Factors Influencing Intention and Behaviour of Agricultural Extension Staff Concerting Post-Covid-19 Digital Technical Guidance: A Study in Yogyakarta, Indonesia

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ABSTRACT

Agriculture extension staff are encouraged to attempt more efficient methods to enhance their competency through digital webinars or technical guidance, in Bahasa Bimbingan Teknis (Bimtek) programs. The research aims to explore factors influencing the intention and behavior of agricultural extension staff towards the Technical guidance online Ministry of Agriculture in Special Region Yogyakarta, Indonesia. This research included the Behavior Intention (BI) and Use Behavior (UB) models with significant construct. The research used the quantitative method and analyzed PLS-SEM. One hundred eighty extension staffs participated, chiefly 34-42 years old. All of the indicators passed the outer model assessment. The analysis results conclude that significant effects are Attitude to BI, Control Behavior to BI, Perceived Usefulness to BI, and Behavior Intention to UB. The perception of extension staffs about Technical guidance online can enhance their performance to continue using it in obtaining agricultural technology information, extension materials, information on agricultural policies, and the latest agricultural development programs. The insignificant constructs are Subjective Norm, Motivation, and Perceived Ease to Use. The validated research model explains 61% of the variance (R2 = 0.61) in Attitude, Perceived Usefulness, and Control Behaviour towards Behavior Intention (BI). Moreover, BI explains 8.9% of the variance (R2 = 0.089) in UB of Technical guidance online. This research found that BI and UB have Q2 values of 0.538 and 0.077. The practical implication could be applied as preliminary development planning studies to enhance the efficiency of Technical guidance online as Bank Data.

KEYWORDS

Digital guidance; behavior; dissemination; extension agriculture staff.

INTRODUCTION

Agricultural extension staff are communicators of agricultural development who have the task of helping farmers to be able to farm well and develop their farming businesses to be productive through increasing knowledge, changing farmers' attitudes towards a more positive direction, and improving farmers' skills in farm management. Therefore, agricultural extension staffs must have adequate hard skills (technical knowledge) and soft skills such as communication skills, critical thinking, integrity, creativity, and emotional intelligence. The ability to interact as well to farmers was suggested by (Huda, 2015) is the social competency of extensionst. These competencies are essential for an extension worker, considering that agricultural extension is an active and dynamic learning process between communicators (extension staff) and communicants (farmer and agricultural business actor) that aims to educate farmers and business actors so that they can consciously change their mindset, attitude, and behavior in farming and farming to obtain the benefits as expected (Kaliky & Hariadi, 2013).

Some occupations become outdated as revolutions change, while others become crucial. Over the preceding few decades, new technological advances have replaced machinery with telecommunications and electricity (WEF & ADB, 2017). These technologies and trends distort physical, digital, and biological obstacles in many disciplines, businesses, and economies. These advanced technologies will transform future employment (Horáková et al., 2017). Accomplishing the duties and functions as a disseminator, an extension worker is required to have competence in disseminating innovative information. Meanwhile, the results of several studies on the qualification extension staffs in various regions categorized as low to moderate.

The conclusion of Muliady's (2009) research in West Java is that the competence of agricultural extension staffs in Karawang, Subang, and Sukabumi districts in developing rice paddy farming is low. The research results (Yusneli & Tanjung, 2021) in Pasaman Regency, West Sumatra, show that the competence of agricultural extension staffs in innovation communication, learning management, and entrepreneurship management is only moderate. Based on (Huda, 2015), factors that significantly affect the ability to communicate agricultural extension innovations are learning facilities, training, and coverage of extension materials. On the other hand, training activities for extension staff are minimal due to restrictions on activities and budget reductions for extension activities, including training for agricultural extension staff in the Covid-19 pandemic. To overcome these problems, extension staff are expected to follow new efficient ways to get extension material while improving hard skills and soft skills to improve their competence through digital webinars or technical guidance, in bahasa Bimbingan Teknis (Bimtek) programs.

Based on Arifin et al. (2021), the agricultural sector can grow positively by 1.75% in 2020 or during the COVID-19 pandemic due to increased agricultural production, fair commodity prices, and aspects of resilience agriculture. According to the standard theory of development economics, the more developed the country, the share of income from the agricultural sector will decrease, while the share of the manufacturing and service sectors will increase. In a

recession or economic crisis, the process of structural transformation of the economy is generally disrupted, mainly because quite several people make the agricultural sector the last resort to survive. The agricultural workforce increased significantly from 36.71 million (27.53% of the total workforce of 133.36 million people) in August 2019 to 41.13 million people (29.76% of the total workforce of 138.22 million people) in August 2020 (Arifin et al., 2021). The increased agricultural labor burdens the agricultural sector because agricultural labor productivity is relatively low. Therefore, the agricultural sector must take advantage of the technological changes in production, harvesting, and post-harvesting in the future.

The Covid-19 pandemic positively impacted the communication of development information in various fields, including agricultural extension. Based on a survey (Prisma, 2020), 37% of farmers actively use the internet to get agricultural information, primarily through Google and YouTube, and 58% of farmers plan to learn and use the internet. Research (Indraningsih et al., 2020) shows that during the Covid-19 pandemic, agricultural extension staffs had more accessible access to various topics of information ranging from cultivation to marketing because, during the pandemic, there were various webinars and digital technical guidance (Bimtek Online) that were easily accessible without paying. The phenomenon shows that digital webinars or technical guidance is an alternative solution to the problem mentioned.

The Ministry of Agriculture has made various breakthroughs in disseminating information, innovations, and agricultural technology during the Covid-19 pandemic intensively by utilizing digital media to accelerate advanced, independent, and modern Indonesian agriculture. Dissemination in the pandemic era is carried out using the digital guidance method. Some of the echelons that conduct intensive digital guidance are the Directorate General of Food Crops (in Bahasa: Direktorat Jenderal Tanaman Pangan or Ditjen TP), the Agricultural Extension and Human Resources Agency (in Bahasa: Badan Penyuluhan dan Sumber Daya Manusia Pertanian or BPSDMP), and Assessment Institute for Agricultural Technology of Yogyakarta (in Bahasa: Balai Pengkajian Teknologi Pertanian or BPTP DIY). Ditjen TP organizes Technical Guidance and Socialization or Bimbingan Teknis dan Sosialisasi "BTS Propaktani", BPSDMP organizes digital guidance with the concept of Ngobrol Asyik "Ngobras", and BPTP DIY organizes digital guidance "Jumpa Teknologi Virtual (JTV)".

The Ministry of Agriculture's digital guidance presents science-based information, technological innovations, and success stories to target audiences of agricultural extension staffs, farmers, researchers, lecturers, agricultural service providers, and other audiences to improve knowledge, skills, and attitudes. Hopefully, agricultural extension staff's competence can improve by participating in digital guidance. Competence is the workability of each individual that includes aspects of knowledge, skills, and attitudes that follow the expected standardization (Undang-Undang (UU) Tentang Sistem Pendidikan Nasional [Law on the National Education System], 2003) and a person's competence in their field of work is inseparable from the personal characteristics that underlie someone behaviour related to a person's work effectiveness (McClelland, 1973).

The participation of extension staff in the digital guidance is a personal choice. Whether or not to participate in the digital guidance depends on personal intentions and will be manifested in behaviour. This research identifies the intentions and behaviour of agricultural extension staff to utilize Technical guidance online as a medium for obtaining information and knowledge about agricultural technology innovations to improve hard skills and soft skills as an endeavour to improve competence to support extension performance.

It is expected that post-Covid-19, the extension staff will utilize various information, innovations, and agricultural technology that have been and will be presented in the Ministry of Agriculture digital guidance. These efforts are inseparable from strong behavioural intentions. Thus, what factors influence the behavioural intentions of agricultural extension staff in the Special Region of Yogyakarta (SRY). Thus, it is necessary to conduct a scientific study to obtain a model of the intention and behaviour of agricultural extension staffs towards digital guidance and the effectiveness of guidance on improving the competence and performance of agricultural extension staffs for supporting the success of post-Covid-19 agricultural development in the SRY, Indonesia.

Research Question

Agricultural extension staffs as disseminators of information and technological innovations are required to have adequate hard and soft skills to support the competence and performance of extension services. It is alleged that the competence of extension staff as disseminators of technological innovation is not optimal in supporting their performance as disseminators. Based on the problem, the following research questions can be formulated.

- What factors influence agricultural extension staff's intention and behaviour towards the Ministry of Agriculture's digital technical guidance?;
- What is the intention and behaviour Technical guidance online model validated with significant construct?

The hypothetical model for the research construct is in Figure 1. The following specific hypotheses are put out by this research, which is aligned with the introduction in the preceding section:

H1: Attitude has a positive and significant effect on behaviour intention

H2: Subjective Norm has a positive and significant effect on behaviour intention

H3: Control Behavior has a positive and significant effect on behaviour intention

H4: Motivation has a positive and significant effect on behaviour intention
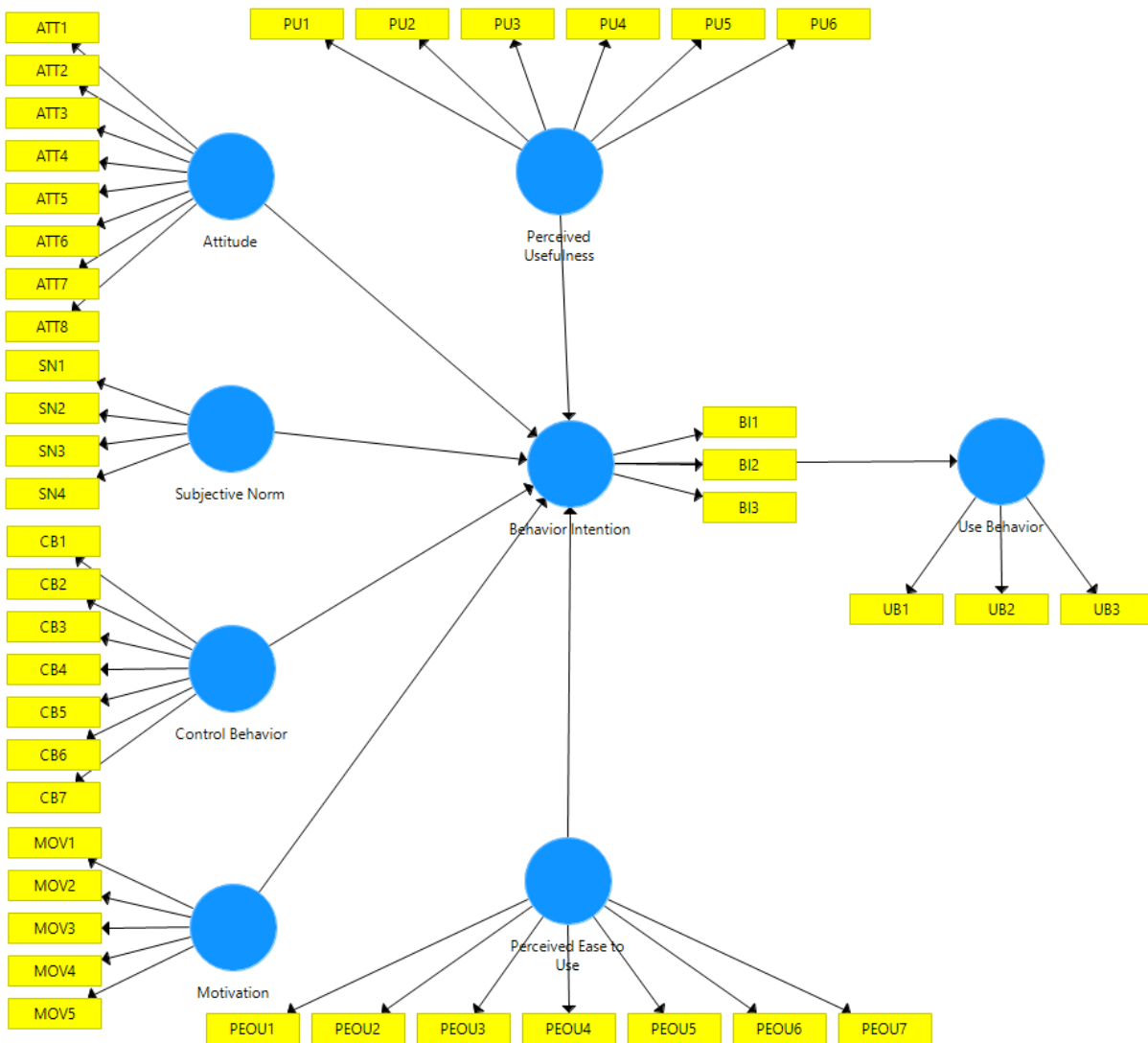
H5: Perceived Usefulness has a positive and significant effect on behaviour intention

H6: Perceived Ease to Use has a positive and significant effect on Behavior Intention

H7: Behavior Intention has a positive and significant effect on Use Behavior

Figure 1.

Hypothetical Model Intention and Behaviour Digital Guidance

RESEARCH METHOD

Quantitative research is conducted with a survey descriptive design approach (adjustable measurement of phenomena) using structured questionnaires that are tested for validity and reliability, and the unit of analysis is the individual (Effendi & Singarimbun, 2012; Sugiyono, 2017). The procedure for gathering data began with focus groups conducted in each regency to acquire information in group circumstances, either through planned interview questions that the moderator asks of each participant in turn or through a script to encourage group conversations in understanding contemporary issues. Focus groups also enable researchers to observe participants' reactions to the comments and opinions expressed by other participants, allowing them to identify parallels and variances in viewpoints. The social phenomena are utilized as the fundamental theoretical and questioning framework. In addition, the questionnaire link is shared with the leader of every sub-district sample unit via WhatsApp.

Agricultural extension staffs who fulfilled the respondent criterion as SRY extension staff and had experience following the Bimtek Online Program filled out the questionnaire voluntarily.

Location and Sample Selection Technique

The research location consists of all districts in Yogyakarta. The sub-district sample unit is an extension institution, namely the Agricultural Extension Centre/ Agricultural Extension Centre for Food and Fisheries (in Bahasa: Balai Penyuluhan Pertanian/ Balai Penyuluhan Pertanian Pangan dan Perikanan or BPP/BP4). The sampling technique was accidental sampling (Sugiyono, 2019). The location of BPP/ BP4 in each district or stratum is not stratified, and population members are considered homogeneous. The population (N) are 392 extension workers, and the total sample is 180 extension staff suitable for the PLS-SEM analysis criteria. The sample distribution is listed in Table 1.

Table 1.

Total population of agricultural extension staff in the district and sample size of the research

Working Area	Population	Sample
Bantul District	95	44
Gunungkidul District	129	48
Kulon Progo District	82	42
Sleman District	86	46
Total	392	180

Source: SRY Agriculture and Food Security Office (2022) and primary data.

Data Analysis

The research data will be analyzed using a PLS-SEM structural model analysis to test the hypotheses. The advantages of PLS-SEM are that it can be used when the sample size is small, the data is not normally distributed, and the model used is complex with many indicators (Hair et al., 2019). When the underlying theory has not been adequately explored, PLS-SEM applies in beneficial (Gotthardt & Mezhuyev, 2022; Rigdon, 2012). The PLS evaluation model is based on prediction measurements. When substantial effects emerge, PLS-SEM has an enhanced probability to identify them (Sarstedt et al., 2017). Based on Chin (2010), when theoretical information is limited and the focus is on revealing significant effects, more accurate statistical power enables utilisation in studies that are exploratory (Chin, 2010; Sarstedt et al., 2017).

Ghozali (2014) stated that the evaluation of the PLS model is carried out by evaluating the outer model and inner model. This research aims to identify the Intention and Behaviour Model extension staffs usage Technical guidance online Ministry of Agriculture. This study's outer model evaluation of reflective measurements consists of Cronbach's alpha, Dillon-Goldstein's rho, Composite reliability, and AVE. The inner or structural model consists of R^2 value, Q^2 or predictive relevance, and path coefficient are measured. The data collection technique uses an

online questionnaire, Google Form, which the construct and indicators questions shown in Appendix 4.

FINDINGS

Sample Description

The total of 180 extension staffs participated, consisting of men and women. The respondents at the research location are mostly 34-42 years old, totalling 65 people, with a percentage of 36%. Respondents aged 25-33 years were 18 people with a percentage of 10%. Extension workers who are quite old, aged 43-51 years, are 54 extension workers or 30%. As many as 24% or 43 agricultural extension workers in Yogyakarta who are categorized as old (52-60 years old) will enter retirement within the next 1-8 years. The complete description of the respondent's age is obtainable in Table 3.

Table 3.

The age categories of respondent

Ages Categories	Frequency	Percentages (%)
Very young (25-33 years old)	18	10
Young (34-42 years old)	65	36
Quite old (43-51 years old)	54	30
Old (52-60 years old)	43	24
Total	180	100

Source: Primer Data, 2022

The age of SRY agricultural extension workers varies, affecting performance. Based on Widakdo et al. (2021), age and performance are interconnected with decreasing performance. A person's expertise, speed, and energy will shrink over time, which adds to the saturation of work, thus affecting the decline in productivity.

The tenure is the duration of the respondent's work as an agricultural extension staff member. The situation generally shows that the tenure of agricultural extension staff is relatively moderate. The complete description of the tenure agriculture staffs concluded at Table 4.

Table 4.

The tenure of agriculture staffs in SRY

| Tenure Categories	Frequency	Percentage (%)
New (1-10 years)	58	32
Moderate (11-20 years)	100	56
Fairly old (21-30 years)	9	5
Old (31-40 years)	13	7
Total	180	100

Source: Primer Data, 2022

Most extension workers have a working period of 11-20 years with a frequency of 100 people or 56% or moderate. There were 58 extension workers, or 32 per cent, with a new tenure of fewer than ten years. There are 9 or 5% of extension workers with a working period of 21-30 years or a fairly old category. Extension workers, classified as an old category, have a working period of 31-40 years, as many as 13 people or 7%.

According to Siagian (2008), the working period shows how long a person has worked in each job or position. According to Kreitner and Kinicki (2004), a length of service will make an employee feel more completely at ease in an organization. Due to having adapted to the environment, a worker will feel comfortable with his job. This statement is supported by research conducted by Karima et al. (2018) that the tenure factor positively and significantly affects employee performance.

The user behaviour of the Ministry of Agriculture's Online Technical Guidance represents the accessibility of information disseminated to agricultural extension staff. Based on the descriptive analysis of the research results, 158 extension staffs or 88% of respondents participated in the BTS Propaktani. There were 62% of respondents or 112 extension staffs following Ngobras. Seventy-three extension staffs, or 40.6% of respondents, followed JTV. The graph of user behaviour is shown in Figure 2.

Figure 2.

User Behaviour Technical guidance online Ministry of Agriculture Indonesia
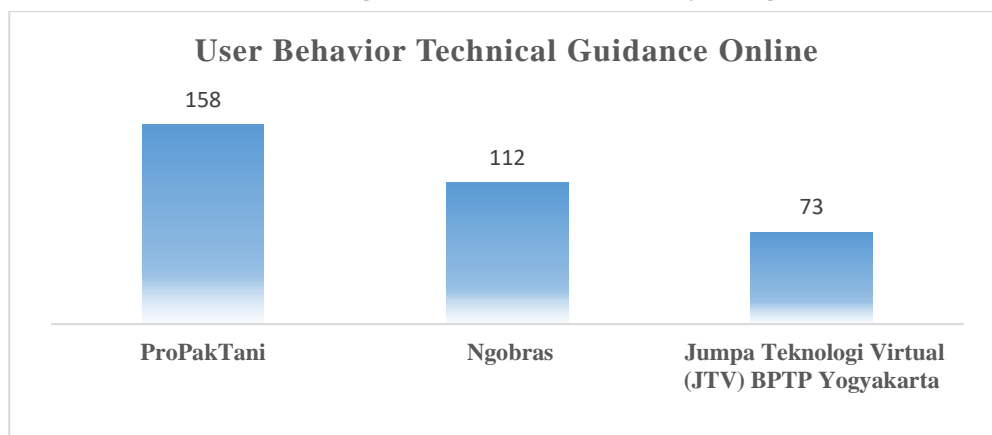
Source: primer data analysis, 2022

Based on qualitative data using Focus Group Discussions in four districts, BTS ProPakTani has more positive attention to accessing agriculture innovation and information from the Ministry of Agriculture Indonesia than Ngobras and JTV. BTS Propaktani held the Technical guidance online twice daily and five days per week. The webinar media BTS Propaktani are ZoomMeeting and Live Streaming features on YouTube. They used social media Instagram, YouTube, TikTok, Telegram, and WhatsApp to disseminate the weekly topic list. Most users or extension staffs pick out the topic related to the advisory materials in their fostered area.

Moreover, Ngobras held the Technical guidance online once weekly, every Tuesday. The webinar media Ngobras are ZoomMeeting and Live Streaming features on YouTube. They used social media, Facebook, Instagram and WhatsApp to inform the event. Ngobras was the

communication media among extension staffs and the Head of Indonesia Extension Agriculture Agency. Additionally, Technical guidance online JTV was held and lastly accessible in August 2022. The webinar media JTV are ZoomMeeting and Live Streaming features on YouTube. They used social media, Facebook, Instagram and WhatsApp to inform the event. JTV is used as the innovation dissemination media specific location on Special Region of Yogyakarta, the innovation and information adjust the potential resources on Special Region of Yogyakarta. Scholars have explored how social media supports social mobilization over the last few decades. Indeed, social media allows both individuals and organizations to communicate with their followers and the general public (Forde, 2017; Stein, 2009)

Evaluation Outer Model

Outer model validity measurement consists of Internal consistency reliability, Convergent validity, and Discriminant Validity. The latent variable is modelled in reflective models as a single predictor of the values of each dependent indicator variable. Multicollinearity is not a problem in an outer reflective measuring model (Garson, 2016).

Internal consistency reliability is assessment based on Cronbach's alpha, Dillon-Goldstein's rho, and Composite reliability. Hair et al. (2014) describe Cronbach's alpha as a reliability indicator for internal consistency that counts on equal indicator loadings. Cronbach's alpha assumes equal population covariances among indicators in a single block, which is rare in actual study. However, it can be utilized as a lower constraint on reliability (Guttman, 1945; Sijtsma, 2009). The recommended value of Cronbach's alpha is 0.70-0.90, and the minimum is 0.70 or 0.60 in exploratory research (Hair et al., 2019).

Cronbach's alpha is obtained using the indicator variance-covariance matrix, whereas Dillon-alpha Goldstein's alpha is obtained using factor loadings. Subsequently, consistent factor loading estimations should be utilized to calculate Dillon-Goldstein's. Another metric used to assess the unidimensionality of a reflective block is Dillon-Goldstein's rho, which is based on the variance of the sum of variables in the component of relevance. A block is generally considered unidimensional when the Dillon-rho Goldstein's is greater than 0.7. It considers how much the latent variable explains its block of indicators. This index is a stronger indication than Cronbach's alpha (Sanchez, 2018).

Composite reliability is considered a more appropriate reliability criterion in the context of PLS-SEM. Higher values imply higher reliability (Gotthardt & Mezhuyev, 2022). The recommended value of composite reliability is the same as Cronbach's alpha. Cronbach's alpha is the lower constraint for internal consistency reliability, whereas composite reliability is the higher bound (Hair et al., 2019). Cronbach's alpha values are unsupported and less accurate, whereas composite reliability is more dependable since indicators are weighted based on the construct's specific indicator loadings (Gotthardt & Mezhuyev, 2022). Cronbach's alpha is likely too conservative, whereas composite reliability is likely too permissive. The ultimate reliability may lie between the two measures (Al-Emran et al., 2019; Hair et al., 2019).

The Internal consistency reliability test results in Table 5 that all constructs have met the required reliability.

Table 5.

Outer Model Evaluation

Constructs	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Attitude	0.917	0.923	0.934	0.670
Subjective Norm	0.880	0.881	0.918	0.736
Control Behavior	0.689	0.718	0.829	0.619
Motivation	0.892	0.905	0.933	0.822
Perceived Usefulness	0.824	0.831	0.896	0.741
Perceived Ease to Use	0.890	0.893	0.920	0.696
Behavior Intention	0.945	0.946	0.965	0.902
Use Behavior	1.000	1.000	1.000	1.000

Source: primer data analysis, 2022

Convergent validity occurs when the scores obtained from two different instruments measuring the same construct have a high correlation. The rule of thumb for convergent validity is outer loading > 0.708 and average variance extracted (AVE) is > 0.5. The findings of SmartPLS 3.0 processing reveal that all indicators have a loading factor value more than 0.708 and an AVE value greater than 0.5. Appendix 1 is the valid model of loading factors. Twelve reflective indicators which drop out from each construct are ATT7, CB1, CB2, CB3, MOV2, MOV3, PEOU4, PEOU5, PU1, PU2, UB1, and UB2.

Ensure that every latent variable's conceptualization varies from other latent variables that employed discriminant validity. Discriminant validity is evaluated by assessing the cross-loadings among constructs, the Fornel-Larcker criterion, and the Heterotrait-Monotrait Ratio of Correlation (HTMT). The model has adequate discriminant validity if the AVE squared value of each exogenous construct (the value on the diagonal) is larger than the correlation between the construct and other constructs (the value below the diagonal) (Ghozali, 2014) (Fornell & Larcker, 1981; Ghozali, 2014). Based on the Fornell-Larcker Criterion Value derived as indicated in Appendix 2, the calculation of discriminant validity test utilizing the AVE quadratic value. According to the discriminant validity test, the AVE square root values of all constructs are larger than their connection with other latent details (as assessed by the Fornell-Larcker criteria).

Analysis of the structural model

The structural model or inner model aims to predict the relationship between latent variables. The coefficient of determination (R^2), the blindfolding-based cross-validated redundancy, the statistical significance, and the path coefficients are an example of assessment criteria that should be measured for inner model evaluation. At the structural level, multicollinearity is possible in either a reflective or a formative model. In other words, the latent variables represented as causes of an endogenous latent variable might be multicollinear. Structural

multicollinearity is an issue in both reflective and formative models and a problem in OLS regression models (Garson, 2016). The structural Variance Inflation Factor (VIF) coefficients in ideally show VIF < 3, possible collinearity issues when VIF ≥ 3-5, and probable collinearity issues when VIF ≥ 5 (Hair et al., 2019). Based on the inner VIF value, all constructs have VIF values below 5. The VIF value is attainable in Appendix 3. The structural model or inner model is evaluated by looking at the significant structural path coefficient, which eliminated the unsupported hypotheses depicted in Figure 3 and described in Table 7. It resulted in the validated hypotheses that are illustrated in Figure 4 and reported in Table 8.

Figure 3.

Structural Model Intention and Behaviour Technical guidance online
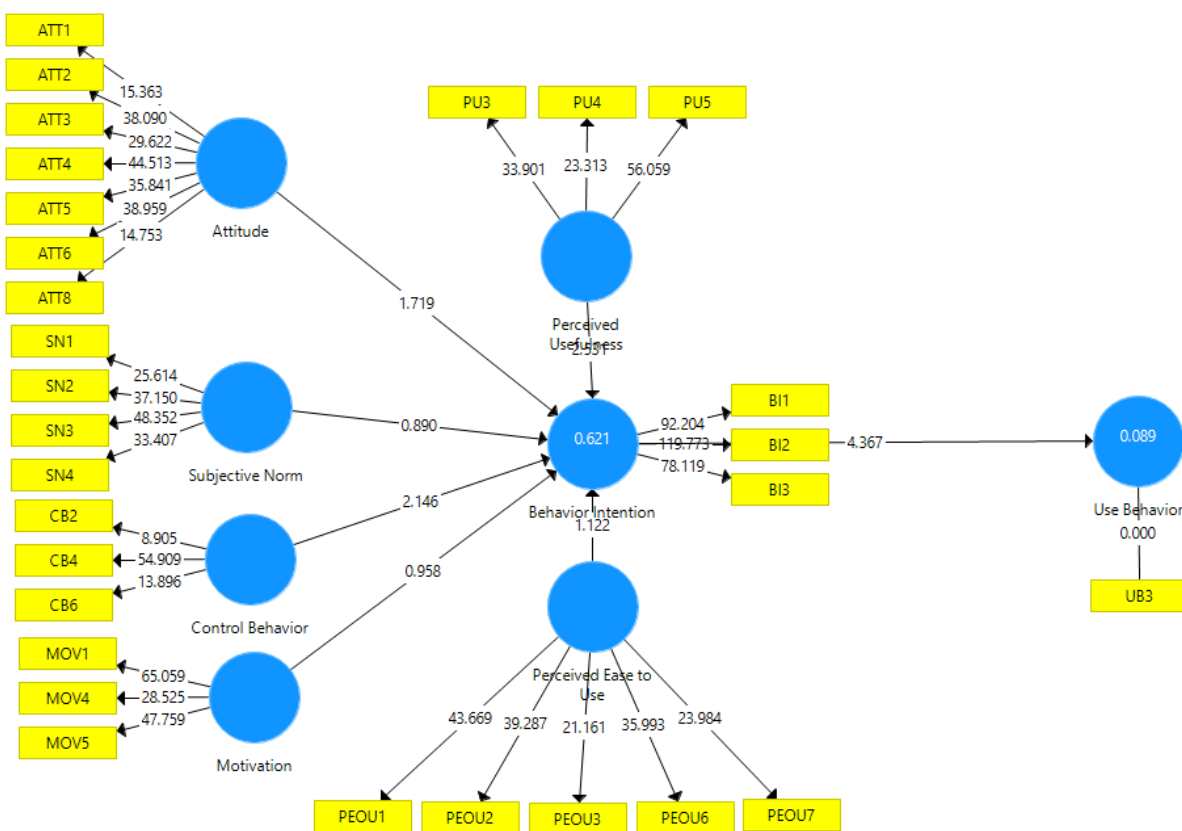
Source: primer data analysis, 2022

Hypotheses Result

The stage for assessing the inner model all postulated for the strength and direction of path coefficient values, and produced t-values for relationship significance. Based on PLS-SEM analysis in Table 7, exogenous variables significantly affect endogenous variables: Attitude to Behavior Intention, Control Behavior to Behavior Intention, Perceived Usefulness to Behavior Intention, and Behavior Intention to Usage Behavior.

These coefficients represent the proposed correlations between the constructs. The numbers are typically between +1 and 1, with positive signifying a favourable connection and negative signifying an unfavourable connection. The greater the link, the closer the values are to one. As a result, the closer the values are to 0, the weaker the correlation. Bootstrapping was

used to calculate values and confidence intervals for statistical significance (Hair et al., 2017, 2019). Bootstrapping to 5000, Bias Correct and Accelerated (BCa) Bootstrap, and the one-tailed test type were applied.

Table 7.

Research hypotheses tested Model Intention and Behaviour Technical guidance online

	Path	Original Sample or β	Sample Mean	Standard Deviation	T Statistics	P Values	Decision
H1	ATT→ BI	0.156	0.156	0.091	1.719	0.043	Supported
H2	SN → BI	0.093	0.095	0.105	0.890	0.187	Unsupported
H3	CB → BI	0.216	0.223	0.100	2.146	0.016	Supported
H4	MOV → BI	0.077	0.082	0.081	0.958	0.169	Unsupported
H5	PU → BI	0.223	0.218	0.088	2.531	0.006	Supported
H6	PEOU → BI	0.134	0.127	0.119	1.122	0.131	Unsupported
H7	BI → UB	0.299	0.303	0.068	4.367	0.000	Supported

Source: primer data analysis, 2022

Researchers used a bootstrapping technique to assess the statistical significance of the path coefficient values while calculating t-values. Hair et al. (2017) state actual t-values must be higher than critical t-values. This research used 5% significance level, so the critical t-value > 1.96 or the p-value < 0.05. T-values were subsequently utilized to investigate the proposed hypotheses. Based on this research, there are the hypotheses results:

1. Attitude has positive and significant effect on behaviour intention.
2. Subjective Norm has positive and insignificant effect on behaviour intention
3. Control Behavior has positive and significant effect on behaviour intention
4. Motivation has positive and insignificant effect on behaviour intention
5. Perceived Usefulness has positive and significant effect on behaviour intention
6. Perceived Ease to Use has positive and insignificant effect on Behavior Intention
7. Behavior Intention has positive and significant effect on Use Behavior

Validated Model of Intention and Behaviour Technical guidance online

The structural relationship of the examined constructs showed that not all path models are significant. Alternatively, we compiled the Validated Research Model of Intention and Behaviour Technical guidance online (with a significant path only). The path model is seen in Figure 4.

Figure 4.

Validated Model Intention and Behaviour Technical guidance online (with significant path only)
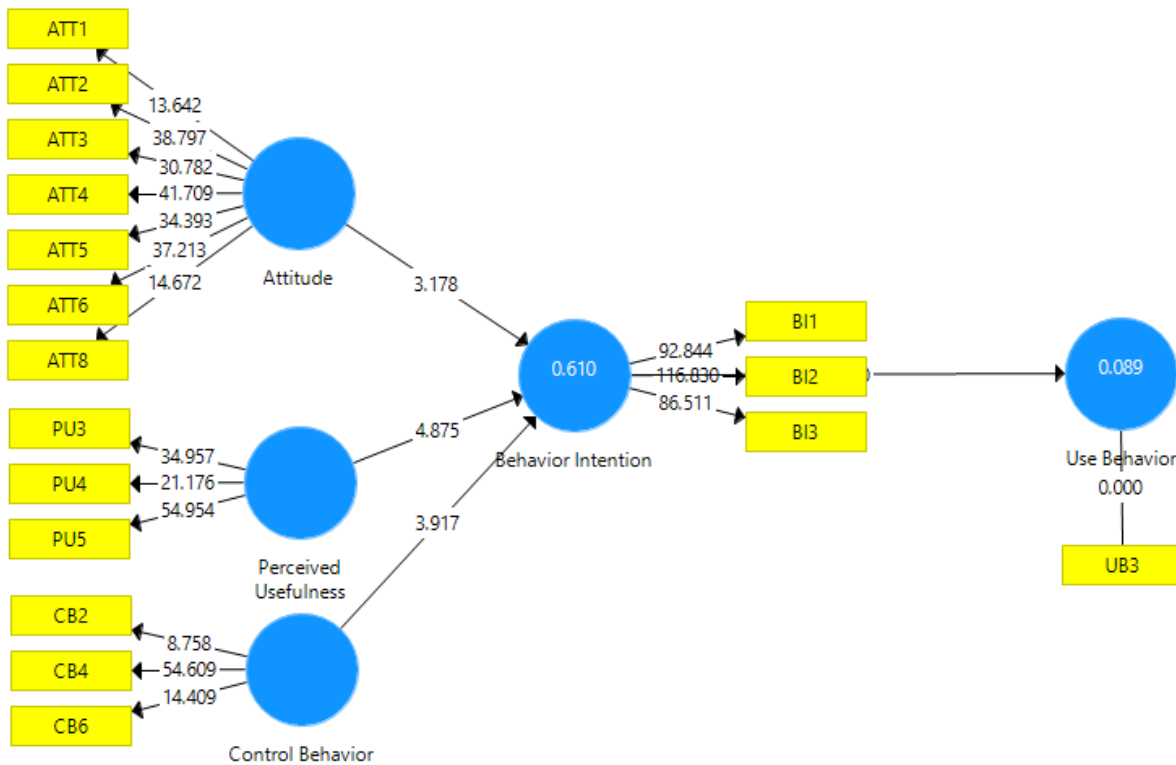
Source: primer data analysis, 2022

The inner model assessment described the Validated Path Model of Intention and Behaviour Technical guidance online. The quantity of R^2 value and predictive relevance (Q^2) were calculated (obtained in Table 8). The validated research model explains 61% of the variance ($R^2 = 0.61$) in Attitude, Perceived Usefulness, and Control Behaviour towards Behavior Intention (BI). Moreover, BI explain 8.9% of the variance ($R^2 = 0.089$) in (Usage Behavior) UB of Technical guidance online, which means it has moderate and very weak explanatory power.

Table 8.

Coefficient of Validated Research Model Intention and Behaviour Technical guidance online (with significant path only)

Construct	R Square	R Square Adjusted
Behavior Intention	0.61	0.603
Use Behavior	0.089	0.084

Source: primer data analysis, 2022

The Q^2 value larger than zero means that the preliminary theoretical model is sufficiently predictive, whereas a Q^2 score less than zero implies that the theoretical model is insufficiently predictive (Sarstedt et al., 2017). These Q^2 values are obtained in Table 9. Blindfolding is calculated from Q^2. Construct Cross-validated redundancy. Determining the structural model's prediction accuracy for a certain endogenous component, Q^2 values for that construct should

be greater than zero. Q^2 values greater than 0, 0.25, and 0.50 respectively the PLS-path model's small, medium, and large predictive relevance (Hair et al., 2019).

Table 9.

Q^2 Value of Validated Model Intention and Behaviour Technical guidance online (with significant path only)

Constructs	SSO	SSE	Q^2
Attitude	1260.000	1260.000	
Control Behavior	540.000	540.000	
Perceived Usefulness	540.000	540.000	
Behavior Intention	540.000	249.631	0.538
Use Behavior	180.000	166.184	0.077

Source: primer data analysis, 2022

The value of Q^2 has a range of $0 < Q^2 < 1$, where the closer to 1 means the better the model. This research found that consequently BI and UB have Q^2 values of 0.538 and 0.077, calculated in Table 6. That means the predictive relevance category is large and small. Moreover, these revealed Q2 value and R2 value imply that the theoretical model has strong predictive relevance and significant explanatory power. The amount of Q^2 is equivalent to the coefficient of total determination in path analysis.

The importance of the path's strength is used to analyze t-values to know the value of the relation. The techniques are the same as the t-statistic test before. Table 10 calculates the t-value Validated Model Intention and Behaviour Technical guidance online.

Table 10.

T-value Validated Model Intention and Behaviour Technical guidance online

Construct	Original Sample or β	Sample Mean	Standard Deviation	T Statistics	P Values	Decision
ATT-> BI	0.228	0.223	0.072	3.178	0.001	Supported
CB -> BI	0.310	0.314	0.079	3.917	0.000	Supported
PU -> BI	0.346	0.348	0.071	4.875	0.000	Supported
BI -> UB	0.299	0.300	0.066	4.540	0.000	Supported

Source: primer data analysis, 2022

DISCUSSION

All research hypotheses were tested using PLS-SEM by assessing the outer and inner models. There are four hypotheses that are significant and three hypotheses that are insignificant (see Table 7). Only validated hypotheses are discussed in this section, consisting of Attitude towards Behavior Intention (H1), Control Behavior towards Behavior Intention (H3), Perceived Usefulness towards Behavior Intention (H5), and Behavior Intention towards Use Behavior (H7).

Attitude towards Behavior Intention (H1)

Attitude is an aspect of cognition (thinking or knowledge), affection (feeling), and predisposition to action (conation) of extension staff towards Technical guidance online Ministry of Agriculture. The results show a p-value < α (0.001 < 0.05), which means that attitude positively affects behavioural intention. The β value is 0.228, which means were attitude rose by one-unit, behavioural intention can increase by 22.8%. This effect is positive.

In structural modelling terminology, attitude is a latent variable, where manifest variables (indicators) include cognitive, affective, and conative, as well as verbal and nonverbal reactions. The three-component hierarchical attitude model is shown schematically in the following matrix (Table 11).

Table 11.

Responses categories of attitudes

Response Categories			
Mode Response	**Cognition**	**Affection**	**Conation**
Verbal	Expressions of beliefs	Expressions of feelings	Expressions of intentions
Nonverbal	Perceptual reactions	Physiological reactions	Motoric responses

Source: Adapted from the theory of attitudes and attitude-behaviour relationships (Ajzen Icek, 1993).

Table 11 depicts the many sorts of answer categories used in attitude analysis. Perceptions of attitude and object information are contained in cognitive categories. Attitude cognitive indicators include vocal displays of beliefs as well as nonverbal perceptual reactions. Affective responses include spoken displays of feelings toward the attitude object, as well as physical responses, facial expressions, and nonverbal markers of positive or negative emotions. Conative reactions include behavioral inclinations, plans, intentions, commitments, and different overt motor activities that include the attitude object.

This research explored the extension staff's cognitive, including the purpose of Technical guidance online and the conviction that Technical guidance online will increase the effectiveness and efficiency of job performance. Technical guidance online provides applicable innovations under field conditions. Moreover, the affective indicator inquired in this research is the feeling of happiness to join Technical guidance online rather than offline/on-site technical guidance because it is more time and cost-efficient. Even though it requires an internet fee (data plan) to access Technical guidance online, the extension workers feel happy because the speakers are

competent in their innovation fields. The significant indicator that measures the conative is the action plan to prioritize their time to join Technical guidance online.

The Role of Control Behavior on Behavior Intention (H3)

Control Behavior in this study is a control belief that includes the perception of extension workers regarding the skills needed to successfully carry out activities (participating in Technical guidance online) as measured by two indicators: control beliefs and perceived power. The results show a p-value < α (0.000 < 0.05), which means that Control Behavior positively affects the Behavioural Intention of Technical guidance online. The β value is 0.310, if Control Behavior increased one-unit, Behavioural Intention can increase by 31%. This effect is positive. According to Jogiyanto (2007) perceived behavioral control is the perceived ease or challenge of completing an action. The perceived ease reflects prior experience, expected problems, and difficulties that a someone has surmount obstacles to engaging in a certain behaviour, such as financial, time, and skill restrictions (Ajzen, 1991; Deng et al., 2016).

In accordance with the TRA concept developed by Ajzen (1993) into the Theory of Planned Behavior (TPB) that determines intention, not only attitudes towards behavior and subjective norms, but also aspects of perceived behavioral control. Agricultural extension staffs have a cognitive representation in the form of readiness to participate in Technical guidance online. They are influenced by the belief that extension staff can have the strength to strive for facilities and infrastructure that can support the accessibility of digital guidance. Efforts to provide laptops, android phones, laptops, and internet networks are attempted by extension staff to maximize activities to participate. The power felt by extension workers forms the intention of extension workers to continue using digital guidance in obtaining agricultural technology information, obtaining extension materials, and obtaining information on agricultural policies and the latest agricultural development programs.

Based on another agriculture research, Jin et al. (2022), self-efficacy and resource convenience have the greatest effect on farmers perceived behavioral control. The degree that people feel their mastery of new technology is expressed in their self-confidence and personal convenience of somatosensory capability of new technologies (Bandura, 1982). The more materials farmers have and the fewer hurdles they anticipate, the greater their perceptual and behavioral control regarding technology adoption and more potent their behavioral intention. (H. Wang et al., 2019).

Perceived Usefulness Significantly Effects on Behavior Intention (H5)

Perceived usefulness is a person's view that using certain technology or innovation (following online technical guidance) will help improve their job performance. Perceived usefulness was discovered as a perception that was directly impacted by perceived ease of use, suggesting that if users thought the system was easy to use, they would believe ICT was beneficial and would be willing to employ the technology (Purnomo & Kusnandar, 2019). The results of this study show a p-value < α (0.000 < 0.05), which means that perceived usefulness has a positive

significant effect on the behavior intention of Technical guidance online. The β value is 0.346, were Perceived usefulness increased in one-unit, Behavioural Intention can increase by 34.6%. Extension staffs believe that online technical guidance can increase the knowledge of agricultural extension staffs and can be used to prepare advisory materials. Technical guidance online materials can be accessed again via Google Drive and YouTube. This makes the performance of extension workers easy in carrying out their extension activities. The perception of extension staffs about Technical guidance online that can enhance their performance as extension workers affects the behavioral intention of extension workers to continue using Technical guidance online in obtaining agricultural technology information, extension materials, and information on agricultural policies and the latest agricultural development programs, especially after the Covid-19 Pandemic.

The intention of agricultural extension staffs towards digital guidance also needs to be reviewed from the perspective of the Technology Acceptance Model (TAM), a development of the TRA and TPB theories. Technical guidance online can be seen from the perspective of Perceived Usefulness and Perceived Ease of Use. TAM can analyze why Technical guidance online or technology systems are implemented because it includes psychological factors in behavior. The TAM model has been tested and compared with TRA and TPB, concluding that there is consistency that TAM is quite good (Jogiyanto, 2007). The construct of perceived usefulness with indicators works more quickly (work becomes faster), benefits (useful), increases productivity, enhances effectiveness, and improves job performance. Moreover, Perceived Ease of Use with indicators of easy to learn, controllable, clear and understandable, flexible, easy to become skillful, and easy to use (Davis, 1989).

Personal variables such as experience and computer anxiety influenced users' beliefs about the perceived usefulness of ICT (Hadi Purnomo & Lee ii, 2010). TAM pointed out the relevance of PU above PEOU as the main factor of intentional usage in the acceptance model's process, PU was projected to be impacted by PEOU due to the simpler a technology was to utilise, the more advantageous it could be if every other factor was similar (Venkatesh, 2000). Purnomo and Kusnandar's (2019) research shows that perceived usefulness influences the intention to utilize ICT. According to prior TAM research, perceived usefulness is a major factor of technology adoption. (Lee et al., 2014; Ong & Lai, 2006; Park et al., 2009; Venkatesh & Davis, 2000). Perceived usefulness is "the degree of which a person believes that using a particular system would enhance his or her job performance" and Perceived Ease of Use is "the degree of which a person believes that using a particular system would be free of effort" (Davis, 1987). The attitudes of a user toward use a system are determined by PU, which in turn determines behavioural intents and leads to actual system use (Folorunso & Ogunseye, 2008).

Behavior Intention and Use Behavior (H7)

The intention is a cognitive representation of a person's readiness to perform a certain behavior or action, and this intention can be used as a strong predictor of behavior. The Theory of Planned Behavior (TPB) suggests that behavioral intentions will influence a person's behavior. The TPB

contains a number of characteristics that help to understand people's behavioral motives and intentions, and it has been frequently employed in studies in social science (H. Wang et al., 2019). The results of this research show a p-value < α (0.00 < 0.05), which means that behavior intention significantly affects the use behavior of Technical guidance online. The β value is 0.299, that means were Behaviour Intention increased by one unit, Use Behavior can increase by 29.9%.

Behavioural Intention will determine whether agricultural extension workers will take action to participate Technical guidance online as measured by the intensity. The intention of agricultural extension staff in the form of their readiness to continue using Technical guidance online to obtain information on agricultural technology, extension materials, policy information, and the latest agricultural development programs affects the behavior of agricultural extensionist in the form of length and focus in following Technical guidance online. Interesting Technical guidance online material will affect how long and focused agricultural extension workers participated.

The Theory of Planned Behavior (TPB) is a socio-psychological model that explains human behavioral intentions and analyzes how certain intentions transform into specific behaviors (Tama et al., 2021). TPB's founder, Ajzen (Ajzen, 1991, 2015), defines intention as the immediate act or determinant of a someone's behavior. TPB is a popular socio-psychological model for analyzing factors that influence farmers' intentions toward their actions, according to various studies (Deng et al., 2016; Despotović et al., 2019; Judge et al., 2019; Liao et al., 2018; Y. Wang et al., 2018). In line with use behaviour in agriculture, Jin et al. (2022) described that Tanzanian farmers' willingness to adopt new agricultural technology reflects their technological awareness, social group influence, and control capacities.

CONCLUSION

This research has explored the related constructs that significantly affect Behavior Intention. Based on path analysis PLS-SEM, these constructs significantly affect Behavior Intention are Attitudes, Control Behavior, and Perceived Usefulness. The extension development must be considered another aspect of personality extension staffs and system information infrastructure. The Behavior Intention significantly affects the Usage Behavior. Thus, the Technical guidance online organizer could encourage the behavior intention for the successful online guidance impact. The findings of this study explored the significant validated model of Behavior Intention and Use Behavior of Technical guidance online accessed by agriculture extension staff in the Special Region of Yogyakarta. The significant constructs that affect Behaviour Intention are Attitude, Control Behavior, and Perceived Usefulness. The insignificant constructs are Subjective Norm, Motivation, and Perceived Ease to Use. In addition, Behavior Intention significantly affected the Use Behavior. The practical implication could be preliminary research in the Digitalisation Extension System development agenda in the Ministry of Agriculture, especially in the Post-Covid-19 era.

Practical Implications

The participation of extension staff in Technical guidance online is a personal choice. This personal choice depends on intention and behavior. The data and information are important to know as input in managing agricultural extension human resources in SRY related to strategies to enhance the capability of agricultural extension post-Covid-19 pandemic in supporting the competence and performance of extension staff in supporting sustainable agricultural development in SRY.

Based on the results of the research, some points to consider compiling practical implications are:

- Increased positive Attitudes to use Technical guidance online can be encouraged by raising awareness of cognitive, affective, and conative aspects. There are varied strategies to obtain a positive attitude, such as human resources attitude and capacity building to adapt the digital transformation of the extension system.

- Aspects of perceived behavioral control can be improved through cognitive representations in the form of facilities and infrastructure that can support the accessibility of participating in Technical guidance online. Supporting facilities for internet access and adequate equipment must be provided in areas far from the Regency center and with stable and fast internet. The availability of facilities can increase positive perceptions of accessing Technical guidance online.

- Perceived Usefulness beneficial of Technical guidance online is a behavior intention that supports the continuation of participating in Technical guidance online. Extension staff feel the benefits of increasing knowledge, using Technical guidance online materials to prepare advisory materials, and improving their job performance. SRY extension workers represent the behavior of using online repositories through Google Drive and YouTube in re-accessing extension materials.

- Increased behavioral intention will accomplish the usage behavior Technical guidance online. Optimization of the relevant behavior intention element according to significant constructs consisting of attitude, control behavior, perceived usefulness, and related constructs consisting of Subjective Norm, Motivation, and Perceived Ease to Use are the keys to continuously increasing usage behavior.

Synthesizing based on research, data analysis, and the literature review related to Technical guidance online and post-Covid-19 agricultural development in SRY. It have three practical implications in effectiveness of online Ministry of Agriculture Technical guidance in Indonesia. The practical implication of the research can be refer to the policy resources in the Agriculture Extension Digitalization Agenda as initial research, notably the Web 2.0 generation and Web 3.0 in particular.

The limited internet access facilities can be mitigated by personalizing the topics and materials of the Technical guidance online, so extension staff can efficiently search for information. In the field of business communication, based on Parravano et al. research (2019),

the significance of providing personalized content is determined by the importance of producing a highly relevant approach to specific target audience members. The benefits of digital technology and its inclusion into the "Internet of Things" system are utilized. The "Internet of Things" technology, which enables customer communication, is a contemporary digitalization approach with considerable potential to support the successful development of enterprises and benefits.

Personalization of Technical guidance online users needs to be implemented to support the Internet of Behaviours (IoB). The gathering and interpreting of data based on user habits and interests is known as IoB. IoB connects the digital environment to human behaviour, traits objectives, and communications, and it enables an adequate adjustment or exchange between the quality of experience (QoE) and the quality of service (QoS). IoB expansion operations may have ramifications for developing knowledge as a service software (De Kerckhove & Saracco, 2021) in agricultural advisory.

The behavior of using the online repository can be optimized by providing Bank Data using a knowledge management system (KMS). The Bank Data is a collection of recordings and materials (presentation materials) of Technical guidance online that agricultural extension workers can access at any time. The organization of the Bank Data must be categorized based on agricultural commodities, agricultural topics (cultivation, post-harvest, sales, management, and branding), and the location of agricultural innovations. Knowledge Management can efficiently use Technical guidance online organizers to share knowledge about agricultural process problems at each extension staff location and share experiences about things outside of work that benefit the knowledge development of Technical guidance online users. Based on its definition, Knowledge Management is a process that helps organizations identify, select, organize, disseminate, and transfer important information and experiences that are part of the organization (Mathew, 2010).

Limitations of the Study

Despite everything, this study has some shortcomings that might be addressed in subsequent studies. First, gender differences were not obtained in this data and analysis. This research is not concerned with gender perception in behavior social science analysis. Second, the insignificant hypotheses, which consist of Subjective Norm towards Behavior Intention (H2), Motivation towards Behavior Intention (H4), and Perceived Ease to Use towards Behavior Intention (H6), are not discussed and revealed in this paper. There are unsupported constructs based on PLS-SEM analysis that must be revealed deeper by qualitative research studies.

Conflict of Interest

The authors declare no conflict of interest

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