




“Determinants of restaurant tax compliance: The moderating role of technology-based monitoring”

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DETERMINANTS OF RESTAURANT TAX COMPLIANCE: THE MODERATING ROLE OF TECHNOLOGY-BASED MONITORING

Abstract

Restaurant tax is a crucial source of funding for local government's development activities. However, there is still very limited research that analyzes restaurant tax compliance in the context of today's rapidly growing e-commerce. This paper is relevant because the growth of e-commerce-based restaurants in local governments in Indonesia contrasts with the decrease in tax revenues. This study aims to analyze the determinants of restaurant tax compliance using e-commerce and self-assessment systems as independent variables and technology-based tax monitoring as a moderating variable. The sample consists of 68 payers of restaurant tax in the city of Semarang, Indonesia, who have used e-commerce to transact their business. The testing of the hypotheses was carried out using partial least squares-structural equation modeling (PLS-SEM). The results show that the self-assessment system has a positive significant effect on tax compliance with a path coefficient of 0.31. Technology-based tax monitoring significantly affects tax compliance with a path coefficient of 0.52. Technology-based tax monitoring acts more as the main determinant rather than as a moderating variable. The study stresses the importance of implementing technology-based restaurant tax monitoring for local governments. Local finances, primarily funded by local taxes such as the restaurant tax, are essential for bolstering regional budgets. These funds directly contribute to public services and infrastructure, making restaurant tax compliance vital for local government autonomy and development.

Keywords

restaurant tax, tax compliance, e-commerce, self-assessment system, technology-based tax monitoring

JEL Classification

H70, H71, H72

INTRODUCTION

As a source of funding for local governments, local taxes play an important role in ensuring the success of development. These taxes, which form the bedrock of the local budget, include various levies such as property taxes, business permits, and specific consumption taxes like the restaurant tax. Therefore, these governments, in accordance with their autonomous authority, carry out various tax optimization policies. The growth of restaurants through e-commerce platforms makes this sector an ideal target for optimization. However, the increasing number of e-commerce-based restaurants is not directly proportional to the tax revenue they generate. Indeed, there is low tax compliance on the part of e-commerce restaurants, and this is the result of several factors: the insufficient transparency of tax payments through the e-commerce system, the lack of education for taxpayers, and regulatory gaps in the applicable regulations that have not specifically addressed the levying of taxes from e-commerce-based restaurants.

The rapid growth of the restaurant business has occurred due to the integration of technology into the processes by which this sector provides its services. Online services allow restaurant owners to reduce operational capital, expand service coverage, and increase connectivity with customers. Service excellence has led to significant growth in restaurant business activities through online services, also known as e-commerce. Although the growth of e-commerce-based restaurant services has increased significantly, there is still limited empirical research analyzing the tax compliance model for restaurant business owners.

Therefore, further research is needed on the restaurant tax compliance model as one of the inputs for policies to improve taxpayer compliance. Previous research has looked at the relationship between e-commerce and tax compliance. These studies have observed the causal relationships between e-commerce, self-assessment systems, and tax compliance. However, no research has specifically covered tax compliance in the restaurant sector. In addition, these studies have not observed how technology-based restaurant tax monitoring moderates the effects of e-commerce and the self-assessment system on the tax compliance of restaurant taxpayers.

1. LITERATURE REVIEW

Throughout its development, public administration has experienced various paradigm shifts. Public administration experienced a fundamental change when it moved from the traditional public administration paradigm to the new public management paradigm, and then to the new public service paradigm (Abdelfattah & Aboud, 2020; Andreoni et al., 1998). This paradigm shift has occurred because the provision of services to the public, which is the goal of public administration, has not been following the principles that should underpin public services. In the new paradigm for the management of public services, for example, those services are provided with a concept known as “run government like a business.” This concept establishes a relationship between the government and the community that is akin to the one between a bureau or agency and a customer, which is contrary to the principles of public service under a democratic government (Kawasaki et al., 2022; Minjo, 2016).

The difference between the implementation of new public management and the principles of public service has drawn a number of criticisms, which later gave birth to a new approach known as the new public service paradigm (Yaghi, 2009). This paradigm is a concept introduced by R. Denhardt and J. Denhardt (2003), which is the antithesis of new public management. According to their study, the government should not perform public services like a business. They also argue that public services should be fair, equitable, honest, democratic, and accountable.

In the context of taxation, the application of new public service is considered capable of becoming a public service instrument that can promote good governance in taxation. The application of new public service should be the answer to the factors that affect taxpayer tax compliance, both in terms of the complexity of the payment process and the transparency and accountability with regard to the taxes paid (Yusuf et al., 2020; Aprilina, 2020). This application can then build government trust, which, according to Kirchler et al. (2008), can create voluntary tax compliance within a “slippery slope” framework (SSF).

According to Kirchler et al. (2008), government trust creates a synergistic relationship between the government as a tax authority and taxpayers. This means that the government is considered a part of the community that serves the community, so people tend to comply with their tax obligations. This tendency, which is due to the application of the new public service paradigm, is explained in the theory of planned behavior proposed by Ajzen (1991) as a behavior belief where people act, in this case obeying their tax payments, because of the belief in the benefits they get. According to optimal taxation theory, tax optimization is carried out through a multi-characteristic tax model, budget constraint optimization, and multi-sector tax revenue (Mirrlees, 1976). This theory initiated the practice of tax optimization in order to increase tax revenue through tax intensification or extensification (Thalib et al., 2020).

Stiglitz (1985) states that the opportunity for tax avoidance depends on the regulations and the strictness of the system that applies them. Loose regulations and tax systems can create new loopholes for taxpayers to avoid compliance with their tax obligations. This opinion is in line with Kirchler et al. (2008), who argue that to achieve voluntary tax compliance, trust on the part of the authorities is needed through appropriate tax regulations. Proper regulation and strictness of the tax system can close the tax avoidance gap, thus increasing the possibility that taxpayers will comply in terms of paying their taxes.

Meanwhile, the expansion of restaurant services through e-commerce has raised new challenges in taxation (Agbo & Nwadiolor, 2020). The novelty of the payment mechanism presented by e-commerce has still not been accommodated by the applicable tax regulations. According to Galuh (2020), the e-commerce restaurant tax payment mechanism still does not clearly state the type of tax paid. This creates the perception that the restaurant tax has been paid even though only income tax was paid.

The emergence of this misperception is caused by the non-transparency of the automatic tax payment mechanism in e-commerce-based restaurants (Galuh, 2020; Opara, 2014). This can mean that restaurant taxpayers inadvertently do not comply with their tax payments. The reason for this is that the non-transparent tax payment mechanism allows the emergence of tax avoidance loopholes, which then affect the tax compliance of restaurant taxpayers.

The emergence of loopholes that allow avoidance and cause a decrease in tax compliance is described and explained by Stiglitz (1985); he cites delayed payments, arbitrage between individuals, and arbitrage between types of income that have different tax treatments. These loopholes arise due to the unclear nature of the tax that was paid automatically. This can give rise to misperceptions of tax payments (Galuh, 2020).

Based on the principles put forward by Stiglitz (1985), as well as a description of the e-commerce-based restaurant business transaction model (Arinze et al., 2018; Galuh, 2020), the e-commerce tax payment mechanism has an influence on the

incidence of tax compliance. This is based on the opportunity to engage in avoidance that arises depending on the strictness of the system.

Aprilina (2020) finds that e-commerce has a positive effect (with a significant value) on the intention to engage in tax avoidance. In addition, Agbo and Nwadiolor (2020) also confirm this result, stating that e-commerce has a positive effect on taxpayer compliance in paying taxes.

However, Harbolt (2019) states that clear policies and legal certainty can actually reduce tax avoidance on e-commerce platforms. This statement emphasizes that the tax payment mechanism in e-commerce platforms and good tax regulations can reduce the level of tax avoidance. Thus, the better the e-commerce platform tax payment mechanism for restaurants, the higher the restaurant taxpayer tax compliance.

A self-assessment system is part of a broader tax collection system that gives full authority to taxpayers to calculate, pay, and report their tax payments (Erawati & Pelu, 2021; Setyadi & Sumarsono, 2020). In practice, this self-assessment system often creates loopholes that allow tax avoidance (Setyadi & Sumarsono, 2020). The emergence of such loopholes is due to the discretion possessed by taxpayers. As explained by Stiglitz (1985), tax avoidance is engaged based on three principles: delay, arbitration between individuals, and arbitration between incomes. These three principles can be easily followed when the system is not optimal because of the large degree of discretion that taxpayers have.

Stiglitz (1985) confirms the ease of avoidance due to the discretion of taxpayers when the system is not running optimally. The three basic principles of tax avoidance depend on the regulations and strictness of the system that applies them. Regulations and system strictness can narrow the opportunities for taxpayers to engage in tax avoidance.

Through proper regulations and system strictness, the self-assessment system is likely to stimulate taxpayer compliance. This is due to the government's trust in taxpayers to make payments independently (Erawati & Pelu, 2021; Wardani

& Nurhayati, 2019). This government trust is believed to build a trusting relationship with taxpayers, as described in the “slippery slope” framework (Kirchler et al., 2008). Based on this framework, a trusting relationship between the government and taxpayers can increase tax compliance, known as voluntary tax compliance. Kirchler et al. (2008) also note that voluntary tax compliance can foster a mutually supportive relationship between the two parties, such as a service provider and its client.

Meanwhile, when the regulations and strictness of the system have not been optimized in the practice of the self-assessment system, it has led to cases of tax avoidance in e-commerce-based restaurants. The non-transparency of the e-commerce business model regarding restaurant tax payments provides more opportunities for tax avoidance, meaning that it can reduce the level of taxpayer compliance (Arinze et al., 2018; Galuh, 2020; Erawati & Pelu, 2021; Setyadi & Sumarsono, 2020). This is confirmed by Wardani and Nurhayati (2019), as a tax collection system that uses a self-assessment system has a significant effect on tax avoidance intentions. Setyadi and Sumarsono (2020) also reinforce this finding. Taxpayers’ understanding of the self-assessment system and their associated responsibilities can help reduce tax avoidance (Setyadi & Sumarsono, 2020). Thus, it is argued that the better the self-assessment process in the collection system, the higher the tax compliance of restaurant taxpayers.

The complexity that arises due to technological developments causes new problems in the taxation sector (Harbolt, 2019; Bryson et al., 2015). In the context of e-commerce-based restaurants, for example, tracking transaction results, the transparency of tax payments, and monitoring of tax payments have become more complicated due to technological developments (Agbo & Nwadiolor, 2020; Galuh, 2020). This complexity requires adaptation on the part of the tax authority; it has to adjust its policies to technological developments.

Adapting policy to reflect changes in both technology and society is certainly important if a policy is to remain relevant. Transparency can be increased through open access to information, participation can be increased through discretion and involvement, and efficiency can be increased by accelerat-

ing the flow of information through technological adaptation (Benk & Budak, 2012; Cullis & Lewis, 1997; Dawes et al., 2009; Friskianti & Handayani, 2014; Gil-Garcia & Sayogo, 2016; Rojko, 2017).

Adaptation to change in the form of tax policy modernization is basically a step that the government takes to increase its trust through the construction of an ideal tax system that is not too complicated for taxpayers (Bimonte & Stabile, 2015).

The emergence of encouragement to comply with tax obligations due to trust in the tax authority is explained by Kirchler et al. (2008). Trust in authorities arises when there is a positive reciprocal relationship between the community, as taxpayers, and the government, as a tax authority.

With the development of digitalization, tax authorities have adopted technological solutions to improve taxpayer compliance and tax revenue. Okunogbe and Santoro (2022) argue that technology can achieve these goals by helping tax authorities identify the tax base, facilitating compliance and monitoring compliance.

Through technological adaptation, especially in tax monitoring, taxpayers can be facilitated at various stages in paying their tax obligations (Farida, 2019). The convenience of the process at various stages of tax reporting and payment is considered capable of improving the quality of the tax system. This improvement in its quality is expected to increase taxpayer compliance (Ardyaksa & Kiswanto, 2014; Okunogbe & Santoro, 2022).

Several previous studies have examined the impact of technological adaptation in taxation on taxpayer compliance. Awaloedin and Maulana (2018) and Ginting and Tambunan (2022) found that the application of technology to the e-filing system has a positive and significant effect on individuals’ taxpayer compliance. In line with these findings, Chusaeni and Oktaviani (2018) also find that the e-filing system has a significant effect on tax compliance, with mastery of technology and user perception of convenience moderating the tendency to use it. Thus, the better the technology-based restaurant tax monitoring, the better the tax compliance of restaurant taxpayers.

Technology-based tax monitoring is a digitalization mechanism used by the tax government to improve taxpayer compliance. Tax authorities have used several technological tools, such as electronic fiscal devices (EFD) as electronic devices used to record financial transactions automatically and in real-time, especially for taxpayers who have transactions in the restaurant, cafe, and hotel sectors. EFD helps local governments to improve taxpayer compliance, administrative efficiency, and local tax revenues. Digitalization also takes the form of e-filing and e-payment to reduce queues and errors due to manual transactions. Tax authorities in various countries, including Indonesia, have also used modern technology to monitor and enforce compliance through automated checks on self-reported tax liabilities against other data sources (Okunogbe & Santoro, 2022). Technology-based tax monitoring can support risk-based tax audits, thereby improving efficiency in audit implementation (Okunogbe & Santoro, 2022).

This study aims to analyze the determinants of restaurant tax compliance using e-commerce and self-assessment systems as independent variables and technology-based tax monitoring as a moderating variable.

Based on the literature review, the following hypotheses are proposed:

- H1: *Tax payment mechanism on the e-commerce platform positively affects restaurant tax compliance.*
- H2: *Self-assessment system positively affects restaurant tax compliance.*
- H3: *Technology-based monitoring of restaurant tax positively affects restaurant tax compliance.*
- H4: *Technology-based restaurant tax monitoring strengthens the role of e-commerce in improving restaurant tax compliance.*
- H5: *Technology-based monitoring of restaurant tax strengthens the role of the self-assessment system in improving restaurant tax compliance.*

2. METHOD

The population in this study comprises e-commerce-based GoFood restaurants registered as taxpayers in the city of Semarang. This city was chosen as the research location because it is the largest economic center in Central Java, with a rapidly growing business ecosystem, especially in the digital-based culinary sector. As the municipality with the highest Regional Original Income in Central Java from 2016 to 2020, Semarang has policies that support digitization and tax innovation. In addition, the number of GoFood vendors in the city increased by 3,668.44% during the COVID-19 pandemic, indicating high adoption of e-commerce platforms in the culinary industry. With its significant restaurant tax contribution and strategic role in e-commerce-based tax policy implementation, Semarang is an ideal location for this study. Data were collected using a questionnaire distributed to restaurant owners or employees who manage their taxes.

Of the total 200 questionnaires distributed to GoFood restaurant owners in the city of Semarang, 145 questionnaires were returned, of which 77 could not be processed for various reasons, such as incompleteness or errors in filling it out. Thus, 68 questionnaires were deemed valid and ready to be used for further analysis. The percentage of valid questionnaires from the total number of questionnaires distributed was 34%.

This study used partial least square structural equation modeling (PLS-SEM) as the analysis technique. The first step in the PLS-SEM analysis involves assessing the measurement model to ensure that the reliability and validity of the constructs align with predefined criteria (Hair et al., 2022; Kock, 2020).

PLS-SEM is capable of working efficiently with small sample sizes and complex models (Hair et al., 2022). According to Hair et al. (2022), the sample size for the model can be estimated using the “10-times rule of thumb” method, which in practice means the maximum number of arrows (paths) that affect a latent variable in the PLS-SEM model is multiplied by ten. Because there are five arrows (paths) that affect the restaurant taxpayer compliance, the minimum sample required is 50.

This study also refers to Kock and Hadaya (2018), who state that the sample size in the PLS-SEM model can be estimated using the inverse square root method. With this method, by considering a minimum path coefficient of 0.31, a power level of 0.8, and a significance level of 0.05 or 5%, the minimum sample size is 39.

The e-commerce variable is measured by indicators in the form of ease of use of the e-commerce technology (Gavilan et al., 2021) and the tax payment mechanism being directly available on the e-commerce platform (Gavilan et al., 2021). Another independent variable is the self-assessment system, which is measured by indicators in the form of awareness of taxpayer authority in payment (Setyadi & Sumarsono, 2020) and ease of use of the payment mechanism through the self-assessment system (Wardani & Nurhayati, 2019). Technology-based tax monitoring is a digitalization mechanism used by tax authorities to enhance taxpayer compliance (Okunogbe & Santoro, 2022).

Technology-based tax monitoring variables are measured using indicators of ease of making tax calculations, ease of making tax payments with technology-based monitoring, and

ease of reporting with technology-based monitoring (Okunogbe & Santoro, 2022; Agbo & Nwadiakor, 2020; Harbolt, 2019). The tax compliance variable is measured by using payment delays (Aprilina, 2020; Stiglitz, 1985), minimization of tax payments (Stiglitz, 1985), taxpayer awareness, and taxpayer sense of responsibility (Setyadi & Sumarsono, 2020; Stiglitz, 1985) as indicators.

3. RESULTS

Table 1 shows that the constructs' reliability is affirmed, as both the composite reliability and Cronbach's alpha fall within the acceptable range, typically exceeding 0.70 (Hair et al., 2022; Kock, 2020). The convergent validity is validated, supported by all AVE values as they exceed 0.50, indicating acceptable convergent validity. Moreover, the factor loadings for all indicators meet the convergent validity criteria, as depicted in the factor loading range column for all constructs, each surpassing 0.70.

Table 2 shows the results of the heterotrait-monotrait ratio (HTMT) analysis to test the discriminant validity between constructs in the model. All

Table 1. Reliability and validity

| Variables | Composite Reliability | Cronbach's Alpha | AVE | Factor Loading Range |
|---------------------------------|-----------------------|------------------|-------|----------------------|
| E-commerce | 0.988 | 0.901 | 0.944 | 0.951–0.980 |
| Self-assessment systems | 0.992 | 0.991 | 0.940 | 0.954–0.981 |
| Technology-based tax monitoring | 0.995 | 0.994 | 0.967 | 0.703–0.744 |
| Tax compliance | 0.992 | 0.963 | 0.951 | 0.974–0.991 |

Table 2. Heterotrait-monotrait ratios (HTMT)

| Variables | E-commerce | Tax compliance | Technology-based tax monitoring |
|---------------------------------|------------|----------------|---------------------------------|
| E-commerce | – | – | – |
| Self-assessment systems | 0.891 | – | – |
| Technology-based tax monitoring | 0.866 | 0.841 | – |
| Tax compliance | 0.852 | 0.860 | 0.878 |

Table 3. Path coefficients and p-values

| Structural/hypothesized paths | Coefficient | p-value | Conclusion |
|---|-------------|---------|-----------------|
| E-commerce → Tax compliance | 0.052 | 0.645 | H1 is rejected |
| Self-assessment systems → Tax compliance | 0.311 | 0.010 | H2 is supported |
| Technology-based tax monitoring → Tax compliance | 0.521 | 0.000 | H3 is supported |
| E-commerce * Technology-based → Tax compliance | –0.222 | 0.040 | H4 is rejected |
| Self-assessment * Technology-based → Tax compliance | 0.120 | 0.166 | H5 is rejected |

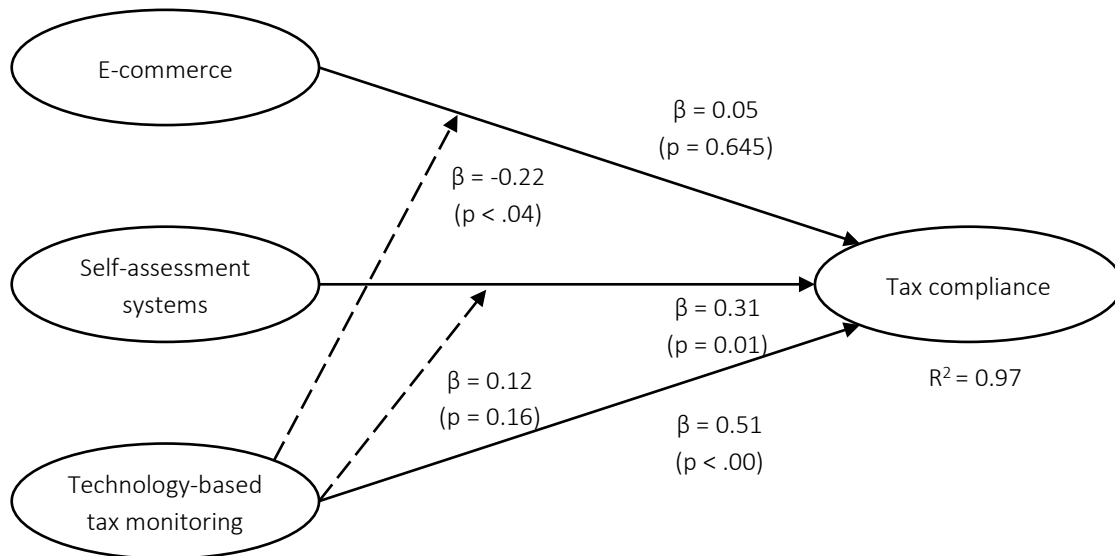


Figure 1. Structural model

HTMT values are below the tolerance limit of 0.90, according to the criteria of Hair et al. (2022), indicating that discriminant validity is met. These results indicate that each construct in the model has adequate differences, supporting the reliability of the research model.

Table 3 presents the results of the hypothesis testing using PLS-SEM analysis, and Figure 1 presents a summary of the structural model results from the PLS-SEM.

The results of the PLS-SEM test in Table 3 and Figure 1 show that the e-commerce variable does not have a significant positive effect on restaurant taxpayer compliance ($\beta = 0.05$, p -value = 0.64), so hypothesis 1 is rejected. The self-assessment system variable has a significant positive effect on restaurant taxpayer compliance ($\beta = 0.31$, p -value = 0.01), so hypothesis 2 is supported. Likewise, the technology-based tax monitoring variable has a significant positive effect on restaurant taxpayer compliance ($\beta = 0.51$, p -value = 0.00), supporting hypothesis 3. The moderation hypotheses of technology-based tax monitoring, namely *H4* and *H5*, are not supported because the interaction coefficients are not significant. These results indicate that the technology-based tax monitoring variable is the main determinant because its path coefficient as an independent variable is significant, while as a moderating variable, it is not statistically significant.

4. DISCUSSION

The results show that, although there is a positive path coefficient, the effect of the e-commerce-based tax payment mechanism on restaurant tax compliance is not significant. This may be due to other factors, such as taxpayer awareness and the effectiveness of the self-assessment process, that are not yet optimal. Gavilan et al. (2021) and Setyadi and Sumarsono (2020) showed that the ease of transactions offered by e-commerce can facilitate tax calculation and payment. However, this does not always guarantee increased tax compliance. Internal factors, such as taxpayer awareness and a sense of responsibility, are more influential than just the payment mechanism.

Galuh (2020) highlights that a non-transparent automatic tax payment mechanism can hinder compliance if taxpayers do not understand the type of tax being paid. Although the indicators of ease of use and the facility for making automatic tax payments were categorized as positive in this study, no significant relationship was detected between these indicators and increased restaurant tax compliance. This shows that, even though e-commerce technology facilitates the transaction process, its effectiveness in increasing tax compliance is highly dependent on transparency and taxpayers' understanding of their obligations.

E-commerce offers benefits in the transaction process and tax payments but still faces obstacles such as additional costs and technical issues. Consumers prefer to come directly to the restaurant, and the additional costs for the e-commerce platform are the reason for dissatisfaction. In addition, technical problems, such as system errors and the need for manual reconciliation, cause the tax process to not run smoothly. Although e-commerce makes it easier to access transaction data and tax payments in real time, system improvements are still needed to make the process more efficient and effective.

The respondents also acknowledged the importance of having a taxpayer registration number as a form of tax responsibility; however, the online registration mechanism is still perceived as being confusing. The documents that need to be uploaded are considered burdensome, which also affects restaurant tax compliance. The results of this study show that, although the e-commerce system makes it easier to pay and calculate taxes, some business owners feel that the tax burden imposed on consumers is an encumbrance that does not provide added value and reduces consumer interest.

The respondents indicated that the real-time transaction monitoring feature is invaluable. On the contrary, technical problems such as maintenance and system errors cause them to have to re-check manually. This hampers the efficiency of the process, indicating that suboptimal implementation can affect the overall level of tax compliance.

The results of this study indicate that the self-assessment system process has a significant positive effect on the level of restaurant tax compliance in the context of implementing e-commerce policies. These results indicate that the better the implementation of the self-assessment system, the higher the restaurant tax compliance. This finding is in line with Setyadi and Sumarsono (2020), who emphasized the importance of taxpayer awareness and responsibility in the self-assessment process to encourage tax compliance. An effective self-assessment process allows taxpayers to calculate, pay, and report their tax obligations more accurately and on time, which supports increased restaurant tax compliance.

Indicators in the self-assessment system, including awareness of tax obligations, ease of registering regional taxpayer registration numbers, and ease of tax calculation and payment, contribute to tax compliance. Wardani and Nurhayati (2019) state that the ease of the self-assessment process, such as creating a taxpayer identification number and calculating taxes, can positively affect tax compliance. This finding is in line with the results of the study, which showed that a good self-assessment process contributes to increasing restaurant tax compliance. Awareness and ease in the process enable taxpayers to be more consistent in fulfilling their obligations, thereby supporting higher tax compliance within the e-commerce ecosystem. Although the influence of the self-assessment system is significant, its implementation must be accompanied by adequate training and support for taxpayers. As stated by Harbolt (2019), technology and administrative systems can facilitate the tax process, but their effectiveness depends on the extent to which taxpayers understand and utilize the system properly. To ensure that the self-assessment system can optimally improve tax compliance, there need to be ongoing efforts to educate taxpayers on the use of the system and ensure that the process is simple and does not cause confusion.

The results of the study show that the implementation of technology-based tax monitoring through an e-commerce platform can significantly improve restaurant tax compliance. The better and more effective technology-based tax monitoring, the higher the level of restaurant tax compliance. This finding is consistent with Agbo and Nwadiolor (2020) and Okunogbe and Santoro (2022), who emphasized that technology increases ease and transparency in calculating, paying, and reporting taxes. By utilizing local taxes, such as the restaurant tax, represent a cornerstone of local government revenue, enabling the provision of essential public services and driving regional development. The proper collection and utilization of these funds are paramount for the financial health and growth of communities.

The indicators used in this study related to technology-based tax monitoring include ease of tax calculation, tax payment, and tax reporting integrated with technology. Harbolt (2019) reveals

that technology simplifies the process of tax registration, calculation, and reporting, which in turn can improve tax compliance. This finding suggests that technological features in e-commerce systems, such as easily accessible tax portals and electronic reporting systems, contribute to increased restaurant tax compliance. Technology that simplifies the tax process allows taxpayers to fulfill their obligations more efficiently and on time. Although technology-based tax monitoring has a significant impact, it is important to ensure that the technol-

ogy is implemented properly and supported by adequate policies. Effective monitoring depends not only on the existence of technology but also on the quality of the accompanying systems and policies. Technology must be integrated with strict monitoring policies and supported by adequate education to ensure optimal utilization by all parties involved. Therefore, updating and improving tax monitoring technology, as well as providing comprehensive training for taxpayers and tax officers, are essential to improving tax compliance.

CONCLUSION

This study aims to analyze the determinants of restaurant tax compliance using e-commerce and self-assessment systems as independent variables and technology-based tax monitoring as a moderating variable. The results indicate that e-commerce has no significant effect on the level of restaurant tax compliance. Technical and administrative constraints are still obstacles that require attention to improve the integration of e-commerce into the taxation process. The self-assessment system has a significant positive effect on restaurant tax compliance. Taxpayer awareness and responsibility, which are core components of the self-assessment system, play an important role in achieving a higher level of tax compliance. Technology-based tax monitoring has a significant positive effect on tax compliance by increasing convenience and transparency. Technology-based tax monitoring does not demonstrate effective moderation capabilities in terms of the influence of e-commerce and self-assessment systems on tax compliance.

This study has several limitations, including its sample being drawn from taxpayers who are active on specific e-commerce platforms in Semarang. This means that the findings of this study may not be fully generalizable to other regions or platforms. Data collection was conducted using a survey method involving respondents who were willing to participate. This has the potential to cause bias because respondents may have views or experiences that are not representative of the entire population. The results of this study present several avenues for future research that can broaden and deepen the understanding of the tax payment mechanism on e-commerce platforms. Future research should involve a larger and more diverse sample, including taxpayers from different e-commerce platforms and regions, to increase the generalizability of the findings. Future research could also examine the impact of recent tax policies and regulatory changes on the effectiveness of the tax payment mechanism to understand how these changes affect compliance and the efficiency of the system. Qualitative research, such as interviews or focus groups, could also provide more insight into taxpayers' experiences and perceptions of the payment mechanism.

In the context of these findings, it is crucial to emphasize their direct impact on local finances. Effective tax collection from restaurants, especially through self-assessment systems and technological monitoring that enhances transparency, is fundamental for the stability of local budgets. Increased tax compliance translates to greater revenue for cities and communities, which can then be allocated to critical services such as improved infrastructure, education, healthcare, and social welfare. Therefore, this study's recommendations for improving tax systems and enhancing taxpayer awareness directly contribute to strengthening the financial autonomy of local authorities and their ability to meet the needs of the population. Thus, supporting and developing effective tax mechanisms is not merely a matter of compliance but a key factor in sustainable local development and prosperity.

AUTHOR CONTRIBUTIONS

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REFERENCES

1. Abdelfattah, T., & Aboud, A. (2020). Tax avoidance, corporate governance, and corporate social responsibility: The case of the Egyptian capital market. *Journal of International Accounting, Auditing and Taxation*, 38. <https://doi.org/10.1016/j.intaccud-tax.2020.100304>
2. Agbo, E. I., & Nwadior, E. O. (2020). E-commerce and tax revenue. *Noble International Journal of Economics and Financial Research*, 5(8), 80-91. Retrieved from <https://eprints.gouni.edu.ng/3182/1/ECOMMERCEAND-TAXREVENUE.pdf>
3. Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
4. Andreoni, J., Erard, B., & Feinstein, J. (1998). Tax compliance. *Journal of Economic Literature*, 36(2), 818-860. Retrieved from <https://msuweb.montclair.edu/~lebelp/AndreoTaxCompl1998JEL.pdf>
5. Aprilina, V. (2020). E-commerce, automatic exchange of information, self assessment, dan Niat Penghindaran Pajak. *Jurnal Ekonomi KIAT*, 31(1), 22-27. (In Indonesian). Retrieved from <https://journal.uir.ac.id/index.php/kiat/article/view/2735/2823>
6. Ardyaksa, T. K., & Kiswanto, K. (2014). Pengaruh keadilan, tarif pajak, ketepatan pengalokasian, kecurangan, teknologi dan informasi perpajakan terhadap tax evasion [The influence of fairness, tax rates, allocation accuracy, fraud, technology and tax information on tax evasion]. *Accounting Analysis Journal*, 3(4). (In Indonesian). Retrieved from <https://journal.unnes.ac.id/sju/aa/article/view/4209>
7. Arinze, U. C., Ebem, D. U., Eneh, A., & Ezugwu, O. A. (2018). E-commerce and electronic taxation in Nigeria. *Information Technologist*, 15(1). Retrieved from <https://www.ajol.info/index.php/ict/article/view/173774>
8. Awaloedin, D. T., & Maulana, M. A. (2018). Pengaruh penerapan sistem e-filing, pemahaman internet dan kesadaran wajib pajak terhadap kepatuhan wajib Pajak Pratama Depok Cimanggis (Studi pada Kantor Pelayanan Pajak Pratama Kota Depok Cimanggis) [The influence of the implementation of the e-filing system, internet understanding and taxpayer awareness on taxpayer compliance of Pratama Depok Cimanggis (Study at the Pratama Tax Service Office of Depok Cimanggis City)]. *Information Engineering Journal*, 7(2). (In Indonesian). Retrieved from <https://ejournal.istn.ac.id/index.php/rekayasainformasi/article/view/280>
9. Benk, S., & Budak, T. (2012). Power and trust as determinants of voluntary versus enforced tax compliance: Empirical evidence for the slippery slope framework from Turkey. *African Journal of Business Management*, 6(4), 1499-1505. Retrieved from <https://academicjournals.org/journal/AJBM/article-abstract/8B23B1322476>
10. Bimonte, S., & Stabile, A. (2015). Local taxation and urban development. Testing for the side-effects of the Italian property tax. *Ecological Economics*, 120, 100-107. <https://doi.org/10.1016/j.ecolecon.2015.09.025>
11. Bryson, J. M., Crosby, B. C., & Stone, M. M. (2015). Designing and implementing cross-sector collaborations: Needed and challenging. *Public Administration Review*, 75(5), 647-663. <https://doi.org/10.1111/puar.12432>
12. Chusaeni, B. F., & Oktaviani, R. M. (2018). Penguasaan teknologi informasi sebagai pemoderasi kecenderungan wajib pajak menggunakan e-filing [Mastery of information technology as a moderator of taxpayer tendency to use e-filing]. *Jurnal Ekonomi Modernisasi*, 14(1), 16-27. (In Indo-

- nesian). <https://doi.org/10.21067/jem.v14i1.2376>
13. Cullis, J. G., & Lewis, A. (1997). Why people pay taxes: From a conventional economic model to a model of social convention. *Journal of Economic Psychology*, 18(2-3), 305-321. [https://doi.org/10.1016/S0167-4870\(97\)00010-X](https://doi.org/10.1016/S0167-4870(97)00010-X)
 14. Dawes, S. S., Cresswell, A. M., & Pardo, T. A. (2009). From "need to know" to "need to share": Tangled problems, information boundaries, and the building of public sector knowledge networks. *Public Administration Review*, 69(3), 392-402. https://doi.org/10.1111/j.1540-6210.2009.01987_2.x
 15. Denhardt, R. B., & Denhardt, J. V. (2003). The new public service: An approach to reform. *International Review of Public Administration*, 8(1), 3-10. <https://doi.org/10.1080/12294659.2003.10805013>
 16. Erawati, T., & Pelu, G. M. M. (2021). The influence of tax knowledge, self assessment system, e-filing and tax sanctions on individual taxpayer motivation in paying taxes (Case study at the Yogyakarta Pratama Tax Service Office). *Jurnal Ilmiah Akuntansi FE UNIBBA*, 12. Retrieved from <https://ejournal.unibba.ac.id/index.php/akurat/article/view/673>
 17. Farida, A. (2019). Studi pustaka tentang perkembangan teknologi dan peningkatan kepatuhan pajak: Apakah berbanding lurus? [Literature study on technological development and increasing tax compliance: Is there a direct relationship?]. *Moneter – Jurnal Akuntansi Dan Keuangan*, 6(2), 135-140. (In Indonesian). <https://doi.org/10.31294/moneter.v6i2.6183>
 18. Friskianti, Y., & Handayani, B. D. (2014). Pengaruh self assessment system, keadilan, teknologi perpajakan, dan ketidakpercayaan kepada pihak fiskus terhadap tindakan tax evasion [The influence of the self-assessment system, justice, tax technology, and distrust of the tax authorities on tax evasion actions]. *Accounting Analysis Journal*, 3(4), 543-552. (In Indonesian). Retrieved from <https://journal.unnes.ac.id/sju/aa/article/view/4216>
 19. Galuh, F. (2020). Analisis potensi pajak penghasilan atas bagi hasil yang dibayarkan mitra Gofood kepada Perusahaan Gojek [Analysis of potential income tax on profit sharing paid by Gofood partners to Gojek company]. *Jurnal BPPK: Badan Pendidikan Dan Pelatihan Keuangan*, 13(2), 76-86. (In Indonesian). Retrieved from <https://jurnalbppk.kemenkeu.go.id/index.php/jurnalbppk/article/view/637>
 20. Gavilan, D., Balderas-Cejudo, A., Fernández-Lores, S., & Martínez-Navarro, G. (2021). Innovation in online food delivery: Learnings from COVID-19. *International Journal of Gastronomy and Food Science*, 24. <https://doi.org/10.1016/j.ijgfs.2021.100330>
 21. Gil-Garcia, J. R., & Sayogo, D. S. (2016). Government inter-organizational information sharing initiatives: Understanding the main determinants of success. *Government Information Quarterly*, 33(3), 572-582. <https://doi.org/10.1016/j.giq.2016.01.006>
 22. Ginting, I. F., & Tambunan, M. R. U. D. (2022). Peluang dan tantangan peningkatan kapasitas administrasi perpajakan atas pemungutan pajak restoran di Kota Tangerang Selatan [Opportunities and challenges in increasing tax administration capacity for restaurant tax collection in South Tangerang City]. *Jurnal Riset Akuntansi & Perpajakan (JRAP)*, 9(01), 72-87. (In Indonesian). <https://doi.org/10.35838/jrap.2022.009.01.06>
 23. Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least square structural equation modeling (PLS-SEM)* (3rd ed.). California: SAGE Publication, Inc.
 24. Harbolt, B. (2019). *Tax avoidance through e-commerce and cross-border shopping* (CESifo Working Paper No. 7814). <https://doi.org/10.2139/ssrn.3467947>
 25. Kawasaki, T., Wakashima, H., & Shibasaki, R. (2022). The use of e-commerce and the COVID-19 outbreak: A panel data analysis in Japan. *Transport Policy*, 115, 88-100. <https://doi.org/10.1016/j.tranpol.2021.10.023>
 26. Kirchler, E., Hoelzl, E., & Wahl, I. (2008). Enforced versus voluntary tax compliance: The "slippery slope" framework. *Journal of Economic Psychology*, 29(2), 210-225. <https://doi.org/10.1016/j.joep.2007.05.004>
 27. Kock, N. (2020). *WarpPLS 7.0 User Manual*. Laredo, TX: Script-Warp Systems.
 28. Kock, N., & Hadaya, P. (2018). Minimum sample size estimation in PLS-SEM: The inverse square root and gamma-exponential methods. *Information Systems Journal*, 28(1), 227-261. <https://doi.org/10.1111/isj.12131>
 29. Minjo, K. (2016). A psychological perspective on tax avoidance: Deferential avoidance vs defiant avoidance. *EJournal of Tax Research*, 14(1), 235-246. Retrieved from <https://www8.austlii.edu.au/cgi-bin/viewdoc/au/journals/eJLTaxR/2016/9.html>
 30. Mirrlees, J. A. (1976). Optimal tax theory: A synthesis. *Journal of Public Economics*, 6(4), 327-358. [https://doi.org/10.1016/0047-2727\(76\)90047-5](https://doi.org/10.1016/0047-2727(76)90047-5)
 31. Okunogbe, O., & Santoro, F. (2022). *The promise and limitations of information technology for tax mobilization* (Policy Research Working Paper No. 9848). World Bank Group. Retrieved from <https://documents1.worldbank.org/curated/en/578571636990683326/pdf/The-Promise-and-Limitations-of-Information-Technology-for-Tax-Mobilization.pdf>
 32. Opara, L. C. (2014). Tax challenges of e-commerce in Nigeria: The panacea for legal jurisprudence. *Global Journal of Politics and Law Research*, 2(4), 1-5. Retrieved from <http://www.eajournals.org/wp-content/uploads/Tax-Challenges-of-E-Commerce-in-Nigeria-The-Panacea-for-Legal-Jurisprudence.pdf>
 33. Rojko, A. (2017). Industry 4.0 concept: Background and over-

- view. *International Journal of Interactive Mobile Technologies*, 11(5), 77-90. <https://doi.org/10.3991/ijim.v11i5.7072>
34. Setyadi, M. G., & Sumarsono, N. D. (2020). Analysis of antecedent and taxpayer awareness consequents of compliance levels in fulfill its taxation obligations. *International Journal of Economics, Business and Accounting Research*, 4(4), 1333-1346. Retrieved from <https://jurnal.stie-aas.ac.id/index.php/IJEBAR/article/download/1563/878/5117>
35. Stiglitz, J. E. (1985). The general theory of tax avoidance. *National Tax Journal*, 38(3), 325-337. <https://doi.org/10.1086/NTJ41792029>
36. Thalib, S. B. W., Djou, L. D. G., & Leha, E. (2020). Optimalisasi potensi pajak dan retribusi daerah dalam rangka meningkatkan pendapatan asli daerah di Kabupaten Ende [Optimization of regional tax and retribution potential in order to increase regional original income in Ende Regency]. *E-Jurnal Akuntansi*, 30, 2672-2681. (In Indonesian). <https://doi.org/10.24843/eja.2020.v30.i10.p18>
37. Wardani, D. K., & Nurhayati, N. (2019). Pengaruh self assessment system, e-commerce dan keterbukaan akses informasi rekening bank terhadap niat melakukan penghindaran pajak [The influence of self assessment system, e-commerce and open access to bank account information on intention to avoid taxes]. *Jurnal Akuntansi Dewantara*, 3(1), 38-48. (In Indonesian). Retrieved from <https://jurnal.ustjogja.ac.id/index.php/akuntansidewantara/article/view/3340>
38. Yaghi, A. (2009). Good governance practices by local administration in Jordan and USA. *International Journal of Rural Management*, 4(1-2), 47-65. <https://doi.org/10.1177/097300520900400203>
39. Yusuf, M., Jariah, A., & Sadar, S. (2020). Penerapan NPS dalam pelayanan penerbitan SKPD kendaraan bermotor berbasis online pada SAMSAT Kalimantan Tengah [Implementation of NPS in online-based motor vehicle SKPD issuance services at Central Kalimantan SAMSAT]. *Journal of Governance and Local Politics*, 2(2), 191-200. (In Indonesian). <https://doi.org/10.47650/jglp.v2i2.93>