Acceptance and Utilization of Technology (UTAUT) as a Method of Technology Acceptance Model of Mitigation Disaster Website

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Abstract. www.mitigasi-bencana.com as a knowledge management website created based on survey results in April-July 2014 in East Java and Central Java provinces, indicates a gap between the expectations and reality that exist in the services provided by the regional disaster management agency. Based on condition analysis, the gaps that occur can be reduced if the community has the understanding and knowledge of adequate disaster mitigation. The problem that arises later is whether the chosen technology solution is appropriate and acceptable to the public? The methodology used in this study using the Technology Acceptance Model development is the Unified Theory of Acceptance and Utilization of Technology (UTAUT). Feedback obtained from respondents KarangTaruna youth SelogedongBantul, www.mitigasi-bencana.com can be accepted by the respondents, but from processed data is obtained only UTAUT hypotheses on the relationship dimension eligible for Social Expectancy on the Attitude toward technology, which means the higher the perception of the Social Expectancy, the higher the perception of the Attitude toward technology. Because www.mitigasi-bencana.com is new so that society still need time to explore content information and knowledge contained therein. To be accepted by user, a knowledge management application must prepare various aspects of Performance Expectancy, Effort Expectancy, Social Factors, Facilitating Conditions and Attitude.

Keywords: attitude, effort expectancy, performance expectancy, social factors, UTAUT

1. Introduction
Implementation of the knowledge management website www.mitigasi-bencana.com, needs to be measured to find out how far the application can be used and accepted by the community. The application was made because of the previous survey there was a significant difference between the expectations of the community regarding the quality of services provided by the authorities in the provinces of East Java and Central Java in the handling of disasters. Some of the things that trigger the lack of services from authorized agencies in addition to geographical factors Indonesia is very broad and limited access to transportation, there is also a problem of lack of awareness of the importance of disaster mitigation that is disaster risk reduction efforts and also from officers who sometimes confused how the situation in the field. This is due to the lack or difficulty of accessing the operating
system documentation of disaster management procedures. With the knowledge management website www.mitigasi-bencana.com expected quality of service to the community will be better and the community also aware of the importance of disaster mitigation so as to increase knowledge of disaster mitigation. To perform the measurement of technology acceptance then used method of Unified Theory of Acceptance and Use of Technology (UTAUT).

Utilization of UTAUT as a method of acceptance and use of technology by researchers has been extended to integrate for various settings such as differences in users, organizations, technology types, tasks, time and differences in location. First, the categorization of technology users into different group such as employee, consumer, and society. As by [10] using employee respondents at all levels of the organization ie boards of directors, senior managers, middle managers, and staff of operational personnel). [18] studied use the consumer service user respondents. [15] studied the use of e-government services by the community. There are also other researchers using specific responders such as teachers conducted by [13] and doctor respondents by [6]. Secondly, categorization is grouped into organizations by industry sectors such as manufacturing and services, or public and private organizations. Researchers are conducting at various organizations, such as schools [13], hospitals [6] and government organizations [9]. Thirdly, categorization is grouped into different types of technologies such as the internet in society by [9], mobile banking [18], and e-government services [15]. Fourth, categorization is grouped into various types that include idea-making and decision-making in technology design [4], income tax filings [5], and medical diagnostics [6]. The fifth, the categorization is grouped in different time ie the initial use or subsequent use), as done by [18] focusing on the adoption of mobile banking users, while [14] adoption, early use, and use of post adoption. The sixth, categorization is grouped in different locations ie the State or economic sector. The study was conducted in locations other than West countries, such as India [9], China [16] and Korea [11]. Other research focuses on certain economic sectors, such as services by [10], education by [7], food services by [17], medical and health services by [12] and the public sector by [8].

2. Research Method
Sampling was done to young man Karang Taruna Selogedong, Sedayu Bantul, Yogjakarta with number of respondents as 186 young people on October 22-23, 2016.

2.1. Research Design
The UTAUT model used in this study was previously undertaken by Guyana University researchers[1]. Regardless of the inconsistencies of effects observed in the literature, it is expected to find confirmation of the basic form of the UTAUT model coupled with the Attitude variable.
Figure 1 : UTAUT model with effect of attitude.

2.2. Hypothesis
Hypothesis 1: Performance expectancy has a positive effect on behavioral intention.
Hypothesis 2: Effort expectancy has a positive effect on behavioral intention.
Hypothesis 3: Social factor has a positive effect on behavioral intention.

One UTAUT hypothesis is Attitude to Use Behavior has no effect on Behavioral Intention even if the effect of Performance Expectancy and Effort Expectancy can be controlled. As a result, Attitude is not explicitly included in the UTAUT model. However, research conducted by [2], [3] found a positive impact on Behavioural Intention. Both studies were conducted in non-western countries. The next hypothesis is:
Hypothesis 4: Attitude to Use of Technology for learning is positively associated with Behavioral Intention.
Hypothesis 5: Performance Expectancy is positively associated with Attitude.
Hypothesis 6: Effort Expectancy is positively associated with Attitude.
Hypothesis 7: Social Factors that are positively related to Attitude
Hypothesis 8: Facilitating Condition is positively associated with Attitude.
Hypothesis 9: Facilitating Condition is positively associated with Behavioral Intention

2.3. Data Collection Techniques and Instruments
Using Random Sampling Data Collection technique with questionnaire scale instrument of Linkert 1-5 and analysis tool: SEM (Structural Equation Modelling).

3. Results and Discussion
To perform data processing into information that can be concluded, need to be tested on the data to check there is not invalid data. In testing performed using Instrument Test and Goodness-of-Fits Test, while to determine the relationship between variables used SEM Analysis.

3.1. Testing
The tests are Instrument Test and Goodness-of-Fits Test. The Table 1 shows the results of validity and reliability testing. With a sample of 186 respondents, the Hair’s Factor Loading value is 0.40. From the table above shows that in addition to the variable attitude towards technology, all indicators are able to form a variable construct because it has a factor loading value greater than 0.40. Therefore ATT1 is not valid form attitude towards technology variable, then the indicator is issued so that form attitude towards technology only 2 indicator that is ATT2 and ATT3. The table above also shows that the Cronbach's alpha value is higher than 0.6 so that the indicators are reliable in forming the construct variable.

| Indicator | Factor Loadings | Cronbach’s Alpha | Result |
|-----------|-----------------|------------------|--------|
| EE1       | .805            |                  |        |
| EE2       | .830            | 0.734            | Valid and Reliable |
| EE3       | .789            |                  |        |

Table 1. Instruments test.

Variable: Attitude Towards the Use of Technologies

| Indicator | Factor Loadings | Result |
|-----------|-----------------|--------|
| ATT1      | .310            | ATT1 Not Valid |
| ATT2      | .805            |        |
| ATT3      | .855            |        |

Based on the test results on the feasibility of the model, it is found that at the value of RMSEA smaller than 0.10 so concluded the goodness-of-fit model (Table 2). As for the criteria IFI, TLI, and CFI obtained the value of the default model is smaller than 0.9 so it is concluded Marginal-of-Fits
model. Due to the RMSEA-based Goodness-of-Fits model, the model can be used to test the hypothesis.

Table 2. Goodness-of-fit test.

| Indicator  | Criteria     | Score  | Result         |
|------------|--------------|--------|----------------|
| Chi-Square | Prob > 0.05  | 0.000  | Poor-of-Fits   |
| RMSEA      | < 0.10       | 0.072  | Goodness-of-Fits |
| NFI        | ≥ 0.90       | 0.730  | Poor-of-Fits   |
| RFI        | ≥ 0.90       | 0.669  | Poor-of-Fits   |
| IFI        | ≥ 0.90       | 0.847  | Marginal-of-Fits |
| TLI        | ≥ 0.90       | 0.805  | Marginal-of-Fits |
| CFI        | ≥ 0.90       | 0.841  | Marginal-of-Fits |

![Figure 2. UTAUT measurement parameters.](Image)

3.2. SEM Analysis

1. Performance Expectancy and Behavior Intention
   Performance Expectancy has a coefficient of -1.195 with probability value of 0.483 greater than 0.05 so Ho fails to be rejected or no relationship Performance Expectancy and Behavior Intention.

2. Effort Expectancy and Behavior intention
   Effort Expectancy has a coefficient value of 0.973 with probability value of 0.395 is greater than 0.05 so that Ho fails to be rejected or no relationship Effort Expectancy and Behavior intention.

3. Social Expectancy and Behavior Intention
   Social Expectancy has a coefficient value of 0.063 with a probability value of 0.891 greater than 0.05, so Ho fails to be rejected or no relationship Social Expectancy and Behavior Intention.

4. Attitude Toward Technology and Behavior intention
Attitude Toward Technology has a coefficient value of 0.171 with probability value of 0.702 greater than 0.05, so Ho fails to be rejected or no relationship Attitude Toward Technology and Behavioral Intention.

5. Performance Expectancy and Attitude Toward Technology
Performance Expectancy has a coefficient value of -0.284 with probability value of 0.706 greater than 0.05 so Ho fails to be rejected or no relationship Performance Expectancy and Attitude Toward Technology.

6. Effort Expectancy and Attitude Toward Technology
Effort Expectancy has a coefficient of -1.654 with probability value of 0.446 which is greater than 0.05 so that Ho fails to be rejected or no relation Effort Expectancy and Attitude Toward Technology.

7. Social Expectancy and Attitude Toward Technology
Social Expectancy has a coefficient value of 0.532 with a probability value of 0.009 which is smaller than 0.05, so Ho is rejected or there is a relationship Social Expectancy and Attitude Toward Technology. The higher the perception of Social Expectancy then the higher the perception of Attitude Toward Technology.

8. Facilitating Conditions and Attitude Toward Technology
Facilitating Conditions has a coefficient value of 0.363 with a probability value of 0.823 which is greater than 0.05, so Ho fails to be rejected or there is no relationship between Facilitating Conditions and Attitude Toward Technology.

9. Facilitating Conditions and Behavior Intention
Facilitating Conditions has a coefficient value of 3.865 with probability value of 0.383 which is greater than 0.05, so Ho failed to be rejected or no relationship of Facilitating Conditions and Behavior Intention.

| Variable                                      | Coefficient | Prob  | Result         |
|-----------------------------------------------|-------------|-------|----------------|
| Performance Expectancy → Behavior Intention   | -1.195      | 0.483 | Ho failed to reject |
| Effort Expectancy → Behavior Intention        | 3.865       | 0.395 | Ho failed to reject |
| Social Expectancy → Behavior Intention        | 0.063       | 0.891 | Ho failed to reject |
| Attitude toward technology → Behavior Intention | 0.171       | 0.702 | Ho failed to reject |
| Performance Expectancy → Attitude Toward Technology | -0.248        | 0.706 | Ho failed to reject |
| Effort Expectancy → Attitude Toward Technology | -1.654      | 0.446 | Ho failed to reject |
| Social Expectancy → Attitude Toward Technology | 0.532      | 0.009 | Ho rejected |
| Facilitating Conditions → Attitude Toward Technology | 0.363   | 0.823 | Ho failed to reject |
| Facilitating Conditions → Behavior Intention | 3.865       | 0.383 | Ho failed to reject |

4. Conclusion
- Feed back obtained from youth respondents KarangTaruna Selogedong, Bantul Yogyakarta shows website knowledge management www.mitigasi-bencana.com can be accepted by respondents, but from processed data UTAUT only obtained hypotheses that qualify in dimension relationship for Social Expectancy to Attitude Toward Technology, which means that the higher the perception of Social Expectancy then the higher the perception of Attitude Toward Technology.
- For the acceptance of an information technology by the public should have attention to factors Performance Expectancy, Effort Expectancy, Social Factor, Facilitating Condition and Attitude.
- It is necessary to increase cooperation with local governments, disaster-affected communities for the continued dissemination of disaster mitigation information and to add disaster information and knowledge content from community experiences.
- The website will be optimized for its use by adding sharing content and animation sharing.
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