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Evaluation of the Success of TPP Information System Implementation Using the Hot-Fit Method

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ABSTRACT

The implementation of e-government systems often faces challenges in terms of adoption and sustainability, including employee incentive systems in the public sector. This study aims to evaluate the success of the implementation of a web-based and mobile Employee Income Supplement Information System (TPP) in the Karangasem Regency Government using the Human, Organization, Technology Fit (HOT-Fit) model approach. The evaluation was conducted by investigating the alignment between human factors (user satisfaction and usage), organizational factors (support and structure), and technological factors (system, information, and service quality), and their impact on the system's net benefits. Data were collected through a questionnaire survey of system users and analyzed using descriptive statistical techniques and Structural Equation Modeling (SEM) with SmartPLS software. The results showed that organizational and human factors significantly influenced the perception of system benefits, while technological aspects needed improvement, especially in terms of reliability and ease of use. This study identified an adoption gap caused by a lack of training, management support, and feature optimization. Theoretically, this study enriches the application of the HOT-Fit model in the context of government-to-employee (G2E) systems in Indonesia. Practically, these findings provide recommendations for local governments to strengthen organizational support, increase user capacity, and refine technical design to ensure the TPP system can achieve its goals in supporting fair and transparent performance assessment.

KEYWORDS *Information Systems; Hot Fit Methods*

INTRODUCTION

The TPP Information System Application (Additional Civil Servant Income) is an online and mobile information system product designed to facilitate the assessment and provision of additional income in accordance with Government Regulation No. 30 of 2019 concerning Performance Assessment of Civil Servant Officials and Karangasem Regent Regulation No. 12 of 2020 concerning Additional Income for State Civil Apparatus. However, many employees are still unfamiliar with using the information system, which affects the receipt of additional income for civil servants (Jangku et al., 2024; Nawi & Sahid, 2024; Sabna et al., 2021; Sugiani et al., 2018; Wu et al., 2025).

The Karangasem Regency Government strongly hopes that this application can be introduced to all employees of each regional apparatus to rank the performance of each employee from lowest to highest. The use of the application was evaluated according to four components: Human, Organization, Technology, and Net Benefit. The Human Organizational Technology (HOT-Fit Model) method can be used to measure the success rate in the implementation of this TPP application (Bandiyono & Naufal, 2020; Kusuma Dhewy et al., 2025; Oktaviana et al., 2022; Sala & Subriadi, 2023; Sari et al., 2023). This model was chosen because it is considered appropriate for comprehensively explaining the assessment using core components of the information system approach.

To achieve successful implementation of information systems, various evaluation models have been developed, one of which is Human, Organization, Technology Fit (HOT-

Fit). This model is considered comprehensive because it not only assesses technological aspects but also considers the alignment among humans (users), organizations, and technology, as well as the resulting net impact (net benefit) (Deharja et al., 2020; Nasution & Chairunnisa, 2023; Wiyati & Sarja, 2019). Several previous studies have used the HOT-Fit model to evaluate information systems in the health, education, and government sectors, such as the evaluation of hospital information systems, library systems (Krisbiantoro et al., 2015), and new student admission systems (Mujianto et al., 2017). The results of these studies indicate that human and organizational factors are often key determinants of success, alongside the technical quality of the system.

Evaluating the success of information system implementation in the public and education sectors is crucial to ensuring the sustainability of technology use. Previous studies at Ganesha University of Education show that periodic evaluations of e-government systems and public services can significantly improve service quality (Diatmika et al., 2025; Janureksa et al., 2022; Putra et al., 2023). In addition, user satisfaction and data accuracy, especially in administrative systems such as attendance and regional asset management, are key indicators of system success (Krisna et al., 2025; Mulyawan et al., 2022; Widyaningsih et al., 2025). Various evaluation approaches, ranging from usability testing to ISO standards, have also been widely applied to measure the technical quality and user acceptance of mobile and web-based applications (Wardana et al., 2024; Dwipa et al., 2021; Dewi et al., 2020; Jaya et al., 2021). In line with these studies, this study uses the HOT-Fit model to comprehensively evaluate the TPP system.

The components of the HOT-Fit model used during this research process include People (user satisfaction, system usage), Organization (organizational structure), Technology (system excellence, information excellence, service excellence), and how the application of all these factors can affect the net benefits. Based on this, it is clear that the HOT-Fit method can be used to evaluate the implementation of TPP in the Karangasem Regency Government. The survey method was employed to obtain information by distributing questionnaires to TPP application users. SmartPLS SEM (Structural Equation Modeling) software was used as the data analysis model.

However, a research gap needs to be addressed. Most HOT-Fit research still focuses on direct public services (government to citizen/G2C) or internal education/health services, while evaluation of incentive systems and employee performance assessments (government to employee/G2E) within local government environments remains very limited. Furthermore, no research has specifically adapted and tested the HOT-Fit model in the context of the TPP system in Indonesia, especially in regions with geographic characteristics and digital readiness such as Karangasem. Therefore, this study introduces novelty by applying and adapting the HOT-Fit model to evaluate the implementation of the TPP Information System in the Karangasem Regency Government, by adding contextual variables such as user digital readiness, top management support, and the quality of technical support services that have not been widely addressed in previous similar studies.

The objectives of this study are to: (1) evaluate the success rate of the TPP Information System implementation in Karangasem Regency using the HOT-Fit model; (2) analyze the influence of human factors (system satisfaction and use), organizational factors (structure and support), and technological factors (system, information, and service quality)

on the net benefits of the system; and (3) identify priority areas for improvement to increase system adoption and effectiveness. The benefits of this study include, academically, contributing to the development of information system evaluation models in the public sector, particularly the HOT-Fit model in the G2E context; and practically, providing evidence-based recommendations to the Karangasem Regency Government and related stakeholders to improve the design, implementation, and support of the TPP Information System. The implications of this study are expected to support the realization of more transparent, accountable, and performance-oriented government governance, as well as improve employee welfare and motivation through a fairer and more timely remuneration system.

METHOD

Variables are characteristics or attributes of a person, object, or activity that exhibit variation and can be studied. This study used variables gathered from survey data shared by users of the TPP application. Based on the problem identification, the HOT (Human Organization Technology) model was employed.

The research data were collected through a questionnaire distributed to users of the Karangasem Regency Government's TPP application. The data used in this study were primary data obtained directly from participants during the initial survey at the research site. Questionnaires were designed to be clear and concise so respondents could complete them easily and quickly.

The methodological process in analyzing this research data is carried out in many stages of the testing process, including:

a. Average

Mean or average is the number of scores in group members (ΣXi) divided by the total number of members in a group. The process in the test process is used to calculate the chances of success in implementing the TPP application using the mean data methodology. The instruments used during the data analysis process using the statistical methodology used are:

$$\bar{x} = \frac{\sum x_i}{n} \qquad (1)$$

Information:

X = Value Score Average
Sxi = Total Score
N = Number of participants

The average assessment process during the test is done by adding up all values in a sample or observation collection and then dividing them according to the number or number of samples.

The process of classification of regions and their categories becomes an average to present the success rate of the implementation of the TPP. To ensure the average rating, we can use the formula:

$$\frac{Highest\ score - Lowest\ score}{Total\ answer} = \frac{5-1}{5} = \frac{4}{5} = 0{,}8 \qquad (2)$$

In accordance with the results of the calculation above, conditions can be obtained according to the table below:

Table 1. Criteria Table

Mean Value Range	Measurement Type
4,51 – 5,00	Excellent
3,61 – 4,50	Good
2,71 – 3,60	Keep
1,81 – 2,70	Less
1,00 – 1,80	Very Less

Source: Processed from Sugiyono (2016)

b. Linear Correlation

This statistic is defined as an information method related to interpretation and inference methods in accordance with the data obtained through studies and analyses previously carried out according to certain rules and procedures.

Here's the formula for linear correlation statistics:

$$r = \frac{n\sum_{i=1}^{n} x_i y_i - (\sum_{i=1}^{n} x_i)(\sum_{i=1}^{n} y_i)}{\sqrt{\left[n\sum_{i=1}^{n} x_i^2 - (\sum_{i=1}^{n} x_i)^2\right]\left[n\sum_{i=1}^{n} y_i^2 - (\sum_{i=1}^{n} y_i)^2\right]}} \qquad (3)$$

Information:

r = linear interrelation coefficient

n = number of participants

Xi = *Score* total index X of the first respondent

Yi = *score* total index Y of the first respondent

i = 1, 2, 3, ..., n

The approach to the HOT Fit model by considering linear interrelationships is used because it can represent and can also provide value to criteria or indicators. This methodology can also determine the slice between several variables of people, organizations, technology as well as the compatibility between the three components that determine benefits.

The interpretation of the power structure in connectivity can be guided as follows:

Table 2. Interpretation Table

The magnitude of "r" Product Moment (r_{xy})	Interpretation
0,000–0,199	Very weak/very low
0,200–0,399	Weak/low
0,400–0,599	Moderate/Fair
0,600–0,799	Strong/tall
0,800–1,000	Very strong/very high

Source: Processed from Sugiyono (2016)

c. Coefficient of Determination

"The coefficient of determination is the amount of contribution of an independent variable to the dependent variable (r2)" (Amos Neolaka, 2016, p.130). The coefficient at the determination is indicated by r2. This value represents the part of the total variation of the value in the dependent component can be explained or caused by the linear relationship to the count of the individual components.

The coefficient of determination in components X and also Y shows how strongly the change of the value of X affects the change of Y (Dedy Mulyadi, 2014, pp.14-15). The coefficient of determination has the following formula:

$$KD = (r)^2.100\% \qquad (4)$$

Where:
KD = Coefficient of Determination.
r = The interrelation coefficient between the components X and also Y.

RESULTS AND DISCUSSION

Based on the outline on the community's computer, the TPP application is included in outline number 14, which is about E-Government and E-Governance.

1. E-Government

From the combination of the idea of NPM (New Public Management) and the use of information technology related to the phenomenon of government administration through the internet, the concept of digital administration applications or more generally e-gov was born (Janureksa et al., 2022).

According to Holmes in the publication Indrait (2004), the definition of e-gov is "e-government is the use of information technology, especially the internet, to provide public services in a much more convenient, customer-centric, cost-effective and completely different and better way." From this understanding, it can be concluded that Holmes sees e-government more in the context of public services.

Information defined by the World Bank in Indrajit (2004) "e-Government refers to the use of information technology (such as broadband, internet, and mobile computing) by government agencies that can transform relationships with citizens, businesses, and other government agencies." From another angle, UNDP also provides a simple definition, namely "E-gov is the application of information and communication technology (ICT) in government".

According to Indrajit (2004), each definition of e-gov lacks at least three common characteristics, namely:

- This is a new modern interactive system used between the government, the community and other interested groups.
- Including using IT, especially the internet.
- Provide quality improvement to the service.

According to the Ministry of Communication and Information Technology (Kemkominfo), the definition of e-government is a service to the public where it is provided through a portal or website owned by the government, where the use of a domain name

shows that the domain belongs to the Indonesian government, namely go.id. In accordance with this definition, there is a public law website portal for the service process to the public but does not have a go.id domain, so it is not an e-government.

a. Goals of E-Government

As stated in Indrajit (2005), there are several goals for the development of e-government, namely:

- In using e-government, the government wants to provide various information that is important and needed by the community/users and also becomes an alternative to services in the government.
- Openness in the public service process is built when the public/users get information related to various government programs and activities, as well as the public/users are able to pay attention and become more responsible for everything carried out by the government.
- Community/user cooperation in the decision-making process becomes wider. Cooperation ensures that every decision taken will reflect the various desires of the community/users in a more open and democratic governance process.
- Change the role of services provided to the public/users who will get information and services by visiting government offices directly. E-gov provides people with alternatives to get services and access options.

b. Advantages of E-Government

According to Indrajit (2002), some of the benefits of introducing e-gov to the country are:

- Increasing the advantages of public services provided to its stakeholders (society/users, the business world and industry), especially in savings in various areas of life in the country.
- Increase openness, control and administrative responsibility that are related to the application of the concept of good governance.
- Significantly, it can reduce costs in the general administrative process, relational, and relations of the government and all parties in daily operations.
- Opportunities are provided for the government to provide new revenue streams with the interaction of all parties.
- A community of different people will be formed that are able to respond to various problems appropriately according to global changes and trends.
- Empowering the community and other entities as part of the government to form a variety of fair and democratic public rules.

c. Three Key Elements of E-Government

In accordance with studies and research conducted by the Harvard JFK School of Government (2003), there are three success factors that must be realized and taken seriously to implement the concept of digitalization in the public sector. Some of the elements in question are Support, Capacity, Value.

a) Support

Public and political officials have a desire to be able to implement e-gov planning and not just adjust to trends related to the basics of e-gov or even the opposite initiatives. To provide support, not only speech but can also be in the following form:

- The e-governance work structure has been agreed as a determinant of the country's success in realizing the nation's vision and mission, therefore it is more prioritized.
- Disseminate the e-gov plan thoroughly to everyone through all sorts of good means.

b) Capacity

Do local governments have the capacity or power to realize the dream of e-government? The government must have three things, as follows:

- Sufficient availability to be able to implement various ideas about e-government, especially ideas related to financial resources.
- The availability of appropriate IT equipment also accounts for 50% of the implementation of e-government
- The availability of a workforce with skills and expertise to be able to ensure the consistent implementation of e-government according to the expected benefits principles.

c) Benefits (Value)

From the two elements above, support and capacity are two aspects of the government as a service provider. In this case, the government itself does not determine the level of profit from the existence of electronic government, but the community. Therefore, the government must be very careful in determining the priorities for the implementation of e-government that must be prioritized to provide useful benefits to the community.

In line with Moon's explanation in Nugroho (2008), another element of the successful implementation of e-government is local readiness and culture. Readiness here can be interpreted as an obligation as if doing something. Public perception of the use of ICT affects people's desire to use ICT. In addition, the element of successful adoption of e-government is also influenced by local culture (local culture) which affects the implementation of e-gov in popularizing e-business. Likewise with the will of the user community, which refers to the ability of the community to use the services included in the implementation of e-govt.

2. E-Governance

E-governance consists of two important areas, namely 'governance' as the main concept and 'electronic' or ICT (information and communication technology) as a tool to improve governance. The concept of management has been developed since the 1980s (Bevier, 2007:364), while the concept of e-government was first developed in the United States in 1993 (Gronlund, 2007:364), the use of the internet in management has been known since the 1970s (Gronlund, 2007:364). As the development of management and ICT concepts, the concept of e-government also developed, e-government and e-governance have overlapping concepts. E-governance is always easily interpreted as e-government, where the government uses ICT to make public services more efficient. Most e-government research focuses on the public sector, although the concept of government consists of many sectors connected at

different levels of government. Recently, the concept of e-government has developed and the importance of promoting democracy has increased, so the definition of e-governance also often overlaps with the rules of e-democracy. This problem is usually caused by the lack of compatibility of the term "governance" as the main term for e-government.

a. Three Differences Between E-Government and E-Governance
It can often be observed that there are synonymous terms between e-government and e-governance. Although both use computer technology, there are two fundamental differences, namely:

- E-Government uses protocols in one-way communication between the government and the community. Although e-governance uses a two-way protocol, it requires a public response.
- In e-government, all e-government issues are implemented in the form of information technology applications and services, while in e-governance, the concept of using technology is used to regulate administration and internal administrative arrangements are required. In other words, e-governance is the regulator of e-government.
- E-Government refers to the application of information and communication technology to government operations as a tool to improve governance. E-governance, on the other hand, means using ICT to change and support system functions and structures.

b. The Role of E-Governance
E-governance has 8 roles:

- E-governance can accelerate communication between the government, the public sector, the private sector, other governments and the Internet workforce and other information technologies.
- E-governance can make the budget in the government more economical for the provision of communication, transportation and administrative services, because e-governance provides an automated, fast and online system that can connect all elements.
- E-governance can foster a sense of responsibility in the process for the administration of the country.
- E-governance can provide businesses with convenience with the help of web-based digital services.
- E-governance can improve good relations and cooperation between authorities (central and regional governments) using an integrated online application system.
- E-governance can create a better democratic process.
- E-governance can create a more open, more creative, intelligent and clean government by preparing an integrated and transparent network system.
- E-governance can accelerate the process of exchanging and disseminating information and knowledge to realize an information-aware society, as well as a more open government and freedom of information.

c. Three Main Actors in E-Governance
There are three main players in e-governance, namely:

- The state as a determining factor, as a policymaker, fulfills the wishes of the people.
- The community during the government period as a supervisory body provided input to the government.
- Private individuals as economic actors who participate in trade, industry, sales, procurement, distribution.

d. Four Models of E-Governance

There are four models of e-Governance, namely:

- Government to Citizen (G2C)
  It is a relationship between the government and the community in the field of government that is carried out based on information technology.
- Government to Employee (G2E)
  It is the relationship between the government and the employees or workers of its public administration units.
- Government to Government (G2G)
  Relations between governments between countries and within a country, for example, between authorities, between departments, between ministries, between regions.
- Government to Business (G2B)
  The form of relations between the state and economic actors, as well as the private sector, entrepreneurs, and state companies is carried out online.

e. Computerization in the Government Sector

Computerization of government administration is about increasing the efficiency, convenience and availability of public services. The advantages are:

- The community can contribute to the actions taken by the government to improve government performance.
- Electronic governments can also support more efficient government administration and improve communication between government and business.

f. Benefits of Computerization in Government.

The benefits of computerization in government, especially in Indonesia, include:

- CPNS recruitment uses the CAT (Computer Assisted Test) system.
- Several local governments, including Surabaya, are collaborating with researchers to create an open source Linux-based future city in the form of a smart city.
- The e-KTP program has been implemented in Indonesia, although it still needs some improvements.
- Video conference between the President and the Governor, Chief of Police and Pangab throughout Indonesia using a video conference network.
- Development of private cloud in the Bapete environment (Nuclear Technology Supervisory Agency) using open-source technology and Linux operating system.

3. Outline Relationship with TPP Application

The TPP application itself is an e-Government product for its employees or included in the e-Government to Employee (G2E) where it is hoped that this application can sort employee income between employees according to their workload. This e-Government product is expected to help the government provide justice in the income of its employees so that there is no envy between employees.

CONCLUSION

The study concludes that government-built information systems are closely linked to the community's computer literacy and accessibility. For effective service delivery, future government information system development should prioritize simplifying services to ensure timely access anywhere, overcoming geographical barriers. Additionally, examining the government's role in digital transformation within the context of neighboring regions' E-Government and E-Governance initiatives can provide valuable insights. Future research could explore strategies to enhance digital inclusion and assess the impact of regional collaborations on improving government service accessibility.

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