Analysis of Compliance with Capture Fisheries Licensing in Belawan Waters at The One-stop Integrated Licensing Service and Investment Office of Sumatera Utara Province

Cut Deby Andayani¹, Agus Purwoko², Miswar Budi Mulya³

¹Postgraduate Student, Universitas Sumatera Utara, Indonesia
²Faculty of Forestry, Universitas Sumatera Utara, Indonesia
³Faculty of Mathematics and Natural Sciences, Universitas Sumatera Utara, Indonesia

Abstract. Indonesia is one of the largest maritime countries in the world. Marine resources are considered an excellent economic prospect. In the captivity fishery industry, licenses are primarily used as a controlling instrument in order to avoid overfishing. The objectives of this study are to analyze the effects of transparency, service quality, public understanding, socialization, knowledge of information technology, sanctions, and incentives on license compliance at the One-Stop Integrated Investment and Licensing Service of Sumatera Utara Province. This research employs quantitative methods by employing a multiple linear regression equation model. The purpose of this study is to examine the relationships between exogenous variables (X), namely transparency in licensing (X₁), service quality (X₂), public understanding (X₃), socialization (X₄), knowledge of information technology (X₅), and sanctions and incentives (X₆) against the endogenous variable (Y), which is license compliance. The result of this study shows that service quality and public understanding affect license compliance at the One-Stop Integrated Investment and Licensing Service of Sumatera Utara Province. However, licensing transparency, socialization, knowledge of information technology, applying sanctions and incentives do not affect license compliance at the One-stop Integrated Licensing Service and Investment of Sumatera Utara Province.

Keyword: Capture Fishery, License Compliance, One-Stop Integrated Investment, Licensing Service

Abstrak. Indonesia merupakan salah satu negara maritim terbesar di dunia. Sumber daya laut dianggap sebagai prospek ekonomi yang sangat baik. dalam industri perikanan tangkap, perizinan digunakan sebagai instrumen pengendalian untuk menghindari penangkapan yang berlebihan. Penelitian ini bertujuan untuk menganalisis pengaruh transparansi, kualitas pelayanan, pemahaman masyarakat, sosialisasi, pengetahuan teknologi informasi, sanksi, dan insentif terhadap kepatuhan perizinan pada Pelayanan Penanaman Modal dan Perizinan Terpadu Satu Pintu Provinsi Sumatera Utara. Penelitian ini menggunakan metode kuantitatif dengan menggunakan model persamaan regresi linier berganda. Tujuan penelitian ini adalah untuk menguji hubungan antara Variabel Eksogen (X) yaitu transparansi perizinan (X₁), kualitas pelayanan (X₂), pemahaman masyarakat (X₃), Sosialisasi (X₄), pengetahuan teknologi informasi (X₅), dan Sanksi dan Insentif (X₆) terhadap variabel endogen (Y) yaitu kepatuhan Lisensi. Hasil penelitian ini menunjukkan bahwa kualitas pelayanan dan pemahaman masyarakat berpengaruh terhadap kepatuhan

*Corresponding author at: Universitas Sumatera Utara, Indonesia
E-mail address: Cutdeby@gmail.com

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Introduction

Indonesia is the world's largest maritime country with a tropical climate [1]. Indonesia's marine resources, especially in the fisheries sector, are considered an excellent economic prospect. Thus, the government needs to develop the industry [2]. The Malacca Strait is one of eleven Fisheries Management Areas in Indonesia [3]. Belawan Ocean Fishery Port is one of the largest fishing ports in Sumatera Utara Province, located in the waters of the Malacca Strait. It is strategically located between Sumatra's East Coast waters, the Indonesian Exclusive Economic Zone (ZEEI), and the South China Sea and serves as an entry point for the economic activities of several Asian countries [4].

In the capture fishery industry, licenses are primarily used as a controlling instrument. It is intended to control the intensity of fishing in waters to avoid overfishing [5][6]. The Indonesian government requires that anyone who conducts fishery business in the management area of Indonesia, such as catching, cultivating, transporting, processing, and marketing fish, obtain a Fishery Business License (SIUP). Anyone operating a fishing vessel/transporter should have a Fishing Permit (SIPI) and a Fish Transport Permit (SIKPI) [7]. The provincial government has the authority to issue capture fisheries business licenses for fishing vessels weighing between 5 and 30 gross tonnages. In Sumatera Utara, the permit is issued by the One-stop Integrated Licensing Service and Investment of Sumatera Utara Province (DMPPTSP) [8].

There are various challenges in the licensing process in Indonesia. The investors found that the licensing process was time-consuming, unpredictable, difficult, duplicative, and unclear [9]. In the fisheries sector, the investors complain about the number of requirements and length of service procedures to obtain the license. Furthermore, the transition of licensing authorities from the district to the provincial government lengthens the licensing process [10][6][11]. As a result, investors are more likely to ignore business licensing applications.

This research aims to explain how the compliance of capture fisheries business licenses in the Belawan Waters at the DMPPTSP Office of Sumatera Utara Province performs.

Methodology

The study applies associative methods with quantitative approaches. This research was conducted out from July 2021 to September 2021 at the DMPPTSP of Sumatera Utara Province. The sample number was 60 respondents with an accidental sampling technique [12]. In this study, data were gathered through observation, questionnaires with five point likert scale, and literature reviews. The variables studied in this study are transparency in licensing (X1),
service quality (X2), public understanding (X3), socialization (X4), knowledge of information technology (X5), sanction and incentive (X6), and license compliance (Y).

Several types of analysis are used in this study. The normality test is used to see if the distribution of disturbance components is normal. The multicollinearity test is used to see if the regression model finds a link between the independent variables. The heteroscedasticity test seeks to determine whether members of a group have the same variance. Furthermore, hypothesis testing is used to see if there is an important relationship between the independent variables and their dependent variable.

This study employs a multiple linear regression equation model, with the function expressed as follows:

\[ Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + \ldots + b_nX_n + e \]  

(1)

Where Y denotes the license compliance and X1, X2, X3, X4, X5, and X6 represents the transparency in licensing, service quality, public understanding, socialization, information technology knowledge, sanction and incentive. Furthermore, a, b and e express the constant, regression coefficient, and error standard.

3. Result and Discussion

3.1. Result

3.1.1. Causality analysis

The causality between the X and Y variables of the study was obtained based on instrument testing using Crosstab analysis. The following are the findings from these tests:

<table>
<thead>
<tr>
<th>Causality test</th>
<th>Lack of compliance</th>
<th>Compliance</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
</tr>
<tr>
<td>Licensing Transparency</td>
<td>Less transparent</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Transparent</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Service Quality</td>
<td>Less quality</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Quality</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Public understanding</td>
<td>Less Understanding</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Understanding</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Socialization</td>
<td>Less frequent socialization</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Frequent</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Knowledge of Information Technology</td>
<td>less knowledge</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Knowledge</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sanction and incentive</td>
<td>Less firmness</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>firm</td>
<td>2</td>
<td>12</td>
</tr>
</tbody>
</table>

The data of licensing transparency show that with a value of X2 (chi square/P) = 0,000 < 0,05, it is safe to conclude that licensing transparency is related to licensing compliance in DPMPPTSP Sumatera Utara Province. The service quality shows that with a value of X2 (chi square/P) =
0.000 < 0.05, it is reasonable to state that service quality is related to licensing compliance in DPMPPTSP Sumatera Utara Province. The data of public understanding also demonstrates that with a value of X2 (chi square/P) = 0.000 < 0.05, it is fair to assert that public understanding is associated with licensing compliance in DPMPPTSP Sumatera Utara Province. Furthermore, socialization data show that with a value of X2 (chi square/P) = 0.684 > 0.05, it is possible to conclude that socialization is unrelated to licensing compliance in DPMPPTSP Sumatera Utara Province. Additionally, the data of knowledge of information technology show that with a value of X2 (chi square/P) = 0.245 < 0.05, it is possible to conclude that knowledge of information technology is unrelated to licensing compliance DPMPPTSP Sumatera Utara Province. Lastly, because the data of sanction and incentive show that X2 (chi square/P) = 0.131 > 0.05, it is logical to conclude that sanctions and incentives are unrelated to licensing compliance at the DPMPPTSP Sumatera Utara Province.

3.1.2. Hypothesis testing

Three tests were used to test hypotheses: the simultaneous test (F test), the partial test (T test), and the coefficient of determination test (R² test).

3.1.2.1. Simultaneous Test (F Test)

The F test (simultaneous test) is conducted to examine the effect of the dependent variable (Y) on the independent variable (X) simultaneously by looking at the level of significant 0.05, if the significance value is less than 0.05 then H₀ is rejected and Hₐ is accepted.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>473.034</td>
<td>6</td>
<td>78.839</td>
<td>59.213</td>
<td>.000ₐₐ</td>
</tr>
<tr>
<td>Residual</td>
<td>70.566</td>
<td>53</td>
<td>1.331</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>543.600</td>
<td>59</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors : (Constant), Sanction and Incentive, Socialization, License Transparency, Knowledge of Information Technology, Public understanding, Service Quality
b. Dependent Variable: License Compliance

The data show that F_value is 59.213 with a significance of 0.000 based on the results of simultaneous hypothesis testing. With 60 respondents and F_table of 3.66, F_value > F_table and the significance value is less than 0.05. According to this, all X variables (Licensing Transparency, Service Quality, Public understanding, Socialization, Information Technology Knowledge, and Application of Sanctions and Incentives) affect licensing compliance simultaneously (Y).

3.1.2.2. Partial Test (t Test)

Based on the calculation, the results of the analysis are as follows (Table 3)

This analysis is used to determine the effect of the independent variable (X) and the dependent variable (Y) with a significance level of (/) 5%.

Based on table 3, the regression results are obtained as follows:

\[ Y = 0.517 + 0.016X₁ + 0.339X₂ + 0.464X₃ - 0.096X₄ + 0.006X₅ + 0.032X₆ \]  \( (2) \)
According to the equation above, the variables that most influence licensing compliance are public understanding (46%) and service quality (34%). These numbers indicate that the DPMPPTSP Office of Sumatera Utara Province has several issues that need to be addressed, particularly regarding licensing transparency, socialization, technological knowledge, and the application of sanctions and incentives to encourage good licensing compliance.

### 3.1.2.3. Coefficient of determination test \((R^2)\) test

The results of the determination test \((R^2)\) can be seen from the following table:

**Tabel 4 Coefficient of determination test**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.933</td>
<td>.870</td>
<td>.855</td>
<td>1.15388</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Sanction and incentive, Socialization, License transparency, knowledge of information technology, Public understanding, Service quality

b. Dependent Variable: License compliance

The R square value for the dependent variable \((Y)\) is 0.870, which suggests that the independent variable \((X)\) influences the dependent variable \((Y)\) by 87%, with the remaining 13% influenced by factors or variables outside the study model. This data indicates that license transparency, service quality, public understanding, socialization, knowledge of information technology, and the use of sanctions and incentives all have a significant impact on compliance.

### 3.2. Discussion

#### 3.2.1. The Effect of Licensing Transparency on Licensing Compliance in the Capture Fisheries Sector

The partial multiple regression test results show that licensing transparency does not affect licensing compliance in the capture fisheries sector. The findings of the causality test revealed that 57 respondents (97%) indicated that the DPMPPTSP of Sumatera Utara Province had adopted the principle of transparency and complied with licensing requirements. Furthermore, the chi-square test results demonstrate that licensing transparency is linked to license compliance. The DPMPPTSP of Sumatera Utara Province has practically adopted the principle
of public transparency, as seen by the introduction of the SIAPLAYANI application, which is an online-based licensing application system aimed at providing convenience and transparency to the public. A study shows that the licensing service process in DPMPPTSP of Sumatera Utara Province has been made more transparent, including the cost and time of service and providing a flow chart. However, the processes and procedures listed in the flow chart are still difficult to comprehend by the investors [13]. Transparency will also improve policymakers' accountability by ensuring that public oversight of policy-making organizations is effective. Transparency is a concept that promotes mutual trust between the government and the general public. When a government agency is not transparent, the public tends to lose trust in the government [14].

3.2.2. The Effect of Service Quality on Licensing Compliance in the Capture Fisheries Sector

According to the results of a partial multiple regression test, the significant value of the service quality variable on license compliance is 0.000. The number demonstrates that the quality of service has an impact on license compliance for capture fisheries. The findings of a causality test between the two variables supported the statement, which revealed that 57 persons (or 98 percent) believe the DPMPPTSP of Sumatera Utara Province provides quality services and adheres to licensing requirements. Based on the regression coefficient, the value of service quality (x2) is 0.339. If service quality increases by 1%, this number means licensing compliance will increase by 34%. This situation demonstrates that the public's opinion of the DPMPPTSP of Sumatera Utara Province's service quality is excellent, as evidenced by the services given by officers in compliance with the DPMPPTSP of Sumatera Utara Province service's Service Standards and Standard Operating Procedures. According to scholars, every public service provider should provide service standards to guarantee predictability for service recipients. When delivering or receiving service, both the service provider and the recipient must comply with a service standard [15]. According to the Indonesian government, service standards are benchmarks used as guidelines for service delivery and as a reference for evaluating service quality as providers’ obligations and commitments to the public in the context of quality, fast, convenient, economic, and measurable services. The values of simplicity, participation, transparency, sustainability, transparency, and justice are considered while developing, determining, and implementing Service Standards [16].

3.2.3. The Effect of Public understanding on Licensing Compliance in the Capture Fisheries Sector

The significant value of the variable public understanding of license compliance is 0.000. In this scenario, license compliance in the capture fisheries sector at the DPMPPTSP of Sumatera Utara Province is influenced by public understanding. The preceding conclusion is consistent with the results of the causality test between the two variables. At DPMPPTSP Sumatera Utara Province, 57 people, or 98 percent, believe they understand the flow of licensing systems, regulations, and compliance with licensing. According to the regression coefficient of public understanding (X3) of 0.464, increasing public understanding by 1% will result in a 46 percent increase in license compliance. These numbers show that the licensing officials at the DPMPPTSP of Sumatera Utara Province are fully aware of all aspects of the licensing process,
including procedures, rules, regulations, and the reason for the requirement of licensing documents. By increasing community awareness and comprehension of licensing, the community will become more compliant, minimizing violations in their business activities. The findings of this study are consistent with studies that show that having enough public understanding makes it easier for consumers to figure out which financial solutions can assist them to satisfy their needs [17].

3.2.4. The Effect of Socialization on Licensing Compliance in the Capture Fisheries Sector

Based on the partial multiple regression test results, the significance value of the socialization variable on licensing compliance was 0.261. The data shows that the socialization variable does not affect licensing compliance in the capture fisheries sector at the DPMPPPTSP of Sumatera Utara Province. The above results are in line with the results of the causality test. The test shows that 54 people or as much as 95% felt that the socialization carried out by the DPMPPPTSP of Sumatera Utara Province was intense and tried to comply with the established flow and mechanism. However, this result does not align with the regression coefficient of public understanding (X3), which is -0.096; if socialization increases by 1%, licensing compliance will decrease by 9.6%.

This finding is essential for the DPMPPPTSP of Sumatera Utara Province. Although socialization has been carried out intensely through the website and other media, compliance is just a formality because of permits. The DPMPPPTSP of Sumatera Utara Province needs to make a well-targeted socialization approach. The findings of this study support research that states that license officers must conduct socialization activities in all areas of the region to boost community engagement [18]. Socialization is a person's learning process to get all information or knowledge to participate; this explanation shows that everyone needs a learning process to understand certain information [19].

3.2.5. The Effect of Knowledge of Information Technology on Licensing Compliance in the Capture Fisheries Sector

According to the partial multiple regression test results, the significant value of the information technology knowledge variable on license compliance is 0.865. These findings show that the DPMPPPTSP of Sumatera Utara Province’s varied mastery of information technology does not affect licensing compliance in the capture fisheries sector. This finding is in line with the causality test results between the two variables, revealing that 39 respondents (93%) at the DPMPPPTSP of Sumatera Utara Province believed they lacked information technology expertise yet followed the rules. Furthermore, it is calculated at 0.006 using the regression coefficient of mastery of information technology (X5). The information suggests that if technical mastery improves by 1%, licensing compliance will improve by 0.6%. The data demonstrates that the information technology-based online licensing system introduced in the DPMPPPTSP of Sumatera Utara Province has not yet benefited fisheries business actors, implying that licensing compliance is dependent solely on the necessity for licensing rather than on awareness. The investors admit they do not understand the information technology but still strive to comply with license requirements.
The findings of this study are consistent with studies that show that the licensing office in Bogor City has had a difficult time implementing information technology-based licensing services. In terms of transparency, information technology has failed to assist the community. The investor does not use the online license system, so that information disclosure has not been accessible. Because there has not been any community participation, the predicted participation has not happened yet. The use of technology to send complaints and ideas, on the other hand, has expanded. Employees benefit from increased efficiency since it allows them to provide faster service. Online licensing systems have become inefficient because of the enormous number of manual licensing service [20].

3.2.5. The Effect of the application of sanction and incentive on Licensing Compliance in the Capture Fisheries Sector

According to the partial multiple regression test results, the significant value of the variable application of punishments and incentives to license compliance is 0.457. According to this data, the punishments and incentives had little effect on licensing compliance in the catch fisheries sector in the DPMPPTSP of Sumatera Province. The previous finding is consistent with the policy of the DPMPPTSP of Sumatera Utara Province, which does not provide incentives to personnel who handle licensing. This finding is consistent with the findings of a causality test between the two variables, which found that 42 persons (98 percent) believe the DPMPPTSP of Sumatera Utara Province's application of punishments and incentives is less strict but still adheres to the established flow and process. Furthermore, the regression coefficient for sanction and incentive application (X6) is 0.032. The data suggests that if fines and incentives are used more frequently, licensing compliance will rise by 3.2 percent. The information demonstrates that the investors do not dispute fines and incentives but attempt to comply because of the permit's importance. Moreover, there is no policy in the DPMPPTSP of Sumatera Utara Province to use substantial fines and incentives to capture fisheries business participants.

This study's findings contradict another study, which found that combining incentives and punishment has a significant impact on performance. As a result of this scenario, it is possible to conclude that both incentives and punishment impact performance [21].

4. Conclusion and Policy Recommendation

According to the description and data analysis findings, service quality and public comprehension influence license compliance at the One-stop Integrated Licensing Service and Investment of Sumatera Utara Province. However, licensing transparency, socialization, knowledge of information technology, and the imposition of sanctions and incentives do not affect license compliance.

The government needs to implement new policies to raise public knowledge about licenses, particularly fisheries. Furthermore, work procedures at the DPMPPTSP of Sumatera Utara Province must be improved. The government also should collaborate with relevant authorities to develop and manage capture fisheries areas and implement sustainable fisheries management. Finally, the government must strengthen and tighten the control function of the capture fisheries
sector in order to boost the national economy, such as reporting the number and price of vessels, reporting catches, physical inspection, and vessel size.

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