basis that restaurant tax is categorized as a regency/city tax; 2) Regional Regulation Number 11 of 2018 serves as the basis for the name, subject, object, basis of imposition, rate, and method of calculating restaurant tax; and 3) Surakarta Mayor Regulation Number 34 of 2013 serves as the basis for the guidelines for restaurant tax implementation. Restaurant tax subjects and payers: the subject of the restaurant tax is an individual or entity that buys food and/or drinks from a restaurant, and the restaurant taxpayer is an individual who operates a restaurant or the so-called restaurant owner.

The advancement of science and technology also plays a role in the tax collection system, which is constantly updated to meet the quantity and quality of tax received. According to the Head of BPPKAD of Surakarta in 2017 (Pemerintah Kota Surakarta, 2017), one of the efforts made by BPPKAD of Surakarta to achieve optimal tax revenue is to install TMD in several restaurants to narrow the gaps. This device will record transactions that occur in real-time and then accumulate them for one month, which will serve as the bases for taxation.

Installing TMD, for example, has a positive impact on tax revenues. It has been reported that the installation of a TMD in Bandar Lampung City and Metro City can significantly increase regional tax revenues. On the other hand, studies show that the installation of TMD had no significant impact on Surakarta City's tax revenue (Firdaus, 2021; Raihan et al., 2021; Wati, 2020; and Luhur, 2018).

TMD is a type of tapping box to record transactions that occur in restaurants, hotels, parking lots, and entertainment venues. This device is a recommendation by the Corruption Eradication Commission (*Komisi Pemberantasan Korupsi/KPK*) to minimize transaction leakage to make Surakarta a corruption-free environment. TMD should be financed by regional banks rather than the government (BPPKAD Kota Surakarta, 2019). This device is installed in the taxpayer system network to obtain transaction data. Every transaction that occurs is automatically recorded in real-time, allowing TMD to be used as a tool to monitor the taxes paid by taxpayers relating to the number of existing transactions.

One of the innovations of BPPKAD of Surakarta to monitor and evaluate taxpayer compliance in terms of depositing payable tax is the installation of a TMD. However, several obstacles were encountered during implementation, causing the installation of the device to be less than optimal to increase restaurant tax revenues. The TMD, on the other hand, is not set up in all restaurants in the city registered as taxpayers. Based on the background, the researcher wishes to investigate the issue in a final project entitled: The Relationship between the Installation of Terminal Monitoring Devices in Restaurants and Increase in Tax Revenue in Surakarta from 2014 to 2021.

The installation of a Terminal Monitoring Device (TMD) is one of the innovations provided by the Surakarta City Government in terms of online-based taxation. This innovation is expected to increase restaurant tax revenue in Surakarta. The problems raised in this study are as follows.

1. How is the TMD working mechanism?
2. What are the factors influencing the non-optimal installation of the TMD in increasing restaurant tax revenues in Surakarta?
3. How is the comparison of restaurant tax revenues in Surakarta before and after the TMD installation?
4. How is the contribution of the restaurant tax to the regional tax and PAD of Surakarta before and after the TMD installation?

The benefits of this research are as follows:

1. providing information and knowledge contributions to anyone who reads this research,
2. providing a reference for input and evaluation for the BPPKAD of Surakarta regarding the installation of TMD in several restaurants in Surakarta, and
3. providing a reference for any parties that will carry out further research in the same field.

RESEARCH METHOD

This study was carried out at the BPPKAD of Surakarta using a descriptive quantitative approach. Primary and secondary data were used. Primary data include interviews, while secondary data include reports on restaurant tax receipt realization 2014-2021, reports on regional tax realization, reports on PAD realization, and data on the number of restaurant taxpayers in Surakarta from 2014 to 2021.

The point of the study was to examine the impact of TMD on the increase in restaurant tax revenues in Surakarta from 2014 to 2021. Structured interviews with the BPPKAD of Surakarta, as well as literature studies related to applicable regulations and previous research on the topic of discussion in this study, were used to collect data.

RESULTS AND DISCUSSION

Working Mechanism of TMD



Figure 1. Terminal monitoring device

Source: BPPKAD of Surakarta

Figure 1 demonstrates a transaction monitoring device of the TMD. This device is installed as an embodiment of Surakarta Mayor's Regulation Number 21 of 2017 on the online supervision of regional tax payments on taxpayer business transaction data. The TMD used in Surakarta is Almoon, which stands for Alat Monitoring Online.

1. Technical specifications of TMD

- a. Printer output type: Serial, USB, Bluetooth, Ethernet, and WiFi
- b. Database Type: MySQL, MSSQL, PostgreSQL, Firebird, Oracle, SQLite, Mdb, Cdb, DBF
- c. File type: TXT, CSV, PDF, Xls, xlsx
- d. Number of ports: 1 MicroUSB: OTG and power input, 1 USB Host, 1 Ethernet, 1 Serial RS232 DB9-M, 1 Serial RS232 DB-9F
- e. Connectivity: GSM 3G/4G, WiFi: 802.11b/g/n, Bluetooth V4.0
- f. CPU: Cortex A7 Quad Core, Frequency up to 1.2GHz
- g. Memory: 512 MB DDR3 RAM
- h. Storage: MicroSD x1 for external storage up to 128GB
- i. Operating Temperature: -20°C to 70°C
- j. Power Supply: DC 5V/2A
- k. Size: Length: 76.5 mm, Width: 76 mm, Height: 46 mm

2. Working mechanism of the TMD

TMD works by recording every transaction that takes place at the restaurant. TMD retrieves transaction data that will later be recorded in two ways: TMD with connection configuration to the Point of Sales printer/Cash Register and TMD with Connection configuration to Database/Transaction File. The following is an illustration of how it works.

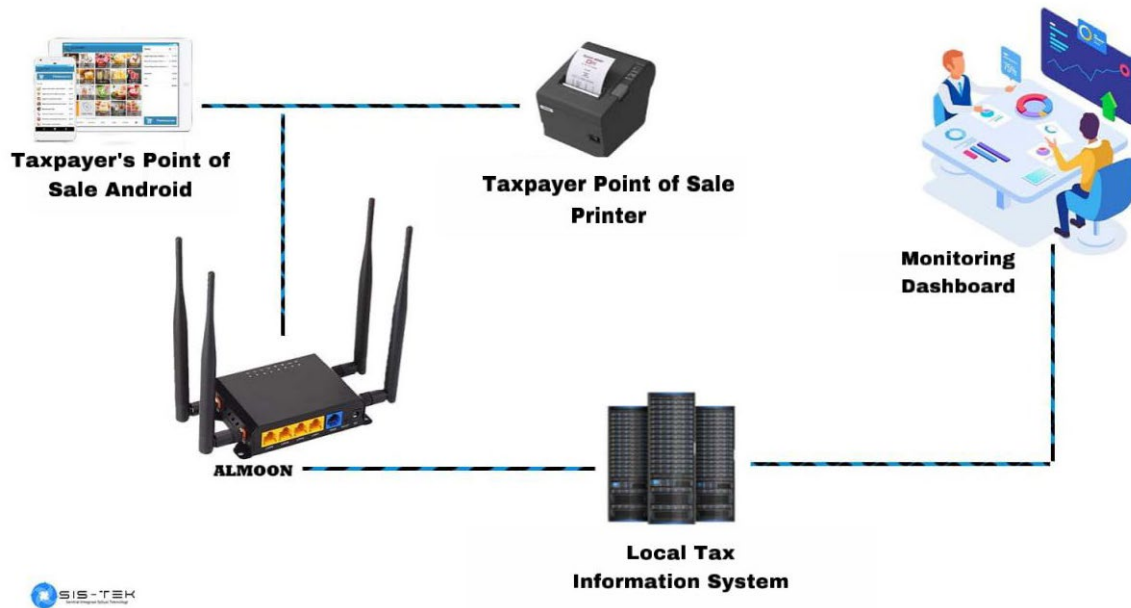


Figure 2. TMD with connection configuration to the printer of point of sales/cash register
 Source: BPPKAD of Surakarta

Figure 3 shows monitoring through the output of the Cash Register printer or the output of the Point of Sales printer for taxpayers. In this case, TMD is prepared to have monitoring capabilities on printer output with Serial Interface, USB, Bluetooth, Ethernet, and WiFi.

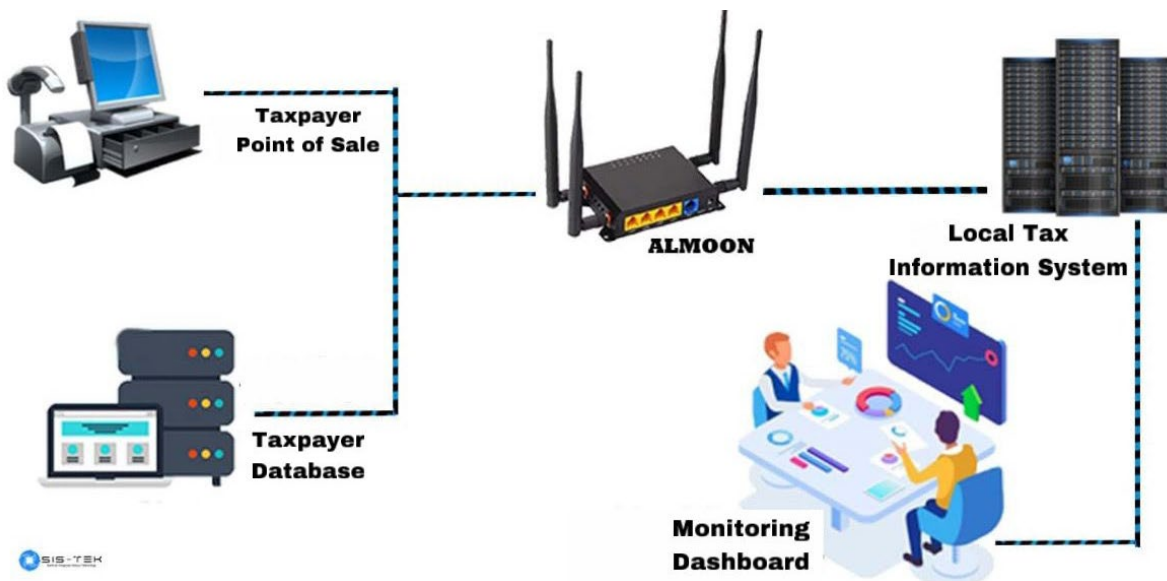


Figure 3. TMD with connection configuration to database/transaction file
 Source: BPPKAD of Surakarta

Figure 3 portrays a TMD monitoring method via a Query Database/File on a taxpayer server. TMD uses this method to gain access to the taxpayer's database/file. This method is used in restaurants that already have servers. TMD is capable of recording transaction data on the taxpayer server.

Although there are two methods for collecting transaction data on taxpayers, the device operation remains the same, as follows:

1. TMD automatically records transactions that occur in restaurants.

2. Data are kept in a transaction database.
3. The taxpayer sends data from the transaction database to the Regional Tax Information System online via the GSM 3G/4G network.
4. Data are represented in the form of a Dashboard Interface. The status of TMD monitoring is indicated by three different colors:
 - a. green (normal) = TMD data were sent per day until two days ago,
 - b. orange (warning) = The taxpayer sent data from 3-7 days ago,
 - c. red (critical) = The taxpayer sent data up to more than 7 days ago.

Factors Affecting the Installation of the TMD Not Optimally

An employee of the BPPKAD Sub-Division of Data Collection mentioned several factors causing the unoptimized installation of TMD for increasing regional tax revenues.

1. Non-Technical Factors
 - a. Taxpayer/group refusal. Business actors refused to install TMD in their locations because they felt annoyed if watched. On the other hand, some satay sellers, meatball sellers, and other informal groups refused the installation of TMD in their business locations. In this case, if members of the group were directed to install TMD, there would be arguments because they felt that other group members did not install TMD, even though the installation was not necessarily carried out in all culinary places but based on certain indications.
 - b. Funding limitation. Transaction recording device requires substantial maintenance and connection costs. The BPPKAD, on the recommendation of the KPK, is not allowed to budget the necessary costs. The funding must be provided by a regional bank. Two possibilities cause limited funding by the regional bank, namely the absence of additional funds for financing tools and the available funds cannot be used for certain reasons.
 - c. Poor monitoring. TMD is monitored using Simpasa Dashboard. If the number in the red (critical) category is high, the TMD is improperly installed, based on the result of monitoring by tax officers. Monitoring is carried out by a particular team by conducting a direct survey at the taxpayer's business location. This is performed to ensure that the installed TMD is normal and can work properly.
 - d. Taxpayer compliance level. Taxpayers purposefully disabled TMD so that any transactions were not recorded by the device. As a consequence, the number of transactions reported to the BPPKAD was smaller than the real number of transactions. However, the BPPKAD lacked data on nominal estimates recorded in TMD.
 - e. Improper installation target. As previously explained, due to limited funds, TMD could not be installed in every restaurant Surakarta. TMD should have been installed in a dining area where indications of fraud were found, where it was reported by the E-Potensi application that the turnover was far from the potential estimated by the BPPKAD. It was reported that TMD, on the other hand, was installed in many restaurants considered compliant and honest in carrying out their tax obligations, such as KFC and Solaria (BPPKAD Kota Surakarta, 2017). In essence, there were numerous other restaurants that, despite their small size, had a high turnover potential but had not installed TMD in their business locations.
2. Technical Factors
 - a. Inadequate taxpayer system and cashier machine. TMD is installed in a business location where the taxpayer already has a particular operating system if it uses the Query Database/File method on the taxpayer's server. Some systems were not binary-compatible with the TMD because the cashier machines were outdated, but some taxpayers were unwilling to update the system and the cashier machines. The solution provided by the BPPKAD of Surakarta was to provide TMD with the Cash Register printer output or point of

- Sales printer output, but taxpayers refused to use it because they had a particular operating system. This became a barrier to the installation of TMD in the business location.
- b. Unstable GSM connection. A stable GSM connection is required to send data from TMD to Simpasa Dashboard on time. In some areas, network issues delayed data distribution and hampered TMD monitoring.
 - c. Inappropriate data retrieval method in reading transactions. Some restaurants sell items such as souvenirs, cigarettes, and other items that are not subject to restaurant taxes. Any purchases made in the restaurant were included in the payment on the same invoice. Although transactions subject to restaurant tax were assigned a separate code at the time of installation, several identification errors resulted in less precise data recorded on the TMD.
 - d. Incorrect delivery of problem status from the tool. The TMD status appearing on the Simpasa Dashboard was less accurate. The BPPKAD could not confirm that the TMD installed was turned on, but there was a network problem, damage, or the taxpayer turning it off on purpose. As a result, there was insufficient evidence to conduct direct inspections in the field. This became an evaluation for the BPPKAD, regional banks, and Finnet to help improve TMD.
 - e. Improper device installation. TMD is an electronic device that must meet specific temperature requirements to function properly. Some taxpayers placed TMD in places where it was prone to damage and could not be used properly.

Restaurant Tax Revenue in Surakarta before and after TMD Installation

Restaurant tax revenue in Surakarta before TMD installation

Restaurant tax is a type of tax that is collected by employing a self-assessment system, in which the taxpayer actively participates in calculating, depositing, and reporting the tax payable. The TMD is used to test the level of taxpayer compliance. With this device, the BPPKAD of Surakarta can compare the amount of tax deposited with the tax that should be paid based on the turnover recorded by the TMD (Wijayanti & Aris, 2020).

According to the BPPKAD of Surakarta, TMD installation and operation began in September 2017. However, restaurant tax revenues for that year could not be used to compare restaurant tax revenues after the TMD. This is because the number of months before the TMD was installed was greater than the number of months after the TMD was installed. Furthermore, TMD installation became effective in 2018. As a result, this study used the data from 2014 to 2017 (before TMD installation) and 2018 to 2021 (after TMD installation). The following is a table of restaurant tax revenue of Surakarta before the TMD installation.

Table 1. Restaurant tax revenue between 2014 and 2017 (before TMD Installation)

Year	Target	Realization	Percentage
2014	18,260,155,000	21,972,680,909	120.33%
2015	21,856,031,000	24,696,017,859	112.99%
2016	26,500,000,000	31,625,753,614	119.34%
2017	32,014,407,280	36,406,367,255	113.72%

Source: The BPPKAD of Surakarta

Table 1 shows that tax revenues continued to increase for three consecutive years, by IDR2,723,336,950 in 2015, IDR6,929,735,755 in 2016, and IDR4,780,613,641 in 2017. To support the analysis, data on the number of restaurants registered as taxpayers from 2014-2017 are presented in Table 3.2.

Table 2. Number of restaurant taxpayers between 2014 and 2017

Year	Number of Taxpayers	Increase	Year
2014	708		2014
2015	788	80	2015
2016	859	71	2016
2017	1,040	181	2017

Source: BPPKAD of Surakarta, processed data

Table 2 shows that the increase in the number of taxpayers is not an indicator of increasing restaurant tax revenues. It is known that the highest increase in income occurred in 2016, while the increase in the number of registered restaurant taxpayers was smaller than in 2015 and 2017. On the other hand, a significant increase in the number of restaurant taxpayers occurred in 2017, but the increase in restaurant tax revenues was far behind from 2016 when viewed from the addition of restaurant taxpayers.

Regional Regulation Number 4 of 2011 was used as the basis for calculating restaurant taxes from 2014 to 2017. This demonstrates that there have been no changes in rates or other provisions that could increase restaurant tax revenues. Based on the data presentation and explanation above, the increase in tax revenue over the last three years was due to economic growth, which also contributed to an increase in restaurant turnover and taxpayer compliance. The realization of restaurant tax revenues always exceeded the target of the BPPKAD of Surakarta.

Restaurant tax revenue in Surakarta after TMD installation

TMD began to be effectively implemented in 2018 for restaurants with a large number of buyers and customers who had indications that their tax reporting did not match turnover. Due to the limited number, not all restaurants had transaction recording devices or TMD. The BPPKAD first surveyed restaurants in Surakarta via the Regional Coordinator to determine the restaurants in which TMD would be installed and given socialization relating to the purpose of TMD installation. Concerning the explanation in point a, the following table shows the restaurant tax revenue of Surakarta after the TMD installation.

Table 3. Restaurant tax revenue between 2018 and 2021 (after TMD Installation)

Year	Target	Realization	Percentage
2018	40,000,000,000	45,335,613,668	113.34%
2019	48,500,000,000	58,625,733,166	120.88%
2020	28,000,000,000	35,726,188,926	127.59%
2021	43,000,000,000	39,900,481,500	92.79%

Source: BPPKAD of Surakarta

Table 3 shows how restaurant tax revenues fluctuated between 2018 and 2021. Tax revenue increased by IDR8,929,246,413 in 2018, the first increase since the implementation of TMD, which was higher than that in previous years. Furthermore, in 2019, there was a significant increase of IDR13,290,119,498, which was the largest increase between the years before and after the installation of TMD. However, the realization of tax revenue decreased significantly in 2020, totaling IDR22,899,544,240. This was the first decline between 2014 to 2021, caused by the Covid-19 pandemic. Tax revenue increased by IDR4,174,292,574 in 2021.

TMD, according to the BPPKAD of Surakarta, was one of the factors contributing to an increase in restaurant tax revenues. This is because the BPPKAD monitors the reported turnover to reduce leakage. However, not all taxpayers fulfill their tax obligations. Several restaurants intentionally turn

off TMD to manipulate the recorded turnover. Furthermore, the equipment was damaged multiple times, rendering it inoperable, but the restaurant taxpayer chose not to report the damage but profited from the incident. If the taxpayer is found to have purposefully turned off the TMD, the BPPKAD will issue a warning letter. Taxpayers who disregard the warning letter and continue to turn off the TMD will be dealt with by the Civil Servant Investigator (*Penyelidik Pegawai Negeri Sipil/PPNS*) from the BPPKAD.

Table 3 presents that restaurant tax revenues in Surakarta increased significantly two years after TMD installation. Based on the findings of this study, several factors influence the increase in restaurant tax revenues, including the implementation of Regional Regulation Number 11 of 2018, which specifies a 10% restaurant tax rate. Before the passage of the regulation, restaurant tax rates were classified into three categories: 1) 10% discount for restaurants with monthly revenue of IDR10,000,000 or more, 2) 5% rate for restaurants with monthly revenue of IDR5,000,000 to IDR 10,000,000, and 3) a 3% rate applies to restaurants with monthly revenue of IDR1,000,000 to IDR 5,000,000.

Furthermore, the Covid-19 pandemic has significantly reduced restaurant tax revenues in Surakarta. As reported by Ricky (2020), the Head of BPPKAD of Surakarta said that many restaurants experiencing a decrease in turnover in 2020 requested tax breaks, and some restaurant outlets were forced to close due to the pandemic. Nonetheless, the tax revenue received exceeded the target set by BPPKAD of Surakarta. In 2021, BPPKAD raised the target for restaurant tax revenues, but the realization was only 92.79 percent, marking the first time that Surakarta city restaurant tax revenue did not meet the target between 2014 and 2017.

Data from the BPPKAD of Surakarta reported that 1,390 restaurants have been registered as restaurant taxpayers in Surakarta as of 2021. Meanwhile, only 157 (11.29%) of the total taxpayers install TMD at their restaurants, all of which can operate well. If the device is damaged, it will be repaired or replaced immediately by the BPPKAD of Surakarta. However, in this case, TMD merely supports the increase in restaurant tax revenue, instead of calculating the restaurant tax. Turnover and taxpayer compliance are two factors influencing restaurant tax revenues in Surakarta. The installation of TMD has little effect on the increase in tax revenue of the city.

Contribution of Restaurant Tax to Regional Tax and PAD of Surakarta before and after Installation of Terminal Monitoring Device

The restaurant tax is one of the regional taxes that contribute to PAD (DJPK Kementerian Keuangan, n.d.). The installation of TMD could be one of the efforts made by BPPKAD of Surakarta to maximize regional taxes and PAD for regional development. The higher the restaurant tax revenue, the greater the contribution to regional taxes and PAD. In this discussion, a table of restaurant tax contributions to regional taxes and PAD is presented, calculated using the formula:

$$\text{Contribution} = \frac{\text{Restaurant tax revenue realization}}{\text{Regional tax/ PAD realization}} \times 100\%$$

Source: Halim (2004)

According to Fuad Bawazier (1999) in Wulandari et al. (2015), to interpret the contribution level of restaurant tax revenue realization to regional taxes and PAD, the indicators in the following table are used.

Table 4. Contribution criteria indicators

Number	Percentage	Criteria
1.	0—0.9%	Relatively non-contributing
2.	1—1.9%	Less contributing
3.	2—2.9%	Fairly contributing
4.	3—3.9%	Contributing
5.	>4%	Highly contributing

Source: Fuad Bawazier (1999)

Figure 4 depicts the trend of the contribution of restaurant tax revenue to regional taxes and PAD in Surakarta, which is explained in the following point and is divided into two parts, namely the contribution before and after the installation of the TMD.

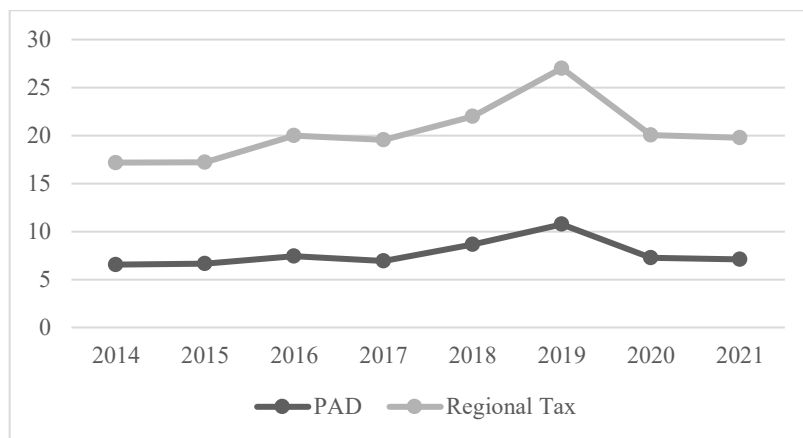


Figure 4. Trends in the contribution of restaurant tax revenue to regional taxes and PAD

Contribution of restaurant tax before TMD installation

Table 5. Contribution of restaurant tax revenue to regional taxes between 2014 and 2017 (before TMD installation)

Year	Regional Tax Realization	Restaurant Tax Revenue Realization	Contribution	Contribution Criteria
2014	206,750,725,212	21,972,680,909	10.63%	Highly contributing
2015	233,085,404,386	24,696,017,859	10.60%	Highly contributing
2016	252,052,998,369	31,625,753,614	12.55%	Highly contributing
2017	288,421,242,637	36,406,367,255	12.62%	Highly contributing
Average Contribution			11.60%	Highly contributing

Source: BPPKAD of Surakarta, processed data

Table 6. Contribution of restaurant tax revenue to pad between 2014 and 2017 (before TMD installation)

Year	PAD Realization	Restaurant Tax Revenue Realization	Contribution	Contribution Criteria
2014	335,660,206,640	21,972,680,909	6.55%	Highly contributing
2015	372,798,426,790	24,696,017,859	6.62%	Highly contributing
2016	425,502,779,064	31,625,753,614	7.43%	Highly contributing
2017	527,544,224,970	36,406,367,255	6.90%	Highly contributing
Average Contribution			6.88%	Highly contributing

Source: BPPKAD of Surakarta, processed data

Tables 5 and 6 show that restaurant tax revenue contributed 0.03% less to regional taxes in 2015, while it contributed 0.07% more to PAD. In 2016, restaurant tax revenues increased their contribution to regional taxes and PAD by 1.95% and 0.81%, respectively. This increase is directly proportional to the increase in restaurant tax revenue realization in 2016, which was quite large and represented the highest increase between 2014 and 2017. Furthermore, in 2017, it increased its contribution to regional taxes by 0.08% to 12.62%, while decreasing its contribution to PAD by 0.53%. Restaurant tax revenues contributed 11.60% to regional taxes on average, while its average contribution to PAD was much lower, at 6.88%.

The preceding description demonstrates that the increase in the realization of regional taxes and PAD is directly proportional to the increase in the realization of restaurant tax revenues, which continues to rise year after year. Although restaurant tax revenue realization always exceeded the target over four years, its contribution to regional taxes and PAD did not always increase but fluctuated between 2014 and 2017. Because of the small difference, the increase and decrease are considered reasonable.

Contribution of restaurant tax after TMD installation

Table 7. Contribution of restaurant tax revenue to regional taxes between 2018 and 2021 (after TMD installation)

Year	Regional Tax Realization	Restaurant Tax Revenue Realization	Contribution	Contribution Criteria
2018	339,929,155,611	45,335,613,668	13.34%	Highly contributing
2019	360,053,930,720	58,625,733,166	16.28%	Highly contributing
2020	279,273,759,740	35,726,188,926	12.79%	Highly contributing
2021	315,917,760,826	39,900,481,500	12.63%	Highly contributing
Average contribution			13.76%	Highly contributing

Source: BPPKAD of Surakarta, processed data

Table 8. Contribution of restaurant tax revenue to pad between 2018 and 2021 (after TMD installation)

Year	PAD Realization	Restaurant Tax Revenue Realization	Contribution	Contribution Criteria
2018	525,125,554,686	45,335,613,668	8.63%	Highly contributing
2019	546,020,008,117	58,625,733,166	10.74%	Highly contributing
2020	492,776,208,640	35,726,188,926	7.25%	Highly contributing
2021	560,526,551,684	39,900,481,500	7.12%	Highly contributing
Average contribution			8.43%	Highly contributing

Source: BPPKAD of Surakarta, processed data

Concerning increased restaurant tax revenues in 2018 and 2019, the percentage of restaurant tax revenues contributing to regional taxes and PAD in Surakarta increased as well. In 2018, the regional taxes increased by 0.71%, while PAD increased by 1.73% over the previous year. Furthermore, in 2019, the contribution of restaurant tax revenues to regional taxes increased by 2.95%, and its contribution to PAD increased by 2.11%, the highest increase between 2014 and 2021. Due to the decline in the realization of restaurant tax revenues during the Covid-19 pandemic, the percentage of restaurant tax revenue contribution to both regional taxes and PAD decreased by 3.49% in 2020. Then, in 2021, its contribution to regional taxes experienced a 0.16% decrease and its contribution to PAD experienced a 0.13% decrease.

The average contribution of restaurant tax revenue to regional taxes was 13.76% while its contribution to PAD was 8.43%. This figure was greater than the contribution before TMD installation. This positive difference was attributed to the increase in restaurant tax revenues after the TMD. However, the installation of TMD did not have a significant effect on the contribution of restaurant tax revenues to PAD in Surakarta.

Findings

The research conducted at the BPPKAD of Surakarta on the relationship between the installation of TMD and the increase in restaurant tax revenues in Surakarta for the 2014-2021 period has several strengths and weaknesses, which are summarized as follows:

1. Strengths
 - a. Simpasa Dashboard contains data required by BPPKAD to monitor taxpayers' use of TMD.
 - b. Because taxpayers cannot determine the number of transactions recorded by TMD, this device is used to test taxpayer compliance in depositing their tax payable.
 - c. Restaurant tax revenues in Surakarta always increased between 2014 and 2021, except for 2020 due to the pandemic. However, the impact of TMD could not be identified because of the absence of data showing the exact amount of realized tax revenue for restaurants in which TMD was installed between 2018 and 2021.
2. Weaknesses
 - a. There is no separation of tax revenues obtained from restaurants with TMD and those without TMD installed to identify the effect of TMD in increasing restaurant tax revenues in Surakarta.
 - b. The BPPKAD lacks data showing the target of installing TMD each year to calculate the percentage of TMD installation and the predetermined target.
 - c. Damage to the TMD and loopholes used to deceive the TMD system cause discrepancies between the amount recorded in the TMD and the taxpayer's turnover.
 - d. The non-optimal installation of TMD was fully identified based on interviews with BPPKAD of Surakarta as the party making the regulations and there were no interviews with taxpayers.

CONCLUSION

Based on the results of analysis and discussion, this study draws several points of conclusion. TMD, as a transaction monitoring device, did not produce significant results in increasing restaurant tax revenues in Surakarta between 2018 and 2021. TMD installation, on the other hand, covered 11.29% of all restaurants registered as taxpayers. The increase in tax revenue from 2014 to 2017 was attributed to economic growth, which also contributed to an increase in turnover, which had an impact on increasing tax revenue. Meanwhile, the increase in tax revenues in 2018-2019 was caused not only by the installation of TMD but also by the implementation of Regional Regulation Number 11 of 2018. The decline in 2020 was due to the pandemic, while tax revenues increased in 2021. During the 2018-2021 period, the average contribution of restaurant tax revenue to regional taxes and PAD increased. Some obstacles caused the TMD installation was not optimal in increasing the restaurant tax revenues, including taxpayer/group refusal, limited funding, inadequate monitoring, low taxpayer compliance, improper installation target, inadequate taxpayer system, unstable GSM connection, inappropriate data retrieval method when reading transactions, improper device delivery of the problem status, improper device installation.

The researchers propose suggestions to the BPPKAD of Surakarta for optimizing the installation of TMD to increase restaurant tax revenues of Surakarta, as well as for future research, as follows: 1) it is recommended that BPPKAD Surakarta conduct a further evaluation of the installation

of TMD in restaurants where indications of fraud in depositing taxes owed are identified, to optimize the number of TMD available for use to increase restaurant tax revenues in Surakarta; 2) the system for sending transaction data from taxpayers should be improved to enable real-time transactions connected with Simpasa Dashboard so that translation data manipulation can be minimized; 3) funding must be provided following the regulations that govern optimal and comprehensive TMD installation; 4) it is suggested that the BPPKAD of Surakarta collaborate with the Tax Service Office (KPP) to synchronize restaurant turnover data; 5) as the economy recovers from the Covid-19, the BPPKAD of Surakarta should re-monitor restaurants that have TMD installed, ensuring that every device is properly used and imposing sanctions on restaurants that intentionally turn off the equipment; 6) it is preferable to conduct interviews with taxpayers regarding the installation of TMD in the future research so that the results presented are more accurate and not only seen from one side, namely the BPPKAD of Surakarta.

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