



Whistle-Blowing Systems in the Indonesian Ministry of Health: An Evidence of Health Law Reform in Developing Country

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Authors' contributions

This work was carried out in collaboration among all authors. The author MI conducted research design, conducted sampling, statistical analysis and wrote the first draft of the script. The authors SI and MI wrote the protocol and administered the analysis of this study. The authors LR and H managed the literature search and sampled. All authors have read and approved the final manuscript.

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ABSTRACT

Background and Objectives: The current whistleblowing system has not been proven to help limit unethical behavior in organizations. This study examines the influence of the whistleblowing system in the Ministry of Health's civil servants on organizational commitment, organizational culture, whistleblower protection, professional attitudes, internal reporting, external reporting, anonymity, and use of hotlines.

Methodology: This research was conducted at the Ministry of Health of the Republic of Indonesia. This study used a quantitative approach with a cross-sectional design. Sampling was carried out using probability sampling techniques with proportional random sampling. The sample population consisted of 98 people at the Directorate General of Health Development, Human Resources

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Development and Empowerment of the Ministry of Health, the Directorate General of Disease Control and Prevention, and the Directorate General of Pharmacy and Health. Data analysis was performed using chi-square and logistic regression.

Results: The results obtained indicate that the intentions of State Civil Servants within the Ministry of Health are related to their perceptions of professionalism and internal reporting.

Conclusion: The employees' perceptions of external and anonymous reporting are not related to the purpose of the whistleblowing system for employees of the Ministry of Health's State Civil Apparatus.

Suggestion: It is recommended that the Inspectorate General of the Ministry of Health move the reporting mechanism into the Ministry of Health Whistleblowing System application for easy access so that the Inspectorate General establishes standard operating procedures on legal protection and clarification for whistleblowers.

Keywords: Whistle-blowing system; legal protection; health law; internal reporting.

1. INTRODUCTION

Most corruption cases in the health sector still occur during the procurement and markup of goods and services. Data from Indonesia Corruption Watch in 2013 indicates that the markup or inflation of procurement costs was recorded in 62 cases, with state losses reaching Rp 506.7 billion data from the Indonesian Corruption Watch states that during 2010-2015, there were 219 corruption cases valued at Rp. 1.6 billion and most of the corruption cases in the health sector were mostly due to marked up procurement [1].

Public perceptions of the occurrence of corruption in the health sector have increased from 12% in 2013 to 15% in 2017, as reported by the Global Corruption Barometer Forms of effective prevention of corruption include implementing a whistleblowing system (WBS) [2]. Whistleblowing is the disclosure by members of an organization (former or present) who carry out illegal, immoral or illegitimate practices under the control of their leaders, to people or organizations that might influence these actions [3]. The *Guidelines on Whistleblowing* issued by the International Chamber of Commerce's anti-corruption commission states that whistleblowing system is an effective fraud detection tool, and can help individual employees internalize the value of integrity [4].

The Ministry of Health uses a whistleblowing system as a tool to accelerate the achievement of the Corruption-Free Region that is the mandate of Presidential Instruction No. 5 of 2004 concerning the Prevention and Eradication of Corruption [5]. It is believed that factors such as employee perceptions of organizational commitment, organizational culture, legal

protection, professionalism, internal reporting, external reporting, anonymity, and hotlines have a relationship with the intention to conduct whistleblowing [6]. This study was undertaken to increase understanding of the determinants of the intention to perform whistleblowing using the system established under the Reform of Civil State in the Ministry of Health. It was conducted with a view to determining employee perceptions of professionalism and internal reporting as well as to increasing whistleblowing in an effort to prevent corruption in the Ministry of Health.

2. METHODOLOGY

This study uses a quantitative approach and a cross-sectional design. The research was conducted with a survey that aimed to determine the relationship between the intention to use a whistleblowing system in the State Civil Apparatus in the Ministry of Health and employee perceptions of the subjects noted above [7].

The research was conducted at the Ministry of Health at the Directorate General of Health Services, the Agency for the Development and Empowerment of Health Human Resources, the Directorate General of Disease Prevention and Control, and the Directorate General of Pharmaceutical and Medical Devices between February and April 2018.

The population in the four directorates was converted using the Slovin $n = N / (1 + (N \times e^2))$ formula) with a survey margin of error of 10%, the population was 1,801 people, so the minimum sample size in this study was 95 [8]. The population in this study was 98, this is valid because it is above a minimum sample of 95 (> 95), then the research data uses probability sampling and proportional random sampling techniques, as follows., as follows (Table 1):

Table 1. Calculations for the number of samples in the four directorates

No.	Name of Directorate	Calculation	Number of Samples
1	Directorate general of health services		
1)	Secretariat of the Directorate General of Health Services	$\frac{188}{1801} \times 95 = 9,9$	10
2)	Directorate of Primary Health Services	$\frac{58}{1801} \times 95 = 3,0$	3
3)	Directorate of Referral Health Services	$\frac{76}{1801} \times 95 = 4,0$	4
4)	Directorate of Traditional Health Services	$\frac{49}{1801} \times 95 = 2,5$	3
5)	Directorate of Health Service Facilities	$\frac{66}{1801} \times 95 = 3,4$	3
6)	Directorate of Quality and Accreditation of Health Services	$\frac{53}{1801} \times 95 = 2,7$	3
2	Human resources development and empowerment agency for health		
1)	Secretariat of the Agency for the Development and Empowerment of Health Human Resources	$\frac{129}{1801} \times 95 = 6,8$	7
2)	Center for Planning and Utilization of Health Human Resources	$\frac{73}{1801} \times 95 = 3,8$	4
3)	Health Human Resources Education Center	$\frac{81}{1801} \times 95 = 4,2$	4
4)	Health Human Resources Training Center	$\frac{97}{1801} \times 95 = 5,1$	5
5)	Health Human Resources Quality Improvement Center	$\frac{73}{1801} \times 95 = 3,8$	4
3	Directorate general of disease prevention and control		
1)	Secretariat of the Directorate General of Disease Prevention and Control	$\frac{179}{1801} \times 95 = 9,4$	9
2)	Directorate of Health Surveillance and Quarantine	$\frac{96}{1801} \times 95 = 5,0$	5
3)	Directorate of Prevention and Control of Direct Communicable Diseases	$\frac{107}{1801} \times 95 = 5,6$	6
4)	Directorate of Prevention and Control of Vector, and Zoonotic Communicable Diseases	$\frac{92}{1801} \times 95 = 4,8$	5
5)	Directorate of Prevention and Control of Non-Communicable Diseases	$\frac{77}{1801} \times 95 = 4,0$	4
6)	Directorate of Prevention and Control of Mental Health and Drug Issues	$\frac{50}{1801} \times 95 = 2,6$	3
4	Directorate general of pharmaceutical and medical devices		
1)	Secretariat of the Directorate General of Pharmaceutical and Medical Devices	$\frac{75}{1801} \times 95 = 3,9$	4
2)	Directorate of Public Drug Management and Health Supplies	$\frac{37}{1801} \times 95 = 1,9$	2
3)	Directorate of Pharmaceutical Services	$\frac{35}{1801} \times 95 = 1,8$	2
4)	Directorate of Pharmaceutical Production and Distribution	$\frac{34}{1801} \times 95 = 1,7$	2
5)	Directorate of Medical Device Assessment and Household Health Supplies	$\frac{42}{1801} \times 95 = 2,2$	2
6)	Directorate of Medical Devices Supervision and Household Health Supplies	$\frac{34}{1801} \times 95 = 1,7$	2
Total			96

Inclusion criteria included a lack of previous reports of suspected corruption by using a whistleblowing website at the Ministry of Health. Reliability testing began with a determination of validity. If a question was invalid, then it was discarded. Valid questions were then reliably measured together. To test the reliability of the instrument in the study, we used the Cronbach's alpha reliability coefficient. The decision was that if $r_{count} > r_{table}$ at 0,361 to $df = 30 - 2 = 28$; $\alpha = 0.05$, the question item was valid. If a question had a Cronbach's alpha rating of at least 0.6, we treated it as a reliable variable. This research underwent ethical review by the Ethics Review Committee in the Administration Department of the Public Health Faculty at the University of Indonesia.

3. RESULTS AND DISCUSSION

3.1 RESULTS

Respondents in this study were employees of the State Civil Apparatus at the Ministry of Health at the Directorate General of Health Services, the Human Resources Development and Empowerment Agency for Health, the Directorate General of Disease Prevention and Control, and the Directorate General of Pharmaceutical and Medical Devices. The total sample size was 96 people. The demographic characteristics of respondents, including the level of education, gender, age, and length job tenure, are presented in the table :

As seen in the table, 54,1% of respondents in the State Civil Apparatus at the Ministry of Health were Bachelor's degree, while the percentages of those who were Diploma, Master's degree, and Doctoral degree-educated were 9,2%, 35,7%, and 1,0%, respectively. The majority (62,2%) of respondents were women, and 37,8% were men. Most (45,9%) of the respondents were between 34 and 42 years old, while the smallest group (12,2%) was between 51 and 58 years old. The results showed that the typical tenure of State Civil servants at the Ministry of Health showed the largest percentage with a work period of 2 - 8 years is 38,8%, while the smallest percentage is 3,1% with a work period of 30-34 years.

Based on the multivariate results presented in Table 3, it appears professionalism variable that is significantly related to the intention use a whistleblowing system in the Ministry of Health. Professional attitude is the dominant variable influencing the intention to use a whistleblowing system, with an OR of 5,632, meaning that employees who have a high perception of professionalism are 6 times more likely to use such a system than employees who have low professionalism.

Internal reporting had an OR of 3,870, which means that employees who perceive there is internal reporting are 3 times more likely to use a whistleblowing system than employees who perceive there is no internal reporting. Finally,

Table 2. Respondents' information

Respondent characteristics	Number	(%)
Educational level		
1) Diploma	9	9,2
2) Bachelor's degree	53	54,1
3) Master's degree	35	35,7
4) Doctoral degree	1	1,0
5) Sex		
6) Male	37	37,8
7) Female	61	62,2
Age group (years)		
1) 25-33	21	21,4
2) 34-42	45	46,0
3) 43-50	20	20,4
4) 51-58	12	12,2
Length of tenure (years)		
1) 2 - 8	38	38,8
2) 9-15	32	32,7
3) 16-22	12	12,2
4) 23-29	13	13,3
5) 30-34	3	3,0

Table 3. Inferential statistic results of whistleblowing system intention

	Intention to whistleblowing system		Total n (%)	Bivariate		Multivariate	
	Do, n (%)	Do not, n (%)		OR _{crude} (95% CI)	p value	OR _{adjusted}	p value
Professionalism					0.001		0.014
High	53 (93%)	4 (7%)	57 (100%)	10.37 (3.2-34)		5,632	
Low	23 (56.1%)	18 (43.9%)	41 (100%)				
Total	76 (77.6%)	22 (22.4%)	98 (100%)				
Internal Reporting	53 (86.9%)	8 (13.1%)	61 (100%)	4,033 (1,5-10,9)	0.009	3,870	0.043

legal protection for whistleblowers had a value of r OR = 2,7, which means employees who have a perception of whistleblower legal protection are twice as likely to intend to use the system as those who do not.

3.2 DISCUSSION

3.2.1 Influence of intent to use a whistleblowing system in the state civil apparatus in the ministry of health with employee perception against professionalism

According to the Healthcare Leadership Alliance (HLA), the professionalism is the ability to harmonize personal and organizational behavior with ethics and professional standards. It covers responsibility to patients and the community, an orientation toward service, and a commitment to lifelong learning and improvement [9]. According to the theory of planned behavior, attitude is one component that can affect one's interest in behavior [10]. An individual with a highly professional attitude will act for the public interest rather than acting against it for selfish reasons [11].

Based on the results of the study, employees' perceptions of their professionalism are significantly related to their intention to use a whistleblowing system. The Ministry of Health works to maintain the professionalism of its employees with the Republic of Indonesia Health Minister's Regulation Number 008 of 2012, concerning the Code of Ethics for Civil Servants in the Ministry of Health. One of the goals of the regulation is to improve the image of the Ministry of Health employees. The basic principle of the code of ethics for civil servants is to uphold honesty, justice, and discipline, as well as to improve welfare and professionalism. Other

values emphasized in the code are professionalism, neutrality, and high morality.

The Government Regulation of the Republic of Indonesia Number 53 of 2010, concerning the Discipline of Civil Servants, states that in order to be a reliable, professional, and moral civil servant, one must be loyal to Pancasila, the Constitution of the Republic of Indonesia in 1945, the Unitary State of the Republic of Indonesia, and the Government. One must also be disciplined, honest, fair, transparent and accountable in carrying out one's duties [12].

Although there is already a Ministry of Health Act related to the code of ethics for employees, the Ministry of Health must always maintain and improve the knowledge and detection skills of employees. Employees are reminded on a regular basis about the importance of whistleblowing if they see their colleagues taking irregularities or committing acts of corruption on a regular basis. Informational initiatives, such as increasing the banners and posters in each directorate in the Ministry of Health, can help increase the use of whistleblowing systems [2].

In addition, the Ministry of Health can provide training and education using instructors from the Inspectorate General of the Ministry of Health, so that employees are able to carry out the entire whistleblowing process. Continuous education in ethics and organizational culture should be offered to encourage a spirit of honesty and openness, and to ensure employees stay up to date on whistleblowing procedures.

At present, training is attended by all levels of at the Ministry of Health employees at all levels on an annual basis, as required under the Code of Ethics for Civil Servants in the Ministry of Health. It includes a component on how to participate in

the whistleblowing system, which covers how to submit violation reports, a detailed explanation of the protection policy for reporters at the Ministry of Health, and an explanation of the benefits and importance of the whistleblowing system for the Ministry of Health. Thus, the attitude of professionalism of employees in the Ministry of Health will always be in harmony with the organizational ethics and professional standards of employees.

The results of this study are consistent with previous findings that professionalism affects the intention of accountants to perform whistleblowing [13]. The higher one's professionalism, the greater one's intention to blow the whistle [14]. Academic legitimacy is an important means of overcoming resistance to whistleblowing in the health profession. Effective teaching in the ethics of health whistleblowing policies can help improve standards of professional behavior in general, and the status of whistleblowers in particular. Disclosure by health whistleblowers shows that the problem-seekers are sincere in wishing to implement the virtues and basic principles of medical ethics, bioethics and public health law. However, there are still relatively few whistleblowers in health fields due to low institutional support and a lack of academic legitimacy. Health curricula that can improve the professionalism of health workers need to be designed and implemented [14,15].

3.2.2 The influence of intent to use the whistleblowing system in the state civil apparatus of the ministry of health and employee perceptions of internal reporting

Internal reporting through a whistleblowing system provides an opportunity for organizations to learn from and ameliorate their own problems without interference from external forces. As noted, the results of the research show that the intentions of employees at State Civil Apparatus of the Ministry of Health to use such a system are closely related to their perceptions of internal reporting. The better their perceptions of reporting within the Ministry of Health, the greater their intention to use the whistleblowing system [15].

All employees need to be informed of what avenues they can use to report acts of corruption in the Ministry of Health. These are laid out in article 3, paragraph 3 of the Ministry of Health Act No. 29 of 2014, concerning Procedures for

Handling Violation Reporting (*Whistleblowing System*) alleged Corruption in the Ministry of Environment. To ensure ease of access to and use of whistleblowing systems, the Ministry of Health can create a whistleblowing system application that can be downloaded on each employee's *smartphone*. The current whistleblowing system can be recon figured into something more technologically sophisticated, with a whistleblowing system application, the relevant information can more easily be spread to Ministry of Health employees.

Thus, the Ministry of Health not only strives to promote reporting internally, but also informs employees that it supports and encourages whistleblowing systems. The following is the Ministry of Health's whistleblowing system reporting process flow (Fig. 1):

Support and encouragement from the Ministry of Health are additional ways to reward employees who have reported acts of corruption in the workplace. The award is in the form of a charter given to the Minister of Health, which is mandated in article 12, paragraph 1 of Ministry of Health Act Number 29 of 2014, concerning Procedures for Handling Violation Reporting (*Whistleblowing System*) alleged Corruption in the Ministry of Environment. This shows the organization respects the contribution of the reporting employees because they are important instruments in combating irregularities and acts of corruption in the workplace [16].

The award given to the whistleblower will not be proportional to the state money lost every year due to irregularities or abuse of authority. In addition, drawing attention to the internal channels available for expressing their concerns can encourage employees to report errors internally [17].

Companies generally prefer employees to report errors through internal channels rather than external ones, because external whistleblowing can cause negative impacts such as public shame, legal action against the company, reduced trust in management by shareholders, reduced sales, and the release of ownership information [18]. Other studies also say that there is a greater likelihood that employees will report internally than through reporting channels outside the organization, namely the Securities and Exchange Commission (SEC) [19]. Internal reporting provides an opportunity for organizations to investigate and correct problem

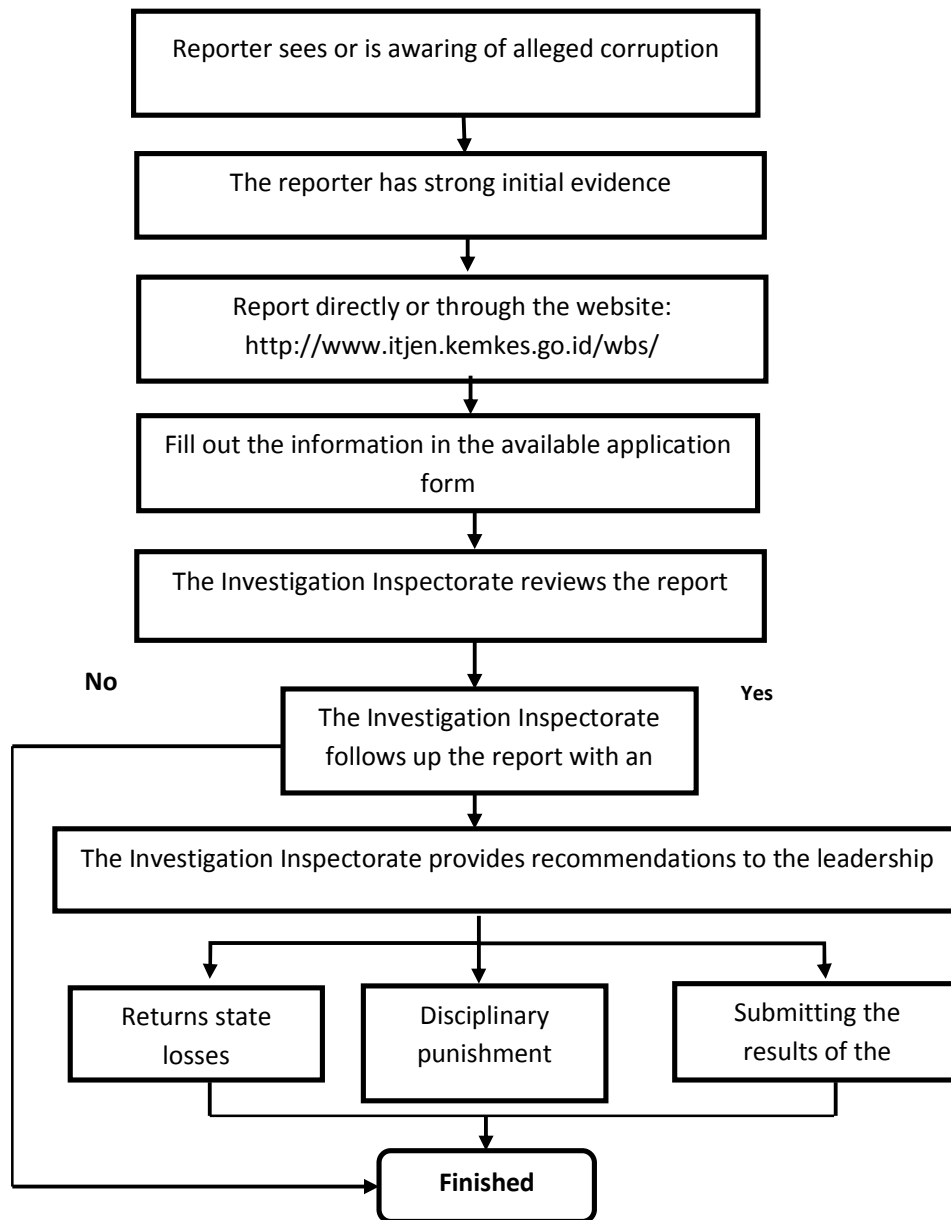


Fig. 1. Workflow of whistleblowing system

without pressure or intervention from outside parties, and this allows the organization to avoid public shame and the loss of legitimacy in the public eye.

3.2.3 The relationship between employees' perceptions of professionalism and intention of whistleblowing system

The results of the analysis of the relationship between employees' perceptions of professionalism and the intention to carry out a

whistleblowing system show that there are as many as 53 (93%): High professionalism attitudes about the intention to do a whistleblowing system. The results of statistical tests obtained p value = 0.001 (Appendix 1) it can be concluded that there is a significant relationship between employees' perceptions of professionalism and the intention to carry out a whistleblowing system with a value of OR = 10.37, meaning that employees' perceptions of high professionalism attitudes have a probability of 10.37 times for intentions conducting a

whistleblowing system compared to employees' perceptions of low professionalism. If the measurement is carried out to the population, a high professionalism attitude has the possibility of 3.2 to 34 times for the intention to do a whistleblowing system.

Internal reporting has an OR of 3,870, meaning that employees who view internal reporting are 3 times more likely to use the whistleblowing system than employees who feel that there is no internal reporting. Legal protection for whistleblowers has a value of r OR = 2.7, which means that employees who have a whistleblower perception are twice as likely to use the system than those who do not (Table 4).

3.2.4 The relationship between employee perceptions of internal reporting and intention of conducting a whistleblowing system

The results of the analysis of the relationship between employees' perceptions of internal reporting and the intention to carry out a whistleblowing system found that there were 53 (86.9%) of internal reporting for the intention of conducting a whistleblowing system. The results of statistical tests obtained p value = 0.009

(Appendix 2), it can be concluded that there is a significant relationship between employee perceptions of internal reporting and the intention to carry out a whistleblowing system. The results of the analysis obtained an OR value = 4.033, meaning that the presence of internal reporting has the possibility of 4.033 times for the intention to do a whistleblowing system compared to the absence of internal reporting. If the measurement is carried out to the population, the internal reporting has the possibility of 1.5 to 10.9 times for the intention to do a whistleblowing system (Table 5).

The multivariate results show that the variable of professionalism is the most dominant variable related to the intention to do a whistleblowing system with OR = 5.632, meaning that employees who have a high perception of professionalism tend to intend to do a whistleblowing system 6 times higher than employees without a perception of professionalism (low level of professionalism). Then the internal reporting with an OR value = 3,870, which means that employees who have a perception of internal reporting have a tendency to intend to do a whistleblowing system by 3 times higher than employees who do not have a perception of internal reporting (Table 6).

Table 4. The Relationship Between Employees' Perception of Professionalism and Intention of Whistleblowing System (WBS)

Attitude of Professionalism	The intention of implementing WBS				Total		OR (95% CI)	P-Value
	To do		Do not		N	%		
	N	%	N	%				
High	53	93%	4	7%	57	100%	10,37	0,001
Low	23	56,10%	18	43,90%	41	100%	3,2 – 34	
Amount	76	77,60%	22	22,40%	98	100%		

Table 5. The relationship between employee perceptions of internal reporting and intention of conducting a whistleblowing system

Internal Reporting	The intention of implementing WBS				Total		OR (95% CI)	P-Value
	To do		Do not		N	%		
	N	%	N	%				
High	53	86,90%	8	13,10%	61	100%	4,033	0,009
Low	23	62,20%	14	37,80%	37	100%	1,5 – 10,9	
Amount	76	77,60%	22	22,40%	98	100%		

Table 6. Multivariate modeling

Variable	B	P Value	OR
Attitude of Professionalism	1,728	0,014	5,632
Internal Reporting	1,353	0,043	3,870

4. CONCLUSION

The intention of civil servants at the Ministry of Health is required to use the whistleblowing system related to their perceptions of professionalism and internal reporting and reporting reform needs to be done by creating a whistleblowing system application that can be downloaded on smartphones. This step will improve ease of access and ease of use, thereby improving the whistleblowing system at the Ministry of Health. Therefore, it is necessary to have a clear standard operating procedure for whistleblower protection so that the reporter feels truly protected to improve the implementation of the whistleblowing system.

DISCLAIMER

All authors state that there is no conflict interest but for the advancement of knowledge. Research is funded by personal effort from the author

CONSENT AND ETHICAL APPROVAL

This study was according to standards, the patient's written consent and ethical approval had collected and preserved by the author.

AVAILABILITY DATA

All relevant data has been registered on paper and supporting information files. This research reveal critical areas regarding the intention of the Ministry of Health's Civil Servants to use the whistleblowing system with a perception of professionalism and internal reporting.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Setyaningrum D, Wardhani R, Syakhroza A. cGood public governance, corruption and public service quality: Indonesia evidene. *Int J Appl Bus Econ Res.* 2017; 15(19):327–38.
2. Gumelar M. The connectivity of whistleblowing online system between government agencies in Indonesia: A new round of preventing and eradicating corruption. *Asia Pacific Fraud J.* 2019; 4(2):121–8.
3. Valentine S, Godkin L. Moral intensity, ethical decision making, and whistleblowing intention. *J Bus Res.* 2019; 98:277–88.
4. Kerusauskaite I. *Anti-corruption in international development.* Routledge; 2018.
5. Dinanti D, Tarina DDY. The punishment of perpetrators of corruption with the approach of the local wisdom (businesses looking for an alternative model of criminal in Indonesia). *Int J Multicult Multireligious Underst.* 2019;6(7):32–44.
6. Pamungkas ID, Wahyudi S, Achmad T. Whistleblowing system and fraud early warning system on village fund fraud: The Indonesian experience. *Int J Environ Sci.* 2020;5.
7. Tumuramye B, Ntayi JM, Muhwezi M. Whistle-blowing intentions and behaviour in Ugandan public procurement. *J Public Procure;* 2018.
8. Paramitha D, Marpaung JF. The influence of business locations on sales volume. *J Econ Bus.* 2020;1(1):13–9.
9. Krawczyk-Sołtys A. From healthcare manager's competencies to healthcare organization's competences. *Vadyba.* 2017;31(2):9–15.
10. Gao L, Wang S, Li J, Li H. Application of the extended theory of planned behavior to understand individual's energy saving behavior in workplaces. *Resour Conserv Recycl.* 2017;127:107–13.
11. Bosupeng M. Whistle Blowing: What Do Contemporary Ethical Theories Say? *Stud Bus Econ.* 2017;12(1):19–28.
12. Adib M, Kusriyah SK, Istinah SRD. The giving of disciplinary penalty of civil servants based on government regulation number 53 of 2010 in governments of demak regency. *J Daulat Huk.* 2020;2(4): 443–8.
13. Setiawati LP, Sari MMR. Profesionalisme, komitmen organisasi, intensitas moral dan tindakan akuntan melakukan whistleblowing. *E-Jurnal Akunt.* 2016; 17(1):257–82.
14. Su'un M, Hajering M. Professional commitment and locus of control

- toward intensity in whistleblowing through ethical sensitivity. *J Akunt.* 2020;24(1): 100–18.
15. Stubben SR, Welch KT. Evidence on the use and efficacy of internal whistleblowing systems. *J Account Res.* 2020;58(2):473–518.
 16. Vian T. Anti-corruption, transparency and accountability in health: concepts, frameworks, and approaches. *Glob Health Action.* 2020;13(sup1): 1694744.
 17. Urumsah D, Syahputra BE, Wicaksono AP. Whistle-blowing Intention: The Effects of Moral Intensity, Organizational and Professional Commitment. *J Akunt.* 2018;22(3):354–67.
 18. Berry B. Organizational culture: A framework and strategies for facilitating employee whistleblowing. *Empl Responsib Rights J.* 2004;16(1):1–11.
 19. Brink AG, Lowe DJ, Victoravich LM. The effect of evidence strength and internal rewards on intentions to report fraud in the Dodd-Frank regulatory environment. *Audit A J Pract Theory.* 2013;32(3):87–104.

APPENDIX

Appendix 1. Chi-square tests and risk estimate relationship between employees' perceptions of professionalism and intention of whistleblowing system

Chi-square tests					
	Value	df	Asymp. sig. (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
Pearson Chi-Square	18.636 ^a	1	.000		
Continuity Correction ^b	16.577	1	.000		
Likelihood Ratio	19.183	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	18.446	1	.000		
N of Valid Cases ^b	98				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 9.20.
 b. Computed only for a 2x2 table

Risk estimate			
	Value	95% confidence interval	
		Lower	Upper
Odds Ratio For Attitude Categorical (High / Low)	10.370	3.158	34.045
For Cohort Categorical Intension = Do	1.658	1.253	2.193
For Cohort Categorical Intension = Do Not Do	.160	.058	.437
N Of Valid Cases	98		

Appendix 2. Chi-square tests and risk estimate relationship between employee perceptions of internal reporting and intention of conducting a whistleblowing system

Chi-square tests					
	Value	df	Asymp. sig. (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
Pearson Chi-Square	8.086 ^a	1	.004		
Continuity Correction ^b	6.728	1	.009		
Likelihood Ratio	7.890	1	.005		
Fisher's Exact Test				.006	.005
Linear-by-Linear Association	8.003	1	.005		
N of Valid Cases ^b	98				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.31.
 b. Computed only for a 2x2 table

Risk estimate			
	Value	95% confidence interval	
		Lower	Upper
Odds Ratio for categori pic (exist / not)	4.033	1.488	10.929
For cohort CATEGORIC INTENSION = DO	1.398	1.067	1.830
For cohort CATEGORIC INTENSION = DO NOT DO	.347	.161	.746
N of Valid Cases	98		

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