

Measuring User Readiness of Kartu Tani on Technology Readiness Index (TRI) in Sumenep District



Laras Nur Fitriani¹, Darsono², Umi Barokah³

^{1,2,3}Department of Master Agribusiness, Faculty of Agriculture, Sebelas Maret University, Ir. Sutami Street No. 36, Ketingan, Jebres, Surakarta, Central Java, Indonesia 57126

ABSTRACT: The government program related to Kartu Tani aims to provide welfare to farmers. However, until now it hasn't been realized, meaning that not all farmers accept the innovations given by the government. Measure user readiness to use Kartu tani to determine the success of implementing the technology. This study aims to determine a certain technical readiness index for Kartu Tani in Sumenep District. Almost all of the data were collected from farmers by a simple random sampling method using Hair 85 valid sample in Sumenep District. The measurement method used is TRI made with the four variables of optimism, innovation, discomfort, and insecurity. It is found that the preparation level of Kartu tani users is at a medium level of technical preparation, with a value of 3.33. The farmers' TRI value is considered to be moderate and needs to be improved.

KEYWORDS: kartu tani, user readiness, subsidized fertilizer

I. INTRODUCTION

The agricultural sector plays an important role in supporting the Indonesian economy (Setiawan & Prajanti, 2016). The problem is the scarcity of subsidized fertilizers due to their low availability while the need for subsidized fertilizers is high (Setiawan & Prajanti, 2016). Fertilizer subsidies are provided at affordable prices. The types of fertilizers that receive subsidies are urea, SP-36, ZA, NPK, Phonska, and organic fertilizers (Pertanian, 2017). The provision of subsidized fertilizers is based on the Group Needs Certainty Plan (RDKK) which contains data on the needs of farmer group members, a maximum land area of two hectares, the types of plants cultivated, and the allocation of subsidized fertilizers.

(Z. Ahmad & Wibowo, 2021) The world of agriculture that is entering the era of the industrial revolution 4.0 has the opportunity to develop one of them in fertilizer subsidies. Farmer's card is a tool to redeem subsidized fertilizer. The implementation of fertilizer subsidies through Kartu Tani is faced with the problem of decreasing program effectiveness. One of the problems that occur is the lack of understanding about the use of the service features provided, the risks, and how to transact. Most farmers are not good at applying new technologies (Jorgi et al., 2019). Farmer knowledge can make the Kartu Tani program a success. Given that Kartu Tani is a relatively new program, this information requires various improvements for wider implementation in the future.

The success of implementing a new technology depends on how users adopt the new technology, it is necessary to measure the level of readiness of new users in the technology field to determine the success of the technology (Suryadi, 2015). One way to measure the success rate of implementing technology is to measure user readiness (Abd Hamid & Mansor, 2016).

As a pilot project in East Java, Sumenep Regency has completed the transaction of the Kartu Tani with the highest fertilizer value in East Java, from 2020 to 2021 is Rp 46.674.850. The Sumenep Regency Government has also used Kartu Tani for transactions of 30.934 cards. The amount of fertilizer that has been distributed is 29.244.00 kg with a total fertilizer value of Rp 51.227.454.500. Hence, farmers in Sumenep Regency are the right object to be studied. Previous research discussed the information technology of Kartu Tani, for example, research on Differences in Farmers Perceptions of the Kartu Tani Program in Kalijambe District, Sragen Regency (Moko et al., 2017) ; The Effect of Kartu Tani Application on the Effectiveness of Subsidized Fertilizer Distribution in Kendal Regency, Central Java (Chakim, 2019); Community Perceptions of the Use of Kartu Tani in Pati Regency (Case in Wotan Village and Pakem Village, Sukolilo District) (Kurniawati & Kurniawan, 2018); Level of Technological Readiness in Working with Salt Farmers on Madura Island (Utomo & Anggara, 2020); Analysis of the Effectiveness of the Use of

Measuring User Readiness of Kartu Tani on Technology Readiness Index (TRI) in Sumenep District

Kartu Tani in Ex-Kisidenan Pati (Isabella & Sunaryanto, 2020); Factors Affecting the Decision to Adopt Farmers' Card Tani in Ex Karisedenan Surakarta (Yuliana & Nadapdap, 2020).

Previous research that discussed the level of technology readiness by Utomo, 2020 with the final TRI value of 2.39 was included in the category of low technology readiness. The results of research conducted by (Marthasari et al., 2020) with the results of a high level of technological readiness with a value of 3.63. Based on this description, research was conducted on "Readiness to Use Kartu Tani Based on the Technology Readiness Index (TRI) in Sumenep Regency." The purpose of the study was to measure the readiness of the Kartu Tani users in the form of the user's level of readiness. This is important for further program development. These results also provide recommendations for stakeholders in increasing the readiness of technology users from the results of the analysis that has been carried out and can describe the level of readiness of Kartu Tani users.

II. LITERATURE REVIEW

According to (Parasuraman, 2000), (Walczuch et al., 2007), and (Lin et al., 2005) stated in the assessment of the Technology Readiness Index, four important factors can affect the level of user readiness in using and utilizing technology. The four factors are:

A. Optimism

Optimistically thinking users tend not to pay attention to negative events or incidents but are more open to new technologies (Walczuch et al., 2007). In this case, farmers who use the Kartu Tani in Sumenep Regency will be optimistic that they are more willing to use the Kartu Tani compared to other farmers who are not optimistic. Optimistic farmers perceive a technology to be more useful and easier to use and have less concern about the possibility of negative outcomes.

B. Innovativeness

Innovativeness can also be interpreted as an individual's willingness to try new technology (Walczuch et al., 2007). Farmers who use innovativeness farmer cards tend to understand technology easily because they have good technical knowledge and have an interest in learning about farmer cards which are still considered new technology. Farmers who have high innovation tend to think that they will lose certain benefits if they do not try Kartu Tani.

C. Discomfort

The uncomfortable attitude is that one has no control over the technology (Walczuch et al., 2007). A user who has an uncomfortable attitude towards a new technology does not have the power to be able to change the technology so that he feels uncomfortable in using it.

D. Insecurity

According to (Walczuch et al., 2007) that the presence of fear makes people avoid using technology. Users who are insecure about technology have a low level of technology use. This fact causes farmers who use the Kartu Tani with a feeling of insecurity or insecurity to have a low level of ease of using the Kartu Tani and reduce the benefits that can be obtained.

III. MATERIALS AND METHODS

Based on the background of the research that has been submitted, the conceptual model for measuring Kartu Tani user readiness is designed as shown in Figure 1. The method of determining the research location is purposive sampling (Sugiyono, 2018), namely in Sumenep Regency based on the pilot project of the Kartu Tani program in East Java. The type of data used is almost all data from farmers who use Kartu Tani through interviews and direct surveys using structured questionnaires through focus group discussions (FGD) with related parties. The data needed in this study is the readiness of farmers to use Kartu Tani. The population of Kartu Tani users in Sumenep Regency is 102,760 farmers. A simple random sampling method was used to determine the sample with the technique of determining the number of samples of farmers using the formula (Hair Jr et al., 2016) with a ratio of 5:1. There are 17 question indicator items, so the number of samples needed is 85 farmers who use the Kartu Tani.

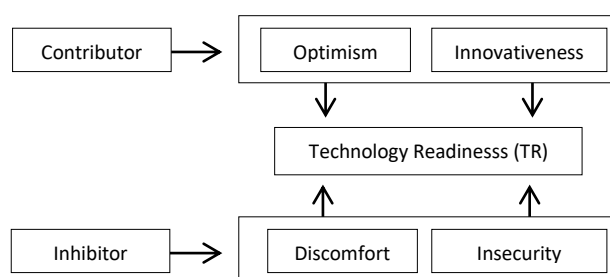


Figure 1. Research Model

Source : (Colby & Parasuraman, 2001)

Measuring User Readiness of Kartu Tani on Technology Readiness Index (TRI) in Sumenep District

TRI has four variables. The exogenous variables consist of positive variables using technology, namely optimism, and innovation. The negative variables of use are discomfort and insecurity (Colby & Parasuraman, 2001). Positive variables (optimism and innovation) encourage farmers to use technology products/ services and have a positive attitude towards technology. Negative variables (discomfort and insecurity) hinder the application of technology by farmers. TRI has three categories in its application, namely low, medium, and high. User readiness if the TRI value is equal to or less than 2.89 low technology readiness ($TRI = <2.89$) is considered low, moderate if the TRI value is between 2.90 to 3.51 medium technology readiness ($1.90 = < TRI = >3.51$) and high if the TRI value is more than 3.51 high technology readiness ($TRI > 3.51$).

The research tools used were adapted from Pasuraman. (Colby & Parasuraman, 2001) The questionnaire used followed the likert scale and to test the feasibility of the instrument using validity and reliability tests.

IV. RESULTS AND DISCUSSIONS

A. Valuation and Reliability

Tests of validity and reliability are used to ensure that the use of research instruments is appropriate. Pearson bivariate correlation was used by correlating each item's score with the total score. The total score is obtained from the sum of all items. If $r_{count} > r_{table}$ in a two-tailed test, the significance is 0.05,

Table 1. Research Instruments

No	Variable	Statement
1.	<i>Optimism</i>	Kartu Tani facilitates access to subsidized fertilizers
		Kartu Tani is much more efficient in obtaining subsidized fertilizer
		Kartu Tani Card is easier to use in conducting financial transactions for farming
		Kartu Tani provides an easy service
		One day, the Kartu Tani will facilitate farming
2.	<i>Innovativeness</i>	Be the first to get a Kartu Tani compared to other farmers
		Explain the use of Kartu Tani compared to other Farmers
		Facing fewer problems than other farmers using the Kartu Tani
		Mastering the use of Kartu Tani
3.	<i>Discomfort</i>	Thinking that Kartu Tani makes it difficult to get subsidized fertilizer
		The Kartu Tani service does not help because the transaction process is not understood
		It is difficult to access subsidized fertilizers because very few agricultural store provide Kartu Tani
		Field instructors/ PPL or Farmer Groups do not help in using the Kartu Tani
4.	<i>Insecurity</i>	It's more dangerous/loss to use the Farmer's Card because you don't trust bank employees or agricultural store
		Since you have to go to the nearest ATM or agricultural store, it is difficult to cheque the balance of the subsidized fertilizer received
		Lack of confidence in the security of using Kartu Tani because the balance received is not in cash
		For every financial transaction you make, you don't get proof of a purchase transaction from the nearest farm store you visit

Source: (Colby & Parasuraman, 2001)

Then the research instrument has a significant correlation and is declared valid [14]. In this study, r indicates that 5% (85) is 0.211. The following validation test results in Table 2 and 3.

Table 2. Validity Test Results

Items	Outer Loadings	Value
OP1	0.803	Valid
OP2	0.781	Valid
OP3	0.833	Valid
OP4	0.759	Valid
OP5	0.549	Valid
INN1	0.608	Valid

Measuring User Readiness of Kartu Tani on Technology Readiness Index (TRI) in Sumenep District

INN2	0.736	Valid
INN3	0.767	Valid
INN4	0.805	Valid
DIS1	0.805	Valid
DIS2	0.810	Valid
DIS3	0.706	Valid
DIS4	0.855	Valid
INS1	0.839	Valid
INS2	0.811	Valid
INS3	0.749	Valid
INS4	0.790	Valid

Source: original data, resulting from own experiences

In According to Table 2, the r arithmetic of all indicators $>$ the value from the r table is (0.211) meaning that all indicators of the questionnaire are declared valid (Ghozali, 2014). Furthermore, the reliability test was carried out using the Cronbach alpha method, it was declared reliable if the value $>$ 0.6 to see the consistency of the data.

Table 3. Reliability Test Results

Variable	Alpha Cronbach	Value
Optimism	0.890	Reliabel
Innovativeness	0.753	Reliabel
Discomfort	0.893	Reliabel
Insecurity	0.942	Reliabel

Source: original data, resulting from own experiences

Based on the data in table 3 that all reliability test results show reliable results on all variables, all Cronbachs alpha values $>$ 0.6.

The calculation of the TRI method by calculating the average value for each item statement. (Lazuardi, 2013) First, the weight (f) is multiplied on each item by a likert scale (n) which is determined to get the average value, the second is divided by the number of respondents or farmers. Each variable has a total weight of 25% divided by the number of question items in each variable. TRI scores were obtained for each variable, with the mean value multiplied by the weight of each variable. The total TRI score is the result of the sum of the total scores of each variable. The use of these four variables will help assess farmers' readiness for Kartu Tani technology. The total TRI score is obtained by adding up the total score of each variable.

B. Analysis of User Readiness

Technology Readiness Index (TRI) analysis is conducted to determine the level of readiness to the research four variables. TRI calculation method is done by calculating the mean on each statement item.

1. Calculation of Optimism Variable

In the results of the optimism variable contributed a value of 1.01. This value is the largest contribution to the total TRI score. This fact shows that farmers who use the Kartu Tani in Sumenep Regency have a positive view of the Kartu Tani. The user believes that the Kartu Tani will have a positive influence on his farm.

Table 4. Calculation for Variable Optimism

Statement	Answer		f x n	Mean	Weight	Score
	F	N				
1	1	3	3	4.28	5.00%	0.21
	2	2	4			
	3	2	6			
	4	39	156			
	5	39	195			
2	1	1	1			
	2	4	8			

Measuring User Readiness of Kartu Tani on Technology Readiness Index (TRI) in Sumenep District

	3	5	15	4.24	5.00%	0.21
	4	46	184			
	5	39	195			
3	1	1	1	4.04	5.00%	0.20
	2	9	18			
	3	6	18			
	4	39	156			
	5	30	150			
4	1	3	3	4.29	5.00%	0.21
	2	2	4			
	3	4	12			
	4	34	136			
	5	42	210			
5	1	2	2	3.69	5.00%	0.18
	2	21	42			
	3	8	24			
	4	24	96			
	5	30	150			
Score Variable <i>Optimism</i>						1.01

Source: original data, resulting from own experiences

2. Calculation of Innovativeness Variable

Innovativeness gives a value of 0.98. This value is the second largest value in contributing to the total TRI score. This value shows that the Kartu Tani has an innovativeness quality in adopting and utilizing the Kartu Tani in his farming.

Table 5. Calculation for Variable *Innovativeness*

Statement	Answer		f x n	Mean	Weight	Score
	F	N				
1	1	7	7	3.51	6.25%	0.22
	2	21	42			
	3	8	24			
	4	20	80			
	5	29	145			
2	1	3	3	4.02	6.25%	0.25
	2	1	2			
	3	16	48			
	4	36	144			
	5	29	145			
3	1	3	3	4.12	6.25%	0.26
	2	2	4			
	3	10	30			
	4	37	148			
	5	33	165			
4	1	3	3	4.00	6.25%	0.25
	2	1	2			
	3	11	33			
	4	48	192			
	5	22	110			
Score Variable <i>Innovativeness</i>						0.98

Source: original data, resulting from own experiences

Measuring User Readiness of Kartu Tani on Technology Readiness Index (TRI) in Sumenep District

3. Calculation of the Discomfort Variable

Discomfort accounted for 0.60 of the total TRI score. Discomfort and insecurity are variables that must be assessed in reverse (reversal costing) because they contain a negative value to the resulting TRI value. From the value obtained, it means that farmers have a low level of comfort in adopting Kartu Tani.

Table 6. Calculation for Variable Discomfort

Statement	Answer		f x n	Mean	Weight	Score
	F	N				
1	1	6	6	2.38	6.25%	0.15
	2	61	122			
	3	6	18			
	4	4	16			
	5	8	40			
2	1	11	11	2.46	6.25%	0.15
	2	43	86			
	3	20	60			
	4	3	12			
	5	8	40			
3	1	10	10	2.51	6.25%	0.16
	2	41	82			
	3	23	69			
	4	3	12			
	5	8	40			
4	1	23	23	2.16	6.25%	0.14
	2	34	68			
	3	21	63			
	4	5	20			
	5	2	10			
Score Variable Discomfort						0.60

Source: original data, resulting from own experiences

4. Calculation of Insecurity Variable

The insecurity variable gave the smallest contribution with a value of 0.74 for the total TRI score. This value means that farmers who use a Kartu Tani have a lower level of security for Kartu Tani technology.

Table 7. Calculation for Variable Insecurity

Statement	Answer		f x n	Mean	Weight	Score
	F	N				
1	1	7	7	2.99	6.25%	0.19
	2	25	50			
	3	25	75			
	4	18	72			
	5	10	50			
2	1	8	8	3.02	6.25%	0.19
	2	26	52			
	3	19	57			
	4	20	80			
	5	12	60			
3	1	10	10	2.86	6.25%	0.18
	2	30	60			
	3	17	51			

Measuring User Readiness of Kartu Tani on Technology Readiness Index (TRI) in Sumenep District

	4	18	72			
	5	10	50			
4	1	9	9	2.82	6.25%	0.18
	2	33	66			
	3	18	54			
	4	14	56			
	5	11	55			
Score Variable <i>Insecurity</i>						0.74

Source: original data, resulting from own experiences

Table 8. TRI Score Table

Variable	Value
<i>Optimism</i>	1.01
<i>Innovativeness</i>	0.98
<i>Discomfort</i>	0.60
<i>Insecurity</i>	0.74
TRI	3.33

Source: original data, resulting from own experiences

Measurements of user readiness level from 85 respondents or farmers found that the level of readiness of Kartu Tani users was at technological readiness with a value of 3.33. If seen from the categorization carried out by (Colby & Parasuraman, 2001), farmers in Sumenep Regency tend to have a moderate level of technology readiness or medium technology readiness because they are located between 2.90 - 3.51.

The value of the optimism variable is 1.01, the high self-confidence value in mastering the Kartu Tani technology, the innovativeness variable ranks second 0.98. This fact indicates that farmers have an innovativeness attitude in adopting technology, the discomfort variable value is 0.60 which indicates a lack of comfort in implementing the Kartu Tani and is followed by the variable value. insecurity 0.74 that the use of Kartu Tani technology has not been able to feel safe in its application. This study is in line with research (F. Ahmad et al., 2021) in his research, the results obtained that in the implementation of new technology from 105 respondents using new technology, the TRI value of 2.48 was categorized in the medium technology readiness index, meaning that the respondents were quite ready to implement the technology by improving the two variables of discomfort (discomfort) and insecurity because it still gets a low score of 0.30 and 0.61 in its implementation. Farmers receiving the benefits of fertilizer subsidies will be said to be successful if they can ease the burden of spending in running their farming (Arisandi et al., 2016).

V. CONCLUSIONS

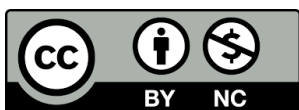
Based on the results of the research that has been done, it can be concluded that the Kartu Tani users in Sumenep Regency get a score of 3.33. This value means that farmers who use the Kartu Tani belong to the category of medium technical preparation. Users already have a readiness in the medium category in readiness to use Kartu Tani. The value of the optimistic variable that contributes the greatest value can be concluded that the user or farmer believes that the Kartu Tani technology will have a positive impact. Then, from the innovation variable, which means that the user has the desire to innovate, it influences other farmers who have not used the Kartu Tani. From the negative value variable, it can be concluded that discomfort is the biggest obstacle in using Kartu Tani. From a practical point of view, the results of this study are very useful for the development or stakeholders of Kartu Tani in Sumenep Regency in particular and all regions in East Java. The government and stakeholders must design better Kartu Tani so that farmers as users feel more comfortable when transacting with Kartu Tani. The government, stakeholders, and farmers need to apply guidelines for the use of Kartu Tani and evaluate whether they are by the plan or not.

REFERENCES

- 1) Abd Hamid, A., & Mansor, Z. (2016). Client's Readiness Assessment Success Factors for Outsourcing Software Projects. *International Journal on Advanced Science, Engineering and Information Technology*, 6(6), 820–827.
- 2) Ahmad, F., Pudjiarti, E., & Sari, E. P. (2021). Penerapan Metode Technology Readiness Index Untuk Mengukur Tingkat Kesiapan Anak Sekolah Dasar Melakukan Pembelajaran Berbasis Online Pada SD Muhammadiyah 09 Plus. *JTIM: Jurnal Teknologi Informasi Dan Multimedia*, 3(1), 21–31.

Measuring User Readiness of Kartu Tani on Technology Readiness Index (TRI) in Sumenep District

- 3) Ahmad, Z., & Wibowo, R. (2021). Dampak Kebijakan Kartu Tani terhadap Produksi dan Efisiensi Usahatani Padi di Kabupaten Jember. *JURNAL PANGAN*, 30(2), 107–116.
- 4) Arisandi, N. W. W., Sudarma, I. M., & Rantau, I. K. (2016). Efektivitas Distribusi Subsidi Pupuk Organik dan Dampaknya Terhadap Pendapatan Usahatani Padi Sawah di Subak Sungsang, Desa Tibubiu, Kabupaten Tabanan. *Jurnal Agribisnis Dan Agrowisata*, 5(1), 1–10.
- 5) Chakim, M. L. (2019). Pengaruh Implementasi Kartu Tani Terhadap Efektivitas Penyaluran Pupuk Bersubsidi di Kabupaten Kendal, Jawa Tengah. *Jurnal Pangan*, 28(3), 171–182.
- 6) Colby, C. L., & Parasuraman, A. (2001). *Techno-Ready Marketing: How and Why Customers Adopt Technology*. Simon and Schuster.
- 7) Ghozali, I. (2014). SEM Metode Alternatif dengan menggunakan Partial Least Squares (PLS). *Semarang: Badan Penerbit Universitas Diponegoro*.
- 8) Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage publications.
- 9) Isabella, M. P., & Sunaryanto, L. T. (2020). Analisis Efektivitas Penggunaan Kartu Tani di Eks-Karesidenan Pati. *Ziraa'ah Majalah Ilmiah Pertanian*, 45(2), 150–159.
- 10) Jorgi, R. S., Gayatri, S., & Dalmyiatun, T. (2019). Hubungan Tingkat Pengetahuan Petani dengan Efektivitas Pelaksanaan Program Kartu Tani di Kabupaten Semarang. *AGRARIS: Journal of Agribusiness and Rural Development Research*, 5(2), 88–98.
- 11) Kurniawati, E., & Kurniawan, A. (2018). Persepsi Masyarakat Terhadap Penggunaan Kartu Tani di Kabupaten Pati (Kasus di Desa Wotan dan Desa Pakem, Kecamatan Sukolilo). *Jurnal Bumi Indonesia*, 7(2).
- 12) Lazuardi, A. (2013). Tingkat Kesiapan (Readiness) Pengadopsian Teknologi Informasi: Studi Kasus Panin Bank. *Universitas Indonesia*.
- 13) Lin, C. H., Shih, H. Y., Sher, P. J., & Wang, Y. L. (2005). Consumer Adoption of e-Service: Integrating Technology Readiness with the Technology Acceptance Model. *Portland International Conference on Management of Engineering and Technology, 2005*, 483–488. <https://doi.org/10.1109/PICMET.2005.1509728>
- 14) Marthasari, G. I., Hayatin, N., Wahyuni, E. D., & Kristy, R. D. (2020). Measuring User Readiness of Web-based Encyclopedia for Kids based on Technology Readiness Index. *Jurnal Media Informatika Budidarma*, 4(2), 294–301.
- 15) Moko, K. W., Suwanto, S., & Utami, B. W. (2017). Perbedaan Persepsi Petani Terhadap Program Kartu Tani di Kecamatan Kalijambe Kabupaten Sragen. *Caraka Tani: Journal of Sustainable Agriculture*, 32(1), 9. <https://doi.org/10.20961/carakatani.v32i1.15926>
- 16) Parasuraman, A. (2000). Technology Readiness Index (TRI): A Multipleitem Scale To Measure Readiness To Embrace New Technologies. *Journal Of Service Research*, 2:307(May).
- 17) Pertanian, K. (2017). Petunjuk Pelaksanaan Penyediaan dan Penyaluran Pupuk Bersubsidi TA. 2018. *Jakarta: Direktorat Jendral Prasarana Dan Sarana Pertanian Kementerian Pertanian*.
- 18) Setiawan, A. B., & Prajanti, S. D. W. (2016). Strategies to Develop Food Crop Commodity to Improve The Prosperity of Rural Farmers in Grobogan District. *Journal of Indonesian Applied Economics*, 6(2), 176–190.
- 19) Sugiyono, S. (2018). Metode Penelitian Kualitatif untuk Penelitian yang Bersifat: Eksploratif, Enterpretif, Interaktif dan Konstruktif. *Bandung: CV. Alfabeta*.
- 20) Suryadi, D. (2015). Pengukuran Tingkat Kesiapan Penerapan e-Learning Menggunakan TRI (Technology Readiness Index), Studi Kasus: UIN Suska Riau. *SISFO*, 5.
- 21) Utomo, T., & Anggara, O. F. (2020). Tingkat Kesiapan Teknologi (Technology Readiness) Dalam Bekerja Pada Petani Garam di Pulau Madura. *Pembangunan Pedesaan*, 3(1).
- 22) Walczuch, R., Lemmink, J., & Streukens, S. (2007). The effect of service employees' technology Readiness on Technology Acceptance. *Information and Management*, 44(2), 206–215. <https://doi.org/10.1016/j.im.2006.12.005>
- 23) Yuliana, A., & Nadapdap, H. J. (2020). Faktor yang Memengaruhi Keputusan Adopsi Petani terhadap Kartu Tani di Eks-Karesidenan Surakarta. *Jurnal Pertanian Agros*, 22(2), 94–104.



There is an Open Access article, distributed under the terms of the Creative Commons Attribution – Non Commercial 4.0 International (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.