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ANALYSIS OF THE INFLUENCE OF DIGITALIZATION, INFORMATION QUALITY, AND INCOME LEVEL ON COMPLIANCE WITH LAND AND BUILDING TAX PAYMENT WITH KNOWLEDGE AS AN INTERVENING VARIABLE IN KARIMUN DISTRICT, KARIMUN REGENCY

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Poppy Dewi ANGGRAENI[1], Ramli RAMLI[2], I Wayan CATRAYASA[3]
[1]Master of Management Program, Batam University, Indonesia
[2,3]Department of Management, Batam University, Indonesia
Corresponding author: Poppy Dewi Anggraeni
E-mail: poppydewi1979@gmail.com

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Abstract:
Taxpayer compliance in paying Land and Building Tax (PBB) in Karimun Regency has declined. This condition is influenced by the low level of public knowledge regarding PBB, the lack of optimization in digitalization and tax information systems, as well as the relatively low level of income among taxpayers. This study applies a mixed-method approach, focusing on analyzing the effect of digitalization, information quality, and income level on PBB payment compliance, with knowledge as an intervening variable in Karimun District. The findings reveal that digitalization, income level, and PBB knowledge significantly influence taxpayer compliance, while information quality shows no significant effect. Furthermore, information quality and income level significantly affect PBB knowledge, while digitalization does not. Current levels of public knowledge are not yet able to strengthen the effect of digitalization on PBB compliance, but they do strengthen the effect of information quality and income level on taxpayer compliance. It is recommended that the Karimun Regional Revenue Agency optimize information quality and taxpayer knowledge through improved digitalization and information systems aligned with taxpayers' conditions. Additionally, efforts to raise taxpayer awareness should be strengthened through programs and policies that promote equal distribution of knowledge related to PBB.

Keywords: Digitalization, Information Quality, Income Level, Knowledge, PBB Compliance

INTRODUCTION

Since the implementation of decentralized governance in Indonesia, local governments have been granted authority to manage regional development independently. It aims to improve government effectiveness, public service delivery, and community empowerment at the local level. Consequently, regional institutions, including the Regional Revenue Agency (Bapenda), have the mandate to optimize Regional Original Revenue (PAD) through various innovations and policies (Bapenda Karimun, 2025).

Bapenda Karimun, Riau Islands Province, has set its vision and mission to increase PAD contribution, enhance public service quality, and empower communities. Its primary objectives are the optimization of PAD and improving organizational accountability performance. Performance realization is published annually as an indicator of target achievements (Bapenda Karimun, 2025).

Regarding the realization of these targets, the Karimun Regional Revenue Agency has published its performance results, as shown below:

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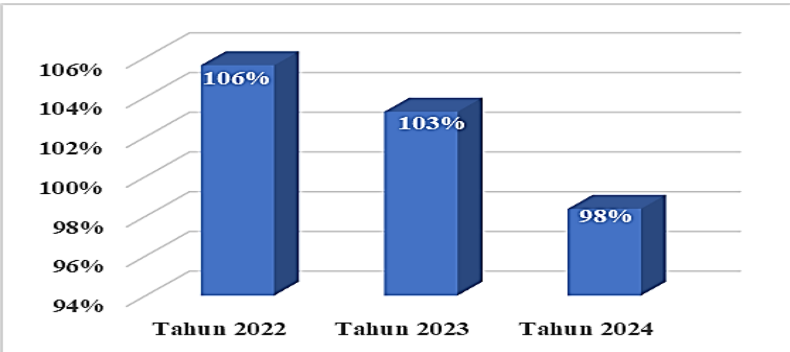
Table 1. Performance Targets and Achievements of the Regional Revenue Agency Karimun Regency, 2022–2024

No	Performance Target Indicator	Targets and Achievements for 2022–2024					
		2022		2023		2024	
		Target	Achvmts	Target	Achvmts	Target	Achvmts
1	Optimization of PAD Contribution	28.25	29.47	28.4	30.26	28.55	29.87
2	Optimization of PAD Growth	2.8	1.27	0.26	6.15	2.9	1.53
3	Improvement of AKIP Value	77	78	77.01	60.54	70.01	67,45

Source: Regional Revenue Agency (Bapenda) of Karimun Regency, 2025

The data indicates that from 2022 to 2024, the target for optimizing regional revenue (PAD) contribution was successfully achieved, while the target for PAD growth was only met in 2023. However, the goal of improving the Government Performance Accountability Score (AKIP) was not achieved during this period. According to Bapenda Karimun, this was due to the limited number of human resources in each division and the lack of specific functional expertise. Furthermore, the failure to achieve the PAD growth targets in 2022 and 2024 was also influenced by unrealized land and building tax (PBB) revenues that fell short of the expected targets.

The data on the targets and achievements of PBB retribution revenue in Karimun Regency can be illustrated through the following graphs:



Source: Bapenda Karimun, 2025

Figure 1. Graph of Annual Achievement Percentage of PBB Revenue Targets Karimun Regency, 2022–2024

The data show that from 2022 to 2024, the percentage of annual achievement of PBB revenue targets consistently declined, reflecting a decrease in taxpayers' compliance in paying PBB contributions. According to Bapenda, this condition was caused by demographic and geographic factors, as most taxpayers in Karimun Regency reside on islands where the community is still unfamiliar with digital systems, while most tax-related services and information are now provided through digital platforms. In addition, low levels of income have made some taxpayers unable to pay their PBB taxes. When arrears and penalties accumulate, these taxpayers tend to neglect their obligations, despite the existence of assistance programs that are not evenly communicated, especially to those living in outer islands. Another factor is education, since not all taxpayers in

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Karimun Regency possess adequate educational backgrounds, resulting in limited knowledge, understanding, and awareness regarding their tax obligations.

The data indicate that the percentage of annual PBB revenue target achievements in Karimun Regency consistently declined from 2022 to 2024, reflecting a decrease in taxpayers' compliance with their PBB obligations. Bapenda explained that this decline was primarily due to demographic and geographic conditions, as many taxpayers reside in scattered islands with limited access to digital systems, while most taxation information and services are now provided online. Additionally, low income levels hinder some taxpayers from fulfilling their obligations, and accumulated arrears along with penalties discourage them from making payments in subsequent years. Although facilitation programs exist, the information is unevenly distributed, especially to residents of remote islands. Educational limitations also play a role, as many land and building owners lack sufficient education, resulting in low knowledge, understanding, and awareness of their tax obligations.

When comparing Bapenda's data with BPS Karimun (2024), it is evident that educational attainment strongly correlates with tax compliance. Five districts, Belat, Durai, Selat Gelam, Sugi Besar, and Ungar, consistently recorded the lowest PBB revenue achievements from 2022 to 2024, which aligns with their very low share of high school and higher education graduates (only 1–2%). In contrast, eight districts such as Buru, Kundur, Kundur Barat, Kundur Utara, Meral, Meral Barat, Moro, and Tebing experienced fluctuating but generally increasing achievements, with higher shares of educated residents (3–23%). Interestingly, Karimun District, despite having the highest educational attainment (23%), showed a continuous decline in PBB revenue targets, suggesting other socio-economic and demographic challenges may be influencing taxpayer compliance.

These findings illustrate that while certain performance indicators of Bapenda have been successfully realized, others remain unachieved. In particular, the target for improving the AKIP value was not met, reflecting challenges in service performance. Similarly, the component of PAD growth from PBB retribution was unrealized, primarily due to structural barriers such as taxpayers' geographic isolation, difficulties accessing digital information, and limited offline service delivery. The economic burden of arrears and penalties further discourages compliance, leading many taxpayers to neglect their obligations entirely.

In conclusion, the decline in PBB revenue target achievements in Karimun Regency can be attributed to interconnected factors: geographic isolation, economic hardship, limited digital literacy, and low educational attainment. These structural challenges hinder taxpayers' access to taxation information, understanding of their obligations, and willingness to comply. The correlation between low educational attainment and low compliance reinforces the importance of targeted interventions to enhance public knowledge and awareness. Thus, strengthening digital outreach, ensuring equitable information dissemination, and improving education levels are critical strategies for enhancing taxpayer compliance and realizing local revenue targets in the region.

METHODS

This research employs a quantitative approach using a survey method through the distribution of questionnaires to land and building taxpayers (PBB) in Karimun District. The study will be conducted from March 2025 to July 2025 with a population of 329 taxpayers residing directly at the tax object location. The sample size was determined using the Slovin formula with a confidence level of 90% and a margin of error of 5%, resulting in 181 respondents. This study falls under the category of causal associative research, aiming to examine the cause-and-effect relationships among the research variables. The variables include digitalization (X1), information

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quality (X2), and income level (X3) as exogenous variables; PBB knowledge (Z) as an intervening variable; and PBB payment compliance (Y) as the endogenous variable.

Data collection techniques involve both field research and library research to ensure comprehensive and reliable data for quantitative analysis. Furthermore, multivariate analysis will be carried out using statistical tools such as SPSS (Statistical Package for the Social Sciences) for regression analysis and classical assumption testing, as well as SEM (Structural Equation Modelling) to examine the simultaneous relationships among variables in the research model. With this design, the study is expected to provide deeper insights into the factors influencing land and building tax (PBB) compliance among taxpayers in Karimun District.

RESULT AND DISCUSSION

Hypothesis Testing Results of Direct Effects. For the path coefficient output table through the bootstrapping procedure from Smart PLS, it can be shown as follows:

Table 2. Results of Path Coefficient Testing

	Original Sample (O)	Sample Mean (M)	Stad. Dev (STDEV)	T Statistics	P Values
X1 -> Y	0.204	0.198	0.102	1.994	0.047
X2 -> Y	0.062	0.066	0.110	0.563	0.574
X3 -> Y	0.278	0.281	0.070	3.983	0.000
X1 -> Z	0.065	0.075	0.084	0.774	0.439
X2 -> Z	0.394	0.399	0.126	3.119	0.002
X3 -> Z	0.489	0.473	0.113	4.334	0.000
Z -> Y	0.441	0.442	0.093	4.724	0.000

Source: Smart PLS Output, 2025

From the direct relationship test results above, it is shown that:

1. The effect of Digitalization (X1) on PBB Payment Compliance (Y), with a positive original sample value of 0.204, can be interpreted as having a positive relationship pattern. Then, the T-statistic value of 1.994 means greater than (>1.96) and the P-Value of 0.047 means less than (<0.05), which can be interpreted as having a significant relationship pattern.
2. The effect of Information Quality (X2) on PBB Payment Compliance (Y) with a positive original sample value of 0.062 can be interpreted as having a positive relationship pattern. Then, the T-statistic value of 0.563 means less than (<1.96) and the P-Value of 0.574 means greater than (>0.05), which can be interpreted as having a non-significant relationship pattern.
3. The effect of Income Level (X3) on PBB Payment Compliance (Y), with a positive original sample value of 0.278, can be interpreted as having a positive relationship pattern. Then, the T-statistic value of 3.983 means greater than (>1.96) and the P-Value of 0.000 means less than (<0.05), which can be interpreted as having a significant relationship pattern.
4. The effect of Digitalization (X1) on PBB Knowledge (Z), with a positive original sample value of 0.065, can be interpreted as having a positive relationship pattern. Then, the T-statistic value of 0.774 means less than (<1.96) and the P-Value of 0.439 means greater than (>0.05), which can be interpreted as having a non-significant relationship pattern.
5. The effect of Information Quality (X2) on PBB Knowledge (Z) with a positive original sample value of 0.394 can be interpreted as having a positive relationship pattern. Then, the T-statistic

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value of 3.119 means greater than (>1.96) and the P-Value of 0.002 means less than (<0.05), which can be interpreted as having a significant relationship pattern.

6. The effect of Income Level (X3) on PBB Knowledge (Z) with a positive original sample value of 0.489 can be interpreted as having a positive relationship pattern. Then, the T-statistic value of 4.334 means greater than (>1.96) and the P-Value of 0.000 means less than (<0.05), which can be interpreted as having a significant relationship pattern.
7. The effect of PBB Knowledge (Z) on PBB Payment Compliance (Y), with a positive original sample value of 0.441, can be interpreted as having a positive relationship pattern. Then, the T-statistic value of 4.724 is greater than (>1.96) and the P-Value of 0.000 means less than (<0.05), which can be interpreted as having a significant relationship pattern.

Hypothesis Testing Results of Indirect Effects. For the Specific Indirects output table through the bootstrapping procedure from Smart PLS, it can be shown as follows:

Table 3. Results of Specific Indirect Effects Testing

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
X1 -> Z -> Y	0.029	0.033	0.039	0.733	0.464
X2 -> Z -> Y	0.174	0.177	0.069	2.529	0.012
X3 -> Z -> Y	0.216	0.209	0.067	3.214	0.001

Source: Smart PLS Output, 2025

From the indirect relationship test results above, it is shown that:

1. The effect of Digitalization (X1) through PBB Knowledge (Z) on PBB Payment Compliance (Y), with a positive original sample value of 0.029, can be interpreted as having a positive relationship pattern. Then, the T-statistic value of 0.733 means less than (<1.96), and the P-Value of 0.464 means greater than (>0.05), thus it can be interpreted as having a non-significant relationship pattern.
2. The effect of Information Quality (X2) through PBB Knowledge (Z) on PBB Payment Compliance (Y), with a positive original sample value of 0.174, can be interpreted as having a positive relationship pattern. Then, the T-statistic value of 2.529 is greater than 1.96, and the P-value of 0.012 is less than 0.05; thus, it can be interpreted as having a significant relationship pattern.
3. The effect of Income Level (X3) through PBB Knowledge (Z) on PBB Payment Compliance (Y), with a positive original sample value of 0.216, can be interpreted as having a positive relationship pattern. Then, the T-statistic value of 3.214 means greater than (>1.96) and the P-Value of 0.001 means less than (<0.05), thus it can be interpreted as having a significant relationship pattern.

The Effect of Digitalization on Compliance with Land and Building Tax (PBB) Payment. The effect of Digitalization (X1) on Compliance with Land and Building Tax (PBB) Payment (Y) shows a positive original sample value of 0.204, which indicates a positive relationship pattern. Furthermore, the T-statistic value of 1.994 is greater than 1.96, and the P-value of 0.047 is less than 0.05, which means the relationship is significant. Thus, H1 is accepted. Digitalization has a significant effect on compliance with PBB payment in the Karimun District.

Based on this quantitative conclusion, discussions were conducted with several respondents to gather additional information regarding the relationship between the questionnaire items and the

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initial findings in the field concerning the condition of taxpayers in Karimun Regency. Many taxpayers live on islands where the digitalization system is still unfamiliar, while most tax-related benefits and conveniences are predominantly provided through information technology.

From these discussions, it was found that such problems can be addressed by implementing a digital system characterized by ease of understanding, suitability to taxpayer needs, accessibility, usefulness in accelerating work completion effectively, willingness to continue using the system, satisfaction in its usage, and the ability to motivate other users. Such digital information significantly impacts tax compliance, as reflected in the willingness to register taxable objects, provide complete and clear tax object data, pay taxes in accordance with applicable regulations, and avoid tax arrears.

The results of this study are consistent with the conclusions of several previous researchers, including Tambun & Riandini (2022: 2993), Tambun & Ananda (2022: 3158), Fakri (2023: 1), Martini & Mulyati (2023: 125), Mulyani & Suleiman (2023: 96), Azzahra & Krishantoro (2024: 445), and Oktarina (2024: 66). These researchers similarly concluded that digitalization has a significant influence on taxpayer compliance.

The Effect of Information Quality on Compliance with Land and Building Tax (PBB) Payment. The effect of Information Quality (X2) on Compliance with Land and Building Tax (PBB) Payment (Y) shows a positive original sample value of 0.062, which indicates a positive relationship pattern. However, the T-statistic value of 0.563 is less than 1.96, and the P-value of 0.574 is greater than 0.05, meaning the relationship is not significant. Thus, H2 is rejected. Information quality does not have a significant effect on compliance with PBB payment in Karimun District.

Based on this quantitative conclusion, discussions were conducted with several respondents to gather information related to the linkage between the questionnaire items and the initial field findings. The results showed that taxpayers living on the islands are still constrained in accessing information about tax-related programs and conveniences. From these discussions, it was revealed that the issue has not yet been resolved due to the lack of information quality in terms of availability, completeness, accuracy, timeliness, and presentation aligned with taxpayers' needs and conditions. Therefore, it has not had a significant impact on PBB payment compliance, as reflected in taxpayers' willingness to register taxable objects, provide complete and clear data, pay taxes according to regulations, and avoid tax arrears.

The results of this study are inconsistent with several previous studies, including Wisudawaty et al. (2018:1), Usman & Shaleh (2019: 24), Sarazkha (2020: 24), Satriawan (2021: 66), Dewi et al. (2021: 121), and Anwar (2023: 82), all of which concluded that information quality has a significant effect on taxpayer compliance.

The Effect of Income Level on Compliance with Land and Building Tax (PBB) Payment. The effect of Income Level (X3) on Compliance with Land and Building Tax (PBB) Payment (Y) shows a positive original sample value of 0.278, which indicates a positive relationship pattern. Furthermore, the T-statistic value of 3.983 is greater than 1.96, and the P-value of 0.000 is less than 0.05, meaning the relationship is significant. Thus, H3 is accepted. It can be concluded that income level has a significant effect on compliance with PBB payment in Karimun District.

Based on this quantitative conclusion, discussions were held with several respondents to obtain supporting information related to the questionnaire findings and the initial field problems. The results revealed that low income levels cause some taxpayers to struggle in paying their PBB obligations. Consequently, when entering the following year's obligations, they are often reluctant to pay PBB due to additional penalties on arrears, which further increase their financial burden. Over time, this situation reduces their ability to pay, leading to decreased PBB revenue collection in subsequent years.

However, these findings also showed that this problem only occurs among a small portion of taxpayers. The majority of taxpayers have a stable income and additional sources of earnings, which places them in the category of being able to pay PBB. It positively impacts compliance with PBB payment, as reflected in the willingness to register taxable objects, provide accurate and complete tax object data, pay taxes in accordance with regulations, and avoid arrears.

The results of this study are consistent with the findings of several previous researchers, including Podungge & Zainuddin (2020: 66), Oktavianti et al. (2021), Pratiwi & Kusnandar (2021: 53), Susliyanti & Agustiyani (2022: 1), Kurnia & Fajarwati (2022: 893), Poeh (2022: 281), Indriyasari & Maryono (2022: 860), Kantohe (2022: 334), Bhagaskara et al. (2023: 74), Nurkayatin & Juitania (2023: 20), and Rohmah et al. (2024: 3199). These studies collectively concluded that income level has a significant effect on land and building taxpayer compliance.

The Effect of Digitalization on Knowledge of Land and Building Tax (PBB). The effect of Digitalization (X1) on Knowledge of Land and Building Tax (PBB) (Z) shows a positive original sample value of 0.065, which indicates a positive relationship pattern. However, the T-statistic value of 0.774 is less than 1.96, and the P-value of 0.439 is greater than 0.05, meaning the relationship is not significant. Thus, H4 is rejected. Digitalization does not have a significant effect on the knowledge of PBB in Karimun District.

Based on this quantitative conclusion, discussions were conducted with several respondents to gather information related to the linkage between the questionnaire items and the initial field findings. It was found that taxpayers in Karimun Regency, particularly those living on islands, are still unfamiliar with the digitalization system, whereas most tax-related benefits and conveniences are predominantly provided through information technology.

From these discussions, convincing information was obtained that the digital system, such as ease of understanding, relevance to needs, accessibility, usefulness in accelerating effective task completion, willingness to continue using it, satisfaction in usage, and the ability to motivate other users, has not yet had a significant impact on the level of PBB knowledge. It includes knowledge about the function of PBB, an understanding of regulations regarding PBB payments, and a comprehension of procedures and payment locations.

The results of this study are not in line with several theories, including Camară (2024: 21), who concluded that digitalization influences how businesses interact with customers and helps customers share knowledge with companies. Wibowo et al. (2023: 1) also argued that digitalization makes everything easier and more affordable by providing efficient and practical solutions. Meanwhile, Cong and Agoes in Eva (2023: 24) emphasized similar perspectives.

The Effect of Information Quality on Knowledge of Land and Building Tax (PBB). The effect of Information Quality (X2) on Knowledge of Land and Building Tax (PBB) (Z) shows a positive original sample value of 0.394, which indicates a positive relationship pattern. Furthermore, the T-statistic value of 3.119 is greater than 1.96, and the P-value of 0.002 is less than 0.05, meaning the relationship is significant. Thus, H5 is accepted. Information quality has a significant effect on knowledge of PBB in Karimun District.

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Based on this quantitative conclusion, discussions were conducted with several respondents to obtain supporting information related to the questionnaire findings and initial field conditions. It was found that the problem of limited access to tax-related conveniences and programs currently occurs only among a small portion of taxpayers, because most taxpayers today are not constrained in obtaining such information. Therefore, information quality in terms of availability, completeness, accuracy, timeliness, and presentation aligned with the needs and conditions of taxpayers has had a substantial impact on the level of PBB knowledge. It includes knowledge about the function of PBB, an understanding of regulations related to PBB payments, and a comprehension of procedures and payment locations.

The results of this study are consistent with several theories, including Bilan et al. (2023: 369), who concluded that information and communication technology has a significant impact on knowledge development. According to Prakosa in Indriyani et al. (2022: 33), an information system is considered high-quality if it provides ease of use. McLeod in Budiman et al. (2023: 465) stated that information quality is data processed into a form more useful to its recipients. Similarly, Cong and Agoes in Eva (2023: 24) supported this perspective.

The Effect of Income Level on Knowledge of Land and Building Tax (PBB). The effect of Income Level (X3) on Knowledge of Land and Building Tax (PBB) (Z) shows a positive original sample value of 0.489, indicating a positive relationship pattern. The T-statistic value of 4.334 is greater than 1.96, and the P-value of 0.000 is less than 0.05, meaning the relationship is significant. Thus, H6 is accepted. Income level has a significant effect on knowledge of PBB in Karimun District.

Based on this quantitative conclusion, discussions were conducted with several respondents to gather information regarding the linkage between questionnaire findings and field problems. It was revealed that low-income levels in some communities caused difficulties in paying PBB. Consequently, when entering the following fiscal year, these taxpayers were reluctant to pay because of fines on arrears. Over time, this condition worsened, as the accumulating burden further reduced their ability to pay PBB, resulting in declining PBB revenue in subsequent years.

However, further information shows that this issue is currently found only among a small portion of taxpayers. Most taxpayers today have stable incomes and additional earnings that place them in the category of being capable of paying PBB. It has significantly influenced their willingness to improve their knowledge of PBB, including its functions, payment provisions, procedures, and the designated places for PBB payment.

The results of this study align with several theories. For instance, Stryzhak (2020: 1) concluded that education has a strong relationship with increased income. Apriliani (2023: 14–15) also emphasized that factors influencing tax compliance include: (1) internal norms, which support tax knowledge and taxpayer income levels; and (2) normative commitment through morality and legitimacy, where taxpayers comply with laws because they recognize them as obligations, supported by the authority of tax institutions to enforce tax collection and impose sanctions.

The Effect of Knowledge on Compliance with Land and Building Tax (PBB) Payment. The effect of PBB Knowledge (Z) on Compliance with PBB Payment (Y) shows a positive original sample value of 0.441, indicating a positive relationship pattern. The T-statistic value of 4.724 is greater than 1.96, and the P-value of 0.000 is less than 0.05, indicating a significant relationship. Thus, H7 is accepted. It can be concluded that PBB knowledge significantly affects compliance with PBB payments in Karimun District.

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Based on this quantitative conclusion, discussions were conducted with several respondents to explore the linkage between questionnaire findings and field issues. It was found that the lowest achievement in PBB revenue, which consistently declined from 2022 to 2024, occurred in districts with the lowest proportion of high school and university graduates. Interestingly, even in Karimun District, where the population has the highest proportion of high school and university graduates, PBB revenue targets have consistently declined.

Further information indicates that the issue is no longer caused by uneven levels of taxpayer knowledge. Currently, taxpayer knowledge about PBB, including its functions, payment provisions, procedures, and payment locations, has been widely disseminated among taxpayers. This broader knowledge has already had a significant impact on compliance with PBB payments, as reflected in the willingness to register taxable objects, provide complete and clear data, pay taxes in accordance with regulations, and avoid arrears.

The findings of this study are consistent with the conclusions of several previous researchers, including Podungge & Zainuddin (2020: 66), Kantohe (2022: 334), Poeh (2022: 281), Indriyasari & Maryono (2022: 860), Purwaningsih et al. (2022: 455), Apriliani (2023: 1), Graha et al. (2024: 38), Zega & Husda (2024: 111), and Azzahra & Krishantoro (2024: 445). These researchers uniformly concluded that tax knowledge significantly influences taxpayer compliance in paying Land and Building Tax.

The Effect of Digitalization on Compliance with Land and Building Tax (PBB) Payment through the Mediation of PBB Knowledge. The effect of Digitalization (X1), through PBB Knowledge (Z), on Compliance with PBB Payment (Y) shows a positive original sample value of 0.029, indicating a positive relationship pattern. The T-statistic value of 0.733 is less than (<1.96) and the P-value of 0.464 is greater than (>0.05), meaning the relationship is not significant. Thus, H8 is rejected. Digitalization mediated by PBB knowledge does not have a significant effect on compliance with PBB payment in Karimun District. Consequently, since the direct effect is significant but the indirect effect is not, PBB knowledge does not act as an intervening variable in the relationship between digitalization and compliance with PBB payment in Karimun District.

Based on this quantitative conclusion, discussions with several respondents were conducted further to explore the linkage between questionnaire findings and field conditions. It was revealed that the decline in taxpayer awareness in fulfilling their PBB obligations reflected in the consistently decreasing PBB revenue targets achieved by Bapenda from 2022 to 2024, was suspected to be caused by taxpayers in the islands of Karimun District, who are still unfamiliar with digital systems. Meanwhile, most information regarding taxation benefits and conveniences is predominantly provided through digital platforms.

Moreover, knowledge-related issues were also reflected in the lowest PBB revenue achievement found in districts with fewer high school and university graduates. Conversely, districts with higher numbers of high school and university graduates tended to show fluctuating but generally improving revenue performance.

Further discussions confirmed that taxpayer knowledge regarding PBB functions, payment provisions, procedures, and payment locations has not yet strengthened the potential impact of digitalization such as ease of understanding, relevance to needs, accessibility, usefulness in accelerating work effectively, continued willingness to use, satisfaction, and the ability to encourage other users on compliance with PBB payments, such as registering taxable objects, providing complete and accurate data, paying taxes according to regulations, and avoiding arrears.

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The Effect of Information Quality on Compliance with Land and Building Tax (PBB) Payment through the Mediation of PBB Knowledge. The effect of Information Quality (X2), through PBB Knowledge (Z), on Compliance with PBB Payment (Y) shows a positive original sample value of 0.174, indicating a positive relationship pattern. The T-statistic value of 2.529 is greater than 1.96, and the P-value of 0.012 is less than 0.05, meaning the relationship is significant. Thus, H9 is accepted. It can be concluded that information quality mediated by PBB knowledge significantly affects compliance with PBB payment in Karimun District. Since the direct effect is insignificant while the indirect effect is significant, PBB knowledge acts as a perfect intervening variable in the relationship between information quality and compliance with PBB payment in Karimun District.

Based on this quantitative conclusion, discussions were conducted with several respondents to identify the linkage between questionnaire results and field problems. It was revealed that the decline in taxpayer awareness in fulfilling PBB obligations, reflected in the declining achievement of PBB revenue targets by Bapenda from 2022 to 2024, was suspected to be caused by insufficient access to taxation-related information, particularly among communities in island areas.

Knowledge-related issues were again reflected in the lowest PBB revenue achievement in districts with fewer high school and university graduates, whereas districts with a larger proportion of graduates showed fluctuating but generally increasing performance.

Further findings confirmed that taxpayer knowledge covering PBB functions, payment provisions, procedures, and payment locations has been able to enhance the effect of information quality, including availability, completeness, accuracy, timeliness, and relevance to user needs and conditions. As a result, information quality has had a significant and comprehensive impact on compliance with PBB payments, reflected in taxpayers' willingness to register taxable objects, provide complete data, pay according to regulations, and avoid arrears.

The Effect of Income Level on Compliance with Land and Building Tax (PBB) Payment through the Mediation of PBB Knowledge. The effect of Income Level (X3), through PBB Knowledge (Z), on Compliance with PBB Payment (Y) shows a positive original sample value of 0.216, indicating a positive relationship pattern. The T-statistic value of 3.214 is greater than 1.96, and the P-value of 0.001 is less than 0.05, meaning the relationship is significant. Thus, H10 is accepted. It can be concluded that income level mediated by PBB knowledge significantly affects compliance with PBB payment in Karimun District. Since both the direct and indirect effects are significant, PBB knowledge serves as a partial intervening variable in the relationship between income level and compliance with PBB payment in Karimun District.

Based on this quantitative conclusion, further discussions with respondents revealed that the decline in taxpayer awareness reflected in the decreasing PBB revenue targets achieved by Bapenda from 2022 to 2024 was suspected to be related to low-income levels. Some taxpayers faced difficulties in paying PBB, and once fines on arrears accumulated, they became increasingly unable and unwilling to pay, further worsening PBB revenue in subsequent years.

Further discussions revealed that taxpayer knowledge, such as knowledge of PBB functions, payment provisions, procedures, and payment locations, has strengthened the impact of income levels. Higher income, steady earnings, and additional sources of income enabled taxpayers to fulfill their obligations more consistently. In turn, this knowledge partially amplified the positive effect of income on compliance with PBB payments, reflected in willingness to register taxable objects, provide accurate data, pay taxes according to regulations, and avoid arrears. Thus, taxpayer

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knowledge has partially strengthened the influence of income levels on compliance with PBB payment in Karimun District.

CONCLUSION

Based on the findings of this research, the conclusions are as follows:

1. Quantitatively, digitalization has a significant effect on compliance with Land and Building Tax (PBB) payment in Karimun District. Qualitatively, the current digital system has had a major impact on improving PBB payment compliance.
2. Quantitatively, information quality has an insignificant effect on PBB payment compliance. Qualitatively, the current condition of information quality has not had a major impact on compliance improvement.
3. Quantitatively, income level has a significant effect on PBB payment compliance. Qualitatively, the income level of taxpayers has had a substantial impact on improving compliance.
4. Quantitatively, digitalization has an insignificant effect on PBB knowledge. Qualitatively, the existing digital system has not had a major impact on increasing taxpayer knowledge of PBB.
5. Quantitatively, information quality has a significant effect on PBB knowledge. Qualitatively, the current condition of information quality has had a significant impact on increasing taxpayer knowledge of PBB.
6. Quantitatively, income level has a significant effect on PBB knowledge. Qualitatively, the income level of taxpayers has had a substantial impact on their PBB knowledge.
7. Quantitatively, PBB knowledge has a significant effect on PBB payment compliance. Qualitatively, taxpayers' knowledge of PBB has had a major impact on compliance improvement.
8. Quantitatively, digitalization mediated by PBB knowledge has an insignificant effect on compliance with PBB payment. Qualitatively, taxpayers' knowledge has not been able to strengthen the impact of digitalization on compliance.
9. Quantitatively, information quality mediated by PBB knowledge has a significant effect on compliance with PBB payment. Qualitatively, taxpayers' knowledge of PBB perfectly strengthens the effect of information quality on compliance.
10. Quantitatively, income level mediated by PBB knowledge has a significant effect on compliance with PBB payment, with PBB knowledge acting as a partial intervening variable. Qualitatively, taxpayers' knowledge has partially strengthened the effect of income level on compliance with PBB payment.

Based on these conclusions and research findings, in order to optimize taxpayers' compliance with PBB payment in Karimun Regency, it is recommended that the Regional Revenue Agency (Bapenda) of Karimun:

1. Ensure that the digital system is easy to understand, aligned with taxpayers' needs, easily accessible, useful in accelerating administrative processes, provides user satisfaction, and motivates continued use—particularly for taxpayers in remote islands who are less familiar with digitalization.
2. Optimize the quality of information regarding PBB in terms of availability, completeness, accuracy, timeliness, and relevance to taxpayers' needs.
3. Ensure that PBB levies are aligned with local economic conditions, and design special programs to ease the burden on taxpayers facing genuine economic constraints.

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4. Improve taxpayers' knowledge of PBB through optimization of digitalization and information quality tailored to local conditions.
5. Strengthen taxpayers' awareness in fulfilling their PBB obligations through enhanced digitalization and information quality.
6. Formulate policies and programs aimed at ensuring equal distribution of PBB knowledge among all social classes, groups, and regions in Karimun District.

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