Analysis of Google Meet Readiness as Online Communication Media in the Era of Digital Transformation

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Abstract. It is essential to know the effectiveness of online learning for students, considering that this learning system was used during the Covid-19 outbreak. This research was conducted to determine the readiness of Google Meet as an online communication medium during the Covid-19 pandemic in the digital transformation era. The analysis was carried out using the Innovation readiness Level (Katsinov) and Technology readiness level (TKT) to describe readiness. Katsinov and TKT are tools to know the picture of technology development and innovation. Self-assessment was carried out to find out the description of the level of readiness, and then the survey respondents were conducted through Google Form. The respondents in this article were active students of the Master of Management at Mercu Buana University. The results show that the self-assessment of Katsinov 3 and TKT 9 was fulfilled and strengthened by the survey results.

Keywords: Readiness level · Survey · Google meet · Online learning

1 Introduction

In January 2020, WHO declared Covid-19 as a Public Health Emergency of International Concern (PHEIC). Covid-19 is caused by SARS-CoV2, which has similar symptoms to SARS, and although SARS has a higher death rate than Covid-19, it has far more cases than SARS. Compared to SARS, Covid-19 has spread more widely and faster in several countries. The spread of the coronavirus can occur through droplets from coughing and sneezing, also personal contact (such as touching and shaking hands) and touching an object or surface that is infected with the virus, followed by touching the nose and mouth or eye before washing hands [1]. Indonesia is currently facing an outbreak of the novel coronavirus, an infectious disease that can cause serious respiratory infections [2]. Indonesia confirmed its first case of the coronavirus on March 2, 2020, with two confirmed positives for Covid-19.

The Government of Indonesia, through The Ministry of Education and Culture and The Ministry of Religious Affairs, has implemented a policy of studying (SFH) and working from home (WFH) starting in mid-march 2020. The purpose of this e-learning is to protect educators and students from the negative effects of Covid-19 and also to, prevent the spread and transmission of Covid-19 in education units, as well as facilitate the fulfillment of psychosocial support for educators, students, and parents. However, online learning has several problems that become an obstacle in its implementation [3].

From the explanation above and the importance of the media used to support online communication, the author is interested in providing an overview regarding the readiness of Google Meet as an online communication media for Postgraduate students at Mercu Buana University in the digital transformation era.

The objectives of this research are: To analyze the readiness of Google Meet as an online communication media for postgraduate students at Mercu Buana University in the era of digital transformation by conducting a self-assessment through Innovation Readiness Level (Katsinov); to analyze the readiness of Google Meet as an online communication media for postgraduate students at Mercu Buana University in the era of digital transformation by conducting a self-assessment through Technology Readiness Level (TKT); To analyze the readiness of Google Meet as an online communication media for postgraduate students at Mercu Buana University in the era of digital transformation by conducting a survey of respondents to confirm the results of the team's self-assessment of TKT and Katsinov.

Contributions of this research are expected to provide insight to students and lecturers, especially postgraduate students of magister management at Mercubuana University, to determine the readiness to use the Google Meet application for Google Indonesia; this research is to determine the readiness to use Google Meet as an online communication media. This research will be useful in knowing at what level of Google Meet readiness and innovations that can be developed. Besides, it can be used as a reference as a communication media that is easy to use with features that are always updated.

1.1 Technology Readiness Level (TKT)

The purpose of Technology Readiness Levels (TKT) is to measure the maturity of technology components for a system. TKT Refers to the condition of maturity or readiness of the results of research and development of certain technologies that are measured systematically with the aim of being adopted by users, both by the government, industry, and society. TKT is a measure of technical readiness, expressed on a scale of 1 to 9, and states that one level is interrelated and forms the basis for the next level (Fig. 1).

1.2 Innovation Readiness Level (Katsinov)

A business or venture will really need innovation. To push innovation readiness to the commercialization stage and reduce the risk of failure in the use of innovative products, it is necessary to measure and determine the level of innovation readiness (the Minister of Research, Technology, and Higher Education Regulation Number 29 of 2019) concerning Measurement and Determination of Innovation Readiness Levels (Katsinov). Katsinov is a method for estimating the innovation readiness from an Innovation program in Companies, Research and Development Institutes, and Universities that are reviewed from several aspects such as technology, market, organization, partnership, risk, manufacturing, and investment. Innovation Readiness Level is the level of maturity or readiness of a technology research and development result that is measured systematically so that it can be adopted by users, either by the government, industry, or society.
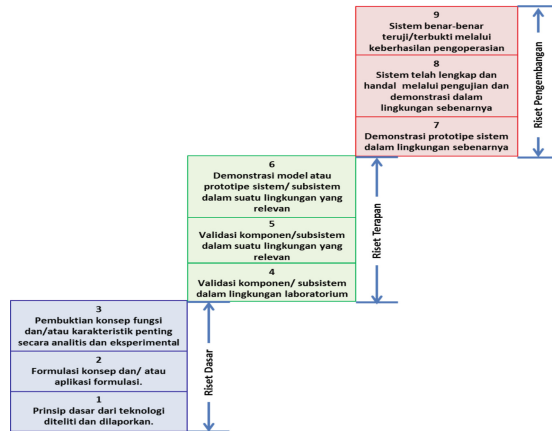
Fig. 1. Stages in TKT by Permenristekdikti. (Source: Regulation of the Minister of Research, Technology and Higher Education of the Republic of Indonesia Number 42 of 2016)

Table 1. Innovation Readiness Level (Katsinov)

Katsinov		Description
6	Change-over or Close-Down	Stage of a market downturn, and the determination of two options, namely moving (change-over) with re-technological innovation, or stopping (close-down) to see the innovation has become obsolete and decided to get out.
5	Competition	This is the phase of market maturity when a market equilibrium is achieved in the absence of meaningful growth or innovation.
4	Chasm	The chasm is between early adopters (the enthusiasts & visionaries) and the early majority (the pragmatists). An initial phase of innovation results has been introduced to the market. At this stage, there are challenges and difficulties whether the product innovation meets the needs or demands of customers when first introduced into the market.
3	Completion	Technology development has been completed, and all system functions have been proven in the field.
2	Component	Components have been developed and validated, and prototypes have been developed demonstrating the technology.
1	Concept	The basic scientific principles of innovation have been observed and reported, and critical functions and/or characteristics have been confirmed through experiments.

Source: Permenristekdikti No. 29/2019, Andrean & Santoso [4]; Santoso et al. [5]

Katsinov is organized into 6 (six) levels and 7 (seven) key aspects. Each has an achievement indicator (Table 1).

The technology used in implementing Google Meet is determined by considering how far the benefits are expected. The choice of this technology needs to pay attention to the suitability of the materials used, the success of using technology in other places and the ability of the workforce to operate the technology, and the ability to anticipate advanced technology.

1.3 History of Google Meet

Google Meet is a video-communication service developed by Google. Covid-19 has forced many workers to continue to work from home and conduct online meetings. This makes many online meeting or web conferencing applications such as Zoom, Skype, and Google Meet the choice of many people to stay connected. The government announced for employees to work from home in order to minimize and break the chain of corona virus transmission. So it was not surprising that internet usage has jumped from normal use before the pandemic and many were looking for alternative applications to stay in touch and deliver meetings without interruption; one of them is Google Meet.

1.4 State of the Art

We mapped state of the art and positioned our research as follows: The authors compiled a description through state of the art (SOTA) as a step to show novelty to describe the latest topic or latest achievement.

The novelty here is defined as the number of articles that have been published and are used as references and the development of data sources for authors (Fig. 2). No other researcher has ever made an article with criteria like this; we presented a topic containing the readiness of Google Meet as an online communication media during Covid-19 by conducting a self-assessment using Katsinov, TKT, and a questionnaire (Fig. 3).

Previous Study	Year	Google Meet	Covid 19	Efectiveness	Technology Readiness	Innovation Readiness	e-Learning/WFH	Digital Transformation	Self Assessment Kasitnov	Self Assessment TKT	Survey (Questionnaire)
Maulia, P.S et al	2021	v	v	v				v			v
Susilo, Y et al	2021				v	v			v		v
Pudjiantor, T.H et al	2021				v				v		v
Suhendri, D et al	2019				v					v	
Widiyono, A	2020	v	v	v				v			v
Santoso, S et al	2020							v	v	v	
Sukodarma, I.M and Santoso, S.	2020			v	v					v	
Santoso, S et al	2020				v	v		v			
Al-Maroof, R.S et al	2020	v	v	v			v	v			v
Mseleku, Z et al	2020		v			v		v	v		v
Alshurideh, M.T et al	2021	v	v	v			v	v			v
Benmansour, S et al	2022		v	v			v				v
Redata, L et al	2021					v			v		v
Santoso, S and Nursaningrum, D	2021				v	v					v
Natanael, A et al	2021				v	v		v			
Rachmadini, F and Santoso, S	2021			v	v		v				v
Hapsari, P.A et al	2021		v		v	v			v	v	
Santoso, S and Fachrully, A	2021				v	v			v	v	
Sawitri, D	2020	v	v	v							v
Dewi, K et al	2021	v	v	v			v				v
Nalurita, S	2021	v	v	v			v				v
Juniartini, N.M.E et al	2020	v	v	v			v				v
Pernantah, P.S et al	2021	v	v	v			v				v
Prisuna, B.F et al	2021	v	v	v			v				v
This Research	2022	v	v	v	v	v	v	v	v	v	v

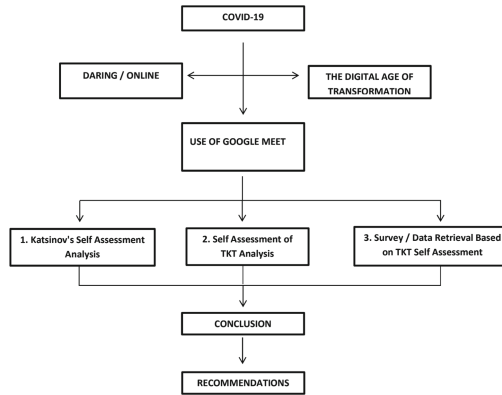**Fig. 2.** State of the Art Research

Fig. 3. Design

1.5 Research Design

Explanation: The team that carried out the Self-Assessment of Katsinov and TKT had studied Innovation Readiness Level and Technology readiness level while studying operation management and already had discussions with 5 representatives from Google Indonesia. The respondent survey aims to confirm the results of the self-assessment conducted by the team.

2 Research Methods

This study used an intensive discussion to conduct a self-assessment of Katsinov and TKT and a descriptive quantitative approach using an online survey method [6]. Primary data was obtained from the results of online survey collection through Google forms which were distributed to 117 respondents. Respondents in this study were the first-semester postgraduate management students at Mercu Buana University at 3 campuses (Meruya, Menteng, and Warung Buncit).

The data used in this research was quantitative data. Quantitative data is defined as the value of data in the form of counts or numbers where each dataset has a unique numerical value associated with it. The data collection technique was carried out using the Google Form method by distributing questionnaires.

3 Results and Discussion

Katsinov Meter is a measuring tool to calculate the readiness of technology from a technological innovation program in an industry/institution. Katsinov Meter is a tool to answer the need for measuring tools that can describe the development of innovations and implement innovations with a more effective life cycle. This method was administered by the Minister of Research, Technology and Higher Education Regulation Number 29 of 2019. The Katsinov Meter is equipped with seven assessment aspects: technology,

market, organization, partnership, risk, manufacturing, and investment. Each aspect has six levels of readiness, which are Katsinov 1 to Katsinov 6.

The team used the Katsinov meter to determine the readiness of Google Meet as an online communication medium. The team has also discussed this with 5 Google Indonesia Representatives with the results of the self-assessment met Katsinov with an average result is 95.39%, The results of Katsinov from the research team were 92.38%; and the results from 5 Google Indonesia representatives were 96.19%; 97.14%, 95.19%, 95.24%; and 96.15%.

Based on the results of the self-assessment, the implementation of the Google Meet application is at TKT 9, which means the system is really tested or proven through the successful operation.

3.1 Questionnaire of TKT Development

The research team used non-probability sampling with a purposive sampling technique. The sample criteria were batch 40 Master of Management students at Mercu Buana University from 3 campuses: Meruya (41 respondents), Warung Buncit (19 respondents), and Menteng (12 respondents) who have used the Google Meet application.

From questionnaire results that we distributed through the google form show as in Fig. 4.

Figure 4 shows that 45 respondents (61.6%) stated that Google Meet is acceptable for online learning.

Figure 5 shows that 41 respondents (56.2%) stated that Google Meet is very easy to use for online learning.

Figure 6 shows that 41 respondents (56.2%) admitted the stability of using Google Meet and 22 respondents (30.1%) admitted that Google Meet is very stable.

Figure 7 shows that 36 respondents (49.3%) admitted that Google Meet is very efficient and 33 respondents (41.1%) admitted that Google Meet is efficient.

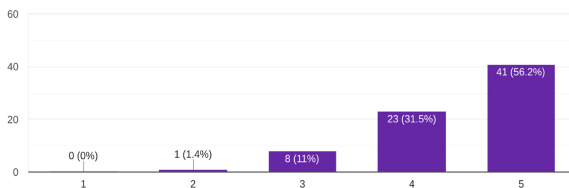**Fig. 4.** Google Meet is acceptable for online learning

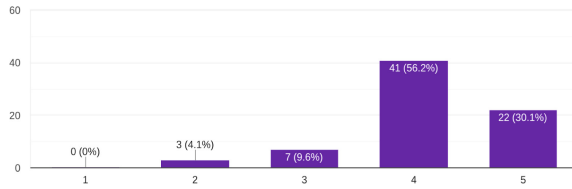**Fig. 5.** Ease of use on the Google Meet Apps for online learning

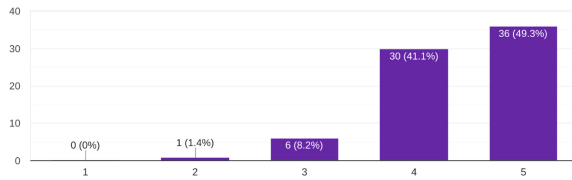**Fig. 6.** Stability of using Google Meet Apps

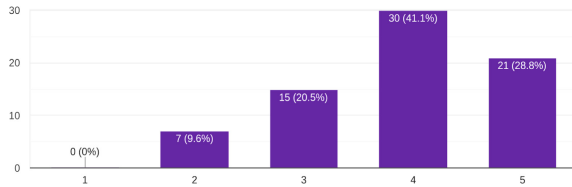**Fig. 7.** The efficient use of the Google Meet Apps in online learning

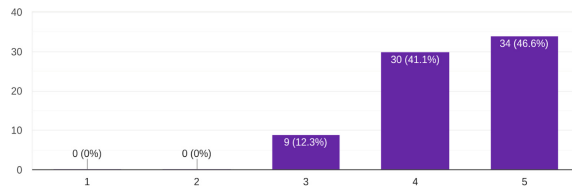**Fig. 8.** Finding problems when using the Google Meet

Fig. 9. Google Meet is cheaper compared to other online communication Apps

Figure 8 shows that 30 respondents (41.1%) admitted that they have no problem when using Google Meet.

Figure 9 shows that 34 respondents (46.6%) admitted that Google Meet is cheaper than other online communication applications.

Figure 10 shows that 42 respondents (57.5%) stated that they knew that Google Meet has no time limit on its use.

Figure 11 shows that 20 respondents (27.4%) the majority of respondents stated that they often use Google Meet compared to other online communication applications.

Figure 12 shows that 31 respondents (42.5%) stated that they understand the Google Meet features.

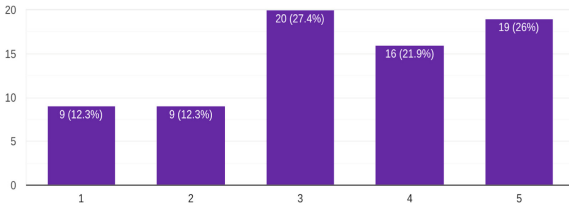**Fig. 10.** Knowing that Google Meet has no time limit

Fig. 11. Google Meet is often used other than for online learning
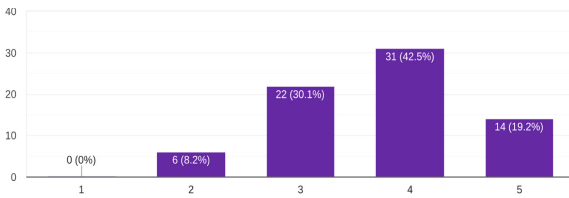

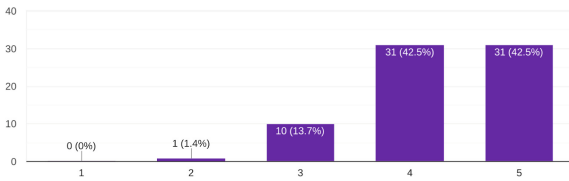**Fig. 12.** Understanding of features in the Google Meet apps

Fig. 13. Google Meet as a media of communication in the era of digital transformation

Figure 13 shows that 31 respondents (42.5%) stated that Google Meet is acceptable as a communication medium in the digital transformation era.

Thus, from the answers of 73 respondents, it can be seen that 44 respondents (60%) are at TKT level 9, while 40% of respondents are at TKT level 8.

4   Conclusion

The author's self-assessment and discussion with 5 representatives from PT Google Indonesia found the results are Katsinov 3. The results of the self-assessment of the Google Meet implementation are at TKT 9, which means the system is really tested or

proven through a successful operation. From the answers of 73 respondents, the survey results show that 44 respondents (60%) were at TKT level 9, while 40% of respondents were at TKT level 8, with 60% of respondents stating TKT level 9 so the results of the self-assessment TKT Level 9 are confirmed.

The results show that the readiness of Google Meet as an online communication media is at the Katsinov 3 and TKT 9, which indicates that users feel the use of the developed technology.

Based on the results of the study, the researchers recommend several things to be taken into consideration, including: Google Meet is an alternative learning media which is expected to have richer features and is easier to use. Devices (Laptop/HP/tablet) and internet connection as supporting factors for the implementation of this learning must be sufficient so that the effectiveness of learning can be carried out properly. The web-based learning process is highly dependent on the availability of an internet connection, so when internet network facilities are disrupted, the learning process can be disrupted. For further research, it is better to do similar developments but with different subjects so that it can be seen that the readiness of Google Meet as an online communication media is very suitable to be applied in the digital transformation era.

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