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A Proposed Technique to Generate Improvement Decisions in Public Sector Innovation in Indonesia: A Case Study of Indonesian Food and Drug Authority (FDA) Provincial Office in Pontianak

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ABSTRACT

The goal of this work is to introduce the Gap Analysis technique as a tool for analyzing perception index of public service innovation measurement data using the measurement instrument provided by the State Administration Agency (LAN) of Indonesia. Customers who use public services are asked their perception regarding public service innovation, which is organized by the Indonesian FDA Provincial office in Pontianak through a survey that uses questionnaires consisting of 23 questions. Improvement Gap analysis is modified to propose a gap analysis technique that can adopt a LAN measurement tool. The result shows how the elements of innovation perform, the dissatisfaction perception level, and the gap between current perception and the targeted category of innovation perception. Furthermore, the two-dimensional matrix was able to distinguish four areas for improvement, namely: critical, keep performance, neutral, and exciting elements. The findings of this study show that, besides the private sector's role and public involvement in the process and or quality improvement of service, uniqueness, new kinds of service, service consistency, and service facilities are the critical elements that need to be improved to achieve excellent innovation perception. Thus, the Indonesian government could be able to adopt the modified technique as a tool that provides decision priority to improve public service innovation performance.

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INTRODUCTION

Since the *Reformasi* period, which led to the embrace of democratic norms and institutions, Indonesia's civil service had to deal with several challenges and it has gone through substantial internal changes (Asian Development Bank, 2021). The Law No. 25 of 2009 on Public Services provides a legal basis for the government to improve the quality and ensure the provision of public services under the general principles of good governance, as well as to protect every citizen and resident from abuse of authority in the implementation of public services related to the needs of basic society. Buehler, M. (2011) argues that this law complements other civil service reform initiatives introduced in Indonesia over the past 10 years, most of which focus on sanctions as the key to reform and improving the performance of the public sector. Based on this law, Presidential Regulation No. 81 of 2010 on Grand Design of Bureaucratic Reform 2010-2025 is issued as a guideline for Ministries/Institution/Local Government organizing bureaucratic reform to achieve good governance.

Since 1968, the Nomenclature of the Ministry of State Apparatus Empowerment and Bureaucratic Reform (MENPANRB) has undergone several changes, although the scope of its function is not much different, which is still around the empowerment of the state apparatus (MENPANRB, 2013a). Presidential Regulation of the Republic of Indonesia Number 47 of 2015, which was further amended through Presidential Regulation of the Republic of Indonesia Number 47 of 2021 concerning the Ministry of Administrative Reform and Bureaucratic Reform in Article 4, states that MENPANRB has the task of administering government affairs in the field of state apparatus and bureaucratic reform to assist the president in administering the state government. The Ministry of State MENPANRB Regulation No. 30 of 2014 on Public Service Innovation Guidelines triggers the acceleration to improve the quality of public services and reminds the importance of developing public service innovations in ministries/institutions and local governments competitively, adaptively, by sharing experience, and sustainably.

MENPANRB promotes the "One Agency, One Innovation" movement and has held an innovation competition (SINOVIK) every year since 2013 for all government organizations to stimulate the growth of public service innovation. The State Administration Agency (LAN), as an institution that formulates and implements the policy of developing state administrative innovation in the fields of governance and public services, as well as institutional and apparatus resources, considers "... *it is necessary to measure the impact of the innovation program that has been implemented*" to measure "... *the extent to which innovations have been implemented has an impact on stakeholders*" (LAN, 2018. p.2). Understanding customer perceptions will drive innovation development and will prioritize a customer-centric approach, as has happened in the private sector and revealed by Rihayana et al. (2021, p.14), that innovation can create an extraordinary experience for customers, while Lainawa, J. et al. (2019, p.9) use product innovation as a form of diversification strategy. By considering the function to assess the state administration in the field of administration reform policy, the State Administration Agency (LAN) provides the Public Service Innovation Perception measurement tool to help government organizations determine public service innovation policies, which have to consider the sustainability dimension (LAN, 2017).

According to Presidential Regulation No. 80 of 2017, the Indonesian FDA (BPOM) is charged with the critical responsibility of supervising drugs and foods in the country. According to BPOM Regulation No. 22 of 2020, as one of the technical units within the Indonesian FDA, the Indonesian Food and Drug Authority Provincial Office the in Pontianak is responsible for drug and food supervision, particularly in West Kalimantan Province. Numerous breakthrough programs in bureaucratic reform have been launched by BPOM since 2012. The declaration of the electronic basis of the low-risk food registration system is one of the quick wins at the time by utilizing information and communication technology, which is intended to increase transparency and accountability of public services and simplify the process (MENPANRB, 2013b).

The purpose of this paper is to propose the Gap Analysis technique as a tool for evaluating the results of the measurement of the perception index of public service innovation using the measurement instrument provided by LAN. Thus, the government can apply this tool as a basis for decision making for the development of public service innovation policies.

The remainder of this paper will be organized in the following manner. Firstly, the author will explain the LAN measurement method of the Public Services Innovation Perception Index and Gap Analysis from the review of literature. Secondly, the author presents the result of the Public Services Innovation Perception Index measurement. Next is to formulate the proposed gap analysis technique, which is used to evaluate the measurement result. Finally, the result then will be discussed before drawing a conclusion and identifying future research trajectories.

LITERATURE REVIEW

Public Services Innovation Perception Index Measurement

The innovation perception index measurement instrument uses the Likert scale questionnaires with a scale ranging from 1 to 10 provided by LAN (2017), which consist of 23 questions and is considered as the elements of innovation. This instrument defines four dimensions of innovation, namely: novelty, productivity, impact, and sustainability. The novelty dimension is represented in questions 1 to 8; the productivity dimension is represented in questions 9 to 13. Meanwhile, questions numbers 14 to 17 and 18 to 23 represent the impact and sustainability dimensions.

Furthermore, LAN (2017) defines the aspects of innovation as output and outcome. The output aspect consists of the novelty and productivity dimensions, and the outcome aspect consists of the impact and sustainability dimensions.

Calculation

Innovation Dimensions

Each dimension has its own indicator, so the calculation of each dimension is as follows:

$$S_{x1.n} = \frac{Sind_1 + \cdots + Sind_y}{y} \qquad (1)$$

$S_{X1.n}$ = the value of the innovation dimension;
S_{indy} = Indicator;
y = Number of indicators.

In this case the novelty has eight indicators, productivity has five indicators, impact has four indicator and sustainability has six indicators.

Output Aspect
It consists of two dimensions, namely novelty and productivity. The calculation formula is as follows:

$$S_{X1} = \frac{(60\ (\ S_{X1.1}) + 40(S_{X1.2}))}{100} \qquad (2)$$

$S_{X1.1}$ = Novelty dimension;
$S_{X1.2}$ = Productivity dimension.

Outcome Aspects

It consists of two dimensions, namely impact and sustainability. The calculation formula is as follows:

$$S_{X2} = \frac{(50\ (\ S_{X2.1}) + 50(S_{X2.2}))}{100} \qquad (3)$$

$S_{X2.1}$ = Impact dimensions;
$S_{X2.2}$ = Sustainability dimension.

The calculation of public service innovation perception index is as follows:

$$i = \frac{(50\%\ (S_{X1}) + 50\%(S_{X2})) \times\ 100}{10} \qquad \text{or} \qquad i = 10\ (\tfrac{1}{2}S_{X1} + \tfrac{1}{2}S_{X2}) \qquad (4)$$

i = Perception Index of Public Services Innovation;
S_{X1} = Output Aspect;
S_{X2} = Outcome Aspect.

Interpretation
The interpretation result of index value provided by LAN (2017) is ranging from 46.01 to 100.00. The highest level (AA) is index with a scale 91.01 to 100.00 and belong to Excellent Innovation grade. Meanwhile, the lowest level (C) with a scale 46.02 to 55.00 belong to Less Innovative grade (Table1).

Table 1. The Public Service Innovation Perception Index Interpretation.

Level	Category	Value Range
AA	Excellent innovation	91.01-100.00
A	Very innovative	82.01-91.00
BB	Innovative	73.01-82.00
B	Innovative enough	64.01-73.00
CC	As usual	55.01-64.00
C	Less innovative	46.01-55.00

Source: LAN (2017).

GAP Analysis
The Improvement Gap Analysis (IGA) technique is introduced by Tontini, G., & Picolo, J. D. (2010) to address the limitations of the classic Importance Performance Analysis (IPA) about the Excitement, and Neutral attributes. If an attribute's performance is improved, IGA uses the expected increase in customer satisfaction. It may also detect the probable advantage of increasing an attribute that currently has good performance. It may enable firms to analyze if they should continue to strengthen their differential qualities or not. Tontini, G., & Soilen, K. S. (2014) show how the Improvement Gap Analysis method (IGA) evaluates the possible impact of incremental innovations on customer satisfaction and gives guidelines for applying this technique in practice. Picolo, J. D et al. (2016),

also found the meaningful interpretation of IGA for the management of commitments, or trade-offs, of operating strategies in furniture manufacturer.

Tontini, G., & Picolo, J. D. (2010), divided the questionnaires into three separate groups of questions with a nine-point scale ranging from -4 to +4 and put them in the questionnaires randomly to prevent asymmetric measurement. The first group is the Functional Questions (ESFQ) to measure the expected customer satisfaction through high performance elements, and the average weight of these questions is computed as the expected average satisfaction with the functional question (AESFQ) variables, e.g., *"How do you feel if the service is handled on time?"* The second group is the Dysfunctional Questions (ESDQ), e.g., *"How do you feel if the service is not handled on time?"* which is used to measure customer feelings when service is not performing well. The average value of these questions is computed as the Expected Average Dissatisfaction with the Dysfunctional Questions (AESDQ). The Current Satisfaction Question (CS), e.g., "*Rate your current satisfaction with the punctuality of the service,"* which measures current ratings of satisfaction and whose average value is computed as Average Current Satisfaction (ACS).

Meanwhile, the Improvement Gap (IG) variable is from a subtraction operation between ASFQ and ACS. Of these variables, only standardized (Std.) IG and Std. AESDQ are placed in the quadrant of the matrix, where IG occupies the x-axis and standardized AESDQ the y-axis. The following equations are used to calculate each variable:

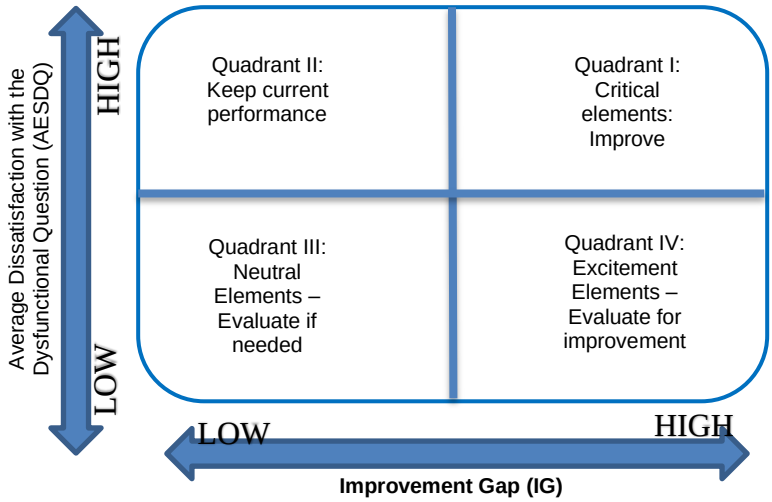
$$AESFQ = \frac{\sum_{i=1}^{n} ESFQ}{n} \qquad AESDQ = \frac{\sum_{i=1}^{n} \mathrm{ESDQ}}{n} \qquad ACS = \frac{\sum_{i=1}^{n} \mathrm{CS}}{n} \tag{5}$$

$$IG_k = AESFQ_k - ACS_k \qquad Std.IG_k = \frac{IG_k - \overline{IG}}{\sigma_{IG}} \qquad Std.AESDQ_k = \frac{\overline{AESDQ} - AESDQ_k}{\sigma_{AESDQ}} \tag{6}$$

Where “n” is the number of valid answered questionnaires and k is ranging from 1 to M (number of attributes).

A two-dimensional matrix is proposed by Tontini, G., & Picolo, J. D. (2010) to present the Std. IG value of and Std. AESDQ (Figure 1). The elements in Quadrant I have a Std. IG and the Std. AESDQ is greater than zero. This quadrant requires serious attention. Combining low performance service and high dissatisfaction, an improvement decision must be made. Next up is Quadrant II, a place for elements that have a Std. IG lower than 0 and a Std. AESDQ greater than 0. This quadrant advises decision makers to keep current performance. Quadrant III in this matrix is occupied by elements that have Std. IG and negative Std. AESDQ. Elements with performance that has met or even exceeded expectations are in this quadrant (Std. IG < 0). If the performance of the elements in this quadrant is increased, the outcomes will have little impact on consumer satisfaction, and if it is ignored, it will not have much effect on increasing dysfunctional perceptions, so this quadrant should be labeled as the neutral quadrant and evaluated if needed as a decision. The last quadrant (Quadrant IV) is the place for elements that have a low dysfunctional level of elements and a high Improvement Gap, if the elements in this quadrant are ignored, it will not cause great dissatisfaction. On the other hand, if the performance is improved, it will significantly increase the level of customer satisfaction.

Figure 1. The Improvement Gap Analysis Matrix



Source: Tontini, G., & Picolo, J. D. (2010).

RESEARCH METHOD

Adopting the measuring method of the perception index of public service innovation issued by LAN (2017), survey research method is used to obtain an overview of people's perception of the quality and benefits of public service innovation obtained and felt during this time. Survey research is the collection of data from a population by choosing a sample appropriately, so that the survey results have a level of validity that can be accounted for.

Survey research methods are used in the public service innovation perception index with the consideration that collecting public perception data on public service innovation requires a large population, but nevertheless, it can use a small sample. A quantitative approach with a Likert scale of 1-10 is used to give respondents flexibility in perceiving the quality and benefits of public service innovation. On the Likert scale, respondents were asked to determine their approval level for a statement by selecting one of the available ranges. The survey was carried out in the Indonesian Food and Drug Authority Provincial Office in Pontianak and took place from September to October 2021, totaling 84 clients that consented to answer the survey, accepting the service from January to October 2021. This guidance also explained the sampling technique and proportion of respondent's calculation, as follows:

Sampling Technique

To get survey results that have a high level of validity, the determination of respondents in the Public Service Innovation Perception Index Survey uses a purposive sampling approach. Purposive sampling techniques are used given that the survey team must really know and assume that the people (respondents) they choose can provide information about public service innovations in each public service unit.

Respondent Proportionality

LAN (2017) method determine the number of respondents in each sample group is determined proportionally based on random sampling, with the proportion of the number of respondents as follows:

1. Service User Society (100%).
   In this case, the respondent is a community of direct service users.
2. Public Service Innovation Perceptions Index Review
   a. Apparatus
   b. NGO / Community
3. Secondary data as material to strengthen the Perception Index of the public

Meanwhile, Indonesian Food and Drug Authority Provincial Office in Pontianak services user is including other government institution, so that the apparatus group becomes one group with the services user. Krejcie and Morgan Formula is used as Sampling method in measurement of Public Service Innovation Perception Index as follow:

$$n = \frac{X^2.N.P\ (1-P)}{(N-1).d^2+X^2.P(1-P)} \qquad (7)$$

n = the Sample Size;
N = the Population Size;
X^2 = the Chi Square;
P = the Population Proportion;
d = the degree of accuracy.
Source: Krejcie, R.V., & Morgan, D.W. (1970).

RESULTS

Response Rate

The questionnaire is packaged in the form of a google form and sent to respondents through the WhatsApp platform. In total, the research received 84 responses. From a sample of 310, 84 completed surveys equated to a 27% response rate. This was deemed robust, surpassing similar research: World Bank Group (2018) achieved 22% response rate, Komara, A (2005) achieved 24.92%, United Nation (2021) achieved 10% response rate. It is also approved by Mardiyah, A.A. and Gudono, G (2001), who said that the response rate achieved in the survey research in Indonesia averaged below 20 percent.

Sample Size

The data of population is obtained through a web-based application (SimpelLPK) which is used for reporting information and complaint services. In addition, population data is collected from electronic guest books (AkuMu) to obtain other service user data. After combining the data, then data sorting is done to avoid duplication. The obtained number is 320 (Three Hundred and Twenty) service users of Indonesian Food and Drug Authority Provincial Office in Pontianak as population size.

The degree of accuracy (d) used is 9.5%, proportionality is 100% (P = 0.5), and Chi Square (X^2) is 3.841, obtained by assuming the degree of freedom (df) is equal to 1 and the level of significance (α) is 0.05. The calculation of the number of samples needed is carried out with equation (7) and a number of 80 samples is obtained.

Validity of Instrument

Portney, L. G., & Watkins, M. P. (2012) argue that the purpose of validity measurement is to understand how deep an instrument measures the intended to be measured and the ability to shaping a conclusion from test scores or measurements. Furthermore, the author mentioned that validation processes are based on the forms of evidence that can be presented in support of a test's validity. Validation is a method of hypothesis testing, assessing if scores on a test are associated to specific actions, attributes or level of performance. Face, content, criterion-related, and construct validity are four types of measurement validity that are frequently used to support hypotheses. (p.97).

LAN (2017) assessed the validity of the instrument by conducting a focus group discussion and an in-depth interview with several stakeholders in Serang and Cilegon Regency. The collected feedback is then used to complement the questionnaires as used in this study (p.39). Taherdoost, H. (2018) argues that the judgmental approach involves literature reviews and then follow-ups with the evaluation by expert judges or panels, which is the process of content validity. In order to promote validation, the judgmental approach to content validity requires researchers to be present with experts (p.30).

Reliability

Cronbach's alpha coefficient test was used to assess the reliability of the data for further analyses. Santos, J.R.A. (1999) and Riyanti, B.P.D., & Suwartono, C. (2018) argued that Cronbach's alpha coefficient determines reliability through assessment of the internal consistency under the specified scale of measurement.

Table 2. Reliability Test

Items	Cronbach's Alpha if Item Deleted	Cronbach's Alpha	N
N1	.966		
N2	.966		
N3	.965		
N4	.966		
N5	.963		
N6	.964		
N7	.963		
N8	.964		
P9	.965		
P10	.965		
P11	.965		
P12	.964	.966	23
P13	.964		
I14	.964		
I15	.963		
I16	.965		
I17	.964		
S18	.968		
S19	.965		
S20	.964		
S21	.965		
S22	.965		
S23	.965		

Source: Research data.

Aghimien et al. (2020) determine the data reliability of similar research method by analyze the alpha value, the closer the alpha value generated is to 1 the more reliable the data obtained (p.571). Analysis the questionnaires revealed an alpha value between 0.963 and 0.968 for 23 questions which represent Novelty, Productivity, Impact and Sustainability, thus implying that the data gathered is reliable (Table 2).

Public Services Innovation Perception Index

The first stage is to calculate the average score of each dimension of innovation perception which consist of 4 (four) dimensions namely Novelty, Productivity, Impact, and Sustainability by using the equation (1).

The Innovation Dimension and Aspect Value

Each indicator is calculated to have an average value, then added up with other indicators in each dimension to produce a total score average. Meanwhile, the Output

and Outcome aspect is calculated with equation (2) and (3). The result is shown in Table 3.

Table 3. Novelty Dimension Score Tabulation

Dimension	Total Average Score	Number of Indicators	Average	Output	Outcome
Novelty	66.562	8	8.320	8.42	
Productivity	42.825	5	8.565		
Impact	33.700	4	8.425		8.35
Sustainability	49.712	6	8.285		

Source: Research data.

The Innovation Perception Index Value

The Innovation Perception Index for Public Services is calculated by using equation (4). The result of the calculation is as follows:

$$i = 10\ (\tfrac{1}{2}x8.42 + \tfrac{1}{2}x8.35) = 83.87$$

The perception index value (82.87) is in the range of 82.01-91.00 (Table 1), which is categorized as "Very Innovative" with the level of innovation perception being "A".

Modified Improvement Gap Analysis (IGA): A Proposed Technique

The IGA's matrix proposed by Tontini, G., & Picolo, J. D. (2010) could not be directly applied to this study due to differences in questionnaire design and no grouping of questions into dysfunctional and functional questions. This research questionnaire can only capture current perception. Another consideration is that the Tontini, G., & Picolo, J. D. (2010) questionnaire design requires three questions for each element, which means that if this method is adopted as a whole, this questionnaire will include a total of 69 questions. This is what the author avoids. The increasing number of questions in the questionnaire will result in a lower response rate being obtained. This agrees with Froehlich, M.T. (2002), who found the correlation of the number of questions in questionnaires with resistance and response rate and concluded that the optimal number of pages for questionnaires is under four or five pages where there are 10–12 questions on each page, which will be able to reduce resistance and increase the response rate.

To meet the criteria of Tontini, G., & Picolo, J. D. (2010), modifications were made to dysfunctional and functional attributes/elements. The dysfunctional elements were obtained by grouping a scale of 1-6 and recoding the scale in the range of 7-10 to be 0, 6 to be 1, 5 to be 2, 4 to be 3, 3 to be 4, 2 to be 5, 1 to be 6 on each element (Table 4).

Table 4. The Recoding original scale to dysfunctional element

Original Scale	Recoded to	Perceive
7 - 10	0	Satisfied
6	1	Weakly Dissatisfied
5	2	Dissatisfied
4	3	Moderately Dissatisfied
3	4	Strongly Dissatisfied
2	5	Very Strongly Dissatisfied
1	6	Extremely Dissatisfied

Source: Authors.

The dysfunctional element mean (ADE) was then multiplied by a weighting factor (Wf) and converted to average dissatisfaction with dysfunctional variables (ADDV). The weighting factor is obtained by counting the number of respondents (f) who are given a score in the range of 1–6 and dividing it by the number of samples (n = 80) for each element (Equation 8).

$$Wf_k = \frac{f_k}{n} \quad (8)$$

k is from 1 to 23 (Maximum Number of question).

A scale of 1-6 is defined as a dysfunctional variable because the calculation of the Perception Index issued by LAN (2017) determines that an index lower than 64 is classified as "as usual," or in other words, there is no innovation at all (Table 1).

By considering the value needed to obtain the "Excellent Innovation" category, the value must be in the range of 91.01-100 (Table 1). Since this range is result from equation (4) operation, the Expected Average Satisfaction Value (EASV) is gathered by dividing minimum value to achieve excellence category of innovation (91.01) to 10. This is how second modifications resulting value of 9.101 as EASV for each element.

The Average Current Satisfaction (ACS) is the mean of every variable without re-coding based on survey results. The Improvement Gap (IG) for each element is calculated by subtracting the average expected satisfaction with the current element's performance, according to the following equation:

$$IG = EASV - ACS \quad (9)$$

The Improvement Gap for each element is plotted on the x-axis of the matrix. The standardized calculation of IG follows this equation:

$$IG_\sigma = \frac{IG - \overline{IG}}{\sigma_{IG}} \quad (10)$$

The Average Dissatisfaction with the Dysfunctional Variable (ADDV) for each element is plotted on the y-axis of the matrix. The standardized calculation of ADDV follows this equation.

$$ADDV_\sigma = \frac{ADDV - \overline{ADDV}}{\sigma_{ADDV}} \quad (11)$$

The calculation results, as shown in Table 5, present values of average current satisfaction, standardize average dissatisfaction with the dysfunctional variable, and standardize IG for each element of innovation perception. These values are then transformed into IGA's matrix as shown in Figure 5.

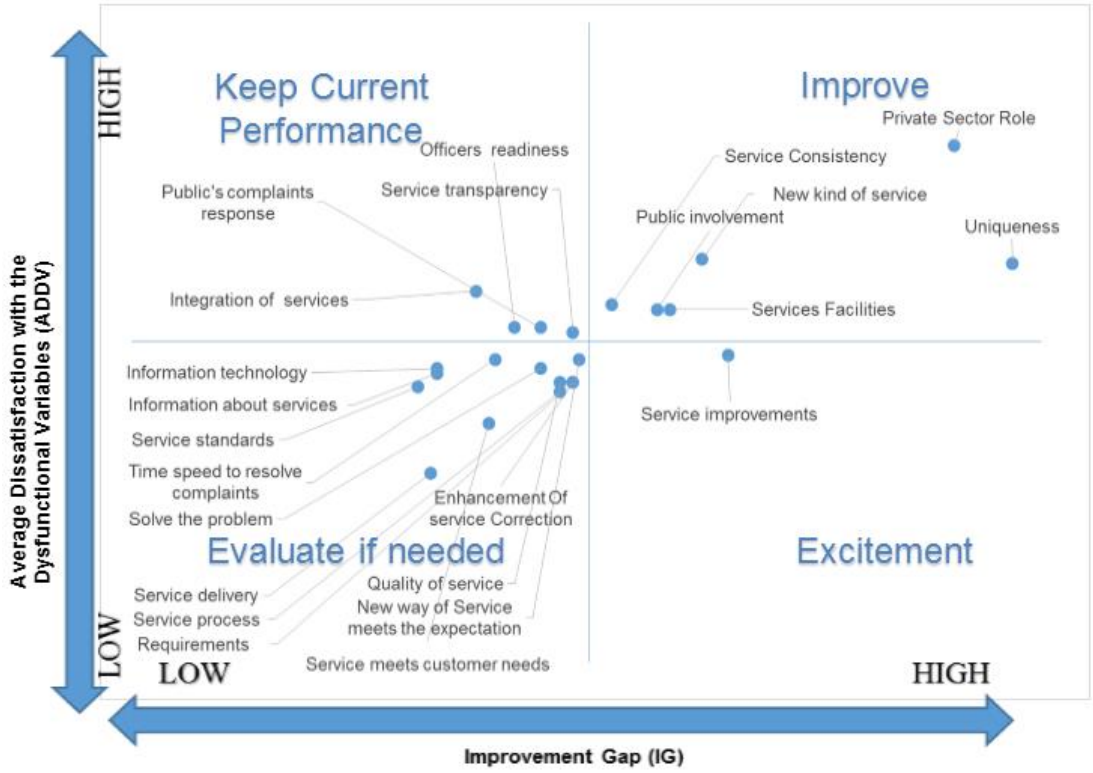
Table 5. IG's Calculation Result

Elements	ACS	ADE	Wf	ADDV	Std. ADDV	IG	Std. IG
1. Service improvements	8.113	4.083	0.150	0.613	-0.195	0.989	1.535
2. Uniqueness	7.563	4.059	0.213	0.863	1.226	1.539	4.661
3. New kind of service	8.163	4.667	0.188	0.875	1.297	0.939	1.251
4. Officers readiness	8.525	5.000	0.138	0.688	0.232	0.576	-0.809
5. Information about services	8.675	5.000	0.113	0.563	-0.479	0.426	-1.662
6. Requirements	8.413	4.300	0.125	0.538	-0.621	0.689	-0.170
7. Service process	8.438	4.556	0.113	0.513	-0.763	0.664	-0.312
8. Information technology	8.675	5.111	0.113	0.575	-0.408	0.426	-1.662
9. Service delivery	8.688	4.600	0.063	0.288	-2.042	0.414	-1.733
10. Service meets customer needs	8.575	4.250	0.100	0.425	-1.260	0.526	-1.094
11. Service standards	8.713	5.250	0.100	0.525	-0.692	0.389	-1.875
12. Quality of service	8.438	4.778	0.113	0.538	-0.621	0.664	-0.312
13. Service transparency	8.413	4.500	0.150	0.675	0.161	0.689	-0.170

14. Solve the problem	8.475	5.111	0.113	0.575	-0.408	0.626	-0.525
15. Meets customer expectation	8.400	4.800	0.125	0.600	-0.266	0.701	-0.099
16. Services Facilities	8.225	4.917	0.150	0.738	0.516	0.876	0.896
17. Integration of services	8.600	5.250	0.150	0.788	0.800	0.501	-1.236
18. Private Sector Role	7.675	4.318	0.275	1.188	3.074	1.426	4.022
19. Public involvement	8.250	4.538	0.163	0.738	0.516	0.851	0.754
20. Service Consistency	8.338	5.000	0.150	0.750	0.587	0.764	0.256
21. Enhancement Of service Correction	8.413	4.778	0.113	0.538	-0.621	0.689	-0.170
22. Public's complaints response	8.475	5.500	0.125	0.688	0.232	0.626	-0.525
23. The speed to resolve complaints	8.563	5.333	0.113	0.600	-0.266	0.539	-1.022
Average	8.383	4.770	0.137	0.647	0.000	0.719	0.000
Standard deviation	0.286	0.396	0.043	0.176	1.000	0.286	1.623

Source: Research data.

Figure 2. The Improvement Gap Analysis of Innovation Perception.



Source: Research data.

DISCUSSION

Figure 2 presents the results of the Improvement Gap Analysis of public service innovation perceptions in the Indonesian Food and Drug Authority Provincial Office in Pontianak. Besides the private sector's role and public involvement in the process and or quality improvement of service, uniqueness, new kinds of service, service consistency, and service facilities present in quadrant I. Those elements may also increase perception of innovation. This quadrant (quadrant I) is recommended to improve as a decision.

Service transparency, public complaint response, officer's readiness, and integration of service elements were shown in quadrant II. This quadrant is interpreted as meaning that if this element is improved, there is no significant increase in innovation perception. IGA suggests it as "Keep Current Performance" (Figure 2). The service process, information technology, information about the service, service meets customer needs, service standards, quality of service, problem solver, meets expectations, enhancement of service's correction, requirements, service delivery, and time to resolve

complaints elements fell into quadrant III as a neutral element and proposed an evaluation of it if needed as a decision.

Service improvement elements are considered exciting elements that have an above average impact on increasing innovation perception and were present in quadrant IV. This quadrant is recommended for evaluation to improve as a decision.

CONCLUSION

At first, IGA is designed to measure customer satisfaction and dissatisfaction. However, its ability to improve classic IPA shortcomings becomes an attraction. This tool has proven to be able to be used to analyze the innovation perception gap with several modifications. A gap matrix that is displayed visually can help decision makers determine priority innovation elements that must be improved immediately, so that existing resources can be directed to the right target efficiently to improve service performance. Modified IGA has the opportunity to be adopted by public service providers in Indonesia without having to change the design questionnaires that have been provided by LAN (2017). The original model of IGA is able to measure the potential for customer dissatisfaction if an attribute is not performing well through a dysfunctional question, while the modified IGA predicts customer dissatisfaction at the current condition.

LIMITATION

The modified IGA is based on research methodology adopted from LAN (2017), as an instrument to measure public service innovation perception index in Indonesia. Further studies are needed whether these tools can be applied to analyze the innovation perception gap outside the scope of the Indonesian Government Organization.

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DECLARATION OF CONFLICTING INTERESTS

The authors declare that they have no conflicts of interest in this study.

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