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The Effect of Public Service Effectiveness and Efficiency on Public Satisfaction in Using The Permen Manis Website In Bandar Lampung City

(Study on Postgraduate Students of Bandar Lampung University in 2025)

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Abstract

This study aims to analyze the effect of effectiveness and efficiency of public services on community satisfaction in using the Permen Manis Website in Bandar Lampung City. The main problem addressed is the suboptimal performance of digital public services in meeting community expectations despite the implementation of e-government. This research employs a quantitative approach using a survey method involving 130 postgraduate students of the University of Bandar Lampung in 2025. Data were collected through Likert-scale questionnaires and analyzed using multiple linear regression with SPSS. The results indicate that service effectiveness has a positive and significant effect on community satisfaction, while service efficiency does not have a significant partial effect. However, simultaneously, effectiveness and efficiency significantly influence community satisfaction. These findings suggest that community satisfaction is more strongly influenced by the ability of services to achieve objectives and meet user needs rather than efficiency alone. Therefore, improving digital public service quality should prioritize enhancing service effectiveness supported by optimal system efficiency.

Keywords : Effectiveness; Efficiency; Community Satisfaction; E-government; Public Service

INTRODUCTION

Digital transformation in the public sector is a logical consequence of the increasingly rapid

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development of information and communication technology. Governments in various countries, including Indonesia, are required to provide public services that are not only fast and efficient, but also transparent, accountable, and oriented towards public needs. In this context, the implementation of electronic government (e-government) is a key strategy for improving the quality of public services through the use of digital technology. E-government is understood not only as the digitization of services but also as a systematic effort to reform governance to be more responsive and adaptive to social dynamics (Sá et al., 2016).

Conceptually, the success of e-government implementation is largely determined by the quality of the service system, encompassing aspects of effectiveness and efficiency. Effectiveness refers to the system's ability to achieve service objectives, such as timeliness, information accuracy, and ease of procedures. Meanwhile, efficiency relates to the optimization of resources, including the time, costs, and effort expended by service users. However, various studies have shown that the digitalization of public services does not automatically result in improved service quality without the support of good system governance (Nam, 2019). This demonstrates that e-government success is multidimensional and requires comprehensive empirical evaluation.

Previous literature reviews have shown that public satisfaction, as a key indicator of the success of digital public services, is influenced by various factors. Sá et al. (2016) emphasized that user-centered system design significantly contributes to improving service quality and user satisfaction. Furthermore, Nguyen et al. (2021) identified that ease of use, information quality, service responsiveness, and system reliability are key determinants of satisfaction with digital-based services. These findings indicate that technical quality and service quality play complementary roles in shaping user perceptions.

In an empirical context in Indonesia, Barusman's (2019) research shows that user satisfaction with website-based services is more influenced by system effectiveness, information quality, and user trust than by efficiency alone. In fact, service efficiency does not always have a significant impact if the system is unable to provide a consistent and reliable service experience. This finding is reinforced by Barusman (2024), who stated that user satisfaction with digital services is non-linear and influenced by perceived value and subjective user experience. Therefore, the relationship between effectiveness, efficiency, and user satisfaction cannot be assumed to be simple but requires a more in-depth analytical approach.

Other relevant studies, such as Karim et al. (2020) on the Sipaduko system in Jambi City and Nada (2025) on the Sahaja Online service in Kediri Regency, show that service speed, ease of access, and data quality are key factors in increasing user satisfaction. Rahmatullah (2025) also

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emphasized that the effectiveness and efficiency of e-government systems contribute to the net benefits felt by the public. However, most of these studies still focus on general system evaluations, without specifically examining the simultaneous interaction between effectiveness and efficiency on user satisfaction in the context of website-based population administration services.

From a policy perspective, the implementation of e-government in population administration services in Indonesia is strengthened through national regulations, specifically Minister of Home Affairs Regulation Number 7 of 2019 concerning Online Population Administration Services. This regulation emphasizes that population administration services must be implemented digitally to improve accessibility, efficiency, and service quality. Thus, the digitalization of population services is no longer merely a regional innovation but a national policy mandate that must be optimally implemented by local governments.

To implement this policy, the Bandar Lampung City Government developed the "Permen Manis" (Sit Sweet Community Online Service Website) as a digital-based population administration service platform. This website provides various services, such as issuing Family Cards, birth certificates, death certificates, e-KTPs, Moving Certificates, and Child Identity Cards. This innovation was even recognized as part of the 2023 Regional Innovation Index (IID), demonstrating the local government's commitment to driving the digital transformation of public services.

However, initial survey results indicate that the user satisfaction level of the Permen Manis website remains in the "quite satisfied" category, with an average score of 6 (on a scale of 1–10). Significant variations in ratings indicate a gap between user expectations and perceived service performance. Issues that emerged included technical system constraints, a lack of clear information, limited notification features, and suboptimal end-to-end online services. Furthermore, discrepancies in service data and limited system accessibility were still found, which ultimately impacted public perception and satisfaction.

Based on the empirical study and field findings, three types of problems can be identified. First, an empirical problem, namely the mismatch between the objectives of service digitalization and actual user experiences. Second, a theoretical problem, namely the inconsistent relationship between effectiveness, efficiency, and satisfaction in various previous studies. Third, a normative problem, namely the existence of national policy demands mandating the optimization of digital services, but their implementation has not fully met expected standards.

Based on the state of the art, the scientific novelty of this research lies in:

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a. Simultaneous testing of the influence of the effectiveness and efficiency of public services on public satisfaction in the context of website-based population administration services;
b. The use of an empirical approach based on user experience in a group of postgraduate students as critical and adaptive users of technology; and
c. Integration of effectiveness, efficiency, and satisfaction perspectives in one contextual analysis model on e-government implementation at the local government level.

Thus, this study not only fills the empirical gap in e-government studies, but also provides theoretical contributions in understanding the dynamics of the relationship between digital service quality and citizen satisfaction.

Based on this description, the problem formulation in this research is:

a. Does the effectiveness of public services affect public satisfaction?
b. Does the efficiency of public services affect public satisfaction; and
c. Do effectiveness and efficiency simultaneously influence public satisfaction in using the Sweet Candy Website?

In line with the formulation of the problem, the research hypothesis proposed is that the effectiveness and efficiency of public services, both partially and simultaneously, have a significant influence on public satisfaction.

In the final section, the objectives of this research are:

a. Analyze the level of effectiveness of public services in the use of the Sweet Candy Website;
b. Analyze the level of efficiency of public services in the use of the Sweet Candy Website; and
c. Analyzing the influence of the effectiveness and efficiency of public services simultaneously on public satisfaction.

RESEARCH METHODS

This study uses a quantitative approach with an explanatory research design, which aims to explain the causal relationship between the effectiveness and efficiency of public services and public satisfaction in using the Permen Manis Website in Bandar Lampung City. The quantitative approach was chosen because it allows for objective measurement of social phenomena through the transformation of user perceptions and experiences into numerical data, so that the relationship between variables can be tested statistically and produce empirical and measurable conclusions.

Conceptually, this study positions service effectiveness (X_1) and service efficiency (X_2) as independent variables, while public satisfaction (Y) as the dependent variable. This research

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model is built based on the integration of three main theoretical frameworks, namely the theory of public service effectiveness by Admosoeprapto (2016), the theory of service efficiency by Eichhorn and Towers (2018), and the theory of public satisfaction by Semil (2018). The integration of these three theories allows for a more comprehensive analysis of the quality of digital-based public services from a user perspective.

The public service effectiveness variable in this study is operationalized as the level of success of the Permen Manis Website in achieving its population administration service objectives. Referring to Admosoeprapto (2016), effectiveness is measured through four main indicators: goal achievement, service quality, service quantity, and timeliness of service. These indicators are then translated into statement items that reflect actual user experiences, such as ease of access to services, procedural clarity, system stability, and timeliness of service completion.

Meanwhile, the public service efficiency variable is defined as the system's ability to deliver optimal service output with minimal resource usage. Based on the theory of Eichhorn and Towers (2018), efficiency is measured through four dimensions: cost efficiency, time efficiency, resource utilization, and user efficiency. This indicator is expressed in a statement assessing the extent to which the Manis Candy Website is able to reduce costs, accelerate service processes, minimize face-to-face interactions, and provide easy access for users.

The public satisfaction variable refers to users' evaluation of the service experience they receive, which is formed by comparing expectations with service performance. Referring to Semil (2018), public satisfaction is measured through five main indicators: convenience, security, personal attention, problem-solving approach, and service fairness. These indicators reflect the psychological and experiential dimensions of users interacting with government digital services, including a sense of security regarding personal data, ease of use of the system, and responsiveness of the service in handling complaints.

All variables were measured using a structured questionnaire based on the theoretical indicators. The questionnaire consisted of 37 items, including 12 items for effectiveness variables, 11 items for efficiency variables, and 14 items for public satisfaction variables. Each item was measured using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The use of a Likert scale is considered appropriate for measuring respondents' attitudes and perceptions in a hierarchical manner and supports more accurate inferential statistical analysis.

The population in this study was all postgraduate students of Bandar Lampung University graduating in 2025 who had used the Manis Candy website. This population was selected because

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they possessed characteristics relevant to the research, namely a high level of digital literacy, strong analytical skills, and experience in using technology-based public services. Thus, respondents were expected to be able to provide rational and objective assessments of the quality of the services studied.

The sample size was determined based on the guidelines of Hair et al. (2010), which state that the sample size in multivariate analysis should be at least ten times the number of indicators. With a total of 13 research indicators, the sample size used was 130 respondents. The sampling technique used was purposive sampling, which selects respondents based on certain criteria, including active students, those who have used the Permen Manis website, and those who are willing to be respondents. This technique was chosen to ensure that the data obtained truly comes from users who have direct experience with the research object.

Data collection was conducted through online questionnaire distribution using the Google Forms platform. This method was chosen because it is efficient, flexible, and able to reach a wide range of respondents without the constraints of space and time. Prior to distribution of the main questionnaire, a pilot test was conducted to ensure content validity and clarity of question wording. This process is crucial for minimizing interpretation bias and improving the quality of the resulting data.

The data obtained were then tested for validity and reliability before further analysis. The validity test was conducted using Pearson Product Moment correlation with the criteria of calculated r value greater than r table (0.171). The test results showed that all statement items in the three variables were declared valid, so they were able to represent the measured constructs accurately. Furthermore, the reliability test was conducted using Cronbach's Alpha with a minimum limit of 0.70. The test results showed that all variables had reliability values above 0.70, which means the research instrument has good internal consistency and is suitable for use in data collection.

Data analysis in this study was conducted through two main stages: descriptive statistical analysis and inferential statistical analysis. Descriptive analysis was used to describe the characteristics of respondents and the distribution of responses to each research variable, through calculations of frequency, percentage, average (mean), and minimum and maximum values. This analysis provides an initial overview of the empirical conditions of the effectiveness, efficiency, and public satisfaction in using the Permen Manis website.

Next, inferential analysis was used to test the hypotheses and analyze the relationships between variables. The method used was multiple linear regression, which aimed to measure the

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influence of effectiveness and efficiency variables on public satisfaction, both partially and simultaneously. This regression model allows identification of the contribution of each independent variable in explaining variation in the dependent variable.

Before conducting regression testing, classical assumption tests are first performed, including normality, multicollinearity, and heteroscedasticity tests. Normality tests are conducted to ensure that residuals are normally distributed, while multicollinearity tests aim to ensure there is no high correlation between independent variables. Heteroscedasticity tests are conducted to ensure that residual variance is constant. Meeting these classical assumptions is crucial to ensure the validity of the regression model used.

Hypothesis testing was conducted using t-tests and F-tests. The t-test was used to test the partial influence of independent variables on the dependent variable, while the F-test was used to test the simultaneous influence of independent variables. Furthermore, the coefficient of determination (R^2) was used to measure the extent to which the effectiveness and efficiency variables were able to explain variations in public satisfaction.

With this comprehensive and theory-based methodological approach, the research is expected to be able to produce valid and reliable empirical findings, as well as provide scientific contributions in the development of digital-based public service studies, particularly in understanding the relationship between effectiveness, efficiency, and public satisfaction in the context of e-government at the regional level.

RESULTS AND DISCUSSION

This study aims to analyze the effect of public service effectiveness and efficiency on public satisfaction with the Bandar Lampung City Sweet Candy website. Data were collected from 130 respondents, graduate students from Bandar Lampung University in 2025 who had used the service. The analysis was conducted using descriptive and inferential statistics using SPSS software.

1. Descriptive Statistical Analysis

Descriptive analysis was conducted to provide an empirical picture of respondents' perceptions of the variables of public service effectiveness, public service efficiency, and public satisfaction.

In general, all respondents in this study have had experience using the Manis Candy Website, so the data obtained has high relevance in describing the real conditions of digital-based public services.

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The analysis results show that the public service effectiveness variable (X_1) has an average value of 4.11, which is included in the good category. The highest value is found in the goal achievement indicator (4.36), indicating that the service is able to meet the community's population administration needs. Meanwhile, the timeliness indicator has a relatively lower value (3.94), indicating there is still room for improvement in the aspect of service speed.

The public service efficiency variable (X_2) had an average value of 4.32, which is considered very good. The cost efficiency indicator achieved the highest score (4.46), indicating that the public experienced significant cost savings compared to conventional services. This indicates that service digitization has successfully reduced public transaction costs.

Meanwhile, the customer satisfaction variable (Y) had an average score of 4.08, which is in the good category. The comfort indicator received the highest score (4.38), while the problem-solving approach indicator received the lowest score (3.70). This indicates that although the service is comfortable to use, aspects of response to complaints and problem resolution still need improvement.

In terms of data distribution, the minimum and maximum values indicate variations in respondents' perceptions. The satisfaction variable has the widest range (32–70), indicating differences in user experiences with these digital services. Analysis of the percentage of responses showed a predominance of positive responses. For the effectiveness variable, 85.06% of respondents agreed or strongly agreed, while for the efficiency variable, the figure reached 92.24%, and public satisfaction reached 81.54%. These findings confirm that the Manis Candy website is generally well-received by users.

2. Classical Assumption Test

The normality test results showed a significance value of 0.200 (>0.05), indicating a normal distribution of the data. The multicollinearity test showed a tolerance value of 0.715 and a VIF of 1.398, indicating no signs of multicollinearity. However, the heteroscedasticity test indicated inconsistent variance in the effectiveness variable (sig < 0.05). Nevertheless, the regression model can still be used because other key assumptions have been met and the results remain statistically robust.

3. Multiple Linear Regression Analysis

The regression equation obtained is: $Y = 6.433 + 1.192\ X\ 1 - 0.171\ X\ 2 + e$

The effectiveness coefficient (1.192) indicates a positive and significant influence on public

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satisfaction. Meanwhile, the efficiency coefficient (-0.171) indicates a negative trend, but is not statistically significant.

4. Hypothesis Testing

The results of the partial test (t-test) show that:

a. The effectiveness of public services has a significant effect (sig 0.000)
b. Public service efficiency has no significant effect (sig 0.089)

The results of the simultaneous test (F test) showed a significance value of 0.000, which means that both variables together have an influence on public satisfaction. The coefficient of determination (R^2) value of 0.608 shows that 60.8% of public satisfaction is explained by the effectiveness and efficiency of services, while the remainder is influenced by other factors.

DISCUSSION

1. The Influence of Service Effectiveness on Public Satisfaction

The research results show that the effectiveness of public services has a positive and significant impact on public satisfaction. This finding confirms that in the context of digital-based public services, the system's ability to achieve service objectives is a key factor in shaping user satisfaction. Theoretically, Admosoeprapto (2016) states that effectiveness is a measure of an organization's success in achieving its stated goals. In this study, effectiveness is reflected in the Manis Candy Website's ability to provide clear, precise, and responsive services to the community's needs. The highest-scoring goal achievement indicators demonstrate that the public perceives tangible benefits from the service. This reinforces the argument that public satisfaction is determined not only by the service process, but more so by the results achieved.

This finding aligns with research by Sá et al. (2016) and Nguyen et al. (2021), which states that digital system effectiveness is a major determinant of user satisfaction. Furthermore, the high t-value (12.689) indicates that effectiveness is the dominant variable in this research model. However, some respondents still gave neutral ratings, indicating service imperfections. This could be due to technical issues, limited features, or a lack of responsiveness.

2. The Influence of Service Efficiency on Public Satisfaction

In contrast to effectiveness, public service efficiency did not significantly impact public satisfaction. This finding suggests that cost and time savings are not yet major factors in determining user satisfaction. Theoretically, Eichhorn and Towers (2018) stated that efficiency is

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related to optimizing resource use. In this study, respondents perceived efficiency as high, particularly in terms of cost and time.

However, research results show that efficiency is not enough to create satisfaction if it is not balanced with service effectiveness. This aligns with research by Nam (2019), which states that e-government efficiency does not always have a direct impact on public satisfaction. This phenomenon can be explained by the fact that people prioritize service success over mere speed or cost. In other words, people prefer services that are "correct and complete" over simply "fast and cheap."

3. The Simultaneous Effect of Effectiveness and Efficiency

Simultaneous test results show that effectiveness and efficiency together significantly influence public satisfaction. This indicates a complementary relationship between the two variables. Effectiveness acts as the core driver, while efficiency acts as a supporting factor. The combination of the two produces high-value public services.

An R^2 value of 0.608 indicates that the model has strong explanatory power. However, other factors still influence satisfaction by 39.2%, such as system quality, public trust, digital literacy, and user experience. Theoretically, Semil (2018) asserts that public satisfaction is multidimensional. Therefore, increasing satisfaction is not sufficient through efficiency alone, but must also be achieved through comprehensive improvements in service quality.

CONCLUSION

This study aims to analyze the influence of the effectiveness and efficiency of public services on public satisfaction with the Bandar Lampung City Sweet Candy Website. Based on the empirical analysis, several key conclusions were drawn, as follows.

First, the effectiveness of public services has been shown to be a key determinant of public satisfaction. Research findings indicate that public satisfaction is largely determined by the service's ability to achieve service objectives, deliver results that meet user needs, and present clear and easy-to-understand information. This confirms that in the context of digital-based public services, the outcome or results of the service play a more dominant role than the process. Therefore, the higher the level of service effectiveness, the greater the level of public satisfaction.

Second, public service efficiency did not have a significant partial effect on public satisfaction, although respondents rated it as very good descriptively. This finding suggests that savings in time, cost, and effort do not directly determine user satisfaction unless accompanied

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by service effectiveness. In other words, efficiency acts as an enabling factor that supports service quality, but is not the primary factor shaping public satisfaction. This indicates that the public places greater emphasis on the success of the service in meeting their needs than simply on speed or ease of processing.

Third, the effectiveness and efficiency of public services simultaneously have a significant impact on public satisfaction, indicating that the two variables have a complementary relationship in shaping the quality of digital public services. Effectiveness acts as a core driver, while efficiency acts as a supporting driver, strengthening the user experience. The combination of the two results in public services that not only achieve their goals but also provide practical and valuable experiences for the public.

Fourth, the research model demonstrates a strong ability to explain variations in public satisfaction, indicating that effectiveness and efficiency are important variables in the study of digital-based public services. However, other factors outside the model also influence public satisfaction, such as system quality, user trust, digital literacy, and user experience.

Overall, this study confirms that the success of e-government implementation is measured not only by the efficiency of the service process, but primarily by the service's ability to deliver tangible benefits and accurately meet community needs. These findings provide a theoretical contribution by reinforcing the multidimensional nature of public satisfaction with digital services, driven more by service effectiveness than by efficiency alone.

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