

Analysis of Health Protocol Implementation Through UTAUT (Unified Theory of Acceptance and Use of Technology) Model in Trenggalek District

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Abstract

The COVID-19 pandemic has brought about significant behavioral changes driven by the implementation of health protocols known as the 5M movement, which includes wearing masks, washing hands, maintaining physical distance, limiting mobility, and avoiding crowds. The objective of this study is to evaluate the implementation of the 5M health protocols in Trenggalek and Bendungan districts, representing urban and rural areas, respectively. The Unified Theory of Acceptance and Use of Technology (UTAUT) model was applied and modified with the Clean and Healthy Living Behavior (PHBS) construct to examine public awareness and compliance with the 5M protocols. A survey involving 758 respondents from both districts was conducted during the pandemic to assess the factors influencing compliance. The study's findings highlight that social influence through counseling, advertisements, and posters plays a significant role in directly shaping behavioral intentions related to adherence to the 5M protocols. This study concludes that strengthening community engagement and social campaigns can enhance health resilience and pandemic preparedness by promoting sustainable healthy behaviors.

Keywords: COVID-19, Health Protocol, Trenggalek, UTAUT Model.

Abstrak

Pandemi COVID-19 telah membawa perubahan perilaku signifikan yang didorong oleh penerapan protokol kesehatan

yang dikenal sebagai gerakan 5M, yaitu memakai masker, mencuci tangan, menjaga jarak, membatasi mobilitas, dan menghindari kerumunan. Tujuan penelitian adalah mengevaluasi penerapan protokol kesehatan 5M di Kabupaten Trenggalek dan Bendungan, yang masing-masing mewakili wilayah perkotaan dan pedesaan. Model Unified Theory of Acceptance and Use of Technology (UTAUT) diaplikasikan dan dimodifikasi dengan konstruk Perilaku Hidup Bersih dan Sehat (PHBS), penelitian ini mengkaji kesadaran dan kepatuhan masyarakat terhadap protokol 5M. Survei yang melibatkan 758 responden dari kedua kecamatan dilakukan selama pandemi untuk menilai faktor-faktor yang memengaruhi kepatuhan. Temuan penelitian menyoroti bahwa pengaruh sosial melalui konseling, iklan, dan poster memainkan peran penting secara langsung dalam membentuk niat perilaku yang terkait dengan kepatuhan protocol 5M.. Studi ini menyimpulkan bahwa penguatan keterlibatan masyarakat dan kampanye sosial dapat meningkatkan ketahanan kesehatan dan kesiapsiagaan pandemi dengan mendorong perilaku sehat berkelanjutan.

Keywords: COVID-19, Protokol Kesehatan, Trenggalek, UTAUT Model.

1. Introduction

Coronavirus disease 19 was first discovered in Wuhan City, then spread to all countries worldwide. COVID-19 is a highly transmissible and dangerous viral infection caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Ni'am, 2020)(KaviyarasiRenu et al., 2020). The World Health Organization (WHO) declared this incident a global pandemic and guided everyone to take precautions to minimize the spread of COVID-19, WHO emphasized that the implementation of health protocols was encouraged by washing hands regularly, maintaining distance, and using masks (Zhou et al., 2021).

The spread of COVID-19 has also occurred in Indonesia, including in the Trenggalek District (East Java Province). After the first COVID-19 patient was found in April 2020, the spread of COVID-19 was accelerated, and the government formed National Gugus COVID-19. Gugus COVID-19 was also developed in local government to educate residents to implement health protocols (Trenggalek, 2020a).

The number of COVID-19 sufferers is still growing. On December 19, 2020, the number of COVID-19 sufferers was 924 persons, of which 36 patients died. COVID-19 has spread to 14 sub-districts in the Trenggalek District (Trenggalek, 2020b). The percentage of the population infected with COVID-19 in Trenggalek District is 0.1% of the 750,251 existing population. The rate of patients who recovered was 84%, and the patients who died was 3.8% (Trenggalek, 2020b). Trenggalek sub-district is a sub-district with the highest number of patients with COVID-19, with 268 confirmed patients, 216 recovered patients, five patients who died, and 47 others still being treated. The population in Trenggalek sub-district is 67,076 people with 74 community units and 244 neighborhood units, where most of the population

works as civil servants and entrepreneurs. The number of grocery stores and food stalls throughout the Trenggalek District is 1,172; apart from that, the number of hotels, inns, and restaurants is 20 (Trenggalek, 2020b). The total number of travelers is 4,888 from within and outside the region for the last 14 days since January 12, 2020, in Trenggalek District. Another sub-district directly adjacent to the Trenggalek sub-district is the Bendungan sub-district. This sub-district is one of the areas in the Trenggalek District with a minor population of 27,715 people (Kominfo Trenggalek, 2020).

Most residents in the Bendungan sub-district work as farmers, with 4.632 hectares of food harvested in 2018. In addition to being farmers, most Bendungan District residents work as breeders. The livestock population in Bendungan sub-district owned by local breeders is 35,575 heads. In addition, the people in Bendungan sub-district also raise poultry, totaling 58,619 individuals (Trenggalek, 2020a). Based on the data, the community in the Bendungan sub-district has an activity center in the environment, and there are no migrants from outside the area. 1,677 people in Bendungan sub-district have been travelers for the last 14 days since January 12, 2021. COVID-19 sufferers in Bendungan sub-district as of January 2021 were 19 people, of which 16 were declared cured, and three others are still under treatment. The low number of residents who are travel agents and community activity centers that are only in the surrounding environment indicates low COVID-19 sufferers in the Bendungan sub-district. The urgency of this research lies in the need to assess the effectiveness and consistency of the 5M health protocols (wearing masks, washing hands, maintaining distance, limiting mobility, and avoiding crowds) in Trenggalek District, particularly in the Trenggalek and Bendungan sub-districts. While these protocols are essential for preventing the spread of COVID-19, the actual implementation and adherence at the local level may vary, directly impacting public health outcomes. Further analysis is needed to identify gaps or barriers in adherence, understand local behaviors, and assess how effectively these protocols are followed.

2. Method

2.1 UTAUT Model

UTAUT model was evolved by integrating elements from eight models (Akinnuwesi et al., 2022; Chopdar, 2022; Razi-ur-Rahim et al., 2024), among others Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), the Motivational Model (MM), Theory of Planned Behavior (TPB), Combined TAM dan TPB (C – TAM – TPB), Model of PC Utilization (MPCU), Innovation Diffusion Theory (IDT), dan Social Cognitive Theory (SCT) (Viswanath Venkatesh, 2003) (Akinnuwesi et al., 2022; Chopdar, 2022; Erjavec & Manfreda, 2022; Razi-ur-Rahim et al., 2024) The previous study added a new construct to the UTAUT model: knowledge about COVID-19. The UTAUT model has been developed to explain the use behavior or interest of the Wuhan City residents wearing masks at the beginning of the pandemic (Zhou et al., 2021).

The UTAUT model has six constructs. Constructs contained variable independent and variable dependent. Performance expectancy, effort expectancy, social influence, and facilitating condition are variable independent. Behavioral intention and use behavior are

variable dependents. Apart from that, there are also moderating variables consisting of gender, age, experience, and voluntariness (Viswanath Venkatesh, 2003).

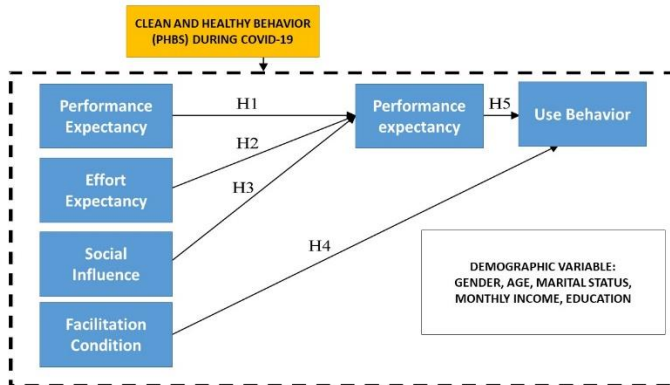


Figure 1. UTAUT Model

Independent are variables that affect or cause the emergence of a change or the dependent variable. According to research conducted by (Zhou et al., 2021), demographic variables can be used as control variables. The demographic variables were education, monthly income, marital status, age, and gender. The five demographic variables were used as reinforcing links between existing constructs such as age, gender, education, salary, and marital status. According to the model that was made, the researchers developed five hypotheses as listed in Table 1.

Table 1. Five Hypotheses in This Study

H1	Performance expectancy influences behavioral intention societies in Trenggalek and Bendungan sub-districts to 5M health protocol application.
H2	Effort Expectancy influences behavioral intention societies in Trenggalek and Bendungan sub-districts to 5M health protocol application.
H3	Social Influence influences behavioral intention societies in Trenggalek and Bendungan sub-districts to 5M health protocol application.
H4	Facilitating Conditions influences the use of behavior societies in Trenggalek and Bendungan sub-districts to 5M health protocol application
H5	Behavioral Intention influences the use of behavior societies in Trenggalek and Bendungan sub-districts to 5M health protocol application

2.2 Questionnaire Method

The questionnaire is divided into two sections. The first section, as socioeconomic information, contains five-choice questions about gender, age, education, monthly income based on a minimum regional salary, and marital status. The second section on six constructs and questionnaire data were drawn from previous studies and scored on a five-point Likert scale. The questions have been tested for validity, reliability, and the standardized factor loading of more than 0.5. The items in the questionnaire of each construct are listed in Table 2.

Table 2. Construction of Items in The Questionnaire

Constructs	Items in questionnaire
Performance Expectancy (PE)	Washing hands with soap and clean water can reduce the spread of COVID-19
	Maintaining at least a 1-meter distance from others can reduce the risk of contracting COVID-19
	Staying at home can reduce the spread of COVID-19
	Staying away from crowds can prevent the spread of COVID-19
Effort Expectancy (EE)	The person feels calm and protected when the person always hands wash before entering the office or public places
	When talking to other people, the person feels more comfortable if they are 1 – 1.5 m away
	The government provides warnings or penalties for people who create crowds
	The person feels apprehensive if the person has to attend events with many people
Social Influence (SI)	Socialization on how to wash hands properly in advertisements in print or on social media informs people how to prevent the spread of COVID-19
	The explanation that while traveling, we can be carriers of the virus makes the person reduce mobility
	The Regent's decision to impose PPKM (Enforcement of Restrictions on Community Activities) made me stay away from crowds as much as possible
	The socialization in advertisements in print and on social media helps the person always to wear a mask
Facilitating Conditions (FC)	The government requires that hand-washing facilities be provided in public places
	In all public places, social distancing has been enforced by dividing 1 – 1.5 m on seats or queuing places
	All communities are required to carry out rapid antigen and PCR tests when mobility outside the region or coming from outside the region
	The government helps the community by distributing masks throughout the village
Behavioral Intention (BI)	The enforcement to always keep a distance when in public places by the authorities makes the person commit to applying it consistently
	It is better only to travel when it is crucial and divert all activities and work from home to reduce the spread of COVID-19
Use Behavior (UB)	The person feels safer and calmer when the person wears a mask outside the house
	The person will continue to apply health protocols when going out because it can reduce the risk of contracting COVID-19

2.3 Data Collection

The primary data used were obtained from the results of respondents filling out online questionnaires. The questionnaires were distributed from February 29 – April 20, 2021, in the Trenggalek and Bendungan sub-district. The respondents are as follows: (1) Aged 17 years and over, (2) Live in the Trenggalek sub-district or Bendungan sub-district, (3) For immigrants, at least they have lived in the Trenggalek sub-district or Bendungan sub-district for 14 days to carry out quarantine.

The entire population of Trenggalek and Bendungan sub-districts is the population in this study. Trenggalek District residents were 67,076, and Bendungan District residents were 27,715

(Trenggalek, 2020b). Krecjie–Morgan formula (Krecjie & Morgan, 1970) was applied to find the number of samples used in this study as follows as:

$$n = \frac{X^2 \times N \times P(1-P)}{(N-1) \times d^2 + X^2 \times P(1-P)} \quad (1)$$

Formula information:

n = number of samples

N = number of populations

X^2 = 3,841 (Chi square value, $\alpha = 0,05$)

P = 0,5 (population proportion)

d = tolerance percentage (5% = 0,05)

2.4 Data Analysis

Validity and reliability tests, descriptive statistics, multicollinearity tests, one-way ANOVA tests, and Spearman Rank correlation were analyzed using SPSS26. Validity tests were carried out to guarantee data validity or minimize error, so the data collection instruments performed well. Reliability tests were used to determine the measurement consistency result. Descriptive statistical analysis was used to provide an overview of the object study (Sugiyono, 2006). Multicollinearity tests were conducted to assess the relationships among the independent variables. ANOVA tests were conducted to analyze the reliability of data into two sources of variation within groups and variations between groups. The Spearman Rank Correlation was conducted to investigate the associative hypothesis. The associative hypothesis is an assumption related to a relationship between variables in the population to be tested. The first step to prove it was calculating the correlation coefficient between the variables in the sample.

3. Result and Discussion

3.1 Validity and Reliability Tests

Validity tests were conducted by comparing the r-value with the r-table based on the sample size specified in this study. The sample number was 758. The r-table value with a significance of 5% was 0.070 (Sugiyono, 2006). As shown in Table 3, the reliability and validity of the research model are suitable. All Cronbach's alphas were greater than 0.7 (the minimum value is 0.729), which indicates that each construct has good scale reliability. According to (Sugiyono, 2006) reliable data is data that is consistent at certain time intervals. In addition, it means that reliability means that data can present the same results under similar conditions (Field, 2013).

Table 3. The Result of The Validity and Reliability Tests

Variable Constructs	Validity Tests			Reliability Tests		
	r	r _{table}	Result	Cronbach's Alpha	Correlation Coefficient	Result
PE1	0,490	> 0,070	Valid	0,736	≥ 0,6	Reliable
PE2	0,429	> 0,070	Valid	0,735	≥ 0,6	Reliable

Variable Constructs	Validity Tests			Reliability Tests		
	r	r _{table}	Result	Cronbach's Alpha	Correlation Coefficient	Result
PE3	0,566	> 0,070	Valid	0,731	≥ 0,6	Reliable
PE4	0,499	> 0,070	Valid	0,733	≥ 0,6	Reliable
EE1	0,479	> 0,070	Valid	0,734	≥ 0,6	Reliable
EE2	0,599	> 0,070	Valid	0,734	≥ 0,6	Reliable
EE3	0,533	> 0,070	Valid	0,730	≥ 0,6	Reliable
EE4	0,584	> 0,070	Valid	0,731	≥ 0,6	Reliable
SI1	0,546	> 0,070	Valid	0,730	≥ 0,6	Reliable
SI2	0,638	> 0,070	Valid	0,732	≥ 0,6	Reliable
SI3	0,608	> 0,070	Valid	0,732	≥ 0,6	Reliable
SI4	0,618	> 0,070	Valid	0,727	≥ 0,6	Reliable
FC1	0,559	> 0,070	Valid	0,729	≥ 0,6	Reliable
FC2	0,518	> 0,070	Valid	0,729	≥ 0,6	Reliable
FC3	0,568	> 0,070	Valid	0,729	≥ 0,6	Reliable
FC4	0,547	> 0,070	Valid	0,732	≥ 0,6	Reliable
BI1	0,659	> 0,070	Valid	0,732	≥ 0,6	Reliable
BI2	0,567	> 0,070	Valid	0,730	≥ 0,6	Reliable
UB1	0,513	> 0,070	Valid	0,732	≥ 0,6	Reliable
UB2	0,492	> 0,070	Valid	0,731	≥ 0,6	Reliable

3.2 Characteristics of Demographic

As shown in Table 3, the demographic characteristics of respondents are age, gender, education, monthly income based on minimum regional salary, and marital status. Most survey participants achieved 33.9% in the ages of 12-23 years old, and the minority completed 0.1% in the ages of 73-80 years old. In this study, a questionnaire was filled out by 17 years of age and above due to the respondents 17 years old having a residence identification card and a driving license at least 17 years old. Thus, the possibility of having outside activity and mobility is higher than for those under 17 years old. Most of the gender was obtained by female respondents (50.8) than male respondents (49.2%). The education level of respondents was mainstream senior high school (55.7%) followed by a bachelor's degree (26.9%). Regarding monthly income based on minimum regional salary, respondents stated under the regional minimum wage of Trenggalek District IDR 1,938,321 (71.4%). The respondents are married (60.4%) to their current marital status.

The one-way ANOVA results suggest that gender is a significant factor in the two constructions. Females had a higher average score than males on performance expectancy and social influence (4.41 vs 4.52, $p < 0.05$) (4.35 vs 4.44, $p < 0.05$), respectively. It implies that females are more affected in their circles and willing to implement health protocols than males. Elderly residents (66-72 years old) score lower than young people (24-30 years old) in two constructs: effort expectancy and social influence. It shows that young people are highly affected by social media. Young people have easier access to social media related to COVID-19 and health protocol than the elderly. Besides, the comfort level of young people occurs when they apply health protocols. Education is a significant factor in performance expectancy and effort expectancy. Graduates with education levels above senior high school are significantly influenced by their better understanding of COVID-19 and the importance of adhering to health

protocols, including wearing masks, washing hands, and maintaining physical distance. Monthly income above the minimum regional salary had a significantly affected higher score on performance expectancy and use behavior than under regional minimum wage (4.44 vs. 4.53, $p < 0.05$) (4.37 vs. 4.45, $p < 0.05$), respectively. In marital status, the unmarried subgroup scores higher in performance expectancy

3.3 Hypothesis Tests

Various approaches have been proposed to translate the correlation coefficient into descriptors like weak, moderate, or strong relationships. The Spearman rank correlation tests was carried out to determine the relationship between two variables and prove the relationship between the two variables with data in the form of intervals or ratios (Sugiyono, 2006). According to (Alan Bryman, 2004) the provisions for using Pearson's r , the variables studied must have gaps and linear relationships, commonly called normal distributions. In testing with Spearman's ρ , later, the value of the calculation using SPSS will be compared with the interpretation of the correlation coefficient of the de Veus version (David De Vaus, 2006). This study's independent variables include performance expectancy, effort expectancy, social influence, and facilitating conditions. At the same time, the dependent variable is behavioral intention. Based on this study, the error level used is 0.05. Thus, if the p -value < 0.05 , it can be concluded that there is a relationship between the independent and dependent variables.

Table 4. Hypothesis Tests

Hypothesis	Path	Correlation Coefficient	Value of Significance	Result
H1	BI \leftarrow PE ^a	0,441	0,000	Moderate relationship
H2	BI \leftarrow EE ^b	0,495	0,000	Moderate relationship
H3	BI ^f \leftarrow SI ^c	0,654	0,000	Strong relationship
H4	UB ^g \leftarrow FC ^d	0,403	0,000	Moderate relationship
H5	UB \leftarrow BI ^e	0,505	0,000	Strong relationship

Noted: a–g PE: Performance Expectancy; EE: Effort Expectancy; SI: Social Influence; FC: Facilitating Conditions; BI: Behavioral Intention; UB: Use behavior.

Performance Expectancy from applying health protocols to Behavioral Intention has a moderate relationship. The correlation coefficient value is positive, meaning the relationship between the two constructs is unidirectional. If performance expectations are further increased, public awareness will also increase so that the spread of COVID-19 can be prevented by implementing health protocols. Effort expectancy and behavioral intention to apply the health protocol, the strength of the relationship is moderate. The coefficient value is positive, where the relationship between these two constructions is unidirectional. Suppose people's expectations of continuing implementing health protocols in Trenggalek and Bendungan sub-districts decrease. In that case, the spread of COVID-19 will be faster, and more and more people will suffer from COVID-19 because people will begin to distrust the power of implementing health protocols to prevent the spread of COVID-19. The significance value is $0.000 < 0.05$, meaning a significant relationship between Effort Expectancy and Behavioral Intention. Facilitating Conditions and Use Behavior has a moderate relationship. The positive

coefficient value means that the direction of the relationship is unidirectional. The available facilities (Facilitating Conditions) have a moderate influence on Use Behavior to continue implementing health protocols to reduce the spread of COVID-19. The significance value is $0.000 < 0.05$, where the relationship between Facilitating Conditions and Behavioral Intention is significant.

Social Influence and Behavioral Intention have a solid and unidirectional relationship. Social influences such as counseling and socialization and advertisements to continue implementing health protocols influence strongly behavioral intention to continue implementing health protocols. All the promotions and outreach that have been done so far have proven effective. The significance value is $0.000 < 0.05$, indicating a significant relationship between social influence and behavioral intention. The relationship between behavioral intention and use behavior is vital. The higher the behavioral intention to implement health protocols, the higher the community's efforts to make it a habit that will continue to be completed in the future (use behavior). The significance value is $0.000 < 0.05$, which means that the relationship between behavioral intention and use behavior is significant.

3.4 Relationship Between Demographic Variables and Constructs

This study aims to investigate the factor that describes the awareness of citizens in the Trenggalek and Bendungan sub-districts to apply health protocol during with the pandemic Covid-19, especially in restrictions on community activities (PPKM). In this study, UTAUT improvement was used by designing a new construct with greater explanatory power than the original UTAUT. We enhanced the UTAUT theoretical framework by including "Clean and Healthy Behavior (PHBS) in Covid-19 " as a new concept application of health.

Table 6 depicts that gender affects performance expectancy; more women believed it (4.52 vs. 4.41, p -value < 0.05). Even though these women go to work, they will also have to take care of their children, so they are willing to make various efforts to keep their children safe and not leave their jobs. However, women who work, notably those with kids, reported significantly more stress from COVID-19 as childcare arrangements were disturbed by the pandemic (Zamarro & Prados, 2021) During the COVID-19 pandemic, the number of women leaving employment has dramatically risen (Purvis et al., 2022). Most of the respondents who agreed and believed that implementing this health protocol could reduce the spread of COVID-19 were women. It is owing to many women who must continue to work to enhance their families' well-being. Women are more likely to perceive the pandemic as a very serious health problem and to agree and comply with restraining measures (Powdthavee et al., 2021).

Education also influences individual confidence in applying the 5M health protocol because it can reduce the spread of COVID-19 [37]. Respondents with a bachelor's educational background have high confidence in using health protocols (5.54, p -value < 0.05). Based on the result, the lower the level of education is less aware. It can also occur because respondents with low levels of education are primarily labourers. The present study finds that education affects effort expectancy. According to the result, more respondents with a diploma education background thought applying health protocols was easy to implement (4.71, p -value < 0.05).

The higher the education level of the respondents, the higher their awareness of implementing health protocols. Respondent's age also affects effort expectancy. Table 5 shows that respondents from the age range of 45 – 51 years think that the application of this health protocol is easy to implement (4.45, p-value <0.05).

Knowledge about COVID-19 and the importance of implementing health protocols is not fully understood because most respondents are not digitally literate or illiterate. There is no access to information about efforts to reduce the spread of viruses that is widely available in print or digital media. In addition, the respondents who can fill out this online questionnaire are only those with internet access and high internet literacy. Social media can be a key tool for COVID-19 in addressing infodemics and spreading accurate information about health (Tsao et al., 2021).

Income affects the performance expectancy of respondents on the implementation of health protocols. The tests depicted that those with a salary equal to the regional minimum wage had a higher level of awareness than respondents whose income was below the regional minimum wage (4.53 > 4.44, p-value < 0.05). Marital status also influences performance expectancy. The number of respondents who are not married is 300, while the other 458 respondents are married (4.51 vs. 4.44, p-value <0.05).

Based on Table 6, women were more affected by social influence than men (4.41 vs. 4.35, p-value <0.05). The respondents, mostly women, felt that when they met their friends who had implemented this newly introduced system or health protocol, they were more willing to implement it when they were older and had more experience. For example, young mothers get a lot of lessons or influences after hearing stories from their friends who are more experienced in raising their children and keep working. Based on research conducted by (Badan Pusat Statistik, 2020), 73.77% of female respondents feel worried when outside the house and tend to continue to wear masks when traveling. In this study, 88.5% of women consistently reported wearing masks when leaving their homes, reflecting a high level of adherence to health protocols. Furthermore, 65.03% of respondents expressed significant concern upon receiving COVID-19-related news through media, which served as a key motivator for adopting preventive measures, including the routine use of masks in public settings. The residents' favorable attitude on wearing masks encourages their behavioral intention to provide it (Zhang et al., 2021). However, As the key reason for people's decision to use face masks during the pandemic, social identity has an impact (Powdthavee et al., 2021).

According to the tests results in Table 6, p-value less than 0.05 is unavailable, so it can be concluded that demographic variables do not influence facilitating conditions. In a study conducted by (Viswanath Venkatesh, 2003), facilitating conditions will be affected by a person's usage or behavior only if the person has much experience and is an expert worker. This is supported by a previous study (Badan Pusat Statistik, 2020), which found that 64.42% of respondents often or always prefer to use hand sanitizers than washing their hands in public places. The demographic variables also did not affect behavioral intention.

Existing facilities have no impact on public awareness of implementing health protocols. The study reveals that people demonstrate a strong awareness of the pandemic and the critical

importance of adopting clean and healthy living behaviors. Their commitment to implementing health protocols persists, even in the face of inadequate or substandard facilities. (Nashwan et al., 2022). Respondents who understand the importance of implementing PHBS educate their families to wash their hands regularly in public places because they know that hand washing is more effective for cleaning hands. The implementation of PHBS also needs to be carried out in various lines, ranging from individuals, families, and communities, and the government must continue to implement it regardless of the presence or absence of facilities in the area to support the implementation of PHBS during the pandemic. In Table 6 above, the p-value of behavioral intention is greater than 0.05, so there is no influence on behavioral intention. According to (Coroiu et al., 2021)(Zvolensky et al., 2022), attitude can influence behavioral intention. Attitude is a response that arises from seeing something or feeling it. This attitude will appear consistently because of a psychological urge to judge likes or dislikes.

Based on the results, salary, and age affect use behavior. Income influences a person's desire to continue implementing health protocols in the future. According to the results, it is shown that respondents with income equal to the minimum regional salary will continue to apply health protocols in the future ($4.45 > 4.34$, p-value < 0.05).

3.5 Hypothesis Tests

Various approaches have been proposed to translate the correlation coefficient into descriptors like "weak," "moderate," or "strong" relationships. The Spearman Rank correlation tests was carried out to determine the relationship between two variables and prove the relationship between the two variables with data in the form of intervals or ratios (Sugiyono, 2006). According to (Alan Bryman, 2004) the provisions for using Pearson's r, the variables studied must have intervals and linear relationships, commonly called normal distributions. In testing with Spearman's rho later, the value of the calculation using SPSS will be compared with the interpretation of the correlation coefficient of the de Veus version (David De Vaus, 2006). This study's independent variables include performance expectancy, effort expectancy, social influence, and facilitating conditions.

Table 5. Hypothesis Tests

Hypothesis	Path	Correlation Coefficient	Value of Significance	Result
H1	BI \leftarrow PE ^a	0,441	0,000	Moderate relationship
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Noted: a–g PE: Performance Expectancy; EE: Effort Expectancy; SI: Social Influence; FC: Facilitating Conditions; BI: Behavioral Intention; UB: Use behavior.

Our study supports that behavioral intention is significantly associated with sosial influence and use behavior of PHBS in pandemic Covid-19. Performance Expectancy from applying health protocols to Behavioral Intention has a moderate relationship. The value of the correlation coefficient is positive. It means that the relationship between the two constructs is

unidirectional. If performance expectations are further increased, public awareness will also increase so that the COVID-19 spreads can be prevented by implementing health protocols.

Effort Expectancy and Behavioral Intention to apply the health protocol, the strength of the relationship is moderate or moderate. The coefficient value is positive, where the relationship between these two constructs is unidirectional. Suppose people's expectations of continuing implementing health protocols in Trenggalek and Bendungan sub-districts decrease. In that case, the spread of COVID-19 will be faster, and more and more people will suffer from COVID-19 because people will begin to distrust the power of implementing health protocols to prevent the spread of COVID-19. The significance value is $0.000 < 0.05$, meaning a significant relationship between Effort Expectancy and Behavioral Intention. Facilitating Conditions and Use Behavior has a moderate relationship. The positive coefficient value means that the direction of the relationship is unidirectional. The available facilities (Facilitating Conditions) have a moderate influence on Use Behavior to continue implementing health protocols to reduce the spread of COVID-19. The significance value is $0.000 < 0.05$, where the relationship between Facilitating Conditions and Behavioral Intention is significant.

Social Influence and Behavioral Intention have a strong relationship. Social influence such as counseling, socialization, and advertisements to continue implementing health protocols affect behavioral intention to continue implementing health protocols. All the promotions and outreach performed so far have proven effective. The significance value is 0.000 , which is smaller than 0.05 , which means a significant relationship between Social Influence and Behavioral Intention. The relationship between Behavioral Intention and Use Behavior is strong. The higher the Behavioral Intention to implement health protocols, the higher the community's efforts to make it a habit that will continue to be completed in the future (Use Behavior). The significance value is $0.000 < 0.05$, so the relationship between Behavioral Intention and Use Behavior is significant.

Table 6. Demographics of Sample and One-Way Anova

Characteristic	n	%	PE ^a		EE ^b		SI ^c		FC ^d		BI ^e		UB ^f	
			Mean	P	Mean	P	Mean	P	Mean	P	Mean	P	Mean	P
Gender				0,001		0,177		0,010		0,239		0,28		0,118
Male	373	49,2	4,41		4,37		4,35		4,38		4,29		4,34	
Female	385	50,8	4,52		4,41		4,44		4,43		4,39		4,41	
Education				0,000		0,004		0,66		0,212		0,213		0,43
Primary school	8	1,1	4,22		4,09		4,06		4,41		4,13		4,31	
Junior high school	101	13,3	4,31		4,28		4,31		4,32		4,29		4,24	
Senior high school	422	55,7	4,46		4,39		4,39		4,42		4,32		4,37	
Diploma	13	1,7	4,73		4,71		4,62		4,65		4,62		4,58	
Bachelor degree	204	26,9	5,54		4,43		4,44		4,40		4,40		4,43	
Master degree	10	1,3	4,43		4,55		4,45		4,50		4,50		4,60	
Monthly income based on UMR				0,006		0,31		0,62		0,210		0,121		0,016
UMR	217	28,6	4,53		4,45		4,45		4,44		4,40		4,45	
< UMR	541	71,4	4,44		4,37		4,37		4,39		4,32		4,34	
Marital Status				0,015		0,140		0,326		0,243		0,915		0,16
Married	458	60,4	4,44		4,37		4,38		4,39		4,34		4,33	
Unmarried	300	39,6	4,51		4,42		4,42		4,43		4,34		4,43	
Age				0,41		0,001		0,030		0,23		0,49		0,00
17 – 23 years old	257	33,9	4,52		4,40		4,35		4,3		4,24		4,47	
24 – 30 years old	97	12,8	4,4		4,32		4,33		4,34		4,27		4,30	
31 – 37 years old	53	7	4,44		4,34		4,43		4,42		4,51		4,34	
38 – 44 years old	82	11	4,48		4,28		4,24		4,32		4,06		4,13	
45 – 51 years old	108	14,2	4,51		4,45		4,41		4,43		4,40		4,43	
52 – 58 years old	108	14,2	4,39		4,38		4,37		4,37		4,34		4,36	
59 – 65 years old	49	6,4	4,47		4,40		4,47		4,46		4,42		4,38	
66 – 72 years old	3	0,4	4,58		4,17		4,17		4,58		4,33		4,33	
73 – 80 years old	1	0,1	4,25		4,25		4,25		4,25		4,5		4	

Note: ^{a-f} PE: Performance Expectancy; EE: Effort Expectancy; SI: Social Influence; FC: Facilitating Conditions; BI: Behavioral Intention.

UB: Use Behavior; ^g Mean score (5 scale likert); ^h Value from one – way ANOVA tests, *** p < 0.001, **p < 0.01, *p < 0.05

4. Conclusion

This study investigates the influence of demographic variables on adopting 5M health protocols—mask-wearing, handwashing, physical distancing, limiting mobility, and avoiding crowds—in Trenggalek and Bendungan sub-districts, representing urban and rural areas, respectively. Using the Unified Theory of Acceptance and Use of Technology (UTAUT) model, modified with Clean and Healthy Behavior (PHBS) constructs, the research evaluates the role of gender, education, income, marital status, and age in shaping community interest and adherence to health protocols. Performance expectancy is the most influential construct in this study for all characteristics except age variables on adopting 5M health protocols. Key constructs—performance expectancy, effort expectancy, social influence, and use behavior—mediate the relationship between demographic factors and protocol adoption. Social influence, reinforced by counseling, advertisements, and posters, emerged as a critical driver of behavioral intention across both districts. The findings emphasize the importance of demographic-targeted interventions and tailored health campaigns to reinforce compliance and prevent future outbreaks, highlighting the need for ongoing public health strategies that build long-term resilience in communities

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