

Early Adoption Characteristic of Consumers': A Behavioral Intention to Use Home Digital Services in Indonesia

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Abstract—This research examines the factors influencing the consumer adoption of Digital Home Service in Indonesia. UTAUT conceptual model of adoption was used to study the adoption characteristic in early market. The model was then empirically tested by employing survey data that was purposively collected from 500 prospective consumers. The findings suggest that, all of the predictors in UTAUT significantly influence consumers when adopting DHS in household as well as in business area. The significant constructs include Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Condition, Hedonic Motivation, and Price Value. Together, they significantly explain Indonesian Digital Home Service adoption behavior in the early stage. However, only moderator gender plays the significant role in moderating the construct Effort Expectancy and Hedonic Motivation. The theoretical contribution of this research suggests that UTAUT might find a limitation in modeling complex technology adoption such as multi technology perceived from the introduction of multi bundling service. This research could have given implications for policy makers and broadband providers since the introduction of the service.

Keywords— *Digital Home Service, UTAUT, Early Adoption, Indonesia*

I. INTRODUCTION

This research has been inspired by the initiative of PT. Telekomunikasi Indonesia, Tbk (TELKOM) which has begun trying out Digital Home Services (DHS) in 2012, which is expected to be launched massively in 2015. Indihome is possible to operate following intense efforts made by TELKOM in building broadband access network infrastructure in various areas.

Indonesian people are starting switching to the optical cable transmission technology for higher bandwidth by using FTTH (Fiber to the home) technology. The progress of FTTH itself cannot be separated from the need of broadband access service, continuously improving, from just coverage to both

bandwidth and coverage. FTTH promote the adoption of a new service such as Digital Home. The concept of digital home itself generally covers digital home communication, digital home office, digital entertainment, and digital surveillance & security.

This research attempts to find answers to the following questions : What factors are influencing consumer-behavior-intention to buy Home Digital Service in Indonesia?

II. THE DESCRIPTION OF DIGITAL HOME SERVICE

According to Mi Jin Noha [1] digital home is a fully automated residence, using computing devices and home appliances that conform to a common internet standard so that everything may be controlled by a computer. Further elaboration of this definition, Mi Jin Noha et al. has also classified DHS into infra-service, home entertainment service and home healthcare service.

According to Digital Living Network Alliance [2], the term digital home refers to a home network of Customer Edge, mobile and PC devices that cooperate transparently, delivering simple, seamless interoperability that enhances and enriches user experiences.

The enabling technology to delivering the benefit of DHS according to John G. Turnbull book [3] are : structured cabling, home area network, residential gateway, security, broadband, home control system, home network standards, and smartcards.

What is interesting is that DHS, to Telkom's Digital Home Experience is a multibundling service called Indihome, consists of individual service as follows : Phone line, Speedy : broadband internet access, USeeTv : IPTv, Speedy monitoring : network IP Camera, Melon Indonesia : music portal, Trend micro : internet security, Home automation.

TABLE I ASSOCIATION AMONG MI JIN NOHA DHS CLASSIFICATION, INDIHOME SERVICE AND THURNBULL'S ENABLING TECHNOLOGY

| Mi Jin Noha et al. DHS classification | TELKOM'S INDIHOME | | | | | | Thurnbull's enabling technology |
|---------------------------------------|-------------------|------------------------------------|---------------|---------------------------------------|---------------------------------|---------------------------------|---------------------------------|
| | Phone line | Speedy : broadband internet access | USeeTV : IPTV | Speedy monitoring : network IP Camera | Melita Indonesia : music portal | Trend micro : internet security | |
| infra-service. | | | | Y | | Y | |
| home entertainment service | | | Y movie | | Y music | | |
| home healthcare service. | | | Y application | | | | |

Table 1 shows the association between Telkom's Indihome of Mi Jin Noha's classification and Thurnbull's enabling technology. Note that phone line and internet access as bundled by Indihome are legacy services which do not fall into Mi Jin Noha's classification. In this research the authors firstly regard DHS as emulated by Indihome. Even though it consists of multi products, the fact shows that all products are bundled into a single service that allows us to regard Indihome as a single service to the customer. The perception is based on what the authors have gathered from our respondents, representing overall users' experiences. Secondly, the research result was associated in time as an early adoption stage of the product in a question. Then the behavior the authors study was associated with the early adoption of the product in the market. At the time the study was carried out, the service was merely a trial launched in Jakarta and Surabaya.

III. THE METHODOLOGY USED IN THE RESEARCH

A. UTAUT

The consumer adoption of the technology system can be defined as the willingness that appears in the user group to implement the information technology systems at work. Consumers will tend to do the first adaptation of a new product or technology. The new product is an item or a new idea accepted by a number of potential buyers [4]. The definition of the adoption process is a mental process in which an individual passes the first stage since learning about an innovation to the final adoption. And adoption is a decision by the individual to become a regular user of the product. The process of adopting a new product are described through five stages [4]:

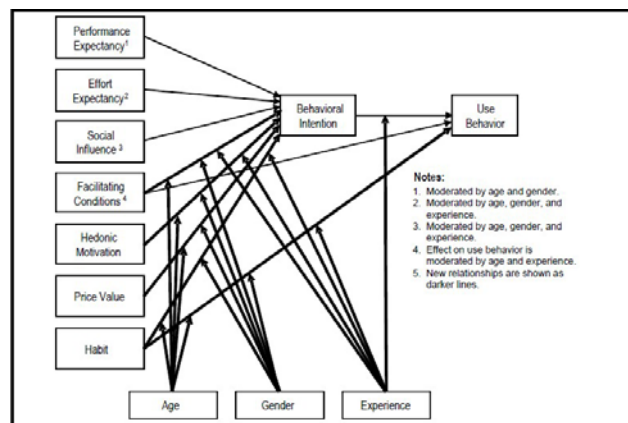
- 1) Awareness: buyers care about a new product, but have lack information about the new product.
- 2) Interest: buyers will look for a new product information.
- 3) Evaluation: buyers realize whether to try a new product will lead to understanding.
- 4) Trial: buyers try the new products in small quantities to improve the estimation of the value of the new product.
- 5) Adoption: buyers make the decision to use the new product as a whole and use the product regularly.

Broadband technology greatly depends on the consumer acceptance of the new communication channels. In order to predict the consumer acceptance of the technology of broadband services, it is important to examine the adoption and usage of these services. In addition, for the services of broadband technologies to be accepted, it must be determined in advance by the target customers of its services.

There are various theories that become a model for the acceptance of consumers. For example, The Theory of Reasoned Action (TRA), The Theory of Planned Behavior (TPB), The Motivational Theories (MT), The Technology Acceptance Model (TAM), The Innovation Diffusion Theory (IDT), and The Domestication Approach.

One of the latest technology acceptance models was formulated by Venkatesh, Morris, Davis, and Davis [5] in "User Acceptance of Information Technology: Toward a Unified View". This model is called the Unified Theory of Acceptance and Use of Technology (UTAUT). UTAUT synthesized elements across eight well known technology acceptance models to achieve a unified view of user acceptance. The eight well known models are: TRA, TAM, MT, TPB, the combined TAM and TPB, the model of PC utilization (MPTU), IDT and the social cognitive theory (SCT). UTAUT is further developed to UTAUT2 [6]. In the following the authors will simply use UTAUT for UTAUT and UTAUT2. The relationship among Venkatesh' UTAUT constructs is shown in Figure 1.

Fig. 1. UTAUT Construct. [5,6]



The constructs in the model are as follows:

- 1) *Performance Expectancy* (PE) is the degree to which an individual believes that by using the system will help him/her to attain job performance. This construct, within each individual model, was the strongest predictor of intention and remained significant at all points of measurement in both voluntary and mandatory settings. The influence of performance expectancy on behavioral intention is hypothesized to be moderated by gender and age; such an effect would be stronger for men, particularly younger workers.
- 2) *Effort Expectancy* (EE) is the degree of ease associated with the use of system. The construct in each individual model was significant in both voluntary and mandatory settings, and as expected it was significant only during the post training measurement. The influence of effort expectancy on behavioral intentions is hypothesized to be moderated by gender, age, and experience; such an effect would be stronger for young women and older workers at early stages of experience.
- 3) *Social Influence* (SI) is the degree to which an individual perceives that important others believe he/she should use the new system. It is insignificant in voluntary contexts and becomes significant when use is mandatory. In mandatory contexts the effect is attributed to compliance and appeared to be important only in the early stages of individual experience and when rewards/punishment are applicable; in contrast, social influence in voluntary contexts operates by influencing perceptions about the technology (what is known as internalization and identification). It is further explained that the influence of social influences on behavioral intentions is hypothesized to be moderated by gender, age, voluntariness and experience; such an effect would be stronger for women, particularly in mandatory settings in the early stages of experience.
- 4) *Facilitating Conditions* (FC) is the degree to which an individual believes that an organizational and technical infrastructure exist to support the use of the system.
- 5) *Hedonic Motivation* (HM) is Hedonic motivation is the degree of fun or pleasure derived from using a technology, and it has been shown to play an important role in determining technology acceptance and use.
- 6) *Price Value* (PC) is the degree to which an individual bear the monetary cost of the use of the technology. The price value is positive when the benefits of using a technology are perceived to be greater than the monetary cost and such price value has a positive impact on intention.
- 7) *Habit* (HT) is the extent to which individual tends to perform behaviors automatically because of learning.

In this model of study, as circumstances applies, the authors seek to understand characteristics in the early stage of adoption, where factor Habit was not taken into consideration. The authors' prejudice considers that Habit did not exist among the respondents during the time of study.

B. The framework of research thought

This research analyze the factors that affecting the consumer behavior to adopt the Home Digital Service that use ultra broadband technology based on UTAUT theory. This research used seven constructs from UTAUT, those were : Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Conditions (FC), Hedonic Motivation (HM), Price Value (PV), and Behavioral Intention (IB) with age, gender, experience, and voluntariness as the moderator variables. In this research, variables were analysed to prove that their contribution influenced the consumer adoption in Home Digital Service as emulated by Indihome in Indonesia. Due to the circumstances, where Indihome was just in infancy operation, the authors limited the research only on studying Behavioral Intention. Longitudinal research should be carried out later on to further study on Use Behavior.

The DHS is a service that is only recently introduced in some area of service throughout Indonesia. The authors argued that the adoption rate is at the stage of early adoption as described by Moore [7]. Moore stated that, up to early market adopters are characterized as innovators or technology enthusiasts and visionaries. The authors expect to find factors that reveal the influence from these two category of adopters. Technology enthusiasts are people who fundamentally committed to new technology and believe that it will be eventually improving our lives; while visionaries are the true revolutionaries in business who basically reasonably eager to engage in new disruptive market.

C. The location of the research

Nationwide data on the adoption of broadband would be better collected from the various household services in the Indonesia. Since, a reliable sample frame (the electoral register) was not easily available for the whole of the Indonesia population, it is decided that an alternative measure would be based on the deployment of the most dominant areas. Based on the SPIRE survey, the largest broadband user spreads in Central Java, Jakarta, West Java, East Java, and Jakarta. However, as Indihome is only available at the moment in Jakarta and Surabaya, the authors will get the sample from those cities population. The structure of the sample frame necessitates the adoption of a stratified random sampling approach to collect unbiased data from the target population.

D. Survey Instrument

In order to collect data from the target population, a questionnaire was considered to be the most appropriate primary survey instrument. The questionnaire consisted of three parts. The first part explained the objective of the research. Second part contained questions for respondents' characteristics. The third part contained questions related to the variables. The questions in second parts served as a means

to check whether the respondent fit into category that was required in this research.

Overall, the questionnaire used in this research contained seven questions to describe respondent characteristics and twenty six questions representing all variables. The seven questions were multiple-choice and investigated the respondents' socio-economic characteristics such as, age, gender, education, occupation and latest education. Multiple-choice type questions were also asked in order to determine the types of services contained in DHS that respondents intend to use at home or at their business area. Twenty six, variables relevant close-ended, questions were included in the questionnaire in order to obtain a high response rate. During data collection, the authors emulated a self-administered environment with regard to the respondents, even though the questionnaires were distributed in public domain. This was due to instances where respondents preferred to answer close-ended questions within the non-interactive, self-administered questionnaires situation.

E. Sample size and questionnaire administration

Fowler [8] has suggested that the prerequisite for determining a sample size should be the analysis plan. It has been suggested that in order to perform this statistical analysis with rigor, the sample size should be above 300 [9]. Therefore, keeping the statistical analysis plan in mind, it was decided that the total sample size should be large enough to obtain a minimum of 300 responses. The authors took the sample size of about 500 for both Jakarta and Surabaya.

The questionnaires were distributed using face-to-face method, a more convenient method to address a larger sample population in a cost effective manner both in Jakarta and Surabaya. Due to the difficulty to identify respondent willingness to adopt the DHS upfront, as the service itself was difficult to be understood and needed a lot of explanations, the authors used a no probability sampling method to get to the respondents. The authors' targeted prospective consumers sample which matched to the preset requirement. A criterion for selecting respondents was set, that was respondents who were familiar with the term of DHS.

F. Data Analysis

The questionnaire data was analyzed using SmartPLS. It is freely available to the research community across the globe. Furthermore, this software has maintained an active online discussion forum, providing a good platform for knowledge exchange among its users. Bacon [10], Hwang et al.[11], Wong [12], stated that PLS technique can be used in situation where sample size is small, applications have little available theory, predictive accuracy is paramount, and correct model specification cannot be ensured. This allowed to work with relatively small size of population where the nature of service offered is least understood by the respondents. UTAUT model has been used to study various adoption of information technology, hence considered as a correct model, however the use of the model to study multiple bundling products has not yet verified. The authors expect to get better prediction using PLS where population was relatively small and the product offered was least

understood. The authors suspect that a correlation among indicators existed, and then considered this as a reflective measurement. Table 2 depicts the rule of thumb of the Outer Model Measurement.

TABEL II MEASUREMENT MODEL VALIDITY TEST

| Model Validity | Parameter | Rule of Thumb |
|-------------------|--|---|
| Convergent Test | Factor Loading | Greater than (>) 0.5 |
| | Average Variance Extracted (AVE) | Greater than (>) 0.5 |
| | Communality | Greater than (>) 0.5 |
| Discriminant Test | Root AVE and Latent Variable Correlation | Root AVE greater than (>) Latent Variable Correlation |
| | Cross Loading | Greatest on Construct |
| Reliability Test | Composite Reliability | Greater than (>) 0.6 |

G. The Hypotheses

The research objective is to verify the following hypotheses:

- H1: Performance Expectancy is significantly influences Behavioral Intention
- H2: Effort Expectancy significantly influences Behavioral Intention
- H3: Social Influence significantly influences Behavioral Intention
- H4: Facilitating Condition significantly influences Behavioral Intention
- H5: Hedonic Motivation significantly influences Behavioral Intention
- H6: Price Value significantly influences Behavioral Intention
- H7: Performance Expectancy* Age significantly influences Behavioral Intention
- H8: Performance Expectancy* Gender significantly influences Behavioral Intention
- H9: Effort Expectancy* Age significantly influences Behavioral Intention
- H10: Effort Expectancy* Gender significantly influences Behavioral Intention
- H11: Social Influence* Age significantly influences Behavioral Intention
- H12: Social Influence* Gender significantly influences Behavioral Intention
- H13: Facilitating Condition* Age significantly influences Behavioral Intention
- H14: Facilitating Condition* Gender significantly influences Behavioral Intention
- H15: Hedonic Motivation* Age significantly influences Behavioral Intention

- H16: Hedonic Motivation* Gender significantly influences Behavioral Intention
- H17: Price Value* Age significantly influences Behavioral Intention
- H18: Price Value* Gender significantly influences Behavioral Intention

As of Structural Model Measurement (Inner Model Measurement), the rule of thumb is represented in Table 3.

TABLE III STRUCTURAL MODEL MEASUREMENT RULE OF THUMB.

| R-Square | Classification |
|-------------------------------|----------------------------------|
| R-Square ≥ 0.67 | Substantial |
| $0.33 \geq$ R-Square > 0.67 | Average Variance Extracted (AVE) |
| $0.15 \leq$ R-Square < 0.33 | Communality |

IV. THE RESULT OF THE RESEARCH

A. The measurement model

The measurement model was analyzed using SmartPLS software. The authors assessed validity test parameters, and learned that all parameters fit to the rule of thumb. It was concluded that the measurement model was valid through convergence, determinant, and reliability tests. The cross loading among variables are as shown in Table 4. The decimal numbers in bold signify the outer loading greatest to the construct. The loading was greater than 0.5. It was concluded valid.

TABLE IV CROSS LOADING AMONG VARIABLES.

| | Performance Expectancy | Effort Expectancy | Social Influence | Facilitating Condition | Hedonic Motivation | Price Value | Behavioral Intention |
|-----|------------------------|-------------------|------------------|------------------------|--------------------|-----------------|----------------------|
| PE1 | 0.828946 | 0.315555 | 0.164162 | 0.336805 | 0.421716 | 0.283696 | 0.332385 |
| PE2 | 0.887664 | 0.364936 | 0.226541 | 0.414874 | 0.422938 | 0.368061 | 0.386008 |
| PE3 | 0.862541 | 0.288471 | 0.243291 | 0.416266 | 0.36831 | 0.399151 | 0.348076 |
| EE1 | 0.302578 | 0.84252 | 0.130876 | 0.332729 | 0.258064 | 0.214375 | 0.301374 |
| EE2 | 0.324036 | 0.877187 | 0.144164 | 0.315949 | 0.32397 | 0.250781 | 0.358887 |
| EE3 | 0.32177 | 0.852916 | 0.185552 | 0.348943 | 0.344812 | 0.247071 | 0.308271 |
| EE4 | 0.351697 | 0.884396 | 0.142785 | 0.350993 | 0.322335 | 0.288309 | 0.370102 |
| SI1 | 0.226296 | 0.183899 | 0.800581 | 0.215988 | 0.171968 | 0.196781 | 0.267249 |
| SI2 | 0.180744 | 0.136246 | 0.862391 | 0.332164 | 0.154581 | 0.240592 | 0.292048 |
| SI3 | 0.213544 | 0.11948 | 0.842067 | 0.290284 | 0.189709 | 0.278425 | 0.301601 |
| FC1 | 0.336984 | 0.191509 | 0.187104 | 0.721186 | 0.276995 | 0.39907 | 0.300882 |
| FC2 | 0.352906 | 0.367843 | 0.243916 | 0.794789 | 0.402504 | 0.257754 | 0.349673 |
| FC3 | 0.446026 | 0.382776 | 0.213329 | 0.795741 | 0.437008 | 0.298152 | 0.357936 |
| FC4 | 0.169249 | 0.164784 | 0.333675 | 0.580755 | 0.323611 | 0.299872 | 0.32212 |
| HM1 | 0.453088 | 0.338669 | 0.188783 | 0.505796 | 0.918303 | 0.303644 | 0.455599 |
| HM2 | 0.420091 | 0.326508 | 0.199313 | 0.439166 | 0.9158 | 0.289359 | 0.370682 |
| HM3 | 0.399757 | 0.317609 | 0.172369 | 0.408448 | 0.883923 | 0.285375 | 0.381368 |
| PV2 | 0.286039 | 0.233609 | 0.163956 | 0.378444 | 0.144929 | 0.690338 | 0.180541 |
| PV4 | 0.406229 | 0.257342 | 0.184306 | 0.383996 | 0.310715 | 0.819209 | 0.267036 |
| PV6 | 0.31945 | 0.23473 | 0.29961 | 0.32708 | 0.292331 | 0.889255 | 0.450395 |
| BI1 | 0.415128 | 0.371038 | 0.195659 | 0.451966 | 0.44246 | 0.304508 | 0.793806 |
| BI2 | 0.310981 | 0.323339 | 0.355888 | 0.379991 | 0.344112 | 0.406536 | 0.88915 |
| BI3 | 0.323484 | 0.290458 | 0.318216 | 0.329865 | 0.347225 | 0.329472 | 0.846937 |

The Root AVE and Communality coefficients were Tabulated in Table 5. AVE and Communality tests showed values greater than 0.5. They were concluded valid.

TABLE V ROOT AVE AND COMMUNALITY FACTOR

| | AVE | Root AVE | | Communality |
|------------------------|----------|----------|------------------------|-------------|
| Performance Expectancy | 0.739692 | 0.860 | Performance Expectancy | 0.739692 |
| Effort Expectancy | 0.74723 | 0.864 | Effort Expectancy | 0.74723 |
| Social Influence | 0.697908 | 0.835 | Social Influence | 0.697908 |
| Facilitating Condition | 0.530569 | 0.728 | Facilitating Condition | 0.530569 |
| Hedonic Motivation | 0.821097 | 0.906 | Hedonic Motivation | 0.821097 |
| Price Value | 0.646148 | 0.804 | Price Value | 0.646148 |
| Behavioral Intention | 0.712673 | 0.844 | Behavioral Intention | 0.712673 |

The correlation among variables is shown in Table 6. The table shows that the variables were weakly correlated. The Root AVE was greater than correlation coefficient. It was concluded that the model was reliable.

TABLE VI CORRELATION AMONG VARIABLES

| | Performance Expectancy | Effort Expectancy | Social Influence | Facilitating Condition | Hedonic Motivation | Price Value | Behavioral Intention |
|------------------------|------------------------|-------------------|------------------|------------------------|--------------------|-------------|----------------------|
| Performance Expectancy | 1.000 | | | | | | |
| Effort Expectancy | 0.376919 | 1.000 | | | | | |
| Social Influence | 0.246836 | 0.173625 | 1.000 | | | | |
| Facilitating Condition | 0.454033 | 0.389257 | 0.336602 | 1.000 | | | |
| Hedonic Motivation | 0.469978 | 0.362075 | 0.206062 | 0.501394 | 1.000 | | |
| Price Value | 0.40865 | 0.291187 | 0.040821 | 0.427715 | 0.323698 | 1.000 | |
| Behavioral Intention | 0.414457 | 0.389684 | 0.3441 | 0.459949 | 0.447891 | 0.412361 | 1.000 |

The composite reliability of measuring instrument is shown in Table 7. The reliability for each of the variable was fairly high (greater than 0.6), which provided confidence on the measurement.

TABLE VII COMPOSITE RELIABILITY

| | Composite Reliability |
|------------------------|-----------------------|
| Performance Expectancy | 0.894937 |
| Effort Expectancy | 0.921997 |
| Social Influence | 0.873804 |
| Facilitating Condition | 0.816702 |

| | Composite Reliability |
|----------------------|-----------------------|
| Hedonic Motivation | 0.932271 |
| Price Value | 0.844251 |
| Behavioral Intention | 0.881308 |

Other measurement parameters such as a sample mean, a standard deviation, and T statistics are tabulated in Table 8.

TABLE VIII OTHER SAMPLE PARAMETERS

| | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | Standard Error (STERR) | T Statistics (O/STERR) |
|---|---------------------|-----------------|----------------------------|------------------------|------------------------|
| Performance Expectancy -> Behavioral Intention | 0.102801 | 0.09999 | 0.051058 | 0.051058 | 2.013.436 |
| Effort Expectancy -> Behavioral Intention | 0.160592 | 0.164747 | 0.042175 | 0.042175 | 3.807.778 |
| Social Influence -> Behavioral Intention | 0.169376 | 0.163202 | 0.045684 | 0.045684 | 3.707.579 |
| Facilitating Condition -> Behavioral Intention | 0.115894 | 0.107875 | 0.048755 | 0.048755 | 237.706 |
| Hedonic Motivation -> Behavioral Intention | 0.206503 | 0.205526 | 0.044896 | 0.044896 | 4.599.574 |
| Price Value -> Behavioral Intention | 0.138995 | 0.013199 | 0.050921 | 0.050921 | 3.311.769 |
| Performance Expectancy * AGE -> Behavioral Intention | -0.017213 | -0.016232 | 0.055202 | 0.055202 | 0.311814 |
| Performance Expectancy * GENDER -> Behavioral Intention | -0.000841 | -0.004098 | 0.048879 | 0.048879 | 0.017212 |
| Effort Expectancy * AGE -> Behavioral Intention | -0.075089 | -0.047232 | 0.056031 | 0.056031 | 1.340.139 |
| Effort Expectancy * GENDER -> Behavioral Intention | -0.172274 | -0.134177 | 0.076736 | 0.076736 | 224.501 |
| Social Influence * AGE -> Behavioral Intention | 0.071223 | 0.072327 | 0.044287 | 0.044287 | 1.608.223 |
| Social Influence * GENDER -> Behavioral Intention | 0.086742 | 0.078842 | 0.062045 | 0.062045 | 1.398.048 |
| Facilitating Condition * AGE -> Behavioral Intention | 0.087711 | 0.091515 | 0.051504 | 0.051504 | 1.702.994 |
| Facilitating Condition * GENDER -> Behavioral Intention | -0.010448 | -0.006555 | 0.053572 | 0.053572 | 0.195021 |
| Hedonic Motivation * AGE -> Behavioral Intention | -0.081368 | -0.08389 | 0.05361 | 0.05361 | 1.517.767 |
| Hedonic Motivation * GENDER -> Behavioral Intention | 0.145775 | 0.133629 | 0.045369 | 0.045369 | 3.213.066 |

| | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | Standard Error (STERR) | T Statistics (O/STERR) |
|--|---------------------|-----------------|----------------------------|------------------------|------------------------|
| GENDER -> Behavioral Intention | | | | | |
| Price Value * AGE -> Behavioral Intention | 0.074279 | 0.073323 | 0.061113 | 0.061113 | 1.215.437 |
| Price Value * GENDER -> Behavioral Intention | 0.010912 | 0.013199 | 0.050921 | 0.050921 | 0.214286 |

B. The Structural Model

From structural modeling, significant factors influencing behavioral intention were finally derived as shown in Table 9. Significance test was accepted if t-statistic greater than 1.96. It was resulted in: if only hypotheses H1 to H6, H10, and H16 were accepted. The other moderated variables either by age and or gender were not significantly influencing the Behavioral Intention. The result provided R2=0.44 which was fairly low - in the range of moderate - comparing to Venkatesh claimed that UTAUT could provide coefficient determinant as high as 0.7.

TABLE IX. FACTORS DESCRIBING BEHAVIORAL INTENTION

| Hypotheses | Influence | Path Coefficient | t-statistic | Note |
|------------|---|------------------|-------------|----------|
| H1 | Performance Expectancy --> Behavioral Intention | 0.102801 | 2.013.436 | Accepted |
| H2 | Effort Expectancy --> Behavioral Intention | 0.160592 | 3.807.778 | Accepted |
| H3 | Social Influence -> Behavioral Intention | 0.169376 | 3.707.579 | Accepted |
| H4 | Facilitating Condition --> Behavioral Intention | 0.115894 | 237.706 | accepted |
| H5 | Hedonic Motivation --> Behavioral Intention | 0.206503 | 4.599.574 | accepted |
| H6 | Price Value --> Behavioral Intention | 0.138995 | 3.311.769 | accepted |
| H7 | Performance Expectancy * Age --> Behavioral Intention | -0.017213 | 0.311814 | rejected |
| H8 | Performance Expectancy * Gender--> Behavioral Intention | -0.000841 | 0.017212 | rejected |
| H9 | Effort Expectancy* Age --> Behavioral Intention | -0.075089 | 1.340.139 | rejected |
| H10 | Effort Expectancy* Gender --> Behavioral Intention | -0.172274 | 224.501 | accepted |

| Hypotheses | Influence | Path Coefficient | t-statistic | Note |
|------------|---|------------------|-------------|----------|
| H11 | Social Influence* Age --> Behavioral Intention | 0.071223 | 1.608.223 | rejected |
| H12 | Social Influence* Gender --> Behavioral Intention | 0.086742 | 1.398.048 | rejected |
| H13 | Facilitating Condition* Age -- > Behavioral Intention | 0.087711 | 1.702.994 | rejected |
| H14 | Facilitating Condition* Gender --> Behavioral Intention | -0.010448 | 0.195021 | rejected |
| H15 | Hedonic Motivation* Age - -> Behavioral Intention | -0.081368 | 1.517.767 | rejected |
| H16 | Hedonic Motivation * Gender --> Behavioral Intention | 0.145775 | 3.213.066 | accepted |
| H17 | Price Value* Age --> Behavioral Intention | 0.074279 | 1.215.437 | rejected |
| H18 | Price Value* Gender --> Behavioral Intention | 0.010912 | 0.214286 | rejected |

C. Discussion of the result of the research

The result of the research showed that all the constructs :

- Performance Expectancy
- Effort Expectancy
- Social Influence
- Facilitating Condition
- Hedonic Motivation
- Price Value

significantly influence the behavioral intention to buy DHS, proxied by Indihome.

As shown in Table 9, Behavioral Intention toward adopting DHS could be described by factors Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Condition, Hedonic Motivation, and Price Value significantly. However, the model failed to predict the influence of other moderated factors, except for Effort Expectancy*Gender and Hedonic Motivation* Gender which significantly influences Behavioral Intention.

Hedonic Motivation happened to play the highest influence (path coefficient = 0.260, compared to other factors) in sample's intention to buy the DHS. This confirms our expectation that early market is dominated by individuals whose buying motive is enthusiastic in the technology by itself.

The second influencing factors were Effort Expectancy (path coefficient = 0.160) and Social Influence (path

coefficient=0.169). This factors fell into agreement with the second characteristic of early market, especially for category adopters of visionaries who seek to exploit the capability of the new technology for their own future benefit.

The next influencing factor was Price Value. The authors interpreted this factor as normal to individual's assessment on every purchase decision. People tend to avoid buying technology at any price, even though for adopters category as tech savvy as innovators. The authors suspect that this assessment tendency on price will play a greater role as market develops.

The least influencing factor was facilitating condition. Again this characteristic confirmed our expectation on the adopters behavior in the early market. They understood that they could expect facilitating condition improving along with time, and not necessarily satisfactory in the early time of introduction.

In this study, gender played a moderating effect on Effort Expectancy and Hedonic Motivation. The authors could not interpret this result but guess that hedonic motivation is somewhat stronger in male than female, while female might request less efforts in using new technology than male.

The authors found that Venkatesh model could only provide moderate coefficient determinant (R-Square=0.44). We suspected that this moderate determinant was due to the fact that the service as well as the technology as perceived by the respondents actually consisted of several individual services, which may also be perceived as individual technology. In this case probability sampling was avoided, and used convenience instead. Further study is needed to get confirmation on the fit of the Venkatesh model being used for bundling services. The authors also suspected that there was a different characteristic of adopters in Jakarta and Surabaya, which was left to be confirmed by further study.

V. CONCLUSION

The result of the research shows that all the constructs, in order of appearance :

- Hedonic Motivation
- Social Influence
- Effort Expectancy
- Price Value
- Facilitating Condition
- Performance Expectancy

significantly influence the behavioral intention to buy Digital Home Service, proxied by Indihome.

To make maximum benefit of the research, any party intends to launch the Digital Home Service may play with the factors in that order. The party could also use the moderating factor gender to play with Hedonic Motivation and Effort Expectancy.

VI. LIMITATIONS OF THE RESEARCH

This research has several limitations which should be addressed in future studies. Firstly, the respondents in this research were from Jakarta and Surabaya which could doubtfully be said representing the population of Indonesia. Secondly, the authors suspected that the convenience sampling used to pick the respondents might harm the representativeness of the universe. Thirdly, the moderate R-Square suggested that UTAUT might be not the appropriate model to study complex multi bundling offering such as Digital Home Service, where log it model was probably better suited to predict the consumer preference of individual service. Fourth, this research did not explore the “intention to use” but merely on the intention to adopt. This was used to establish strong relations between the dependent and independent variables which was the first prior to integrating the usage intention construct.

References

- [1] M.J. Noha and J.S. Kim, “Factors influencing the user acceptance of digital home services”, *Telecommunication Policy*, Vol 34, 2010, pp. 672-682.
- [2] Digital Living Network Alliance (DLNA), 2012, [Online], <http://www.dlna.org/guidelines/>
- [3] J. Turnbull and S.G.E. Garrett, “Broadband Applications and the Digital Home”, London: Institution of Engineering and Technology, 2002. ISBN 978-0852964286.
- [4] P. Kotler and G. Armstrong, *Principle of Marketing*, Boston: Pearson Prentice Hall, 2012, ISBN 9780273752431.
- [5] V. Venkatesh, M.G. Morris, G.B. Davis, & F.D. Davis, “User Acceptance Of Information Technology: Toward A Unified View”, *MIS Quarterly*, Vol. 27 No. 3, September 2003, pp. 425-478.
- [6] V. Venkatesh, J.Y.L. Thong, and X. Xu, (2012), “Consumer Acceptance And Use Of Information Technology: Extending The Unified Theory Of Acceptance And Use Of Technology”, *MIS Quarterly*, Vol. 36 No. 1, March 2012, pp. 157-178.
- [7] R. A. Burgelman, C.M. Christensen, and S.C. Wheelwright, “Strategic Management of Technology and Innovation”, New York: McGraw-Hill, 2009, ISBN 978-0073381541.
- [8] F.J.Fowler, “Survey Research Method”, California: SAGE Publications, 2002.
- [9] J.P. Stevens, *Applied multivariate statistics for the social sciences*, New Jersey: Taylor & Francis Group, 1996, ISBN 978-0805859010.
- [10] L. D. Bacon, (1999). Using LISREL and PLS to Measure Customer Satisfaction, *Sawtooth Software Conference Proceedings*, La Jolla, California, Feb 2-5, 305-306.
- [11] H.Hwang, N. K. Malhotra, Y. Kim, , M. A. Tomiuk, & S. Hong, “A comparative study on parameter recovery of three approaches to structural equation modeling”. *Journal of Marketing Research*, Vol. 47, Aug 2010, pp.699-712.
- [12] K. K. Wong. “Handling small survey sample size and skewed dataset with partial least square path modelling”. *The Magazine of the Marketing Research and Intelligence Association*, November 2010, pp.20-23.