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Perceived trustworthiness of artificial intelligence implementation in Indonesia public sector services: Gen Z and Millennial perspectives

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ARTICLE INFO **ABSTRACT** Article history: Technological developments have an enormous impact on social and economic Received 2022-07-11 life, including the potential adoption of artificial intelligence in the public sector. Accepted 022-07-22 This research focuses on perceived trustworthiness regarding the potential use of Published 2022-08-01 artificial intelligence in the public sector through the perceptions of the Millennial generation and Generation Z. Using a mixed-method through a Likert scale survey Keywords: combined with open-ended questions, this research finds significant evidence that Artificial intelligence, perceived trustworthiness is influenced by ability, benevolence, and integrity. The trustworthiness, public sector results of the open question analysis show that ability perception exists due to the following: perception of expertise in government institutions; benevolence due to https://doi.org/10.20885/jaai.vol26.i the moral aspect to deliver public services; integrity which consists of two contrasting perspectives namely; first, positive feedback of trust toward government integrity, and second, negative feedback in questioning government integrity.

Introduction

Digital technology is an integral part of industrial change. Society is faced with rapid industrial changes that cause them to continue and adapt. Technological innovation started from the Industrial Revolution 3.0 which is analog and mechanical to become industry 4.0 which is digital (Alaloul et al., 2019). The development of digital technology grew, which initially aims to be more efficient in the manufacturing process and to have substantial impact on social, economic, and political norms (Philbeck & Davis, 2019).

The Industrial Revolution 4.0 resulted in business organizations developing rapidly which was accompanied by growth in business volume, complexity and speed increasing rapidly (Mhlanga, 2021; Sousa et al., 2019; Yakimova, 2020). The flow of digitization, automation processes, utilization of Information and Communication Technology (ICT), Internet of things (IoT), cloud computing, and cognitive computing (Alaloul et al., 2019) are activities inherent in business development and the impact of the Industrial Revolution 4.0.

Al is one part of the Industrial Revolution 4.0 which has great potential in public administration in that Al can accelerate processes, reduce the number and rate of errors and automate user tasks (Dhungel et al., 2021). Despite technological advances and developments in Al, the government still provides services in the traditional way, which can affect the distribution in public budgeting, of which most of the resources are devoted to the maintenance of the old system (Sousa et al., 2019). This can have an impact on the lack of trust and satisfaction received by the community regarding public services, especially when compared to services provided by the private sector. In addition, by applying technology it is possible to increase the effectiveness and satisfaction of the community with public services. Moreover, the level of trust and public trust is an important thing to know to legitimize a public service system that uses artificial intelligence.

This research relies upon perceived trustworthiness theory. According to Mayer et al. (1995), trustworthiness is formed through three dimensions, namely Ability, Benevolence, and Integrity. Trustworthiness is used because this research aims to determine the trustworthiness of using Artificial intelligence in the public sector. By using the Millennial generation and Generation Z as research samples. Generation Z and Millennials are considered to be more updated and have a technological mindset than other generations (Dash et al., 2021; Hanifawati et al., 2019; Vitezić & Perić, 2021).

Literature Review

Industrial Revolution 4.0 and the application of AI in Public Sectors

The idea behind the subject of AI began in 1955 with John McCarthy assuming that all well-known aspects of learning and intelligence domains could be simulated by machines (Mhlanga, 2021). Wankhede et al. (2021) wrote about the origins of AI when German soldiers used AI and Machine Learning applications to send messages. Alan Turing and his team created a machine called Bombe which was used to decipher Enigma messages. These Enigma and Bombe engines provided the basis for the development of AI and Machine Learning. Realizing its potential, research centres have been set up across the United States to explore the potential of AI. However, the development of AI was hampered in the 1970s by a lack of government support. During this period from the mid-1970s to the mid-1990s, researchers faced a severe shortage of funding for AI research. In the mid-1990s, many US and Japanese companies and governments became interested in developing artificial intelligence and began funding the technology. Amazon, Google, and IBM are starting to use the technology for commercial advantage (Wankhede et al., 2021).

Al is a technology capable of performing tasks that normally require human intelligence (Omoteso, 2012). Al is autonomous and operates without human intervention, studying and identifying patterns to make decisions and reach different conclusions based on the analysis of different situations (Sousa et al., 2019). The goal of Al is to manage complex difficulties in the same way humans overcome logic and reasoning. Al is a technology that allows machines to act with a higher level of intelligence and mimic the ability to reason, understand and act as individuals. Natural language processing and inference engines help Al systems analyze and understand the data collected. Al is believed to be able to change the way we live and work in our daily lives. It can be used to perform repetitive tasks, tailoring services to user preferences (Wankhede et al., 2021). Al also helps to minimize human errors while performing tasks and facilitate faster decision-making using cognitive technology (Wankhede et al., 2021). Al is used in various industries such as health and medicine, automotive, insurance, and entertainment. Al will be used to improve customer experience to end customers.

Sophisticated computerized data processing systems are key to implementing the implementation of public policies and public services (Newman et al., 2022). For example, in Brazil, which has used computerized data processing to control tax evasion (Faúndez-Ugalde et al., 2020), the United States can decide whether to detain or release defendants before a criminal trial is held (Rizer & Watney, 2018), and Singapore can assist in contact tracing in response to the COVID-19 pandemic (Goggin, 2020). All provides increased effectiveness and efficiency to facilitate and reduce administrative burdens (Moon, 2002), and allows for the consideration of problems that are too complex for human analysts.

On the other side of the advantages of using AI, other researchers argue that automation in the public sector can have unforeseen and unintended consequences and introduce new risks that need to be managed effectively by governments (Taeihagh, 2021). Research on AI ethics, such as in Australia is related to discourses on AI ethics that obscure the reality of the spread of AI, which requires the government to encode AI ethics discourse in Australia and how AI is implemented in social welfare (James & Whelan, 2022).

IT Application in Public Services in Indonesia

AI has the proof to increase productivity and performance, reduce costs by eliminating administrative tasks and allocate resources better (Alshahrani et al., 2021). AI could add \$366 billion to Indonesia's *Gross Domestic Product* (GDP) over the next decade and nearly \$1 trillion to the entire South-east Asia region (The Jakarta Post, 2020).

The implementation of AI occurs in various sectors; in the public sector it is known as the concept of e-government. The concept of e-government can be interpreted as the use of data and telecommunications technology for efficient and effective governance and providing transparent and satisfying services to the community (Twizeyimana & Andersson, 2019). The application of IT as a representation of the implementation of AI in public services in Indonesia is part of the phenomenon of the Industrial Revolution 4.0 so that this development will be in line with the needs of various sectors today.

IT-based public services are in line with the rapid development of the Industrial Revolution 4.0. In the private sector the implementation of IT is carried out and has increased service standards on customer experience; the hope is that the government does the same to improve the quality of public services.

Perceived Trustworthiness

The concept of trustworthiness developed by Mayer et al. (1995) is defined as "The willingness of one party to follow the actions of another based on the expectation that the other party will perform a particular action that is important to the trustee, regardless of the ability to monitor or control the other party". Several existing studies use the concept of trustworthiness such as Janssen et al. (2018) who measure the relationship between aspects of

trust using the Trustworthiness Concept, which has not been given inadequate attention, among other factors that connect the government and society.

Public trust in government is also important in supporting policies created by the government (Grimmelikhuijsen & Meijer, 2014). This research is related to the existing bureaucratic scheme, where there is the powerlessness of the community over government decisions in implementing public services. Thus, in the concept of Perceived Trustworthiness, we consider representation in measuring public trust regarding the application of AI in the public sector in Indonesia.

According to Mayer et al. (1995), the perception of trust is formed in three dimensions, namely *Ability, Benevolence, and Integrity.*

Concepts	Description
Perceived Trustworthiness	Expectations based on competence (Ability), benevolence (Benevolence), and Integrity (Integrity) and refer to the characteristics of positive expectations
Ability	Involves competence, skill, efficiency, and dedication that lead to expectations about the success in completing the actions expected by the trustee
Benevolence	Reflects the trustee's positive orientation toward the trustee, i.e., the feeling that the trustee is doing good to the trustee, which leads to expectations about the
Integrity	trustee's motives and intentions Reflects adherence by trustees to a set of accepted principles or a shared set of values, such as honesty, reliability, and fairness.

Table 1. Summary of Perceived Trustworthiness Concepts

Ability is understood as the trustee's competence while carrying out his/her role in an organization (Mayer et al. 1995). This factor is very important because it serves as the fundamental basis for building trust. In this sense, if the trustee cannot do something that is expected by the trustee, then the trust may not arise at all. Benevolence means that the trustee has a positive personal attachment to the trustee (Mayer et al., 1995). The giver of the trust will feel the goodness or goodness that the recipient of the trust does when it comes to the welfare of the trustee without considering the interests of the trustee himself. Integrity is characterized by consistent behaviour that shows congruence between words and actions, honesty and fairness in carrying out the role of trustee (Mayer et al., 1995).

Millennials and Gen Z

The term "generation" is used as a people who born at a certain time. Generation also aiming to describe various problems, behaviours, and characteristics of a person (Mahmoud et al., 2021). There is no clear reference regarding the classification related to the initial and final division of a generational group, including the division of when the Millennial generation and Generation Z begin to end. The literature developed so far does not have a clear *cut-off point* in this regard. In this study, we use the division of generation years used by the Indonesian Central Statistics Agency, namely Millennials (1981-1996) and Generation Z (1997-2012) although there are other opinions about the generational division in other literature (Abu Daqar et al., 2020; Azimi et al., 2021; Baum, 2020; Djafarova & Foots, 2022; Kim & Austin, 2020; Mahmoud et al., 2021; Stewart et al., 2017).

Research that discusses differences in behaviour was carried out by Schlee et al., (2020) regarding differences in student behaviour between the Millennial generation and Generation Z regarding group assignments. Research results indicate that Generation Z has higher anxiety, and extra caution when compared to the Millennial generation. Szymkowiak et al., (2021) say that Gen Z is a generation that uses the internet and social media very often which then becomes part of their daily life and is included in their social activities. Furthermore, Szymkowiak et al., (2021) suggested that Gen Z prefers technology and technology-based education modes and hybrids compared to traditional education methods, this is believed because Gen Z has been accustomed to using digital technology and has been available from a young age (Szymkowiak et al. al., 2021).

This research focus on the Millennial generation and Generation Z due to the assumption that the Millennial generation and Generation Z are more educated and understand technology than other generations (Dash et al., 2021). The use of technology is utilized by Hanifawati et al. (2019) to pay attention to the role of social media on consumption patterns in the Millennial generation and Generation Z. In their findings, social media has a very significant role in influencing brand switching of food and beverage products, it is based on curiosity to try new things (Hanifawati et al. al., 2019). In another research related to financial technology, it is explained that the Millennial generation and Generation Z have different behaviours towards the use of technology. The Millennial generation tends to build trust relationships compared to Generation Z which focuses on service aspects (Abu Daqar et al., 2020). In terms of buying a house, Generation Z and Millennials have the view that owning a house is a long-term investment decision (Dash et al., 2021). Accordingly, AI is an interesting

part of research because of its rapid development and utilization since the start of the Industrial Revolution 4.0. Research related to AI and its relation to the Millennial generation and Generation Z was carried out by Vitezić and Perić (2021) by examining the reasons for the acceptance of the two generations in the hospitality industry.

Millennial generation and Generation Z are the largest population in Indonesia, as stated by the Central Statistics Agency (BPS, 2021), of the total population of Indonesia in 2020 of 270,203,917 people. Furthermore, the Indonesian Central Bureau of Statistics (*Badan Pusat Statistik*) divides the age structure of the Indonesian population into the following categories:

Table 1Generation Category

Category	Birth Year Range	Age Range
Generation Z Post Posts	2013	SD 7 years
Generation Z	1997—2012	8-23 years old
Millennials	1981—1996	22-39 years old
Generation X	1965—1980	40-55 years old
Baby Boomer	1946—1964	56-74 years old
Pre Boomer	1945	75+ years old

Table 2Total Population (2020)

Category	Man	Woman
Generation Z Post Posts	18,056,807.00	17,263,282.00
Generation Z	36,791,764.00	34,717,318.00
Millennials	35,394,641.00	34,305,331.00
Generation X	28,333,040.00	28,224,259.00
boomer	16,078,115.00	16,414,860.00
Pre Boomer	20,07,532.00	2,616,968.00

Based on this, we processed data and classified the population in Yogyakarta which is included in the Millennial generation and Generation Z, as follows:

Table 3 Population of Yogyakarta, 2021

Generation	Age	Kulon Progo	Bantul	Gunung Kidul	Sleman	Yogyakarta	Total
Generation Z	20-24 years old	32.196	66389	54481	78.056	32028	263.15
	25-29 years old	31666	68.474	54498	77.876	30319	262.833
Millennials	30-34 years old	27656	65952	47979	73.262	28383	243.232
	35-39 years old	30829	73.867	53.188	82738	31767	272389
Total		122.347	274.682	210.146	311932	122.497	

^{*}in thousands

Source, processed from Central Bureau of Statistics (Badan Pusat Statistik) (2021)

Conceptual Framework

Previous research has shown how important the application of technology through artificial intelligence is, but research in this area is still very limited (Reis et al., 2019; Sun & Medaglia, 2019). Moreover, the application of artificial intelligence research applications in the public sector is very diverse and complex (Chen & Wen, 2021; Sun & Medaglia, 2019), so the perception of public trust in social institutions such as government and corporations is very important to study (Chen & Wen, 2021). In the past, perceptions of government distrust and apathy emerged due to low modernity in the public service process (Mehr, 2017). The emergence of very fast technological advances and the impact on the use of artificial intelligence has the potential to have an impact on ethical, social, and economic aspects (Cath et al., 2018). Therefore, issues related to public trust are the main object of study, especially in countries with the concept of democracy (Kuziemski & Misuraca, 2020). Public trust arises not only in humans but also in non-human contexts (Gillath et al., 2021).

This research focuses on the perception of Generation Z and Millennials in the potential application of artificial intelligence in the public sector. This is important because the Millennial generation and Generation Z are generations that have grown and adapted to the era of technological development (Dash et al., 2021; Hanifawati et al., 2019; Vitezić & Perić, 2021). In order to determine the aspect of trust in the Millennial generation and Generation Z, this research uses the theory of trustworthiness which represents trust through three aspects: ability, benevolence, and integrity.

Based on the above background, we formulate the research framework as follows:

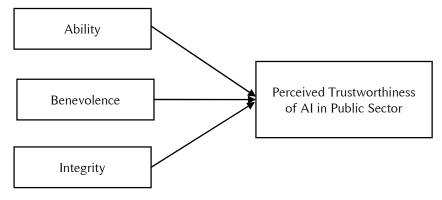


Figure 1. Conceptual Framework

Research Method

Study Design

This section describes data collection process and design of the survey instrument used in this study. This study applied mix-method approach combining qualitative and quantitative forms in one study so that the overall strength of a study is greater than quantitative and qualitative research (Creswell, 2009). This study used both quantitative analysis and qualitative analysis, data from both methods were analyzed and validated. The target respondents in this study were the Millennial generation and Generation Z with an age range of 20 to 39 years. The sample size was not predetermined and multi-responder collection was carried out for four weeks. In the second stage, the data collected is analyzed using thematic analysis. The design of the thematic analysis in this study is based on the Perceived Trustworthiness Theory.

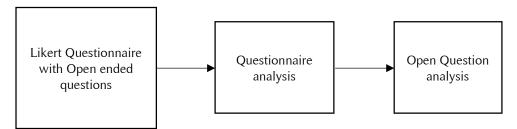


Figure 2. Research Methodology

Results and Discussion

Descriptive Statistics

The distribution of questionnaires in this study was carried out from February to March 2022 and obtained as many as 83 respondents. The distribution of data in this study is outlined below.

Variable	Characteristic	Frequency	Percentage (%)
Camalan	Male	40	48.2
Gender	Female	43	51.8
Age (birth year)	1981-1996	37	44.6
	1997-2012	46	55.4
Region	Bantul	30	36.1
	Gunungkidul	1	1.2
	Sleman	38	45.8
	Yogyakarta City	14	16.9
Education	Undergraduate	67	80.7
	Postgraduate	12	14.5
	Other	4	4.8

Table 4. The Demographic Characteristics of Respondents

Table 6. Descriptive Statistics

Variable	Minimum	Maximum	Mean	Median	Mode	Std. Deviation
Ability	8	25	14.89	15.00	15	3,489
Benevolence	4	14	9.54	10.00	11	2.044
Integrity	3	15	8.84	9.00	9	2,282
Perceived Trustworthiness	17	51	33.28	33.00	36	6,691

Validity and Reliability

Based on Table 7, the results of the validity test show that all items have a validity value below 0.05 and also the results of the reliability test show the Cronbach Alpha value > 0.06; thus, it is concluded that the instrument in this study is valid and reliable.

Table 5 Validity and Reliability Test

Variable	Information	Significant Value	Conclusion	
	Q1	0.000	Valid	
	Q2	0.001	Valid	
Ability	Q3	0.000	Valid	
	Q4	0.000	Valid	
	Q 5	0.000	Valid	
	Q 6	0.001	Valid	
Benevolence	Q 7	0.000	Valid	
	Q 8	0.000	Valid	
	Q 9	0.000	Valid	
Integrity	Q 10	0.000	Valid	
	Q 11	0.001	Valid	
Cronbach's Alpha	•	843	Reliable	
N of Items		11		

Source: SPSS Output, 2022

Table 6Regression Analysis

	Coefficient	Std. Error	t	Sig.
(Constant)	7.277	1.348	5,399	.000
Ability	1,746	.088	19,804	.000
Benevolence	2,664	.211	12,6	.000
Integrity	2,379	.190	12,487	.000

Dependent Variable: Perceived Trustworthiness

Table 9. Summary Statistics by Question Gen Z

Questions	N	Minimum	Maximum	mean	Std. Deviation
I feel that the government is competent in carrying out its	46	1	5	2.78	.892
duties and functions					
I feel that in carrying out its duties the Government has been	46	1	5	2.65	.900
effective					
Governments are doing their part to provide excellent service	46	2	5	2.96	.815
Overall, the government is proficient at its job	46	1	5	2.87	.934
In general, the government is very knowledgeable when it	46	2	5	3.07	.929
comes to providing services					
I trust that the government will act in my best interest	46	1	5	3.13	.885
If I need help, the Government will do its best to help me	46	2	5	3.28	.886
I feel that the Government cares about my well-being	46	1	5	2.93	.929
I feel that the Government has been honest in completing all	46	1	5	2.70	.866
my affairs					
I think that the characteristic of the government is honesty	46	1	5	2.78	.964
I believe that the government will keep their commitment.	46	2	5	3.07	.879
Total	46	17	51	32.22	7.354

	Millennial Generation Descriptive Statistics				tatistics
Questions		Minimum	Maximum	mean	Std. Deviation
I feel that the government is competent in carrying out its duties and functions	37	2	4	3.19	.776
I feel that in carrying out its duties the Government has been effective	37	1	4	2.92	.894
Governments are doing their part to provide excellent service	37	2	5	3.41	.725
Overall, the government is proficient at its job	37	1	5	2.97	.866
In general, the government is very knowledgeable when it comes to providing services	37	1	5	3.11	.906
I trust that the government will act in my best interest	37	2	5	3.57	.689
If I need help, the government will do its best to help me	37	1	4	3.16	.727
I feel that the government cares about my well-being	37	1	4	3.05	.880
I feel that the government has been honest in completing all my affairs	37	1	4	2.86	.787
I think that the characteristic of government is honesty	37	1	5	3.05	.941
I believe that the government will keep their commitment.	37	1	5	3.30	.812
Total	37	24	46	34.59	5.580

Table 7Summary Statistics by Question Gen Millennial

Table 8 shows the regression equation model for Ability, Integrity and Benevolence associated with perceived trustworthiness. In Model 1 of ability: the regression showed by equation Y = 7.277 + 1.746X. The equation thus interpreted that perceived trustworthiness will increase by 1.746 with each addition. This reason exist due to positive number of Ability and the Ability has a positive effect on perceived trustworthiness.

Model 2 of benevolence: the regression represent trough equation Y = 7,861 + 2,664X. It means that perceived trustworthiness will increase by 2.664 with each addition of benevolence reason. The last is Model 3 of integrity: this model connects integrity variable with perceived trustworthiness with the regression equation Y = 12,243 + 2,379 X. It means that the perceived trustworthiness will increase by 2,379 through additional integrity.

Tables 9 and 10 provide summary statistics for each of the questions on a 5-point Likert scale (1=Strongly Disagree, 2= Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree). The author finds that Generation Z tends to disagree, while the Millennial generation chooses neutral.

Open-ended Question Analysis

The open-ended question was distributed in February to March 2022 alongside the survey questionnaire to simplify data collection process. Using google docs forms, total responds obtained was 83 people consist of 46 Generation Z and 37 Millennial Generations. Below are the results of the codification of themes related to perceived trustworthiness according to three criteria: ability, benevolence, and integrity.

The first theme is related to ability. The results of the respondent's data analysis related to ability prove that both Generation Z and Millennials have a positive response to the government's ability/expertise. In this ability theme, Generation Z and Millennials link the context of ability with the government's point of view that the government has the ability/expertise, including the viewpoint that the government is composed of people who have certain expertise (e.g. in government institutions) including the use of artificial intelligence as a tool to deliver public services. The following are some examples in this regard:

- "You can, because those who are in government are competent people." (I8)
- "Able because the government is filled by intellectuals." (19)
- "Some sections/sections filled with employees with good computer literacy may be able to apply AI." (I13)
- "Able because it is close to the academic environment." (I27)
- "Able because it is close to the academic environment

Able, because it is supported by many competent human resources." (I32)

- "Yes, they are capable, because they have qualified human resources and extensive information." (I62)
- "I think they can because the government is already quite capable in that regard." (163)

The second theme is related to benevolence; on the theme of benevolence, researchers found that Generation Z and Millennials think that these two generations understand the legitimacy of the duties and functions of the government's role related to public services. Therefore, this paper formulated a sub-theme related to the perspective of "benevolence due to trust in government to provide best services". The results of the

analysis of the benevolence theme show that Generation Z and Millennials believe that the current role of government is solely for the public interest.

The following is an example of that perspective:

"Of course, because the government's focus is to serve the community and AI is a medium or tool that can make the government's work easier." (I8)

"Yes, representatives of the people from the people for the people, right?" (126)

"Yes, because to achieve the goals of the state." (I27)

"Yes, because to achieve the goals of the state it is following the interests of the community, because at this time it is to simplify and accelerate services in the community." (I32)

"Yes, because the existing AI is intended to facilitate services to the community." (I34)

"The application of AI in public services makes services more effective and efficient. However, if the management is not optimal and must stop, it will only be a waste of people's money." (I37)

"If the interests of the community must be considered because it also follows the development of technology. Al makes it easier for the government to run, of course, the community must also be ready." (138)

"Yes, for the benefit of the community and speeding up public services so that they are not only optimal but also more efficient." (I40)

The third theme is integrity. There are two contrasting perspectives that we observe with regard to the perspective of Generation Z and Millennials in terms of integrity: 1) positive feedback to trust government integrity and 2) negative feedback of questioning government integrity. The following are the sub-themes that relate to trust in government integrity:

"I think the government has enough integrity to implement AI." (I7)

"Supposedly yes, to support services to the community to be more effective (I23)."

"Yes, there needs to be more outreach to the wider community." (I30)

"It's enough but there are some sectors that may not be maximized." (I32)

"Integrity can be well maintained if it is supported by qualified human resources." (I37)

"Yes, because the president has also drafted a program for implementing AI in the government." (I45)

"Until now, the government has continued to provide integrity values with examples of the application of integrity zones in each agency. Not yet, but I hope that in the future it will be improved so that its implementation is much better and develops." (I54)

"Yes, I think it's enough for the government to welcome the implementation of AI when viewed from the government's plan to make AI one of the priorities." (I79)

Different views emerged regarding the negative tone of questioning government integrity. In this section, Generation Z and Millennials have doubts that are influenced by several reasons; here are examples of the points of view that arise on this matter:

"Not enough. As long as there is media coverage of high levels of corruption, internal problems and polemics on pepper benchmarking, I feel there is a big trust issue with the government." (I35)

"I'm not sure, because seeing the characteristics of the government on television news (I36)

Not yet, because integrity is a hard thing to look at, it doesn't have a standard." (149)

"I'm a bit doubtful actually, simple things that can be done online often get errors. Already online but still asked to be offline. (I57)

"In my opinion, there is a lack of integrity, because judging from several crisis management experiences, public communication is not open and not well-coordinated (I64)"

"Regarding integrity is still questionable because improving the quality of human resources in the government sector is also important so there must be improvements in terms of integrity." (I66)

Conclusion

This study found a matching context between the results of quantitative analysis and qualitative analysis. In terms of quantitative analysis, this research found a significant result that ability has a positive impact on perceived trustworthiness, benevolence has a positive impact on perceived trustworthiness, and the third is that integrity has a positive impact on perceived trustworthiness. Therefore, this research proves that Generation Z and Millennials have perceived trustworthiness to the government in applying AI technology.

In addition, this research has also found that several sub-themes underlie the emergence of the ability perspective, namely through the ability of expertise in government institutions. This ability perspective shows that Generation Z and Millennials view that the government has the ability to apply AI because government

institutions have the ability and even certain expertise (*expertise in government*) and human resources to utilize the technology. In the aspect of benevolence, Generation Z and Millennials assume that the government has a responsibility and can be trusted by both generations to provide an optimal public service system. An interesting phenomenon is found in the third theme, which has two different sub-theme perspectives: 1) positive feedback to trust government integrity and 2) negative feedback of questioning government integrity. In the context of the positive feedback of government integrity, it is assumed that the government has the integrity to be trusted in applying AI to the public sector. However, contrast perspective arises due to negative feedback of questioning government integrity.

Due to limited resources of social perspective Artificial Intelligence research of, this study presents insight of how's the Artificial Intelligence is being perceived and trust by Millennial Generation and Generation Z. However, this research has limitations on the number of samples studied and data coverage that represents only one province.

References

- Abu Daqar, M. A. M., Arqawi, S., & Karsh, S. A. (2020). Fintech in the eyes of Millennials and Generation Z (the financial behavior and Fintech perception). *Banks and Bank Systems*, *15*(3), 20–28. https://doi.org/10.21511/bbs.15(3).2020.03
- Alaloul, W. S., Liew, M. S., Zawawi, N. A. W. A., & Kennedy, I. B. (2019). Industrial Revolution 4.0 in the construction industry: Challenges and opportunities for stakeholders. *Ain Shams Engineering Journal*, 11(1), 225–230.
- Alshahrani, A., Dennehy, D., & Mäntymäki, M. (2021). Adopting artificial intelligence in the Saudi Arabian public sector: Preliminary findings. In D. Dennehy, A. Griva, N. Pouloudi, Y. K. Dwivedi, I. Pappas, & M. Mäntymäki (Eds.), *Responsible AI and Analytics for an Ethical and Inclusive Digitized Society* (Vol. 12896, pp. 71–81). Springer. https://doi.org/10.1007/978-3-030-85447-8
- Azimi, S., Andonova, Y., & Schewe, C. (2021). Closer together or further apart? Values of hero generations Y and Z during crisis. *Young Consumers*, *23*(2), 179-196. https://doi.org/10.1108/YC-03-2021-1300
- Baum, T. (2020). A changing world of work. What can we learn from the service sector about employing Millennials (and Gen Z)? *Organizational Dynamics*, 49(3), 100715. https://doi.org/10.1016/j.orgdyn.2019.04.001
- BPS. (2021). Sensus Penduduk 2020 Badan Pusat Statistik. https://www.bps.go.id/pressrelease/2021/01/21/1854/hasil-sensus-penduduk-2020.html
- Cath, C., Wachter, S., Mittelstadt, B., Taddeo, M., & Floridi, L. (2018). Artificial Intelligence and the 'Good Society': the US, EU, and UK approach. *Science and Engineering Ethics*, *24*(2), 505–528. https://doi.org/10.1007/s11948-017-9901-7
- Chen, Y. N. K., & Wen, C. H. R. (2021). Impacts of attitudes toward government and corporations on public trust in Artificial Intelligence. *Communication Studies*, 72(1), 115–131.
- Creswell. (2009). Creswell (2008) Research Design.pdf (p. 296).
- Dash, G., Kiefer, K., & Paul, J. (2021). Marketing-to-Millennials: Marketing 4.0, customer satisfaction and purchase intention. *Journal of Business Research*, *122*(October 2020), 608–620.
- Dhungel, A. K., Wessel, D., Zoubir, M., & Heine, M. (2021). Too Bureaucratic to Flexibly Learn about AI? The Human-Centered Development of a MOOC on Artificial Intelligence in and for Public Administration. *ACM International Conference Proceeding Series*, 563–567. https://doi.org/10.1145/3473856.3473998
- Djafarova, E., & Foots, S. (2022). Exploring ethical consumption of generation Z: theory of planned behaviour. *Young Consumers*, *23*(3), 413–431. https://doi.org/10.1108/yc-10-2021-1405
- Faúndez-Ugalde, A., Mellado-Silva, R., & Aldunate-Lizana, E. (2020). Use of artificial intelligence by tax administrations: An analysis regarding taxpayers' rights in Latin American countries. *Computer Law and Security Review*, *38*, 105441.
- Gillath, O., Ai, T., Branicky, M., Keshmiri, S., Davison, R., & Spaulding, R. (2021). Attachment and trust in artificial intelligence. *Computers in Human Behavior*, *115*, 106607. https://doi.org/10.1016/j.chb.2020.106607
- Goggin, G. (2020). COVID-19 apps in Singapore and Australia: reimagining healthy nations with digital

- technology. Media International Australia, 177(1), 61–75. https://doi.org/10.1177/1329878X20949770
- Grimmelikhuijsen, S. G., & Meijer, A. J. (2014). Effects of transparency on the perceived trustworthiness of a government organization: Evidence from an online experiment. *Journal of Public Administration Research and Theory*, *24*(1), 137–157.
- Hanifawati, T., Dewanti, V. W., & Saputri, G. D. (2019). The role of social media influencer on brand switching of millenial and gen Z: A study of food-beverage products. *Journal of Applied Management*, 17(4), 625–638.
- James, A., & Whelan, A. (2022). 'Ethical' artificial intelligence in the welfare state: Discourse and discrepancy in Australian social services. *Critical Social Policy*, *42*(1), 22–42.
- Janssen, M., Rana, N. P., Slade, E. L., & Dwivedi, Y. K. (2018). Trustworthiness of digital government services: deriving a comprehensive theory through interpretive structural modelling. *Public Management Review*, 20(5), 647–671. https://doi.org/10.1080/14719037.2017.1305689
- Kim, S., & Austin, L. (2020). Effects of CSR initiatives on company perceptions among Millennial and Gen Z consumers. *Corporate Communications*, *25*(2), 299–317. https://doi.org/10.1108/CCIJ-07-2018-0077
- Kuziemski, M., & Misuraca, G. (2020). Al governance in the public sector: Three tales from the frontiers of automated decision-making in democratic settings. *Telecommunications Policy*, *44*(6), 101976.
- Mahmoud, A. B., Fuxman, L., Mohr, I., Reisel, W. D., & Grigoriou, N. (2021). "We aren't your reincarnation!" workplace motivation across X, Y and Z generations. *International Journal of Manpower*, *42*(1), 193–209. https://doi.org/10.1108/IJM-09-2019-0448
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review*, *20*(3), 709–734.
- Mehr, H. (2017). *Artificial Intelligence for Citizen Services and Government* (pp. 1–16). Ash Center for Democratic Governance and Innovation. https://ash.harvard.edu/files/ash/files/artificial intelligence for citizen services.pdf
- Mhlanga, D. (2021). Artificial intelligence in the industry 4.0, and its impact on poverty, innovation, infrastructure development, and the sustainable development goals: Lessons from emerging economies? *Sustainability* (*Switzerland*), 13(11), 1–16.
- Moon, M. J. (2002). The evolution of E-government among municipalities: Rhetoric or reality? *Public Administration Review*, *62*(4), 424–433.
- Newman, J., Mintrom, M., & O'Neill, D. (2022). Digital technologies, artificial intelligence, and bureaucratic transformation. *Futures*, *136*, 102886. https://doi.org/10.1016/j.futures.2021.102886
- Omoteso, K. (2012). The application of artificial intelligence in auditing: Looking back to the future. *Expert Systems with Applications*, *39*(9), 8490–8495.
- Philbeck, T., & Davis, N. (2019). The fourth industrial revolution: Shaping a new era. *Journal of International Affairs*, 72(1), 17–22.
- Reis, J., Santo, P. E., & Melao, N. (2019). Impacts of artificial intelligence on public administration: A systematic literature review. *14th Iberian Conference on Information Systems and Technologies*, *2019-June*(June), 19–22. https://doi.org/10.23919/CISTI.2019.8760893
- Rizer, A., & Watney, C. (2018). Artificial intelligence can make our jail system more efficient, equitable and just. *Texas Review of Law & Politics*, *23*(1), 181–227.
- Schlee, R. P., Eveland, V. B., & Harich, K. R. (2020). From Millennials to Gen Z: Changes in student attitudes about group projects. *Journal of Education for Business*, *95*(3), 139–147.
- Sousa, W. G. de, Melo, E. R. P. de, Bermejo, P. H. D. S., Farias, R. A. S., & Gomes, A. O. (2019). How and where is artificial intelligence in the public sector going? A literature review and research agenda. *Government Information Quarterly*, *36*(4), 101392.
- Stewart, J. S., Oliver, E. G., Cravens, K. S., & Oishi, S. (2017). Managing millennials: Embracing generational differences. *Business Horizons*, *60*(1), 45–54.
- Sun, T. Q., & Medaglia, R. (2019). Mapping the challenges of Artificial Intelligence in the public sector: Evidence from public healthcare. *Government Information Quarterly*, *36*(2), 368–383.

- https://doi.org/10.1016/j.giq.2018.09.008
- Szymkowiak, A., Melović, B., Dabić, M., Jeganathan, K., & Kundi, G. S. (2021). Information technology and Gen Z: The role of teachers, the internet, and technology in the education of young people. *Technology in Society, 65*, 101565. https://doi.org/10.1016/j.techsoc.2021.101565
- Taeihagh, A. (2021). Governance of artificial intelligence. *Policy and Society*, *40*(2), 137–157. https://doi.org/10.1080/14494035.2021.1928377
- The Jakarta Post. (2020, October 9). AI to bring in \$366b to Indonesia's GDP by 2030. *The Jakarta Post*. https://www.thejakartapost.com/news/2020/10/09/ai-to-bring-in-366b-to-indonesias-gdp-by-2030.html
- Twizeyimana, J. D., & Andersson, A. (2019). The public value of E-Government A literature review. *Government Information Quarterly*, *36*(2), 167–178. https://doi.org/10.1016/j.giq.2019.01.001
- Vitezić, V., & Perić, M. (2021). Artificial intelligence acceptance in services: connecting with Generation Z. *Service Industries Journal*, *41*(13–14), 926–946.
- Wankhede, A., Rajvaidya, R., & Bagi, S. (2021). Applications of artificial intelligence and the millennial expectations and outlook towards artificial intelligence. *Academy of Marketing Studies Journal*, *25*(4), 1–16.
- Yakimova, V. A. (2020). Al-Audit: The Perspectives of Digital Technology Application in the Audit Activity. *Proceedings of the III International Scientific and Practical Conference "Digital Economy and Finances,"* 137, 138–142. https://doi.org/10.2991/aebmr.k.200423.030