

Understanding Participation in Value Co-Creation and Acceptance of iPosyandu by Extending UTAUT among Community Health Workers

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Abstract—Digitalization is inevitable, including in the health sector. The iPosyandu, a mobile digital platform, is introduced to help the report of Community Health Workers (CHWs) and monitor the Pos Pelayanan Terpadu (Posyandu - Integrated Healthcare Center) data online. Unfortunately, CHWs still report data manually using paper, which takes a long time to store because some are still reluctant to change to digital services. Therefore, it is necessary to study CHWs' intention to create new values and accept technology to sustain the application. The research aims to determine the factor influencing the intention to participate in value co-creation and use iPosyandu by extending the Unified Theory of Acceptance and Use of Technology (UTAUT) among CHW. A Partial Least Square-Structural Equation Modelling (PLS-SEM) is conducted with a cross-sectional survey involving 222 CHWs in Purwakarta, Indonesia. The research finds that effort expectancy and perceived policy support significantly affect the intention to participate in value co-creation and usage of iPosyandu. The findings highlight that the critical role of intention to participate in value co-creation significantly affects the intention to use iPosyandu. The findings also suggest that policymakers and application developers should increase the use of iPosyandu by improving the effort systems, providing policy support, and facilitating CHWs to co-create the value of the application to encourage them to use iPosyandu.

Index Terms—Value Co-Creation, Acceptance, Unified Theory of Acceptance and Use of Technology (UTAUT), Community Health Worker (CHW)

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I. INTRODUCTION

P RIMARY Health Center (PHC) is essential health care based on practice that supports first-contact, accessible, comprehensive, continuous, and coordinated person-focused care [1]. PHC has played a fundamental role in advancing the population's well-being outcomes and guaranteeing effective health benefit conveyance in realizing Universal Health Coverage (UHC) and Sustainable Development Goals (SDGs), especially in the third indicator [2]. Based on the Ministry of Health of the Republic of Indonesia, PHC, known as Puskesmas, is a health service facility that prioritizes preventive and promotive efforts to achieve a high degree of public health and provides public and individual health services [3].

Community Health Workers (CHWs) mediate between communities and the health worker in PHC facilities to deliver health services. In Indonesia, CHW provides community health services for Maternal and Child Health Services (MCHS) through Pos Pelayanan Terpadu (Posyandu - Integrated Healthcare Center). These activities are carried out and recorded in the Posyandu Information System (PIS), a registration form, and a national report by the Ministry of Health [4]. Unfortunately, the data record remains paper-based, so storing it takes a long time. Hence, it delays policymaking and implementation, particularly in mortality and stunting, making it difficult to reach the standards of the World Health Organization (WHO) [5].

Both the national government [6] and WHO [7]

encourage the adoption of the mobile health (mHealth) application to improve community service quality and accelerate data reporting instead of the conventional way. For this reason, iPosyandu was introduced in 2017 as the mHealth application to improve CHW work. Previous research is conducted in the Pasawahan district in Indonesia to report data online using iPosyandu by CHW. The results show that some CHWs are reluctant to change the service-based systems from paper-based to digital services [8]. One of the main barriers to adopting mHealth in Indonesia is no converged vision of the process design. Often, the pilot projects fail to "scale up" [9]. To achieve a converged vision of implementing the application, all parties must join and determine the merit brought by mHealth [10].

Value co-creation is a solution to accommodate this process by enhancing the meaning of mHealth to all stakeholders involved. Previous research suggests that co-creating a value can potentially sustainably impact society [11]. In other words, individuals' participation in sharing their internal model promotes a more inclusive and collaborative process, giving the mobile application a new collective value creation. The researchers consider it suitable for the Indonesian context, which culturally has a strong sense of participation in the community.

Earlier research also mentions that intention affects actual behavior participation [12]. It has captured people's motivation and influenced their willingness to try different levels of effort. Studies of behaviors show that intention to participate in the community [13] and co-creation [14] are related to the intention to use technology. However, no study specifically discusses the relationship between the intention to participate in value co-creation on the intention to use. On the other hand, it is critical to sustain the application as PHC work is carried out by CHW voluntarily. Thus, CHWs' participation to co-create the value of the application and their intention to use it deems to be reviewed.

The research focuses on a theoretical framework of technology acceptance. Notably, an extension of the Unified Theory of Acceptance and Use of Technology (UTAUT) [15] and value co-creation [16] is used to analyze the utilization of iPosyandu. Additionally, the research aims to determine the factor influencing the intention to participate in value co-creation and use iPosyandu by extending the UTAUT among CHW. The objectives lead to several research questions: (1) What are the factors that influence the intention to use the iPosyandu? (2) What are the factors that influence participation intentions in value co-creation? (3) Does the intention to participate in value co-creation relate to the intention to use iPosyandu? Moreover, several hypotheses are proposed and tested to answer the re-

search question accordingly. The research has obtained permission and approval from the education study program. It represents the institution, Badan Kesatuan Bangsa dan Politik (Kesbangpol), the Purwakarta District Health Office, and the Pasawahan Health Center.

II. LITERATURE REVIEW

A. *Community Health Worker (CHW) and iPosyandu*

CHW is formed as a mediator between the communities and the health worker in PHC facilities to deliver health services [17], with the role of promoting health education and coordinating service activities [18]. Moreover, Posyandu mainly deals with maternal and child health services provided by the activities of CHW [17]. These activities must be inputted and reported to health workers in PIS, namely a registration form and a national report by the Ministry of Health [4]. Unfortunately, finding previous records and adding the new mother and child information from the PIS book are done manually and paper-based. It delays policymaking and implementation. For instance, handling the problem of malnutrition is delayed because it takes a long time to collect a child's data manually [19]. Consequently, problem-solving, particularly to reach the WHO's standard of stunting, is challenging [20].

Therefore, iPosyandu was introduced by a developer (private companies) and health workers (midwives and nutritionists) in Purwakarta, Indonesia, in 2017. iPosyandu is a digital health platform that can help CHW to record Posyandu data. It aims to support CHWs in improving their performance in reporting, keeping records, as well as providing and monitoring the basic service of MCHS with iPosyandu.

Earlier qualitative research shows that using iPosyandu benefits health workers and the community [21]. However, some CHWs are reluctant to change the service-based systems from paper-based to digital services [7]. They still apply the manual method to record Posyandu data. Hence, the research fills the gap in technology acceptance among CHWs after the socialization and using iPosyandu.

B. *The Unified Theory of Acceptance and Use of Technology (UTAUT)*

Technology acceptance can be defined as users' readiness to utilize innovation for their tasks and design [22]. The research uses the UTAUT model to investigate technology acceptance factors in the context of iPosyandu. The UTAUT model empirically has the power to explain the highest intentions, 70% of variance [23], and is more relevant to describing iPosyandu adoption than others. UTAUT integrates elements from

eight models to identify antecedents of intention and use of information technology. These models include the Theory of Planned Behaviour (TPB), the Theory of Reasoned Action (TRA), the Innovation Diffusion Theory (IDT), the Technology Acceptance Model (TAM), TAM-TPB combined, the Motivational Model (MM), and Model of Personal Computer Utilization (MPCU), and Social Cognitive Theory [SCT] [24].

The UTAUT model has six main constructs. It consists of four independent variables (performance expectancy, effort expectancy, social influence, and facilitating conditions) and two dependent variables (behavioral intention and use of the system). The result of previous research finds a significant positive effect between independent and dependent variables [23, 25].

The researchers refer to defining the variables in the model using a previous study [26]. The degree to which an individual believes that using the system will help them improve their job performance define as performance expectancy. Effort expectancy is the degree of ease associated with using the system. Additionally, social influence is how individuals perceive others' beliefs as important if they use the new system. Another variable is facilitating conditions. It is the degree to which an individual believes that an organizational and technical infrastructure exists to support system use.

Previous studies have used the UTAUT model to measure technology adoption in the mHealth context and shown different results. For instance, the study on adopting mHealth in Bangladesh and China shows a significant relationship between performance expectancy, social influence, and facilitating conditions for behavioral intention [27]. Likewise, a study in Pakistan reveals that effort expectancy, social influence, and facilitating conditions have a significant relationship with behavioral intention [28]. In addition, a study in Taiwan reports significant positive results between the three indicators of the UTAUT variable, except effort expectancy [29]. In Jordan, only the facilitating conditions from the UTAUT model do not affect the adoption of the mHealth application [30].

The research also focuses on context behavior intention as the central concept of the model, represented by the intention to use iPosyandu. It is the degree to which an individual has cognizance of doing or using innovation or not for certain future behaviors. Despite using the same model, the results are varied depending on the context [31, 32]. With this in mind, the researchers use this theory to test technology acceptance among CHWs. The following are the hypotheses.

H1: Performance expectancy has a significant positive effect on the intention to use iPosyandu.

H2: Effort expectancy has a significant positive effect on the intention to use iPosyandu.

H3: Social influence has a significant positive effect on the intention to use iPosyandu.

H4: Facilitating conditions significantly positively affect the intention to use iPosyandu.

C. *Intention to Participate in Value Co-Creation*

Value co-creation is an interactive or active dialogue of an equal process of multiple actors based on collaboration between customers and providers to generate customer value [10]. In this context, interaction is the key point of value co-creation to increase user intention. In the research, intention to participate in value co-creation in a community is defined as users' participation and willingness to interact and share their preference to create a value caused by intrinsic or extrinsic motivation. In a holistic approach, the intention to co-creation is the first step before actual behavior [33]. The previous study validates the relationship between co-creation and intention adoption and finds a strong effect [34]. Another previous research also uses variables from UTAUT to test intentions, but only performance expectations and social influence are used to measure intentions in co-creation participation [35]. However, the previous studies have not specifically discussed the intention to participate in value co-creation and the intention to use. Thus, the research proposes the following hypothesis.

H5: Intention to participate in value co-creation has a significant positive effect on the intention to use iPosyandu.

Naturally, when developing a product, the company increasingly looks to external knowledge sources as a valuable experience from customer involvement [36]. The research assumes that user experience plays an important role in influencing the intention to participate in value co-creation. Experience in this context captures CHWs' involvement perception about application represented by the effort expectancy [37]. Therefore, the researchers have the following hypothesis to prove and test the effect between effort expectancy and intention to participate in value co-creation.

H2a: Effort expectancy has a significant positive effect on the intention to participate in value co-creation.

D. Perceived Policy Support

Policies and regulations can sometimes direct or constrain conduct [38]. Supporting policies, such as mandatory rewards, punishment, and education construction, are frequently used by the government to change people's behavior. Previous research finds that perceived policy support affects the use of mHealth [23]. Accordingly, it can be used to predict intention behavior to use iPosyandu.

In perceived policy support, the government provides policies to regulate the current Posyandu data entry [24] to achieve rational outcomes [39]. The utility level can be more stable if the government establishes policies regulating iPosyandu as a mHealth application among CHWs [38]. Therefore, the researchers formulate the following hypothesis.

H6: Perceived policy supports have a significant positive effect on the intention to use iPosyandu.

The policy gives people the same view of perceived value, significantly affecting the use of mHealth [40]. A supporting policy provided by the government can give iPosyandu a new value and strengthen co-creation intention. In other words, a new value makes CHW more interested when using the iPosyandu. Therefore, the authors propose the following hypothesis.

H6a: Perceived policy supports significantly positively affect the intention to participate in value co-creation.

E. Personal Trait

Personality, as habitual behavior patterns, emotion, and thought, is essential in predicting human behaviors and may influence people to act [41]. Using personal traits as a reference to determine user intention is reasonable. The previous study has proven that personality traits significantly affect the intention to use [41, 42]. Thus, the following hypothesis is formulated.

H7: Personal traits have a significant positive effect on the intention to use iPosyandu.

In addition, interaction and innovation are essential in co-creation. CHWs who are open to experience and skills toward new people or innovation naturally tend to co-create [36]. In the research, openness to experience and extraversion reflect personal traits. The researchers define openness to experience as the extent of discovery, flexibility, and creativity [42]. Meanwhile, extraversion is the extent to which a person

craves sociability, assertiveness, and interpersonal relationship [43]. Previous research shows that personal trait relates to the intention to participate in value co-creation [36]. Therefore, based on the literature, the researchers add personality traits, such as openness to experience and extraversion. Lastly, the researchers propose the following hypothesis.

H7a: Personal traits have a significant positive effect on the intention to participate in value co-creation.

III. RESEARCH METHOD

A. Measurements

The measurement items in Fig. 1 are developed using the research objectives, research framework, operational definitions, and relevant literature to establish operational definitions and measurement items for all the constructs, as seen in Table A1 in Appendix. A five Likert scale (strongly agree to disagree strongly) measures the variable studied. The measurements are revised several times following the validation from 15 CHWs, health workers, and academics as experts to ensure that the variable and questionnaire can be understood and suitable with existing situations to support the hypotheses. Then, researchers conduct a preliminary study on populations with the same characteristics to validate the measurement before the questionnaire is distributed.

The questionnaire is divided into several parts (A, B, and C). Respondents' consent is given in part A. In part B, the respondents are required to fill in their name, age, education level, income, address, and name of Posyandu. Part C includes 30 items regarding 8 constructs as higher-order in the proposed model.

B. Sample and Data Collection

The quantitative research design is applied in the research. The data are collected using an online survey by Google Forms. The process was conducted between April 6 to April 23, 2022, in 12 villages in Pasawahan district, Purwakarta Regency, West Java province, Indonesia. Although currently, iPosyandu has been used on a nationwide scale, the district is originally chosen as a pilot study in which iPosyandu is first introduced. The sample is chosen using a purposive strategy based on the criteria in previous research [44]. The sample criteria selected are active CHWs in the Pasawahan district who has used iPosyandu. A list of CHWs who meets the criteria as respondents is obtained from health workers who have used iPosyandu and are confirmed by the PHC. Out of 263 CHWs from 52 Posyandu, 230 CHWs meet the criteria to fill out the survey.

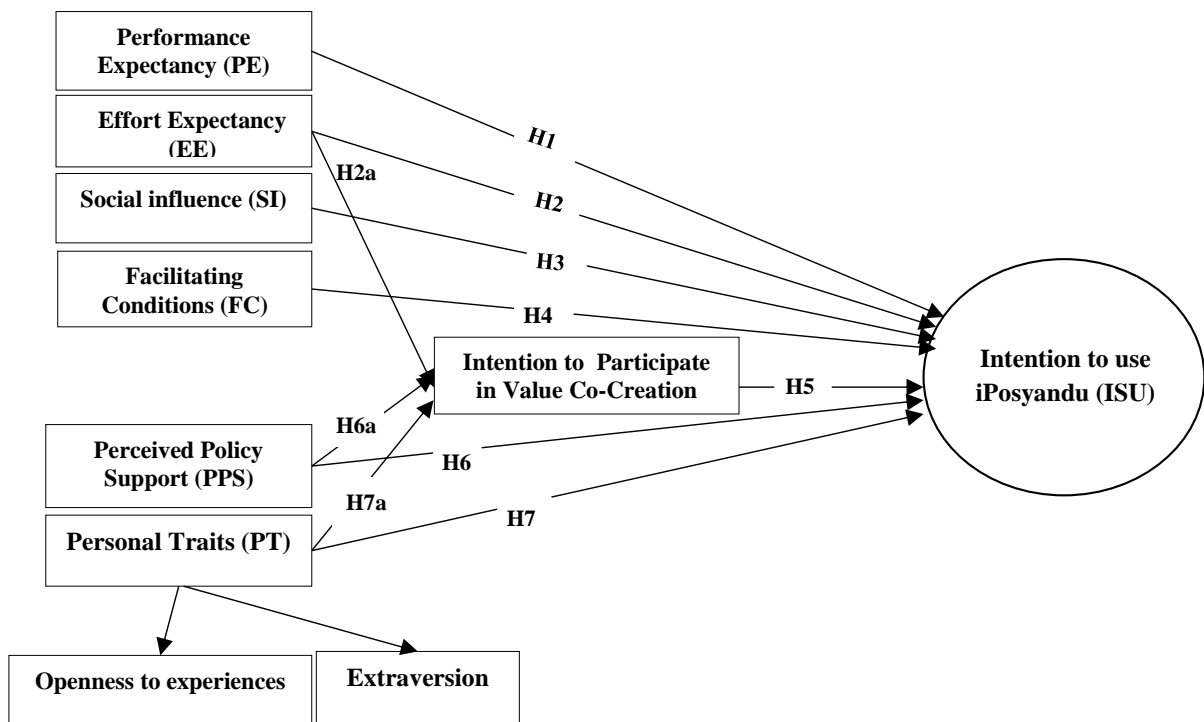


Fig. 1. Research model.

Variations in the opinions are found in the literature regarding the proper sample size for various statistical analyses. The literature assumes that a minimum sample size of 100 is suitable for statistical analysis using PLS-SEM [45]. Another assumption is that the minimal sample size estimation is ten times that of structural paths directed at a construct in the inner path model [46]. The assumption has 12 inner path models, making a minimum sample used of 120 samples. In the research, the questionnaire is entirely answered by 222 CHWs. Hence, the research meets both criteria to use PLS-SEM.

C. Data Analysis

The Partial Least Square-Structural Equation Modelling (PLS-SEM) is used to validate and measure the purpose model and relationships between the hypothesized constructs. PLS-SEM is recommended as an appropriate method to test the model with small sample size, and the normal distribution overcomes the potential limit [47].

Moreover, the researchers use SmartPLS 3.9.9 to examine the data. The researchers input the data into Microsoft Excel and import them into SmartPLS for statistical analysis. Then, the measurement model is evaluated by internal validity, reliability, and convergent and discriminant validity [32].

TABLE I
RESPONDENTS' PROFILES.

Variable	Interval	Frequency	%
Age	< 25	1	0.5
	26–30	13	5.9
	31–35	43	19.3
	36–40	36	16.2
	> 40	129	58.1
Education Level	Primary School	52	23.4
	Junior High School	84	37.8
	Senior High School	81	36.5
	Bachelor's Degree	5	2.3
Income (in Rp)	< 1,500,000.00	184	82.8
	1,500,000.00–5,000,000.00	25	11.3
	>5,000,000.00	13	5.9

IV. RESULTS AND DISCUSSION

A. Demographic Characteristics

Table I presents the demographic characteristics of the respondents. The survey results reveal that the majority of the respondents are over 40 years old, with 58.1%. Then, most of the respondent's education level is junior high school (37.8%). The average monthly income of CHW in their family with 82.9% is less than Rp1,500,000.00.

TABLE II
THE RESULTS OF THE MEASUREMENT MODEL.

Construct	Items	Loading	Variance Inflation Factor (VIF)	Average Variance Extracted (AVE)	Composite Reliability (CR)	Cronbach's Alpha
Performance Expectancy (PE)	PE1	0.887	2.875	0.794	0.939	0.913
	PE2	0.914	3.677			
	PE3	0.847	2.232			
	PE4	0.915	3.467			
Effort Expectancy (EE)	EE1	0.884	2.821	0.743	0.920	0.885
	EE2	0.820	2.157			
	EE3	0.858	2.254			
	EE4	0.884	2.643			
Social Influence (SI)	SI1	0.926	3.937	0.802	0.942	0.917
	SI2	0.927	3.917			
	SI3	0.895	3.081			
	SI4	0.833	2.138			
Facilitating Conditions (FC)	FC1	0.847	2.120	0.730	0.915	0.876
	FC2	0.901	2.761			
	FC3	0.823	2.001			
	FC4	0.844	2.205			
Intention to Use iPosyandu (ISU)	ISU1	0.937	2.224	0.871	0.931	0.852
	ISU2	0.930	2.224			
Perceived Policy Support (PPS)	PPS1	0.938	3.992	0.878	0.956	0.930
	PPS2	0.951	4.695			
	PPS3	0.921	3.227			
Extraversion (EX)	EX1	0.823	1.627	0.696	0.872	0.781
	EX2	0.904	2.084			
	EX3	0.771	1.559			
Openness to Experience (OTE)	OTE1	0.847	1.538	0.721	0.886	0.809
	OTE2	0.836	1.946			
	OTE3	0.864	2.159			
Intention to Participate in Value Co-Creation (IPV)	IPV1	0.922	2.030	0.739	0.894	0.820
	IPV2	0.911	2.844			
	IPV3	0.733	1.403			

B. Measurement Model

There are two main components in PLS-SEM analysis: measurement and structural models. The former, known as the outer model, deals with the research model's reliability and validity by analyzing the latent variables. The test is included in the measurement by examining the factor loading. The results can be seen in Table II. A detailed explanation of the items is in Table A1 in Appendix.

For the factor loading of each item, Cronbach's alpha and composite reliability are declared valid if the value is more than 0.700 [45]. The factor loading in the research is good, ranging from 0.733 to 0.938. The results of the questionnaire indicator test are also satisfactory, with an estimated Cronbach's alpha between 0.781 to 0.930 and a vulnerable composite reliability value of 0.872 to 0.942, greater than the minimum suggested level.

The Variance Inflation Factor (VIF) indicates multicollinearity if the value is less than 10 [48]. The VIF value in the research ranges from 1.403 to 4.695, indicating no multicollinearity. There is no relationship between each independent variable.

Next, the researchers measure each construct's square root of the Average Variance Extracted (AVE). The AVE value ranges from 0.696 to 0.878. It is above the minimum limit value of 0.500 [49]. The result can be seen in Table II.

Moreover, the researchers calculate the square root of AVE to assess discriminant validity, which is higher than the corresponding cross-loading matrix. The results are presented in Table III. It shows that the value of each construct is accepted in the discriminant validity.

C. Structural Model

Previous tests have shown that the measurement model is valid and reliable. The bootstrapping technique with a minimum of 500 subsamples determines the essential and relevant path coefficients. The strength of the explanatory structural model can be calculated by examining the R^2 of each dependent variable. The R^2 of each dependent variable indicates the strength of the explanatory structural model, with 0.75, 0.50, and 0.25 indicating significant, moderate, and weak levels of accuracy, respectively [49]. The

TABLE III
DISCRIMINANT VALIDITY RESULTS.

Construct	EE	EX	FC	IPV	ISU	OTE	PE	PPS	SI
EE	0.862								
EX	0.623	0.834							
FC	0.829	0.711	0.854						
IPV	0.655	0.683	0.673	0.860					
ISU	0.735	0.652	0.695	0.715	0.933				
OTE	0.577	0.750	0.652	0.768	0.619	0.849			
PE	0.810	0.668	0.826	0.617	0.670	0.592	0.891		
PPS	0.643	0.596	0.614	0.744	0.688	0.634	0.615	0.937	
SI	0.823	0.664	0.854	0.672	0.681	0.616	0.810	0.630	0.896

Note: Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Conditions (FC), Intention to Use iPosyandu (ISU), Perceived Policy Support (PPS), Extraversion (EX), Openness to Experience (OTE), and Intention to Participate in Value Co-Creation (IPV).

TABLE IV
STONE-GEISSER TEST AND COEFFICIENT OF DETERMINATION RESULTS.

Construct	R ²	Q ²
Intention to Use iPosyandu	0.664	0.697
Intention to Participate in Value Co-creation	0.708	0.623

value of R² in the research shows a significant variance in the model. The value is 0.664, meaning the variables can represent 66.4% of intention to use and 0.708, accounting for 70.8% of intention to participate in value co-creation (see Table IV).

The researchers also test Stone Geisser (Q²) as a predictive relevance predictor model, which only considers endogenous latent variables. The value of Q² is small at more than 0.02, moderate at 0.15, and significant at more than 0.35 on the prediction of the PLS path model [50]. Table IV shows the Q² value is 0.623 for intention to participate in value co-creation and 0.697 for intention to use iPosyandu. Thus, the results show a model with a large predictive value for the endogenous construct.

Next, Table V displays the results concerning the acceptance of the iPosyandu in CHW. Effort expectancy ($\beta=0.623$, $p=0.001$), perceived policy support ($\beta=0.192$, $p=0.007$), and intention to participate in value co-creation ($\beta=0.206$, $p=0.005$) significantly affect the intention to use. These results support H2, H5, and H6 about the significant positive effect of effort expectancy, perceived policy support, and intention to participate in value co-creation on intention to use iPosyandu. As seen, only one variable from UTAUT significantly affects the intention to use in a community context.

The interaction effects of performance expectancy ($\beta=0.034$, $p=0.657$), facilitating conditions ($\beta=0.054$, $p=0.628$), and personal traits ($\beta=0.123$, $p=0.142$) are insignificant to the intention to use iPosyandu. Thus,

TABLE V
HYPOTHESIS TEST RESULTS.

Hypotheses	Path	β	T-Statistic	Comment
H1	PE → ISU	0.034	0.365	Rejected
H2	EE → ISU	0.623	3.671***	Accepted
H2a	EE → IPV	0.132	2.166**	Accepted
H3	SI → ISU	-0.009	0.091	Rejected
H4	FC → ISU	0.054	0.497	Rejected
H5	IPV → ISU	0.206	2.644**	Accepted
H6	PPS → ISU	0.192	2.689**	Accepted
H6a	PPS → IPV	0.360	4.944***	Accepted
H7	PT → ISU	0.123	1.575	Rejected
H7a	PT → IPV	0.455	6.143***	Accepted

Note: Significant at **P < 0.05 and ***P < 0.01. Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Conditions (FC), Intention to Use iPosyandu (ISU), Perceived Policy Support (PPS), Extraversion (EX), Openness to experience (OTE), and Intention to Participate in Value Co-Creation (IPV).

H1, H4, and H7 are rejected. In addition, the relationship between social influence and intention to use iPosyandu is negative and insignificant ($\beta=-0.009$, $p=0.891$), so H3 is also rejected.

Next, effort expectancy ($\beta=0.132$, $p=0.017$), perceived policy support ($\beta=0.360$, $p=0.000$), and personal traits ($\beta=0.455$, $p=0.000$) have a significant effect on the intention to participate in value co-creation. Thus, H2a, H6a, and H7a are accepted. It implies that effort expectancy, perceived policy support, and personality traits increase the intention to participate in value co-creation.

The research employs the UTAUT model to identify factors influencing the intention to use iPosyandu in the Purwakarta district, Indonesia. The research reveals an unexpected finding that only effort expectancy from the UTAUT significantly affects the intention to use iPosyandu. The result aligns with a study regarding mHealth acceptance in South Africa [51]. Uniquely, most respondents are older people who grow up without technology. Therefore, effort expectancy is an important factor affecting CHW intention [52]. In other words, it is essential to realize that task indirectly

encourages users to look for alternatives to reduce their effort in completing them even though they are old [53]. Thus, the regression indicates that effort expectancy consistently predicts CHWs' intention to use applications [54].

The four hypotheses (H1, H3, H4, and H7) are supported by the relationships between performance expectancy, social influence, and facilitating condition to intention to use iPosyandu. In a prior study in the context of mHealth, the variables have a significant positive effect on the intention to use [55]. The acceptance technology study [25] involves mainly youth as the respondents with a graduate level of education. Meanwhile, in the research, the majority are older people with educational levels of high school and below. Hence, the fact that performance expectancy, social influence, and facilitating conditions are not supported can be due to different education and age.

Furthermore, behavioral motivation, opportunities and abilities, and the use of mHealth in CHW are related to existing policies [56]. This statement supports H6 and H6a that perceived policy support significantly positively affects the intention to participate in value co-creation and use iPosyandu. It shows that the policy has an important role. The utilization of iPosyandu is more difficult to increase than without a support policy because establishing regulations can force them to participate in creating new values. The researchers suggest that policymakers should proactively manage the intention to participate in value co-creation and use iPosyandu by setting a rule, organizing the group to share the utilized practice, and giving the reward-punishment to the CHWs in using iPosyandu. Overall, perceived policy support can direct the users' intention to use technology.

In the context of digitalization process in CHWs, personality traits influence people to evaluate and co-create a new value. A user who is open to experience will accept an innovation easier. Previous research supports this result that personal traits influence users' behavior to respond to innovation [57]. Nevertheless, personal traits do not affect the intention to use iPosyandu since people with different personalities have different intentions [58]. These findings are surprising since personal traits influence the intention to participate in value co-creation and use iPosyandu differently. A previous study supports this finding where openness to experience and being skillful help to accept and develop innovation. However, they have no impact on using the technology [59].

The final analysis also shows that the intention to participate in value co-creation directly affects the intention to use iPosyandu. The result answers the last research questions. Not surprisingly, the participation

of relevant stakeholders and CHWs in developing and sharing their internal model will increase their understanding of their needs and preferences for using iPosyandu. A new value created together will increase the CHWs' interest and stimulate a sense of belonging for iPosyandu [60, 61]. These results are supported by qualitative research in India on CHWs [62], reporting that without sharing and creating value [63], attempts to use technology and reduce individual confidence when using technology fail. In essence, it is important to facilitate users to co-create value in technology development.

V. CONCLUSION

Healthcare is an area affecting all ages, races, geographic boundaries, and cultures. This area is a concern of developed countries. The iPosyandu is one of the mHealth applications developed for CHWs to store data from paper-based to online. However, the adoption of iPosyandu is currently not well-accepted by most CHWs. Hence, the research aims to determine the factors influencing the intention of participation in value co-creation and usage of iPosyandu by extending the UTAUT among CHWs. The research examines the basic construct of the UTAUT model. It suggests a slight revision model, such as perceived policy support, personal traits, and intention to participate in value co-creation.

Following the empirical results, effort expectancy, policy support, and intention to participate in value co-creation significantly affect the intention to use iPosyandu. The performance expectancy, social influence, facilitating condition, and personal traits are not affected in this area. The research also finds that effort expectancy, policy support, and personal traits significantly influence the intention to participate in value co-creation. Then, the intention to participate in value co-creation has a significant positive effect on the intention to use iPosyandu.

The research contributes to the technology acceptance research on CHWs in developing countries like Indonesia. Concerning the theoretical view, the research shows the importance of instrumental paths of intention to use by CHWs. As stated previously, the technology acceptance analysis results differ in each study's context. In the context of mHealth in the community, effort expectancy, policy support, and intention to participate in value co-creation are the critical variables in controlling CHWs' intentions. In contrast, the previous study in Indonesia does not examine it.

The empirical results give information concerning the development of practical rules for the sustainable

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implementation of mHealth utilization in CHW. As a result, the research proposes several managerial recommendations. As a result, the research contributes to several managerial factors that can be recommended. The findings suggest that policymakers and application developers should increase the use of iPosyandu by improving the effort systems, providing policy support, and facilitating CHW to co-create the value of the application to encourage them to use iPosyandu.

The research has some limitations regarding how government policies should be implemented. In addition, the limitations on the number and characteristics of respondents also need to be considered. In this case, CHWs as respondents should pass the requirement which can use a mobile phone. Further research is needed with respondents in different areas. In addition, there is a need for research using a system approach to clarify the relationship between social influence, personal traits, and intention to participate in value co-creation and use.

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APPENDIX

The Appendix can be seen in the next page.

TABLE A1
SUMMARY OF THE CONSTRUCTS IN THE MEASUREMENT ITEM.

Construct	Measurement items	References
Performance Expectancy (PE)	[PE1] I find iPosyandu useful in my job to enter Posyandu data [PE2] Using iPosyandu enables me to accomplish my job of data entry more quickly [PE3] I would use iPosyandu for data entry anyplace [PE4] I would find I Posyandu for data entry useful	[23, 25, 31]
Effort Expectancy (EE)	[EE1] Learning to use iPosyandu for data entry is easy for me [EE2] Becoming skillful at using iPosyandu is easy for me [EE3] Interaction with iPosyandu for data entry is easy for me [EE4] I would find IoT iPosyandu for data entry easy to use	[23, 25, 31]
Social Influence (SI)	[SI1] People who are important to me think that I should use iPosyandu for data entry [SI2] People who are familiar with me think that I should use iPosyandu for data entry [SI3] People who influence my behavior think that I should use iPosyandu for data entry [SI4] Most CHWs surrounding me use iPosyandu for data entry	[23, 25, 31]
Facilitation Condition (FC)	[FC1] My living environment supports me in using iPosyandu for data entry [FC2] My working environment supports me to iPosyandu for data entry [FC3] Using iPosyandu for data entry is compatible with other systems I use [FC4] Help is available when I get problems using iPosyandu for data entry	[23, 25, 31]
Intention to Use iPosyandu (ISU)	[ISU1] I intend to use iPosyandu for data entry [ISU2] I plan to use iPosyandu for data entry	[23, 25, 31]
Perceived Policy Support (PPS)	[PPS1] If government encourages the development of Posyandu data entry, I would like to use iPosyandu [PPS2] If the government regulates the mechanism of Posyandu data entry, I would like to use iPosyandu [PPS3] If the government regulates CHWs' entry condition of Posyandu data entry, I would like to use iPosyandu	[39]
Extraversion (EX)	[EX1] I see myself as talkative [EX2] I see myself as full of energy [EX3] I am outgoing and sociable	[36, 41]
Openness to Experience (OTE)	[OTE1] I am open to new experiences [OTE2] I have many imaginations [OTE3] I am curious about many different things	[36, 41]
Intention to Participate in Value Co-creation (IPV)	[IPV1] I will try to participate in sharing my experiences and suggestions when other CHWs want my advice on Posyandu data entry using a mobile Health platform [IPV2] I intend to participate in iPosyandu socialization activities [IPV3] I plan to participate in iPosyandu evaluation activities initiated by the community, PHC, or developer	[10, 36, 37]

Note: Community Health Worker (CHW) and Primary Health Center (PHC).