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**“ANALYSIS OF INFORMATION TECHNOLOGY USER BEHAVIOR  
AT HIGHER EDUCATION INSTITUTION”  
CASE : ANDALAS UNIVERSITY PORTAL**

**THESIS**



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ECONOMICS FACULTY OF ANDALAS UNIVERSITY  
PADANG  
2012**

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(Case on Andalas University Portal)**

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**ANALYSIS OF INFORMATION TECHNOLOGY USER'S BEHAVIOR AT HIGHER EDUCATION INSTITUTION: CASE ON ANDALAS UNIVERSITY PORTAL**

*Bachelor Thesis by: Akmaludin  
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**Abstract**

*This research investigates the affect of perceived ease of use(PEOU), perceived usefulness (PU), attitude toward using (AT), behavioral intention (BI) on the actual use (AU) of portal at andalas university. The data obtained through questionnaire. The total of 208 andalas university student from each faculty. The findings indicated that perceive usefulness (PU) and attitude toward using (AT) have strong negative relationship, but the perceived ease of use (PEOU) has a positive relationship with the attitude toward using (AT), and the attitude toward using (AT) has a posive relationship with the behavioral intention (BI), and positive relationship between behavioral intention (BI) and actual use( AU) of portal*

**Keywords:** *Perceived Ease Of Use (PEOU), Perceived Usefulness (PU), Attitude Toward Using (AT), Behavioral Intention (BI), And Actual Use (AU)*

This bachelor thesis has already examined and passed on January 10, 2012. The abstract of research has been approved by supervisor and examiners:

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## **PREFACE**

**Bismillaahirrahmaanirrahiim.....**

**In the name of Allah SWT the Most Merciful, the Most Gracious....**

**Alhamdulillahirabbil'aalamiin, all praises to Allah SWT for giving researcher chance, guideline, knowledge, abilities, and eagerness to finish this thesis with the title "Analysis Of Information Technology User's Behavior at Higher Education Institution" (Case on Andalas University Portal)".**

**This thesis was conducted in order to fulfill one of requirement for an Undergraduate Degree in Management Department – Economics Faculty of Andalas University for getting a Bachelor degree. This thesis has been prepared as well as the capability of researcher.**

**The researcher realizes that this thesis cannot be finished without supported and helped from such parties who cannot be mentioned all. On this occurrence, I would like to express the gratitude to those who have supported, facilitated and encouraged me in life, especially in academics.**

**Researcher understands that this thesis still needs improvement due to few limitations. I therefore, it would gladly welcome suggestions and critics to improve its quality. Researcher hopes that this thesis will make valuable contribution to academicians, students and readers in general. Amin.**

**Padang, September 2012**

**Researcher**

**AKMALDIN**

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## **LEMBAR PERNYATAAN**

Saya yang bertanda tangan dibawah ini menyatakan bahwa skripsi dengan judul :

**“Analysis Of Information Technology User’s Behavior at Higher Education Institution”  
(Case on Andalas University Portal)**

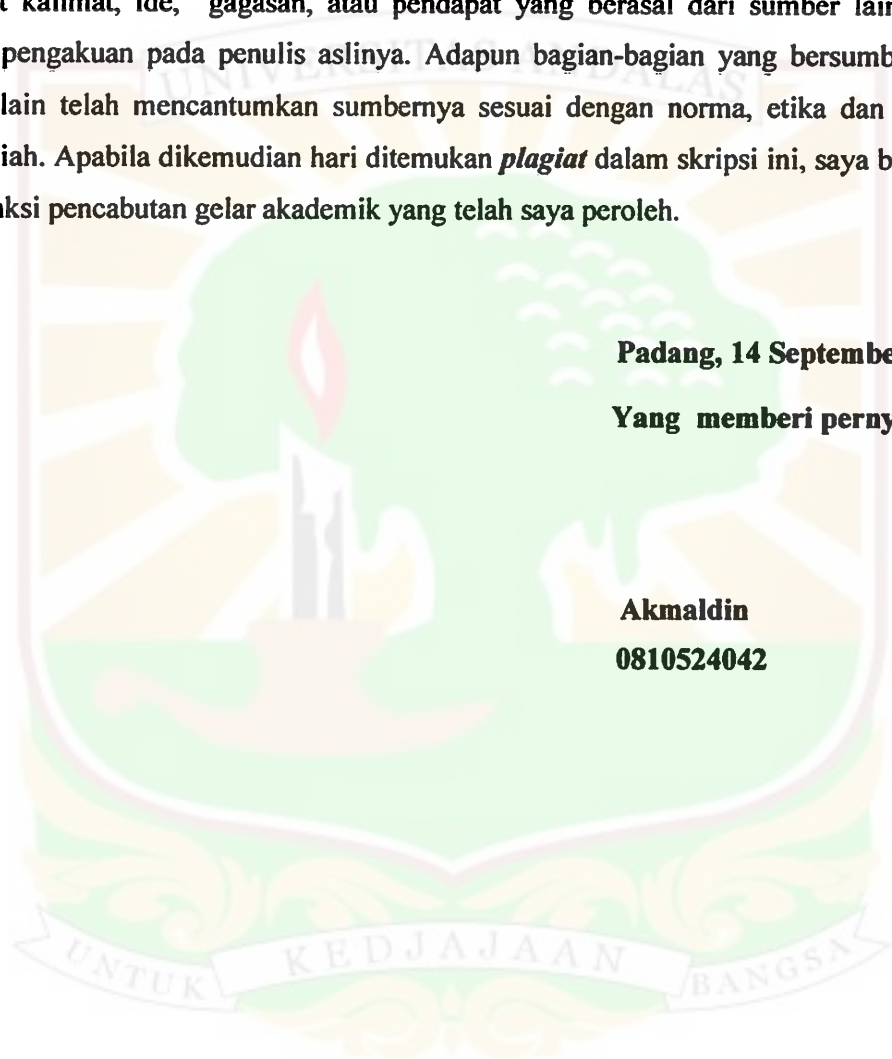
Merupakan hasil karya saya sendiri, dan tidak terdapat sebagian atau keseluruhan dari tulisan yang memuat kalimat, ide, gagasan, atau pendapat yang berasal dari sumber lain tanpa memberikan pengakuan pada penulis aslinya. Adapun bagian-bagian yang bersumber dari karya orang lain telah mencantumkan sumbernya sesuai dengan norma, etika dan kaidah penulisan ilmiah. Apabila dikemudian hari ditemukan *plagiat* dalam skripsi ini, saya bersedia menerima sanksi pencabutan gelar akademik yang telah saya peroleh.

**Padang, 14 September 2012**

**Yang memberi pernyataan,**

**Akmaldin**

**0810524042**





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# CHAPTER I

## INTRODUCTION

### 1.1 Background to the Research

In recent years, computer technology has become a new type of technology innovation with the aim to provide a strategy to improve the quality of teaching and learning. Teaching and learning are two mutually dependent elements of a teaching process (Ana,2010). From traditional up to the present forms of teaching where Information, Communication and Technology (ICT) plays an important role, the focus on the process of teaching has changed (Ana,2010). Now ICT and Internet have become an integral part of the entire educational system as described by Liaw (2007) that the use of ICT and Internet as a teaching and learning tools is rapidly expanding into educational system. The use of technology as a tool or a support for learning with others allows learners to play an active rather than a passive role of recipient of information transmitted by a lecturer, textbook or broadcast (Tarmizi,2010)

However, e-learning is commonly referred to the intentional use of networked ICT in teaching and learning. A number of terms have been used to describe this mode of teaching such as web based learning, virtual learning, distributed learning, web based learning and others. However, all this term refers to educational processes in an online environment that utilize a learning portal to mediate a synchronous as well as asynchronous in teaching and learning activities.

Nowadays, ICT technologies have become more important for student because it provide many benefits with the support of internet connection. Innovations at most University in Indonesia were directed towards strong network infrastructures and up-to-date with a medium speed internet connection. Local Area Network at University has been provided to all offices, teaching rooms, lectures room and also libraries. In addition, the wireless connection is also provided for staff and students so that an online learning environment can be implemented.

More universities have started initiatives on using information management tool to deliver education to student, Andalas University develop an information system that can enable all academic society has the chance to use the technology system in order to reach their objectives. The information technology system built is a part of the organizational component, each interacting, where in the interaction process, the process effects that may occur, the system became optimal and performance effective and efficient or system became not optimal because the human user of the system refuse to utilize it.

Many research shows that the biggest cause for failure in the information system of an organization is not due to technical quality or information it produces, but system application failure is caused mostly by behavioral aspect (Jodiyanto, 2007). Boodnar and Hopwood (1995) stated that IT development needs careful planning and implementation to avoid denial toward the system developed and it is related to the individual behavior change in conducting their work. The behavior toward information system developed can impact on the low usage of information system continually and in the end lower the organizational return on investment of

information technology. (Venkatesh and Davis, 2000). In order for the information technology system can be well accepted, the behavior must be changed or the system is prepared first.

Changing the behavior cannot be directed at the behavior, but must take into account the cause of the behavior. Identifying determinant factor/ information technology adoption became very important in developing information system, so high investment on IT facility will be accepted and creates organizational value.

The research is conducted to measure the prediction of information technology acceptance and adoption of information technology mainly information communication technology or as we call portal, to student at Andalas University with the Technology Acceptance Model or TAM approach that construct which are perceived usefulness and perceived ease of use.

Based on the description of the background that have been outlined above, researcher interested in conducting research with the heading **“ANALYSIS OF INFORMATION TECHNOLOGY USER BEHAVIOR AT HIGHER EDUCATION INSTITUTION” Case Study at Andalas University Portal.**

## **1.2 Research Problem**

1. Perceived usefulness and perceived ease of use influence the student's attitude toward using portal at Andalas University.
2. The student's attitudes toward using portal influence the student's behavioral intention to using portal at Andalas University.

3. The student's behavioral intention influence the actual use portal at Andalas University.

### **1.3 Research Questions**

Questions that guide this research include:

1. How does perceived usefulness and perceived ease of use influence the student's attitudes toward using portal at Andalas University?
2. How does the student's attitudes toward using portal influence the student's behavioral intention to using portal at Andalas University?
3. How does the student's behavioral intention influence the actual use portal at Andalas University?

### **1.4 Purpose of the Research**

The objective of this research is to obtain description on information communication technology (ICT) acceptance especially in term of portal and testing the Portal acceptance model with Technology Acceptance Model (TAM) approach and measure the relations among the variables in TAM to predict ICT technology acceptance and Student's behavior on Andalas University. First, this research give the information influence perceived of ease of use and usefulness on students' attitude toward using portal. Second, this research give the information influence students' attitude toward using on sudents' behavioral intention. Finally, this research give the information influence students' behavioral intention on actual use of portal.



## **1.5 Significant of The Research**

Venkatesh et al. (2003) suggested future research to “address the link between user acceptance and individual or organizational usage outcomes”. This research is expected to give benefit for related parties, especially:

- 1) Andalas University uses this study as a material consideration in the quest to improve portal system.
- 2) This research can increase knowledge and broaden horizons, especially relating to the factors influence student used portal.

## **1.6 Organization of The Chapters**

In order to make it easier and make moderate the forwarding of content, this research is divided into five chapters, they are:

### **CHAPTER I: Introduction**

Elaborating on the background of the problem, formulation of the problem, limiting the problem, research objectives, the benefits of research, and systematic thesis.

### **CHAPTER II: Literature Review**

This chapter contains descriptions of theoretical variables that include the theories that support and underlie the variables used in the research and framework.

### **CHAPTER III: Research Methods**

In this chapter put forward about the research design, population and sample data and data sources, techniques data collection, operational definitions of variables, and data analysis techniques.

#### CHAPTER IV: Research Findings and Discussion

This chapter present the results of research, statistical analysis, hypotesis testing, and the discussion.

#### CHAPTER V: Conclusion

In this chapter contains the conclusions, limitation and recommendation and research implication.



## **CHAPTER II**

### **LITERATURE REVIEW**

#### **2.1 Defining and Studying Acceptance**

According to Dillon (2001) user acceptance can be defined as the demonstrable willingness within a user group to employ information technology for the tasks it is designed to support. Thus, acceptance theorists are less concerned with unintended uses or non-discretionary use of technologies and more interested in understanding the factors influencing the adoption of technologies as planned by users who have some degree of choice. The scientific concern with user acceptance is comparatively recent, since traditionally, developers and procurers of new technology could rely on authority to ensure that technology was used, at least in many industrial/organizational contexts (Dillon, 2001).

The literature on acceptance is broad, ranging from case studies of accepted technologies, to the individual psychological characteristics of acceptors or resisters (see Dillon and Morris, 1996 for a detailed review of various theories and models of user acceptance). Each facet of this literature can provide us with some understanding of what makes users accept or reject a system but, since the issue is complex, it is unlikely that a single-variable explanation can be derived of the level of acceptance any information technology will receive among its intended users. For present purposes it makes sense to consider the evidence on the characteristics of the accepted (or rejected) technology separately from the evidence on the characteristics

of the accepting (or rejecting) user, before reviewing the interplay of both these factors in current models of acceptance.

### **2.1.1 Characteristics of Acceptable Technology**

According to Rogers (1995) innovation diffusion theory, five characteristics of a technology determine its acceptance:

- relative advantage (the extent to which it offers improvements over available tools),
- compatibility (its consistency with social practices and norms among its users),
- complexity (its ease of use or learning),
- trialability (the opportunity to try an innovation before committing to use it),
- observability (the extent to which the technology's gains are clear to see).

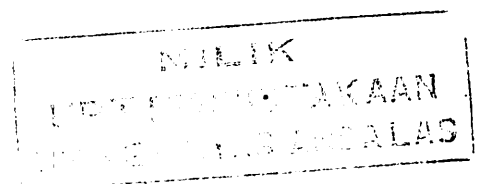
Numerous diffusion studies have demonstrated that innovations affording relative advantages, compatibility with existing practices and beliefs, low complexity, potential trialability, and observability, will be more extensively and rapidly accepted than an innovation with the opposite characteristics. In particular, three of these characteristics seem to have the greatest influence: relative advantage, compatibility and lack of complexity. While the diffusion model has broad appeal, there are concerns that the characteristics Rogers lists are too loosely defined to provide a sound basis for a complete theory.

The importance of complexity and trialability have long been raised in the HCI (Human-Computer Interaction) literature where these concepts find resonance in the literature on usability and user evaluations (e.g., Nielsen, 1993). Usability is frequently linked to certain qualities of the user interface that are under the control of the designer and HCI professionals place great emphasis on ensuring, through systematic usability evaluations, that users can operate a technology effectively, efficiently and satisfactorily. However, HCI research has concentrated less directly on the concept of acceptability or adoption of new technology, making the plausible assumption that usability is a prerequisite of acceptance.

Shackel (1991) is one of the few HCI researchers to make explicit the link between usability and acceptability. According to his formulation, an acceptable system is one that appropriately satisfies the requirements of its users for utility, usability, and cost. These attributes can be easily linked with Rogers five characteristics showing a close overlap between two distinct perspectives. However, while ability to use any technology is obviously necessary, it is not sufficient to ensure acceptability, and many technologies that are demonstrably usable are never accepted by the target users.

### **2.1.2 Characteristics of Accepting Users**

Many researchers have attempted to identify psychological variables that distinguish users who accept or reject technologies. In a meta-analysis of research, Alavi and Joachimsthaler (1992) suggest that the most relevant user factors



determining technology acceptance are cognitive style, personality, demographics, and user-situational variables.

Cognitive style refers to the characteristic ways in which individuals process and use information and can be seen in information processing terms as a stable pattern of handling incoming stimuli and formulating responses. More than one hundred different dimensions can be found in the literature, although a core cluster accounts for the majority of the work on this topic. To date however, few cognitive style dimensions have been shown to predict user behavior with technology reliably.

Personality traits such as need for achievement, degree of defensiveness, locus of control, and risk-taking propensity are frequently proposed as important predictors of acceptance. The literature on this topic tends to blur the distinction between personality and cognitive style and the results of studies into such traits have equally failed to yield significant insights.

Among the demographic variables that have been studied, age and education have been shown to influence system use in some contexts. As expected, higher educational attainment and lower age both seem to influence use positively, but the relationship is weak. Coupling demographic variables with contextual knowledge improves matters substantially and variables such as training, experience, and user involvement, correlate well with acceptance of new technology. Alavi And Joachimsthaler (1992) found that the broad group of user-situational factors were more important than individual difference variables.

Innovation diffusion theory also suggests that factors at the level of the individual user are important. Rogers (1995) divides technology or innovation

adopters into five categories depending on their speed of uptake: innovators, early adopters, early majority, late majority, and laggards. Rogers plots these categories over a normal distribution where the division between early and late majority is viewed as the mean, and thus laggards and late adopters constitute 50% of the population. Rogers estimates that early adopters and innovators (approximately 16% of the population according to his theory) are more likely to manifest risk-taking, adventure seeking personalities as well as being wealthier and more educated than the norm.

## **2.2 Technology Acceptance Model**

One of the theories in information system technology usage that have influence and used widely to explain the individual acceptance on information is the Technology Acceptance Model (TAM) introduced for the first time by Fred D. Davis in 1986, as an adoption from Technology of Reason Action (TRA). The main purpose of TAM is to give framework tracing the influence of external factor on belief, attitude and user objective. The TAM model assumptions are some one adopts a technology that is determined by the cognitive process and the purpose of satisfying its user or maximizing technology usage. The key to information technology acceptance by user is evaluation about the technology usage.

There are five main constructs that develop TAM, the five main constructs are:

### *1. Perceived Usefulness*

Perceived usefulness is also a multi-dimensional concept related to the issues of working speed, work efficiency and effectiveness, making work easier, and other practical considerations. A system with high perceived usefulness is, in turn, one that the user believes offers a positive “use-performance” relationship. Jogiyanto (2007:114) defined Perceived usefulness as how far an individual believe that by using technology it can increase the work performance. The benefit of IT usage can be known by IT user belief in using IT and believe that using IT will have positive contribution for the user. Measurement of the construct usefulness according to Davis (1986) consists of (1) Work More quickly, (2) useful,(3) Increase productivity, (4) enhance effectiveness, (5) improve job performance.

The previous research shows that perceived usefulness construct have positive influence and significant on information system usage. Other than that the perceived usefulness construct is the most significant construct and important influencing attitude, behavioral intention and behavior in information Technology usage compared to other construct.

### *2. Perceived Ease of Use*

Ease of use is defined as how far the individual believe that using technology will be effort free. (Jogiyanto, 2007:114). Based on the definition it can be stated that ease of use will decrease effort (time and strength) for someone to study



the computer. IT user believe that IT is more flexible, easy to understand and compatible as characteristic of ease of use.

Davis.F.D (1986) gave several indicators in the ease of use construct, which are: (1) Easy to Learn, (2) Controllable (3) Clear & Understandable, (4) Flexible, (5) Easy to Become Skillful) (6) Easy to Use. The previous research shows that the ease of use construct influence attitude, behavioral intention and behavior.

### 3. *Attitude Toward Behaviour*

Attitude toward behaviour is defined by Davis et. Al (1989) as positive or negative feeling when someone must conduct a certain designated behaviour. Several research shows attitude have positive influence on behavioural intention. But several researches show that attitude does not have significant influence on interest behavior, so several researches do not include the construct in the model.

### 4. *Behavioral Intention*

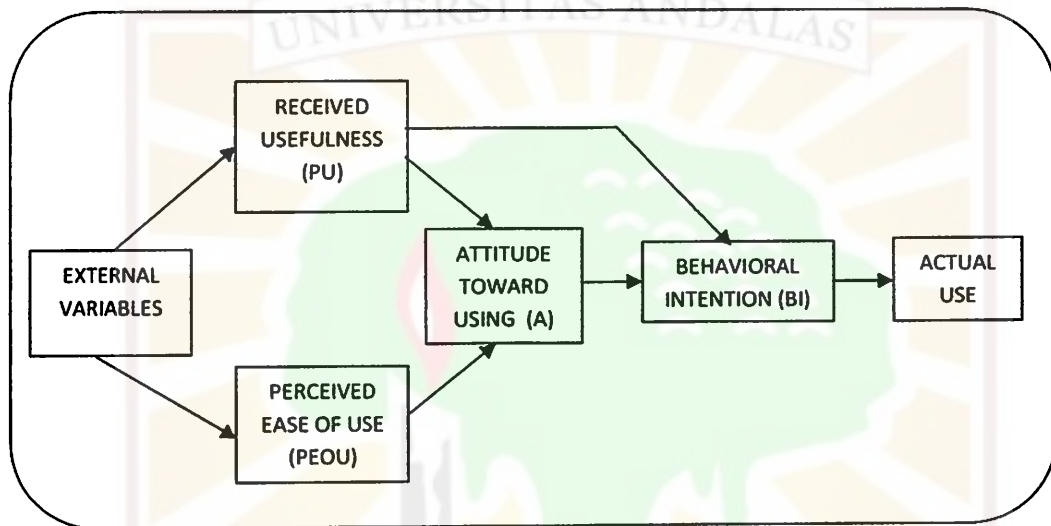
The behavioral intention is an individual interest to conduct a certain behavior. An Individual will conduct a certain behavior if he/she has a want or interest in doing it. (Jogiyanto 2007:116). The previous research shows that behavior interest is the best prediction for technology usage by system user.

### 5. *Behavior*

Behavior is action conducted by an individual. In the context of technology information system, behavior is actual use of technology (Jogiyanto 2007). In the research because the actual use cannot be observed by researcher a list of questions is administered, the usage term is replaced with perceived usage. David (1989) use the

term real usage, as Igbaria et al (1995) stated perceived usage can be measured by the amount of time used to interact with a certain technology and usage frequency.

**Figure 2.1 Technology Acceptance Model**



Source: (Davis et al.1989)

## 2.3 Research Hypothesis

### 2.3.1 Perceived usefulness

This variable indicates that the user finds the system useful for achieving a specific result. It is defined as “the prospective user’s subjective probability that using a specific application system will increase his or her job performance within an organizational context” (Davis et al., 1989, p. 985). There is consistent evidence of the “usefulness-attitude” relationship from research in information systems and computer technologies (Malhotra and Galletta, 1999) as well as e-commerce (Moon and Kim, 2001).

***H1: There will be a positive relationship between Perceived Usefulness and Attitude Toward Using portal.***

### **2.3.2 Perceived ease of use**

Previous research has confirmed ease-of-use as an important factor in predicting attitude toward technology-based self-service, such as using Internet (Davis et al., 1992, Heijden, 2000). In addition, according to Rogers, complexity, the antithesis of ease-of-use (Agarwal and Prasad, 1997), will reduce an individual's willingness to adopt the system. Previous researchers have found that perceived ease-of-use has a positive influence on the user's attitude towards actually using the Internet to send e-mails (Szajna, 1996; Gefen & Straub, 1997). Liao et al (1999) found the lower the perceived complexity of using a service provided by Internet Banking is (i.e., ease-of-use), the more positive the attitude of the consumer towards using this service will be.

***H2: There will be a positive relationship between Perceived Ease of Use and Attitude Toward Using portal.***

### **2.3.3 Students' Attitude**

Social studies conducted that attitude was a significant determinant of behavior intention (Fishbein and Ajzen, 1998). Attitude were also empirically tested as a strong intermediary for motivation variable to predict behavior intention of technology (Taylor and Todd, 1995). The relationship between the attitude towards a given system and the behavioural intention is obvious and vital for consumer

behaviour models (Fishbein and Ajzen, 1975) and has been applied to the adoption of the internet (Pavlou, 2003). Therefore, it is self-evident that a positive attitude towards the internet will have an effect on the tourist's intention of future internet use.

***H3: There will be a positive relationship between Attitude Toward Using Portal and Behavioral Intention to use the system.***

#### **2.3.4 Behavior Intention**

Recent studies indicate the connection between attitude and intention is quite strong (Hsu & Lu, 2004; Chen, Gillenson, & Sherrell, 2002). Attitude in TAM was measured by different measures by researchers. Davis et al. (1989) and Robinson et al. (2005) developed the measures based on Ajzen and Fishbein's (1980) concept of attitude. Moon and Kim (2001) used the similar measures of attitude in the study of the acceptance of World Wide Web (WWW). Others used more extensive meanings of attitude to measure attitudes toward different technologies. Yu et al. (2005) asked consumers' interests in the service and product information and perception to measure their attitude toward T-commerce.

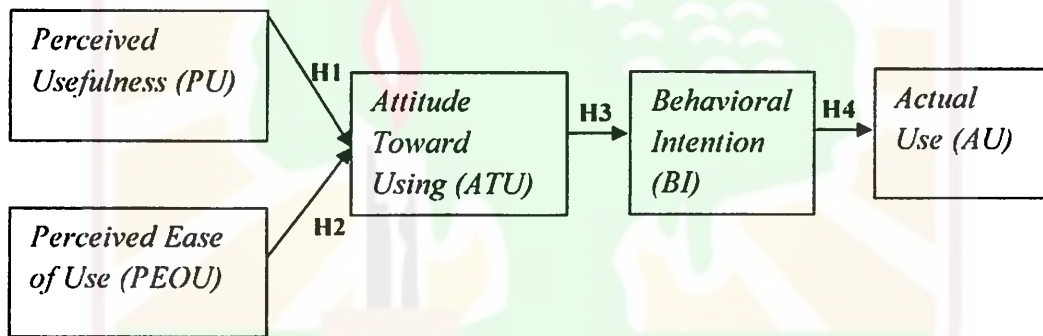
Behavioral Intention (BI) was measured by items based on different aspects of use intention of the technology. The items questioned about 'use intention in accessible situations (Venkatesh, Speier, & Morris, 2002; Wang et al., 2006),' 'use intention in the future (Moon & Kim, 2001; Wang et al., 2006),' and 'frequent use

intention (Robinson, et al., 2005).’ Beside the general items of BI in literature, Moon and Kim (2001) also included ‘intention to recommend the system.’

**H4: There will be a positive relationship between Behavioral Intention to use the system and Actual Use.**

## 2.4 Theoretical Framework

Figure 2.2 Research theoretical framework



## CHAPTER III

### RESEARCH METHOD

#### 3.1 Research Design

The representation of the proposed research framework explained the pattern and structure of relationships among the set of measured variables. The research questions and hypotheses clearly support this research framework. In this research will use quantitative research model which will determine the interaction between all variables. It will lead to one way interaction between the researchers with the sample of this research.

Quantitative research design had been selected in order to find out the appropriate answers to the research questions and to test the hypotheses. The research framework also suggested this type of design. Here, the relationship between *Perceived Usefulness, Perceived Ease of Us, Attitude toward Using, and Behavioral Intention* will investigate in this research.

#### 3.2 Population & Sample

##### 3.2.1 Population

Population refers to the entire group of people, events, or things of interest that the researcher wishes to investigate (Sekaran.2003). The population of this research is students which belong to 11 faculties at Andalas University.

### **3.2.2 Sample**

Sample is a subgroup of population, consisting of elements chosen by a method decided by the researcher in charge of the project (Boyce, 2005, p.89). This research used non probability sampling method, for more specific it is used the purposive sampling which is confined to specific type of people who can provide the desired information (Sekaran.2003).

According to sugiyono (2007), hair et al (2006), and sekaran (2006) the most acceptable size is 1 : 10 ratio between the number of observation and the number of variable to be analysed. This reasearch observed 5 variable, they are perceived easy of use (PEOU), perceived usefulness (PU), students' attitude (AT), behavioral intention (BI), and actual use of portal (AU). Refers to these theory the appropriate sample should be 50. The present research distributed the questioner 280 to achieve the appropriate sample related to explanation about the samples. The sample size also to prevent the unreturned questioners.

### **3.3 Data Collection Method**

The research was conducted at economic faculty of Andalas University. In collecting data, the researcher used:

1. Field Survey

This field survey is conducted in order to obtain primary data that is obtained directly from the object to check out, that is through:

- Questionnaires

On this research, researcher distributed questionnaire to respondent. This questionnaire consists of 5 variables and 22 questions. Where question about Perceived Usefulness are 6 questions, this questions were adapted from the original instrument developed by Malhotra and Galletta (1999). Question about Perceived Ease of Use are 6 questions, this questions were adapted from the original instrument developed by Malhotra and Galletta (1999). Question about Attitude Toward Using the system are 4 questions, this questions were adapted from the original instrument developed by Malhotra and Galletta (1999) and Wu and Goa (2011). Question about Behavioral Intention are 3 questions, this questions were adapted from the original instrument developed by Wu and Goa (2011). Question about Actual Use are 3 questions this questions were adapted from the original instrument developed by Malhotra and Galletta (1999).

The researcher distributed the questioners directly to student at Andalas University. The students filled the questioner and gave it back after one or two days later. The collecting data was held, it was conducted at Andalas University.

### **3.4 Variables and Measurement**

#### **3.4.1 Variables**

The structured of questionnaires was used in this study to collect data from students of Andalas University. The researcher utilized to measure the variables. In the questionnaire, there were five variables; Perceived Usefulness, Perceived Ease of



Use, Attitude Toward Using, Behavioral Intention, and actual use, so it is the operational variable

- a. Dependent Variable is result variable that contain at least one causal (Sekaran.2003). This research dependent variable is Actual Use.
- b. Mediating variable is variable that surfaces between the time the independent variable start to influence the dependent variable. This research intervening variable is Attitude Toward Using and Behavioral Intention
- c. Independent Variable is variable that only as predicted at causal for construction or variable in this research (Sekaran.2003). This research, independent variable is Perceived Usefulness and Perceived Ease of Use.

### 3.4.2 Measurement

Measurement of the variables in the theoretical framework is an integral part of research and important aspect of research design (Sekaran, 2003). Rating scales of this research are questionnaire's questions based on Likert's Scales where they are designed to examine how strong the subjects agree or disagree with the statements on a 5-point scale (Sekaran, 2003). The anchors are:

**Table 3.1 Likert's Scale**

No	Scale	Score
1.	Strongly Agree (SA)	5
2.	Agree (A)	4
3.	Neutral (N)	3
4.	Disagree (D)	2
5.	Strongly Disagree (SD)	1

Source: Sekaran, 2003

### 3.5 Operational Definition

Operational definition is a process for identification of an object by distinguishing it from its background of empirical experience. In this research the operational definition refer on the variables measurement and items of each variable.

Operation definition describes the definition of each variable in this research.

**Table 3.2 Operational Definition**

Part	Variable	Indicator	Sources
1	Demographics information	<ol style="list-style-type: none"> <li>1. Gender</li> <li>2. Age</li> <li>3. Faculty</li> <li>4. Strata</li> <li>5. Program</li> </ol>	Self development
2	Perceived of Ease Use	<ol style="list-style-type: none"> <li>1. Learning to operate portal is easy for me</li> <li>2. I find portal to be flexible to interact with.</li> <li>3. I find it easy to get portal to do what i want to do</li> <li>4. It's easy for me to become skilful at using portal</li> <li>5. I find portal easy to use</li> <li>6. My interaction with portal is clear and understandable</li> </ol>	Malhotra and Galletta , 1999
3	Perceived of Usefulness	<ol style="list-style-type: none"> <li>1. Using portal in my study would enable to me accomplish task more quickly</li> <li>2. Using portal would improve my course performance</li> <li>3. Using portal in my study would increase my productivity in my course work</li> <li>4. Using porta would enhance my effectiveness on learning</li> <li>5. Using portal would make easier to do my task</li> <li>6. I would find portal useful in my course</li> </ol>	Malhotra and Galletta, 1999

**Continue Table 3.2 Operational Definition**

4	Attitude toward Using	<ol style="list-style-type: none"> <li>1. I believe it is good idea to use portal in my future courses</li> <li>2. I have generally favorable attitude toward using portal</li> <li>3. I like the idea to using portal</li> </ol>	Malhotra and Galletta ,1999; Wu and Goa, 2011
5	Behavioral Intention	<ol style="list-style-type: none"> <li>1. I intend to use portal in doing my study</li> <li>2. I intend to use portal for communicating with other</li> <li>3. I intend to use portal frequently in my study</li> <li>4. I intend to take course using portal in future</li> </ol>	Wu and Goa, 2011
6	Actual Use	<ol style="list-style-type: none"> <li>1. How frequently do you believe you use portal</li> <li>2. How many times do you believe you use portal during a week</li> <li>3. How many hours do you believe you use portal every week</li> </ol>	Davis, 1989; Davis et al,1989

### 3.6 Data Analysis Method

This study is intended to test a model that explained the effect of Perceived Usefulness, Perceived Ease of Us, Attitude toward Using, and Behavioral Intention to answer the hypothesis. the data will be analyzed using statistical package for the social sciences (SPSS) 15.0 program for windows. SPSS is needed to analyze the respondent characteristic in represent the frequency and percentage of respondent data. Beside that this tools also used to determine the validity, reliability. The data will be analyzed using structural equation model (SEM) by AMOS 18 as software application. This software provides information about goodness-of-fit model and relationship among the hypothesis.

### 3.6.1 Validity Testing

According to (Ghozali, 2001) validity test is a tool which is used to measure validation of questioner. Questioner is valid if the range is more than 0.30 question of questioner can describe something that will be measured by questioner. Validity test used SPSS 15.0 application program. The item of each variable tested by factor analysis with factor loading. Based on Hair et al. (1998), factor loading greater than  $\pm 0.3$  are considered to meet the minimal level; loading value of  $\pm 0.40$  are considered more important; and if the loading are  $\pm 0.50$  or greater, they considered practically significant.

### 3.6.2 Reliability Testing

Internal reliability testing is purposed to see how well the items measuring a concept hang together as a set. *Cronbach's Alpha* is a reliability coefficients indicates how well the item in a set are positively correlated to one another. The answer consistency showed by the degree of *Cronbach's Alphas*. The closer the reliability coefficient gets to 1, 0 the better (sekaran, 2003). According to Ghozali (2005) the variable reliable if the alpha value 0.5 or bigger than.

In determination of reliability level of one instrument that can be accepted if value of alpha, exist in range 0.50 – 1.00. We categories good/ reliable if in range  $> 0.50 - 0,8$ . We categorize very good/ very reliable if in range 0.80 – 1,00. To determine the reliability of each statement, it is used computer program SPSS 15 for windows with a *Cronbach alpha* formula.

### 3.6.3 Normality test

Normality test aims to test whether the regression model, independent variables and the dependent variable, both are normally distributed or not. Normality test can be done through two approaches, namely through the approach chart (histogram and P-P Plot) and Kolmogorov-Smirnov test (Ghozali, 2001). In this research, for Normality test can be used the Kolmogorov Smirnov test, whereby if the sign value  $> 0.05$ , then it can be concluded that the data variables were tested with the normally distributed. Normality test used SPSS 15.0 program.

### 3.6.4, Structural Equation Model (SEM)

To test the hypothesis used Equation Structural Modeling (SEM), operated by using AMOS 18 program. Structural Equation Model (SEM) is a form of extension or a combination of several multivariate techniques or a set of statistical techniques that allow testing of a series of relationships that are relatively complex simultaneously (Hair et al., 1998). SEM AMOS 18 provides information about goodness-of-fit model and relationship among the hypothesis. Moreover SEM was commonly used measures of fit include:

- **Chi-Square** a fundamental measure of fit used in the calculation of many other fit measures. Conceptually it is a function of the sample size and the difference between the observed covariance matrix and the model covariance matrix.
- **Goodness of fit index (GFI)** represents the degree to which the actual or observed covariance matrix is predicted by the estimated model. GFI deals with explained covariance, relative to total covariance. GFI values can range from 0.0

(poor fit) to 1.0 (perfect fit). In practice, a GFI value greater than 0.9 represents a strong fit. AGFI is an extension of GFI, which is adjusted by the ratio of degrees of freedom for the proposed model to the degrees of freedom for the null model. It is suggested that an AGFI equal to or greater than 0.9 indicates a good fit, while an AGFI that is greater than 0.8 is a sign of a marginal fit.

- **Comparative fit index (CFI)** has the advantage that cannot be influenced by sample size because it is very good for measuring the level of acceptance of a model. CFI values are recommended to be accepted is  $>0.95$ .
- **Root Mean Square Error of Approximation (RMSEA)** is an index that can be used to compensate for the chi-square statistic in large samples. RMSEA values indicate goodness-of-fit who can expect when the model is estimated in the population. RMSEA value of less than or equal to 0.08 is an index to a model that shows the acceptable of a close fit.

## CHAPTER IV

### ANALYSIS AND RESULTS

#### 4.1 Description of Respondent Characteristics

The numbers of questioner have been distributed to Andalas University' students. Questioner was distributed directly. The response in this study was satisfactory. A total about 280 questionnaires were distributed, and this is the table 4.1 that shows about the number of questioner more detailed.

**Table 4.1 Survey Results**

Survey	Number of Questionnaire
Distributed	280
Returned	236
Returned blank or missing	28
Not Returned	44
Analyzed	208

*Source: Processed from questionnaire by using SPSS*

These response in this study was satisfactory. A total about 280 questionare were distributed, and 236 were received and yielding a response rate is 84%, 208 usable and 28 were returned blank or uncomplete.

Among the respondent, there were 60 (28.8%) males and 148 (71.2%) females. The respondents are grouped based on age, the range of age start from <20 years old are 102 (49%), in range from 20-25 are 105 (50.5%), and in last range >25 years old is 1 (0.5%) from total of respondents. This shows that majority of the respondent (50.5%) belong to the age group of 20-25. All the student (100%) with bachelor's degree. A majority of the respondent 144 (69.2%) who were regular

program, 47 (22.6%) who were Non-regular program, and 17 (8.2%) who were international program.

The result of survey shows that respondent can be grouped based on Faculty. The respondents from Faculty of Economics 9.1%, Faculty of Pharmacy 8.2%, Faculty of Law 6.7%, Faculty of Social Sciences and Politics 8.7%, Faculty of Medicine 13.5%, Faculty of Mathematics and Natural Science 8.2%, Faculty of Agriculture 7.2%, Faculty of Animal Husbandry 6.7%, Faculty of Letters 11.1%, Faculty of Agricultural Technology 10.6%, Faculty of Engineering 10.1% from the respondents. More detailed information about the frequency distribution of respondents on the key demographics is represented at tables 4.2 as followed:

**Table 4.2 Description of Respondent Characteristics**

Demographic		Frequency	Percent
Gender	Male	60	28.8
	Female	148	71.2
	Total	208	100.0
Age	<20	102	49.0
	20-25	105	50.5
	>25	1	0.5
	Total	208	100.0
Faculty	Faculty of Law	14	6.7
	Faculty of Agriculture	15	7.2
	Faculty of Medicine	28	13.5
	Faculty of Mathematics and Natural Sciences	17	8.2
	Faculty of Economics	19	9.1
	Faculty of Animal Husbandry	14	6.7
	Faculty of Letters	23	11.1
	Faculty of Social Sciences and Politics	18	8.7
	Faculty of Engineering	21	10.1
	Faculty of Pharmacy	17	8.2



**Continue Table 4.2 Description of Respondent Characteristic**

	Faculty of Agricultural Technology	22	10.6
	Total	208	100.0
Strata	S1	208	100.0
Program	Regular	144	69.2
	Non Regular	47	22.6
	International	17	8.2
	Total	208	100.0

*Source: Processed from questionnaire by using SPSS*

## 4.2 Data Analysis

### 4.2.1 Test of Validity

There are five variables in this research are measure by multiple items: perceived ease of use (PEOU) (6 items), perceived usefulness (PU) (6 items), attitude toward using (AT) (3 items), behavioural intention (BI) (4 items) and actual use (AU) (3 items).

**Table 4.3 Perceived Ease of Use (PEOU)**

Variable	Item	Factor Loading	Remarks
Perceived Ease of Use (PEOU)	PEOU5	0.838	No deleted item
	PEOU1	0.777	
	PEOU4	0.766	
	PEOU3	0.753	
	PEOU6	0.715	
	PEOU2	0.704	

*Source: Processed from questionnaire by using SPSS*

From the table 4.3, the validity test of perceived ease of use (PEOU) variable has showed that all of six items have factor loading greater than 0.5. It's mean that the all items of variable perceived ease of use (PEOU) are valid.

The result of reliability testing in table 4.8 shows the cronbach's alpha for each variable of perceived ease of use (PEOU), perceived usefulness (PU), attitude toward using (AT), behavioral intention (BI) and variable actual use (AU) which reliability test are 0.5 and greater than. It means that all of the research instruments are reliable and can be used for futher analysis.

#### 4.2.3 Testing of Normality

Normality test aims to test whether the regression model, independent variables and the dependent variable, both are normally distributed or not. Normality test can be used the Kolmogorov Smirnov test, whereby if the significant value > 0.05, then it can be concluded that the data variables were tested with the normally distributed (Ghozali, 2001).

**Table 4.9 One-Sample Kolmogorov-Smirnov Test**

		Unstandardized Residual
N		208
Normal Parameters(a,b)	Mean	0.0000000
	Std. Deviation	0.69733522
Most Extreme Differences	Absolute	0.102
	Positive	0.102
	Negative	-0.047
Kolmogorov-Smirnov Z		1.718
Asymp. Sig. (2-tailed)		0.005

*Source: Processed from questionnaire by using SPSS*

Based on Kolmogorov-Smirnov test results show that the value Asymp. Sign. (2-tailed) 0.05, this value is equal to 0.05 therefore all of the data are show normally distributed.

### 4.3 Descriptive of Items Respond for Each Variable

Description of each item obtained from field survey is demonstrated in the following sections. The score each item reflect the level of distributive justice overall respondent for each item. The items are measured using 5 point likert's scale. The higher score means the more positive respond of the respondent.

**Table 4.10 Perceived Ease of Use (PEOU)**

No.	Items	Mean
1.	Easy to operate portal	3.70
2.	flexible to interact with portal	2.88
3.	Portal are Controllable	2.83
4.	Easy to become skilful	3.41
5.	Easy to use portal	3.50
6.	Portal are Clear and understandable.	3.08

*Source: Processed from questionnaire by using SPSS*

The result on Table 4.10 shows that the highest respond of respondents answer on the item 1 and item 4 mean that most respondents viewed that Learning to operate portal is easy and the respondent perceived using portal easy to become skillful. Meanwhile, the lowest score can be seen on the item 3 which reflect the respondents find it easy to get portal to do what I want to do. The respondents perceived portal is not controllable. This perception was influenced by portal accessible, because users need a permission from ICT's staff. For example, to access student's tentative academic record, student have to permit to ICT's staff.

**Table 4.11 Perceived Usefulness (PU)**

No.	Items	Mean
1.	Work more quickly.	2.43
2.	Improving course performance.	2.50
3.	Increasing productivity	2.39
4.	Enhance effectiveness	2.45
5.	Easier to do task.	2.43
6.	Useful in course.	2.54

*Source: Processed from questionnaire by using SPSS*

The result on Table 4.11 shows that the highest respond of respondents answer on the item 6 and 2 mean most students viewed that Using portal would useful in course and portal would improve course performance. Meanwhile, the lowest score can be seen on the item 3 which reflects using portal would increase productivity in course work. Perceive of usefulness variable are consider to be negative. Means, respondent perceived portal is not really usefull enough. This result because portal in Andalas University only used for registration and mark of subject for each semester.

**Table 4.12 Attitude toward Using (AT)**

No.	Items	Mean
1.	Use portal is a good idea	3.51
2.	Attitude toward using portal	3.39
3.	The idea to using portal	3.56

*Source: Processed from questionnaire by using SPSS*

Table 4.12 represent on how the student attitude toward using portal. The result shows, the highest respond of respondents answer on the item 3. These mean that most respondents like the idea to using portal. Meanwhile, the lowest score can be seen on the item 2 which reflects respondents have a general favorable attitude

toward using portal. Result show that Andalas University's students have positive attitude toward using portal. This result influence because of majority of the respondent are female and usually female have good attitude.

**Table 4.13 Behavior Intention (BI)**

No.	Items	Mean
1.	Intention to use portal in doing study.	2.92
2.	Intention to use portal for communicating with others.	2.84
3.	Intention to use portal frequently in study.	2.75

*Source: Processed from questionnaire by using SPSS*

The result on Table 4.6 shows that the highest respond of respondents answer on the item 1 mean that most respondent intend to use portal in doing study. Meanwhile, the lowest score can be seen on the item 3 which reflects the moderate level in terms of intention to use portal frequently in their study. Result show intention of andalas university's students is not really good.

**Table 4.14 Actual Use (AU)**

No.	Items	Mean
1.	Using portal during a week	1.76
2.	Using portal every week hourly	1.12

*Source: Processed from questionnaire by using SPSS*

The result on Table 4.14 shows that the highest respond of respondents answer on the item 1 mean that most respondent frequency uses the portal at week. Meanwhile, the lowest score can be seen on the item 2 which reflects the moderate level in terms of number of hours using portal every week.

#### 4.4 Measurement of Fit Model

The previous section presented detail of data checking process used analysis which included checking for outliers, testing validity of data, testing reliability, and checking for normality of data. This section will be continued with description of statistical tool utilized to assess the developed hypotheses. In this research, analysis procedure was undertaken by using SPSS 15.0 for windows and SEM AMOS 18.

**Table 4.15 Measure of Goodness-Fit-Model**

No.	Measure of Goodness-Fit-Model	Recommended Level of acceptable Fit	Results of the research	Description
1.	Normed chi-square ( $\chi^2/df$ )	Lower limit 1.0 Upper limit 2.0, 3.0, or 5.0	2.22	Acceptable
2.	Goodness of fit index (GFI)	0.0 (poor fit) 1.0 (perfect fit)	0.87	Marginal fit
3.	Root mean square error of approximation (RMSEA)	Under .08	0.07	Acceptable
4.	Adjusted goodness if fit index (AGFI)	0.0 (poor fit) 1.0 (perfect fit)	0.82	Marginal fit
5.	Comparative Fit Index (CFI)	0.0 (poor fit) 1.0 (perfect fit)	0.93	Model fit

*Source: Processed from questionnaires by using SEM AMOS*

Based on the table 4.15 above, the ratio of chi-square to degree of freedom of the result is 2.22 it means the ratio of chi-square to degree of freedom is acceptable because the value smaller than 5. Moreover, RMSEA value less than or equal to 0.08 is an index to a model that shows the receipt of a close fit that model based on the degree of freedom. Based on the calculation results obtained RMSEA value is 0.07, it means the model is acceptable.

Another measure of the absolute fit index that is deemed appropriate to confirm a model is GFI. It represents the overall GFI represents the degree to which

the actual or observed covariance matrix is predicted by the estimated model. GFI deals with explained covariance, relative to total covariance. GFI values can range from 0.0 (poor fit) to 1.0 (perfect fit). Based on calculations from the results obtained through the program AMOS18, GFI is 0.87 it means the model is at moderate level of fitness or good enough fit model (Ghozali, 2002). AGFI is an extension of GFI, which is adjusted by the ratio of degrees of freedom for the proposed model to the degrees of freedom for the null model. AGFI value obtained is equal to 0.83 indicates that a good enough fit model (Ghozali, 2002). Index value of CFI (Comparative Fit Index) is recommended in order to achieve model fit is greater than 0.90. The current result obtained CFI 0.93; it means a model is fit.

#### **4.5 Hypothesis Testing**

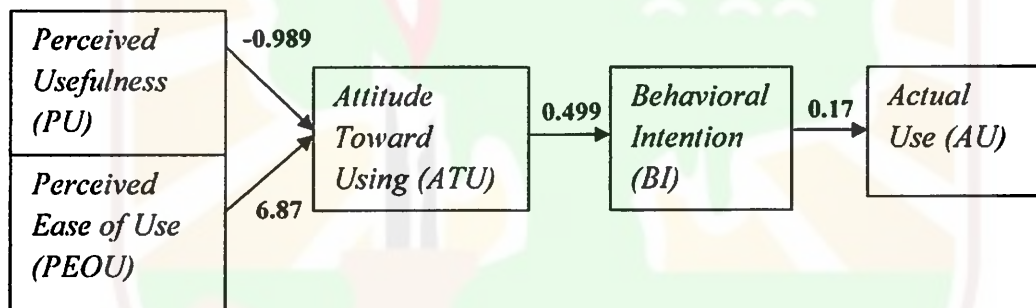
The hypotheses were tested by using Structural Equation Model (SEM). As a direct or indirect effect of the exogenous variables can be specified by identifying paths among variables, a path analysis was conducted to test the overall causal model. As discussed in the earlier section, the model has been tested to assess the overall fit of the model. Also, individual tests of the hypothesized relationship were conducted. The critical t value (CR) used to assess the significance of the relationship between two path is 1.96 ( $p < .05$ ). A CR value above 1.96 means the relationship of the causal model is significant. The results of the hypotheses testing are shown in table 4.16

**Table 4.16 Regression Weight**

H	Path	Estimate	S.E.	CR	P	Judgement
H1	Attitude toward Using (AT)←Perceived Usefulness (PU)	-0.989	0.332	-2.977	0.003	Significant
H2	Attitude toward Using (AT)←Perceived ease of use (PEOU)	6.871	2.182	3.149	0.002	Significant
H3	Behavior Intention (BI)←Attitude toward Using (AT)	0.499	0.066	7.527	0.000	Significant
H4	Actual Use (AU)←Behavior Intention (BI)	0.178	0.090	1.986	0.047	Significant

Source: Processed from questionnaires by using SEM AMOS

**Figure 4.1 Path Diagram for the Initial Theoretical Model**



Note: \*significant at  $p < .01$ , \*\*significant at  $p < .05$ .

**H1: There will be a positive relationship between Perceived Usefulness and Attitude toward using portal.**

Hypothesis 1 investigated the positive impact of perceived usefulness and attitude toward using portal on Andalas University students. The standard path coefficient of, -0.989 and the critical ratio value of, 0.003 ( $p < 0.01$ ), this result show the significant relationship among the variable, but the coefficient value was negative that show negative relationship, noted that hypothesis 1 was not supported. There are



negative relationship between perceive usefulness and attitude toward using portal.

To be more clearly, look at the table 4.17.

**Table 4.17 Regression Weight H1**

H	Path	Estimate	S.E.	C.R.	P	Judgment
H1	Attitude toward Using (AT)←Perceived Usefulness (PU)	-0.989	0,332	-2.977	0.003	Significant

*Source: Processed from questionnaires by using SEM AMOS*

***H2: There will be a positive relationship between Perceived Ease of Use and Attitude Toward Using portal.***

Hypothesis 2 investigated the positive relationship of perceived ease of use and attitude toward using portal on Andalas University students. The standard path coefficient of 6.871 and the critical ratio value of, 0.002( $p < 0.01$ ), result show both variable have strong positive relationship. Increasing the value of perceive ease of use will create the positive attitude of users toward using portal. noted that hypothesis 2 was supported. To be more clearly, look at the table 4.18.

**Table 4.18 Regression Weight H2**

H	Path	Estimate	S.E.	C.R.	P	Judgment
H2	Attitude toward Using (AT)←Perceived ease of use (PEOU)	6.871	2.182	3.149	0.002	Significant

*Source: Processed from questionnaires by using SEM AMOS*

***H3: There will be a positive relationship between Attitude Toward Using Portal and Behavioral Intention to use the system.***

Hypothesis 3 investigated the positive relationship of attitude toward using portal and behavioral intention on Andalas University students. The standard path coefficient of 0.499 and the critical ratio value of, 0.000 ( $p < 0.01$ ), result show variable of attitude toward using has positive relationship. Noted that hypothesis 3 was supported. To be more clearly, look at the table 4.19.

**Table 4.19 Regression Weight H3**

H	Path	Estimate	S.E.	C.R.	P	Judgment
H3	Behavior Intention (BI) ← Attitude toward Using (AT)	0.499	0.066	7.527	0.000	Significant

*Source: Processed from questionnaires by using SEM AMOS*

**H4: There will be a positive relationship between Behavioral Intention to use the system and Actual Use.**

Hypothesis 4 investigated the positive relationship of behavioral intention and actual used portal on andalas university students. The standard path coefficient of 0,178 and the critical ratio value of, 0.047 ( $p > 0.05$ ), result show the variable of behavioral intention has positive relationship to actual use of portal but the relationship is strong enough, noted that hypothesis 4 was supported. To be more clearly, look at the table 4.20.

**Table 4.20 Regression Weight H4**

H	Path	Estimate	S.E.	C.R.	P	Judgment
H4	Actual Use (AU) ← Behavior Intention (BI)	0.178	0.090	1.986	0.047	Significant

*Source: Processed from questionnaires by using SEM AMOS*

Based on hypothesis test above, we can investigate the result of each hypothesis. The summary of result hypothesis can be seen in Table.

**Table 4.21 Summary of Hypothesis**

H	Hypotheses	Results
H1	There will be a positive relationship between Perceived Usefulness and Attitude toward using Portal.	Not Supported
H2	There will be a positive relationship between Perceived Ease of Use and Attitude Toward Using Portal.	Supported
H3	There will be a positive relationship between Attitude Toward Using Portal and Behavioral Intention to use the system.	Supported
H4	There will be a positive relationship between Behavioral Intention to use the system and Actual Use.	Supported

#### 4.6 Discussion of the Research Findings

This section addresses the discussion of the research findings on the basis of the model. The final model of this is presented in figure 4.1 and the relationships among the hypotheses which illustrate the key findings of the research. A brief overview of the contribution is presented first and is then followed with discussions of the result.

##### 4.6.1 The relationship between perceived usefulness and attitude toward using portal.

The results of the hypotheses testing showed that perceived usefulness have significant positive relationship with attitude toward using portal. The standard path coefficient of, -0.989 and the critical ratio value of, 0.003 ( $p < 0.01$ ), The result reflects that students of Andalas University have negative attitude toward using portal, if they

found that portal is useful. Perceived usefulness defined as an individual's perception that use of technology will improve performance (Davis,1989).

As previously concluded by Davis (1989), the result of the present study shows that the main effect of ease of use on user behaviour occurs through its strong positive relationship with perceived usefulness. Ease of use attitude in that captures the intrinsic motivation of the behavior in a manner similar to the relationship proposed.

The study about university web portal as information management tool conducted by Tolentino (2011) shows perception of respondents agree that university web portal is useful in education. The respondent perceived university web portal enables them to accomplish tasks more quickly and enhances their educational effectiveness. This study also found that university web portal increases their performance in education. In terms of perceived usefulness influence user's attitude, shows that perceived usefulness has highly correlated to attitude of using university web portal. According to Brown *et al* (2002) Perceived usefulness continues to be more important. This previous study does not support the result of research, respondents have user behavior have negative relationship with the perceived ease of use.

#### **4.6.2 The relationship between perceived ease of use and attitude toward using portal.**

The test of hypotheses 2 found that Perceive ease of use has positive influences on attitude toward using web portal which the standard path coefficient of 6.871 and the critical ratio value of, 0.002( $p < 0.01$ ), Perceived Ease of Use (PEOU) refers to the extent to which a person believes that using a system would be free of mental effort (Davis, 1989). As explained in previous section, the model of this study showed that perceive ease of use is significantly related to attitude. This finding support previous literature which stated that many researchers who have studied the relationship between perceived ease of use and Attitude.

Telentino (2011) found university web portal really easy to use because when user have interaction with the university web portal is clear and understandable. They seldom become confused while working with university web portal. Overall, the university web portal is easy to use. In term of perceive ease of use has significant influence attitude to using university web portal.

As result has show in this research, found respondent perceived learning to operate portal is easy. Student also agrees that university portal is clear and understandable when they have interaction to portal. Overall, portal of Andalas university is easy to use. This result indicated andalas university portal really easy to use. Andalas University has made this portal easy to interact with user, user didn't find any trouble when they use portal. Test the hypothesis show perceived ease of use has positive relationship with portal,

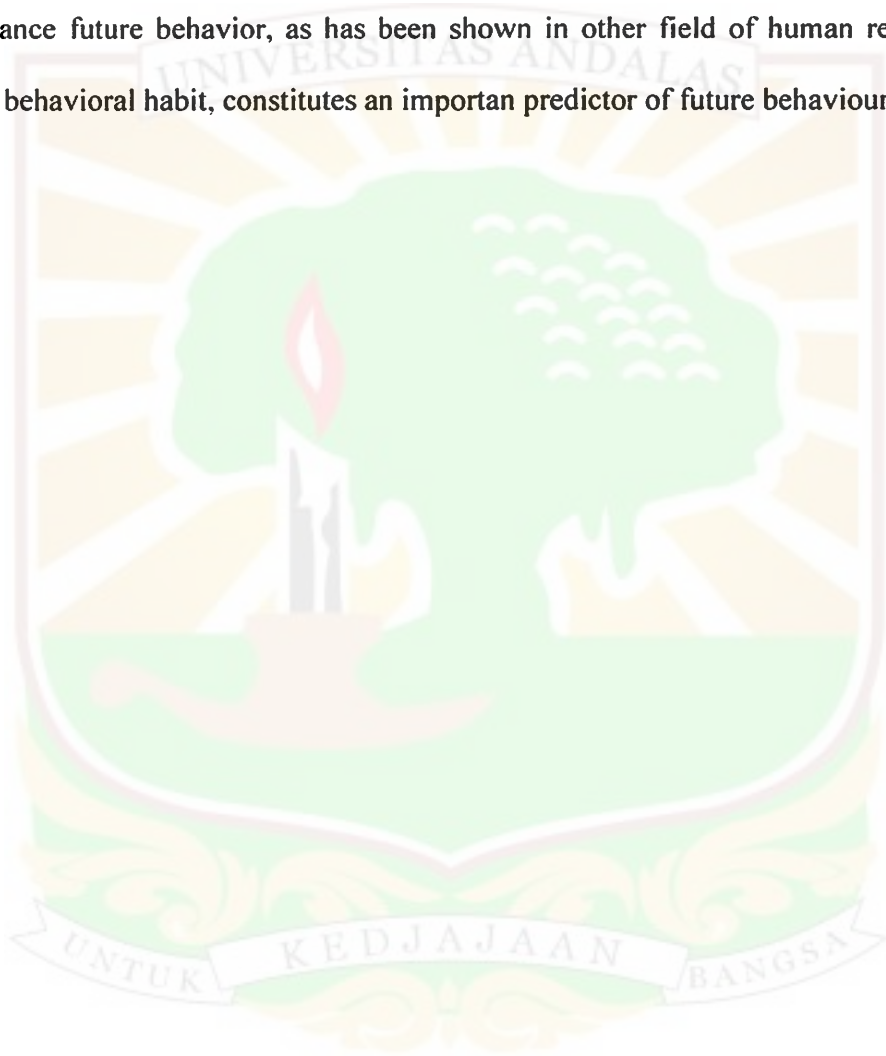
#### **4.6.3 The relationship between attitude toward using portal and behavioural intention**

Test of hypothesis 3 show attitude toward using portal and behavioural intention to use portal has positive relationship which the standard path coefficient of 0.499 and the critical ratio value of, 0.000 ( $p < 0.01$ ). Attitude toward behaviour is defined by Davis et. Al (1989) as positive or negative feeling when someone must conduct a certain designated behaviour. Several research shows attitude have positive influence on behavioural intention. Brown *et al* (2002) in research about user acceptance of mandated technology found that the relationship between attitude and behaviour intention is indicate that feelings employees have about using the system is influencing their intention to use. Behavioural intention to using has strong relationship with the attitude toward use, this found by Tolentino (2011). Based on the result and supported by previous study above, it was strengthen in hypothesis 3, that state attitude influence the behavioral intention.

#### **4.6.4 The relationship between behavioural intention and actual used portal.**

Test the hypothesis 4 found that the relation between behavioural intention and actual use of portal is positive which the standard path coefficient of 0,178 and the critical ratio value of, 0.047 ( $p > 0.05$ ). Behavioural intentions significantly influence the actual use of portal. Behavioural intention as degree to which a person is willing to use a particular system (Davis et. al, 1989).

The previous study (Tolentino, 2011) has shown that actual use support was positively associated with behavioral intention. This current result found the relationship between behavioral intention is significant influence of actual using portal. Refers from the journal of Alberto (2008) found the role of actual behaviour as an attendance future behavior, as has been shown in other field of human resource conduct, behavioral habit, constitutes an important predictor of future behaviour.



## CHAPTER V

### CONCLUSION, LIMITATIONS, RECOMMENDATIONS, AND IMPLICATIONS OF RESEARCH

#### 5.1 Conclusion of Research

The main purpose of this study was to obtain description on information communication technology (ICT) acceptance especially in term of portal and testing the Portal acceptance model with Technology Acceptance Model (TAM) approach and measure the relations among the variables. The contributing variables can be oriented from Andalas Univesity students. Based on the review of the literature, research developed a number of hypotheses which were represented in the research model in Figure 2.2. The results of analysis conclude as follows:

1. Perceived usefulness (PU) has significant influence the attitude toward using portal (AT). But perceived usefulness (PU) did not show the positive relationship to atitude toward using portal (AT). Meanswhile, Perceived usefulness (PU) has negative relationship to the attitude toward using portal.
2. Perceive ease of use (PEOU) has significant affect to attitude toward using portal (AT). There are positive relationship between Perceive ease of use and atitude toward using portal.
3. attitude toward using portal (AT) has significant affect to behavioral intention (BI). There are positive relationship between attitude toward using portal and intention to use portal.



4. behavioral intention (BI) has significant affect to attitude actual use (AU).

There are positive relationship between intention to use and actual use portal.

## **5.2 Limitation, Recommendation and Implication**

### **5.2.1 Limitation and Recommendation of the Research**

There are some limitations on this research and recommendations for the future research:

1. Sample size. Sample in this research is limited 285 respondents. Hopefully, in the next research, sample increased, it will contribute more accurate result,
2. Are of research. This research held only in Andalas University. In future research, researcher should using more university in order to get accurate result,
3. Respondent are Andalas University students but this research only student who bachelor degree. In further research, in future research hope another respondent will be taken such as master degree or diploma degree.

### **5.2.2 Implicational of the Research**

The utility of this study is te strong determination of suport previous res The research provides several implications for improvement of understanding of the relationship among perceived ease of use (PEOU), Perceived usefulness, attitude, behavioral intention and actual use of portal at Andalas University. The research results show that usage of portal was significatly influenced by perceived ease of you

and perceived usefulness, which mediating by student attitude and behavioral intention.

Some programs may be implemented by university to support the intention to use portal.

➤ Education.

Andalas University should provide such kind of training and provide the information about how to use the portal. This training will help the student to get better understanding to access portal.

➤ Internet accessible.

Andalas University has been provide internet connection in all area of university. But during the register date most of student get trouble when assess portal. This factor will influence students' usage of portal. Andalas university need to improve the quality in term of portal accessible.

➤ Increase the effectiveness and efficiency of portal ..

Andalas University portal web is used only for students' register. Actually, this portal web has other benefit such as student can access portal to get the the material. as social account where student can interact with lecturer and other student 24 hours.

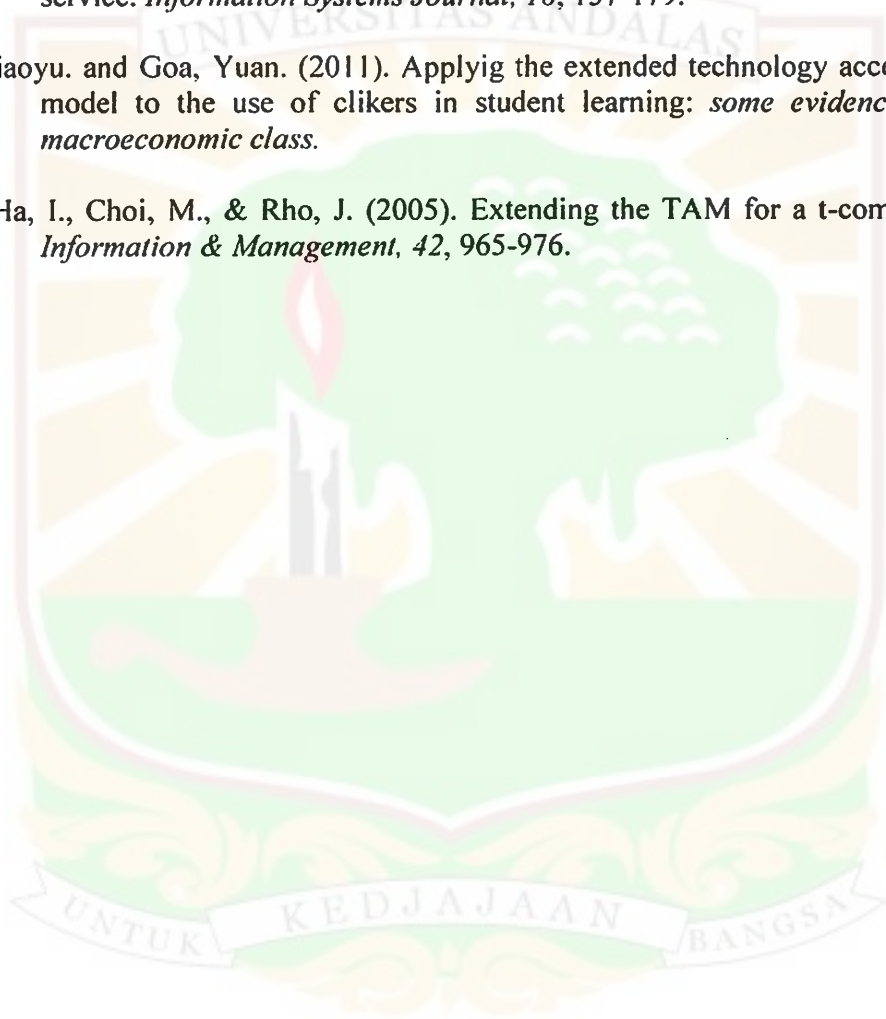
## References

- Alavi, M. and Joachimsthaler, E. A. (1992). Revisiting DSS implementation research: A meta-analysis of the literature and suggestions for researchers. *MIS Quarterly*, March, 95-116.
- Ana, Julia Viamonte. (2010). The computer in the teaching of mathematics. Proceeding of Advanced Educational Technologies. 6th WSEAS/IASME *International Conference on Educational Technology*. 24-29.
- Agarwal, R. & Prasad, J. (1997). A conceptual and operational definition of personal innovativeness in the domain of information technology, *Information System Research*, 9 (June),
- Ajzen, I. And Fishbein, M.. (1980), *Understanding Attitude and Predicting Social Behavior*, Prentice Hall, london.
- Chen, L., Gillenson , M. L., & Sherrell, D. L. (2002). Enticing online consumers: An extended technology acceptance perspective, *Information & Management*, 39, 705-719.
- Chan, Y.F., Ranjit, K.S., Jamiah, B. & Eliza, P (2007). *Computer education for classroom teaching*. Boston : McGraw Hill.
- Comfrey, A. L., & Lee, H. B. (1992). *A First Course in Factor Analysis*. Hillsdale, NJ: Lawrence Erlbaum Associates
- Davis, F.D., Bagozzi, R.P. & Warshaw, P.R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology*, 22(14)
- Davis, F. D. "A Technology Acceptance Model for Empirically Testing New End User Information Systems: Theory and Results," in MIT Sloan School of Management. Cambridge, MA: MIT Sloan School of Management, 1986.
- Davis, F. D. 1989. "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology," *MIS Quarterly*, 13. 319-340.
- Davis, F. D., Bagozzi, R. P., and Warshaw, P. R.. 1989. "User Acceptance of Computer Technology: A Comparison of Two Theoretical Models," *Management Science*, 35, 982-1003.

- Dillon, A. (2001) User Acceptance of Information Technology. In W. Karwowski (ed). *Encyclopedia of Human Factors and Ergonomics*. London: Taylor and Francis.
- Fishbein, M. And Ajzen, I. 1975. Belief, Attitude Intention and Behavior: An Introduction TO theory and Research. *Reading MA: Addition-Wesley*
- Gefen, D. & Straub, D. (1997). Gender differences in the perception and use of e-mail: an extension to the technology acceptance model, *MIS Quarterly*, 21(4),
- Ghozali, I. (2002). Pengaruh religiositas terhadap komitmen organisasi, keterlibatan kerja, kepuasan kerja, dan produktivitas. *Jurnal Bisnis Strategy*. 9, 1-13.
- Ghozali, I. (2001). *Aplikasi analisa multivariate dengan program SPSS, Semarang: Badan Penerbit UNDIP*
- Hair, J.F. Jr. , Anderson, R.E., Tatham, R.L., & Black, W.C. (1998). *Multivariate Data Analysis, (5th Edition)*. Upper Saddle River, NJ: Prentice Hall.
- Hair, J. F. Jr. Black, W. C., Babin, B. J. Anderson, R. E. and Tatham, R. L. 2006. *Multivariate data analysis*. 6th ed. New Jersey: Prentice Hall.
- Heijden, H. (2000). E-TAM: a revision of the technology acceptance model to explain websites revisits. Research Memorandum. September.
- Hsu, C., & Lu, H. (2004). Why do people play on-line games? An extended TAM with social influences and flow experience. *Information & Management*, 41, 853-868.
- Igbaria, M., Guimaraes, T., & Davis, G. B. (1995). Testing the determinants of microcomputer usage via a structural equation model. *Journal of Management Information Systems*, 11, 87-114.
- Liao, S., Shao, Y.P., Wang, H., & Chen, A.. (1999). The adoption of virtual banking: an empirical study, *International Journal of Information Management* 19 (1), 63-74
- Liaw, S.S., Huang, H.M., & Chen, G.D. (2007). Surveying Instructor and Learner attitudes toward e-learning. *Computers & Education*, 49, 1066-1080.
- Malhotra, Yogesh. and Galletta, Dennis F. (1998). Extending technology acceptance model to account for social influence: *theoretical Bases and empirical validation*. BRINT Research Institute. From [www.proquest.web.com](http://www.proquest.web.com)

- Moon, J., & Kim, Y. (2001). Extending the TAM for a World-Wide-Web context. *Information & Management*, 38, 217-230.
- Morris M. (1996) User acceptance of information technology: theories and models. In: M. Williams (ed.), *Annual Review of Information Science and Technology*, Vol. 31, (Medford, NJ: Information Today).
- Tarmizi, R A; Fauzi, Ahmad M A; Kamariah Abu Bakar & Aida Suraya Md. Yunus (2010). Technology Enhanced Collaborative learning. Of Calculus. Proceeding of Advanced Educational Technologies. 6th WSEAS/IASME International Conference on Educational Technology (EDUTE'10). Pp 145-150.
- Rogers, E. (1995). *Diffusion of Innovations*. (New York: Free Press).
- Sekaran, Uma. 2003. *Research Methods for Business, A Skill-Building Approach. America: Third Edition*, John Wiley & Sons, Inc.
- Sekaran, Uma 2005. *Metode Penelitian Bisnis*. Jakarta : Salemba Empat.
- Shackel, B. (1991). Usability Context, Framework, Definition, Design, and Evaluation. In B. Shackel and S. Richardson (eds.). *Human Factors for Informatics Usability*. (Cambridge: Cambridge University Press).
- Sugiyono. 2007. *Metode Penelitian Administasi*. Bandung : Alvabeta
- Szajna, B. (1996). Empirical evaluation of the revised technology acceptance model. *Management Science*, 42 (1), 85–92.
- Taylor, S. and Todd, P. (1995). Understanding Information Technology Usage: A Test of Competing Models. *Information Systems Research* 6(2), 144-176.
- Taylor, S and Todd, P. (1995), "Assessing IT usage; the role of prior experience", *MIS Quarterly*
- Telentino. (2011). University web portal as information management tools: *technology acceptance dimention*.
- Venkatesh V, & Davis D. Fred. (2000) "A theoretical extension of the technology acceptance model: four longitudinal field studies". *Management Science*.
- Venkatesh, V., Morris, M.G., Davis G.B., & Davis F.D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, 27(3), 425-478.

- Venkatesh, V. Davis FD (2000) A theoretical extension of technology acceptance model: four longitudinal field studies. *Management science*
- Venkatesh, V., Speier, C., Morris, M. G., (2002). Use acceptance enablers in individual decision making about technology: Toward an integrated model. *Decision Sciences*, 33, 297-316.
- Wang, Y., Lin, H., & Luarn, P. (2006). Predicting consumer intention to use mobile service. *Information Systems Journal*, 16, 157-179.
- Who, Xiaoyu. and Goa, Yuan. (2011). Applying the extended technology acceptance model to the use of clickers in student learning: *some evidence from macroeconomic class*.
- Yu, J., Ha, I., Choi, M., & Rho, J. (2005). Extending the TAM for a t-commerce. *Information & Management*, 42, 965-976.



**APPENDIX 1**  
**QUESTIONNAIRE**

**SURVEY QUESTIONNAIRE**

**“ANALYSIS OF INFORMATION TECHNOLOGY USER BEHAVIOR AT  
HIGHER EDUCATION INSTITUTION”**

Dear participant, thank you very much for your kind participation in this research. Often we are told about and use portal that are available to make your studies easier. For the following questions, imagine that you were introduced portal. It doesn't matter specifically what portal does, only that it is intended to make your studies easier and that you never used it before.

The following questions ask you to indicate whether you could use this unfamiliar software under a variety of conditions. Using the following scale, please answer each of the following questions:

- |                     |                        |
|---------------------|------------------------|
| SA : Strongly Agree | SD : Strongly Disagree |
| A : Agree           | D : Disagree           |
| N : Neutral         |                        |

**Part: A personal data**

**Researcher self development**

Choose the best answer by checking: (✓)

1. Gender <input type="checkbox"/> Male <input type="checkbox"/> Female
2. Age <input type="checkbox"/> <20 <input type="checkbox"/> 20 – 25 <input type="checkbox"/> >25
3. Faculty .....
4. Strata <input type="checkbox"/> D3 <input type="checkbox"/> S1 <input type="checkbox"/> S2
5. Program <input type="checkbox"/> Regular <input type="checkbox"/> Non Regular <input type="checkbox"/> International

**Part: B** Please check (✓) your response about using portal on using five scales based upon what you think to be the most appropriate response for filling blank.

**1. Perceived Ease of Use**

No	Items	SD	D	N	A	SA
1	Learning to operate portal is easy for me.					
2	I find portal to be flexible to interact with.					
3	I find it easy to get portal to do what I want to do.					
4	It is easy for me to become skillful at using portal					
5	I find portal easy to use					
6	My interaction with portal is clear and understandable.					

The degree to which a person believes that using a particular system would be free of effort (Davis, 1989)

Source: Malhotra and Galletta, 1999

**2. Perceived Usefulness**

The degree to which a person believes that using a particular system would enhance his or her performance (Davis, 1989)

No	Items	SD	D	N	A	SA
1	Using portal in my study would enable me to accomplish tasks more quickly.					
2	Using portal would improve my course performance.					
3	Using portal in my study would increase my productivity in my course work					
4	Using portal would enhance my effectiveness on learning.					
5	Using portal would make it easier to do my task.					
6	I would find portal useful in my course.					

Source: Malhotra and Galletta, 1999

**3. Behavioral Intentions**

The degree to which a person is willing to use a particular system (Davis et. al. 1989)

No	Items	SD	D	N	A	SA
1	I intend to use portal in doing my study.					
2	I intend to use portal for communicating with others.					
3	I intend to use portal frequently in my study.					
4	I intend to take course using portal in future					

Source: Malhotra and Galletta, 1999; Wu and



#### 4. Attitude Toward Using

No	Items	SD	D	N	A	SA
1	I believe it is a good idea to use portal in my future courses					
2	I have a generally favorable attitude toward using portal					
3	I like the idea to using portal					

Source: Wu and Goa, 2011

#### 5. Actual Use

1. How frequently do you believe you use portal?

Infrequent						Frequent
	Extremely	quite	neither	quite	extremely	

2. How many times do you believe you use portal during a week?

Not at all	Less than once a week	About once a week	2 or 3 times a week	Several times a week

3. How many hours do you believe you use portal every week?

Less than 1 hrs	Between 1-5 hrs	Between 5-10 hrs	Between 10-15 hrs	Between 15-20 hrs

Source: Malhotra and Galletta, 1999

## APPENDIX 2

### QUESTIONNAIRE TRANSLATE

#### “ANALYSIS OF INFORMATION TECHNOLOGY USER BEHAVIOR AT HIGHER EDUCATION INSTITUTION”

Responden yang terhormat, terimakasih banyak atas partisipasinya dalam penelitian ini. Kita sering berbicara dan menggunakan portal yang tersedia untuk membuat proses belajar supaya lebih mudah. Untuk pernyataan-pernyataan berikut, bayangkan kembali ketika kamu diperkenalkan portal. Dan kamu masih belum mengetahui secara spesifik apa itu portal, kamu hanya bermaksud untuk membuat proses belajarmu lebih mudah dan kamu belum pernah menggunakannya sebelumnya.

Pernyataan-pernyataan berikut meminta kamu menunjukkan apakah kamu bisa menggunakan software yang belum familiar ini dalam semua kondisi. Gunakan skala berikut ini, dan jawab setiap pernyataan berikut:

SS : Sangat Setuju      SD : Sangat Tidak Setuju  
S : Setuju              TD : Tidak Setuju  
N : Netral

#### Bagian A : Data Diri

Dikembangkan sendiri oleh peneliti.

Pilih jawaban yang dengan memberikan centang: (✓)

1. Jenis kelamin <input type="checkbox"/> Laki-laki <input type="checkbox"/> Perempuan
2. Usia <input type="checkbox"/> <20 <input type="checkbox"/> 20 – 25 <input type="checkbox"/> >25
3. Fakultas -----
4. Strata <input type="checkbox"/> D3 <input type="checkbox"/> S1 <input type="checkbox"/> S2
5. Program <input type="checkbox"/> Regular <input type="checkbox"/> Non Regular <input type="checkbox"/> International

**Bagian: B** Berikan centang (✓) pada pendapatmu dalam menggunakan portal pada 5 skala, berdasarkan jawaban apa yang kamu pikirkan. Jawab dengan jawaban yang tepat dan hindari jawaban yang kosong.

**1. Presepsi Kemudahan Penggunaan (*Perceive Ease Of Use*)**

Tingkat kepercayaan seseorang yang menggunakan sebuah sistem tertentu akan bebas dari usaha. (davis, 1989)

No	Pernyataan	SS	S	N	TD	SD
1	Belajar mengoperasikan portal mudah bagi saya.					
2	Saya merasa portal fleksibel untuk berinteraksi.					
3	Saya merasakan kemudahan pada portal untuk mengerjakan apa yang saya inginkan.					
4	Mudah bagi saya untuk mahir dalam menggunakan portal.					
5	Saya merasa portal mudah digunakan					
6	Interaksi penggunaan portal sangat jelas dan dapat di mengerti.					

**2. Presepsi Kegunaan (*Perceived Usefulness*)**

Tingkat kepercayaan seseorang yang menggunakan suatu system tertentu akan meningkatkan performa. (davis, 1989)

No	Pernyataan	SS	S	N	TD	SD
1	Menggunakan portal dalam belajar akan memungkinkan saya untuk menyelesaikan tugas lebih cepat.					
2	Menggunakan portal akan meningkatkan performa matakuliah saya.					
3	Menggunakan portal dalam belajar akan meningkatkan produktivitas saya dalam mengerjakan tugas matakuliah					
4	Menggunakan portal akan meningkatkan keefektivan dalam belajar.					
5	Menggunakan portal akan membuat saya lebih mudah dalam mengerjakan tugas.					
6	Saya merasa portal bermanfaat dalam belajar.					

### 3. Niat Penggunaan (*Behavioral Intentions*)

Tingkat dimana seseorang berkeinginan untuk menggunakan suatu system tertentu. (davis et. al, 1989)

No	Pernyataan	SS	S	N	TD	SD
1	Saya bermaksud menggunakan portal dalam belajar					
2	Saya bermaksud menggunakan portal untuk berkomunikasi dengan orang lain.					
3	Saya bermaksud menggunakan portal sesering mungkin dalam belajar.					
4	Saya bermaksud untuk mengambil matakuliah menggunakan portal dimasa mendatang.					

### 4. Sikap dalam Menggunakan Portal (*Attitude toward Using*)

No	Pernyataan	SS	S	N	TD	SD
1	Saya percaya menggunakan portal untuk kuliah yang akan datang adalah ide yang baik					
2	Saya memiliki sikap yang umumnya baik terhadap penggunaan Portal					
3	Saya setuju dengan ide penggunaan portal.					

### 5. Penggunaan Sebenarnya (*Actual Use*)

1. Seberapa sering anda dalam menggunakan portal?

Jarang						Sering
	Sangat	cukup	netral	cukup	sangat	

2. Seberapa sering anda menggunakan portal dalam seminggu?

Tidak pernah	kurang dari satu kali seminggu	berkisar satu kali seminggu	2 atau 3 kali seminggu	beberapa kali seminggu

3. Berapa jam anda menggunakan portal dalam seminggu?

Kurang dari 1 hrs	Antara 1-5 hrs	Antara 5-10 hrs	Antara 10-15 hrs	Antara 15-20 hrs

### APPENDIX 3

#### FREQUENCY OF RESPONDENT CHARACTERISTICS

##### Statistics

		Gender	Age	Fakultas	Strata	Program
N	Valid	208	208	208	208	208
	Missing	0	0	0	0	0

##### Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	60	28,8	28,8	28,8
	female	148	71,2	71,2	100,0
	Total	208	100,0	100,0	

##### Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<20	102	49,0	49,0	49,0
	20 - 25	105	50,5	50,5	99,5
	>25	1	,5	,5	100,0
	Total	208	100,0	100,0	

## Fakultas

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Faculty of Law	14	6,7	6,7	6,7
Faculty of Agriculture	15	7,2	7,2	13,9
Faculty of Medicine	28	13,5	13,5	27,4
Faculty of Mathematics and Natural Sciences	17	8,2	8,2	35,6
Faculty of Economics	19	9,1	9,1	44,7
Faculty of Animal Husbandry	14	6,7	6,7	51,4
Faculty of Letters	23	11,1	11,1	62,5
Faculty of Social Sciences and Politics	18	8,7	8,7	71,2
Faculty of Engineering	21	10,1	10,1	81,3
Faculty of Pharmacy	17	8,2	8,2	89,4
Faculty of Agricultural Technology	22	10,6	10,6	100,0
Total	208	100,0	100,0	

## Strata

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid S1	208	100,0	100,0	100,0

## Program

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Reguler	144	69,2	69,2	69,2
Non Reguler	47	22,6	22,6	91,8
International	17	8,2	8,2	100,0
Total	208	100,0	100,0	

## APPENDIX 4

### VALIDITY, REALIBILITY, AND NORMALITY TESTING

#### 1. VALIDITY TESTING

##### a. Perceived Ease Of Use

##### Communalities

	Initial	Extraction
PEOU1	1,000	,604
PEOU2	1,000	,496
PEOU3	1,000	,568
PEOU4	1,000	,587
PEOU5	1,000	,703
PEOU6	1,000	,512

Extraction Method: Principal Component Analysis.

##### Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,469	57,816	57,816	3,469	57,816	57,816
2	,955	15,922	73,738			
3	,544	9,070	82,808			
4	,452	7,537	90,345			
5	,326	5,430	95,774			
6	,254	4,226	100,000			

Extraction Method: Principal Component Analysis.

##### Component Matrix(a)

	Component
	1
PEOU5	,838
PEOU1	,777
PEOU4	,766
PEOU3	,753
PEOU6	,715
PEOU2	,704

Extraction Method: Principal Component Analysis.

a 1 components extracted.

**b. Perceived Usefulness**

**Communalities**

	Initial	Extraction
PU1	1,000	,850
PU2	1,000	,812
PU3	1,000	,888
PU4	1,000	,855
PU5	1,000	,878
PU6	1,000	,724

Extraction Method: Principal Component Analysis.

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,006	83,426	83,426	5,006	83,426	83,426
2	,333	5,547	88,973			
3	,224	3,733	92,705			
4	,187	3,112	95,817			
5	,140	2,333	98,150			
6	,111	1,850	100,000			

Extraction Method: Principal Component Analysis.

**Component Matrix(a)**

	Component
	1
PU3	,942
PU5	,937
PU4	,925
PU1	,922
PU2	,901
PU6	,851

Extraction Method: Principal Component Analysis.

a 1 components extracted.



**c. Attitude toward Using**

**Communalities**

	Initial	Extraction
AT1	1,000	,864
AT2	1,000	,864
AT3	1,000	,842

Extraction Method: Principal Component Analysis.

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,571	85,685	85,685	2,571	85,685	85,685
2	,235	7,832	93,517			
3	,194	6,483	100,000			

Extraction Method: Principal Component Analysis.

**Component Matrix(a)**

	Component
	1
AT1	,930
AT2	,930
AT3	,918

Extraction Method: Principal Component Analysis.

a 1 components extracted.

**d. Behavior Intention**

**Communalities**

	Initial	Extraction
BI1	1,000	,867
BI2	1,000	,755
BI3	1,000	,869
BI4	1,000	,246

Extraction Method: Principal Component Analysis.  
**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,737	68,435	68,435	2,737	68,435	68,435
2	,835	20,863	89,297			
3	,301	7,525	96,822			
4	,127	3,178	100,000			

Extraction Method: Principal Component Analysis.

**Component Matrix(a)**

	Component
	1
BI3	,932
BI1	,931
BI2	,869
BI4	,496

Extraction Method: Principal Component Analysis.  
 a 1 components extracted.

**e. Actual Use**

**Communalities**

	Initial	Extraction
AU1	1,000	,278
AU2	1,000	,713
AU3	1,000	,478

Extraction Method: Principal Component Analysis.

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1,469	48,963	48,963	1,469	48,963	48,963
2	,973	32,437	81,400			
3	,558	18,600	100,000			

Extraction Method: Principal Component Analysis.

### Component Matrix(a)

	Component
	1
AU2	,844
AU3	,692
AU1	,527

Extraction Method: Principal Component Analysis.

a 1 components extracted.

## 2. REABILITY TESTING

### a. Perceived Ease of Use

#### Case Processing Summary

		N	%
Cases	Valid	208	100,0
	Excluded(a)	0	,0
	Total	208	100,0

a Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

Cronbach's Alpha	N of Items
,852	6

#### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PEOU1	15,70	12,077	,650	,825
PEOU2	16,51	12,009	,587	,837
PEOU3	16,57	11,802	,640	,826
PEOU4	15,99	12,048	,630	,828
PEOU5	15,90	11,463	,728	,810
PEOU6	16,32	11,688	,594	,836

**b. Perceived Usefulness**

**Case Processing Summary**

		N	%
Cases	Valid	208	100,0
	Excluded(a)	0	,0
	Total	208	100,0

a Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
,959	6

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PU1	12,31	20,378	,884	,950
PU2	12,24	20,357	,857	,953
PU3	12,35	20,469	,912	,948
PU4	12,28	20,349	,887	,950
PU5	12,30	19,613	,905	,948
PU6	12,20	20,517	,792	,961

**c. Attitude toward Using**

**Case Processing Summary**

		N	%
Cases	Valid	208	100,0
	Excluded(a)	0	,0
	Total	208	100,0

a Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
,915	3

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
AT1	6,95	2,920	,839	,872
AT2	7,07	3,367	,839	,872
AT3	6,90	3,260	,816	,887

**d. Behaviour Intention**

**Case Processing Summary**

		N	%
Cases	Valid	208	100,0
	Excluded(a)	0	,0
	Total	208	100,0

a Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
,914	3

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
BI1	5,59	3,315	,845	,861
BI2	5,67	3,265	,765	,929
BI3	5,76	3,176	,874	,836

e. **Actual Use**

**Case Processing Summary**

		N	%
Cases	Valid	208	100,0
	Exclude d(a)	0	,0
	Total	208	100,0

a Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
,500	2

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
AU2	1,12	,126	,367	.(a)
AU3	1,76	,307	,367	.(a)

a The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

**3. NORMALITY TESTING**

**One-Sample Kolmogorov-Smirnov Test**

		Unstandardized Residual
N		208
Normal Parameters(a,b)	Mean	,0000000
	Std. Deviation	,69733522
Most Extreme Differences	Absolute	,102
	Positive	,102
	Negative	-,047
Kolmogorov-Smirnov Z		1,718
Asymp. Sig. (2-tailed)		,005

a Test distribution is Normal.

b Calculated from data.

## APPENDIX 5

### DESCRIPTIVE OF ITEMS RESPOND EACH VARIABLE

#### 1. PERCEIVED EASE OF USE (PEOU)

##### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PEOU1	208	1	5	3,70	,838
PEOU2	208	1	5	2,88	,915
PEOU3	208	1	5	2,83	,900
PEOU4	208	1	5	3,41	,863
PEOU5	208	1	5	3,50	,879
PEOU6	208	1	5	3,08	,970
Valid N (listwise)	208				

#### 2. PERCEIVED USEFULNESS (PU)

##### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PU1	208	1	5	2,43	,960
PU2	208	1	5	2,50	,988
PU3	208	1	5	2,39	,926
PU4	208	1	5	2,45	,962
PU5	208	1	5	2,43	1,033
PU6	208	1	5	2,54	1,030
Valid N (listwise)	208				

#### 3. ATTITUDE TOWARD USING (AT)

##### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
AT1	208	1	5	3,51	1,017
AT2	208	1	5	3,39	,883
AT3	208	1	5	3,56	,931
Valid N (listwise)	208				

#### 4. BEHAVIOUR INTENTION (BI)

##### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
BI1	208	1	5	2,92	,924
BI2	208	1	5	2,84	,997
BI3	208	1	5	2,75	,945
Valid N (listwise)	208				

#### 5. ACTUAL USE (AU)

##### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
AU2	208	1	4	1,76	,554
AU3	208	1	3	1,12	,354
Valid N (listwise)	208				



## APPENDIX 6

### STRUCTURAL EQUATION MODEL

#### Notes for Model (Default model)

##### Computation of degrees of freedom (Default model)

Number of distinct sample moments: 210  
 Number of distinct parameters to be estimated: 54  
 Degrees of freedom (210 - 54): 156

##### Result (Default model)

Minimum was achieved  
 Chi-square = 346,798  
 Degrees of freedom = 156  
 Probability level = ,000

#### Model Fit Summary

##### CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	54	346,798	156	,000	2,223
Saturated model	210	,000	0		
Independence model	20	3327,028	190	,000	17,511

##### RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	,095	,870	,824	,646
Saturated model	,000	1,000		
Independence model	,328	,263	,185	,238

##### Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	,896	,873	,940	,926	,939
Saturated model	1,000		1,000		1,000
Independence model	,000	,000	,000	,000	,000

##### Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	,821	,735	,771
Saturated model	,000	,000	,000
Independence model	1,000	,000	,000

#### NCP

Model	NCP	LO 90	HI 90
Default model	190,798	140,685	248,644
Saturated model	,000	,000	,000
Independence model	3137,028	2953,595	3327,779

#### FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	1,675	,922	,680	1,201
Saturated model	,000	,000	,000	,000
Independence model	16,073	15,155	14,269	16,076

#### RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	,077	,066	,088	,000
Independence model	,282	,274	,291	,000

#### AIC

Model	AIC	BCC	BIC	CAIC
Default model	454,798	466,992	635,025	689,025
Saturated model	420,000	467,419	1120,883	1330,883
Independence model	3367,028	3371,544	3433,779	3453,779

#### ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	2,197	<u>1,955</u>	2,477	2,256
Saturated model	2,029	2,029	2,029	2,258
Independence model	16,266	15,380	17,187	16,288

#### HOELTER

Model	HOELTER .05	HOELTER .01
Default model	112	120
Independence model	14	15

**Estimates (Group number 1 - Default model)**

**Scalar Estimates (Group number 1 - Default model)**

**Maximum Likelihood Estimates**

**Regression Weights: (Group number 1 - Default model)**

			Estimate	S.E.	C.R.	P	Label
AT	<---	PU	-,989	,332	-2,977	,003	
AT	<---	PEOU	6,871	2,182	3,149	,002	
BI	<---	AT	,499	,066	7,527	***	
AU	<---	BI	,178	,090	1,986	,047	
PU6	<---	PU	1,000				
PU5	<---	PU	1,151	,069	16,698	***	
PU4	<---	PU	1,065	,064	16,539	***	
PU3	<---	PU	1,049	,061	17,170	***	
PU2	<---	PU	1,040	,068	15,289	***	
PU1	<---	PU	1,046	,065	<u>16,132</u>	***	
PEOU1	<---	PEOU	1,000				
PEOU5	<---	PEOU	1,266	,295	4,297	***	
AT3	<---	AT	,880	,051	17,314	***	
AT2	<---	AT	,856	,047	18,065	***	
AT1	<---	AT	1,000				
BI1	<---	BI	1,000				
PEOU6	<---	PEOU	1,919	,605	3,174	,002	
PEOU3	<---	PEOU	1,644	,529	3,104	,002	
PEOU4	<---	PEOU	1,132	,265	4,264	***	
PEOU2	<---	PEOU	1,886	,589	3,202	,001	
z3	<---	AT	1,000				
z1	<---	BI	1,000				
z2	<---	AU	1,000				
BI2	<---	BI	,899	,111	8,101	***	
BI3	<---	BI	,900	,074	12,093	***	
AU2	<---	AU	1,000				
AU3	<---	AU	,003	,315	,009	,993	

**Standardized Regression Weights: (Group number 1 - Default model)**

			Estimate
AT	<---	PU	-,896
AT	<---	PEOU	1,573
BI	<---	AT	1,000
AU	<---	BI	1,000
PU6	<---	PU	,806

	Estimate
PU5 <--- PU	,924
PU4 <--- PU	,919
PU3 <--- PU	,940
PU2 <--- PU	,874
PU1 <--- PU	,904
PEOU1 <--- PEOU	,250
PEOU5 <--- PEOU	,319
AT3 <--- AT	,866
AT2 <--- AT	,888
AT1 <--- AT	,901
BI1 <--- BI	,495
PEOU6 <--- PEOU	,419
PEOU3 <--- PEOU	,390
PEOU4 <--- PEOU	,275
PEOU2 <--- PEOU	,433
z3 <--- AT	1,000
z1 <--- BI	1,000
z2 <--- AU	1,000
BI2 <--- BI	,412
BI3 <--- BI	,435
AU2 <--- AU	,147
AU3 <--- AU	,001

**Covariances: (Group number 1 - Default model)**

	Estimate	S.E.	C.R.	P	Label
PU <--> PEOU	,140	,044	3,218	,001	
E17 <--> E18	,542	,067	8,108	***	
E16 <--> E17	,474	,062	7,659	***	
E16 <--> E18	,568	,063	8,981	***	
E10 <--> E11	,411	,052	7,844	***	
E9 <--> E11	,135	,030	4,524	***	
E8 <--> E9	,340	,051	6,678	***	
E7 <--> E10	,404	,055	7,395	***	
E7 <--> E11	,363	,050	7,299	***	
E8 <--> E12	,280	,053	5,284	***	
E9 <--> E12	,256	,052	4,961	***	
E11 <--> E12	,108	,033	3,217	,001	
E21 <--> E22	,072	,014	4,995	***	

**Correlations: (Group number 1 - Default model)**

	Estimate
--	----------

	Estimate
PU <--> PEOU	,808
E17 <--> E18	,704
E16 <--> E17	,653
E16 <--> E18	,834
E10 <--> E11	,629
E9 <--> E11	,211
E8 <--> E9	,509
E7 <--> E10	,602
E7 <--> E11	,569
E8 <--> E12	,391
E9 <--> E12	,362
E11 <--> E12	,157
E21 <--> E22	,371

**Variances: (Group number 1 - Default model)**

	Estimate	S.E.	C.R.	P	Label
PU	,686	,098	6,983	***	
PEOU	,044	,024	1,790	,073	
E6	,371	,039	9,514	***	
E5	,155	,019	8,047	***	
E4	,144	,017	8,212	***	
E3	,099	,013	7,400	***	
E2	,230	,025	9,015	***	
E1	,167	,020	8,550	***	
E7	,656	,065	10,143	***	
E8	,677	,067	10,067	***	
E9	,660	,064	10,318	***	
E10	,686	,068	10,136	***	
E11	,622	,059	10,496	***	
E15	,215	,029	7,373	***	
E14	,164	,025	6,650	***	
E13	,193	,032	6,106	***	
E16	,642	,065	9,891	***	
E17	,821	,082	9,993	***	
E18	,721	,072	9,969	***	
E12	,757	,075	10,148	***	
E21	,298	,029	10,154	***	
E22	,125	,012	10,173	***	

**Squared Multiple Correlations: (Group number 1 - Default model)**

	Estimate
--	----------

	Estimate
AU3	,000
AU2	,022
PEOU6	,176
BI3	,189
BI2	,170
BI1	,245
AT1	,812
AT2	,788
AT3	,750
PEOU5	,101
PEOU4	,076
PEOU3	,152
PEOU2	,187
PEOU1	,063
PU1	,818
PU2	,764
PU3	,884
PU4	,844
PU5	,854
PU6	,649

**Matrices (Group number 1 - Default model)**

**Total Effects (Group number 1 - Default model)**

	PEOU	PU	AT	BI	AU
AT	6,871	-,989	,000	,000	,000
BI	3,429	-,493	,499	,000	,000
AU	,611	-,088	,089	,178	,000
AU3	,002	,000	,000	,001	,003
AU2	,611	-,088	,089	,178	1,000
z2	,611	-,088	,089	,178	1,000
z1	3,429	-,493	,499	1,000	,000
z3	6,871	-,989	1,000	,000	,000
PEOU6	1,919	,000	,000	,000	,000
BI3	3,084	-,444	,449	,900	,000
BI2	3,083	-,444	,449	,899	,000
BI1	3,429	-,493	,499	1,000	,000
AT1	6,871	-,989	1,000	,000	,000
AT2	5,880	-,846	,856	,000	,000
AT3	6,045	-,870	,880	,000	,000
PEOU5	1,266	,000	,000	,000	,000
PEOU4	1,132	,000	,000	,000	,000

	PEOU	PU	AT	BI	AU
PEOU3	1,644	,000	,000	,000	,000
PEOU2	1,886	,000	,000	,000	,000
PEOU1	1,000	,000	,000	,000	,000
PU1	,000	1,046	,000	,000	,000
PU2	,000	1,040	,000	,000	,000
PU3	,000	1,049	,000	,000	,000
PU4	,000	1,065	,000	,000	,000
PU5	,000	1,151	,000	,000	,000
PU6	,000	1,000	,000	,000	,000

**Standardized Total Effects (Group number 1 - Default model)**

	PEOU	PU	AT	BI	AU
AT	1,573	-,896	,000	,000	,000
BI	1,573	-,896	1,000	,000	,000
AU	1,573	-,896	1,000	1,000	,000
AU3	,001	-,001	,001	,001	,001
AU2	,231	-,132	,147	,147	,147
z2	1,573	-,896	1,000	1,000	1,000
z1	1,573	-,896	1,000	1,000	,000
z3	1,573	-,896	1,000	,000	,000
PEOU6	,419	,000	,000	,000	,000
BI3	,685	-,390	,435	,435	,000
BI2	,649	-,369	,412	,412	,000
BI1	,779	-,443	,495	,495	,000
AT1	1,418	-,807	,901	,000	,000
AT2	1,397	-,795	,888	,000	,000
AT3	1,363	-,776	,866	,000	,000
PEOU5	,319	,000	,000	,000	,000
PEOU4	,275	,000	,000	,000	,000
PEOU3	,390	,000	,000	,000	,000
PEOU2	,433	,000	,000	,000	,000
PEOU1	,250	,000	,000	,000	,000
PU1	,000	,904	,000	,000	,000
PU2	,000	,874	,000	,000	,000
PU3	,000	,940	,000	,000	,000
PU4	,000	,919	,000	,000	,000
PU5	,000	,924	,000	,000	,000
PU6	,000	,806	,000	,000	,000

**Direct Effects (Group number 1 - Default model)**

	PEOU	PU	AT	BI	AU
--	------	----	----	----	----

	PEOU	PU	AT	BI	AU
AT	6,871	-,989	,000	,000	,000
BI	,000	,000	,499	,000	,000
AU	,000	,000	,000	,178	,000
AU3	,000	,000	,000	,000	,003
AU2	,000	,000	,000	,000	1,000
z2	,000	,000	,000	,000	1,000
z1	,000	,000	,000	1,000	,000
z3	,000	,000	1,000	,000	,000
PEOU6	1,919	,000	,000	,000	,000
BI3	,000	,000	,000	,900	,000
BI2	,000	,000	,000	,899	,000
BI1	,000	,000	,000	1,000	,000
AT1	,000	,000	1,000	,000	,000
AT2	,000	,000	,856	,000	,000
AT3	,000	,000	,880	,000	,000
PEOU5	1,266	,000	,000	,000	,000
PEOU4	1,132	,000	,000	,000	,000
PEOU3	1,644	,000	,000	,000	,000
PEOU2	1,886	,000	,000	,000	,000
PEOU1	1,000	,000	,000	,000	,000
PU1	,000	1,046	,000	,000	,000
PU2	,000	1,040	,000	,000	,000
PU3	,000	1,049	,000	,000	,000
PU4	,000	1,065	,000	,000	,000
PU5	,000	1,151	,000	,000	,000
PU6	,000	1,000	,000	,000	,000

**Standardized Direct Effects (Group number 1 - Default model)**

	PEOU	PU	AT	BI	AU
AT	1,573	-,896	,000	,000	,000
BI	,000	,000	1,000	,000	,000
AU	,000	,000	,000	1,000	,000
AU3	,000	,000	,000	,000	,001
AU2	,000	,000	,000	,000	,147
z2	,000	,000	,000	,000	1,000
z1	,000	,000	,000	1,000	,000
z3	,000	,000	1,000	,000	,000
PEOU6	,419	,000	,000	,000	,000
BI3	,000	,000	,000	,435	,000
BI2	,000	,000	,000	,412	,000
BI1	,000	,000	,000	,495	,000
AT1	,000	,000	,901	,000	,000



	PEOU	PU	AT	BI	AU
AT2	,000	,000	,888	,000	,000
AT3	,000	,000	,866	,000	,000
PEOU5	,319	,000	,000	,000	,000
PEOU4	,275	,000	,000	,000	,000
PEOU3	,390	,000	,000	,000	,000
PEOU2	,433	,000	,000	,000	,000
PEOU1	,250	,000	,000	,000	,000
PU1	,000	,904	,000	,000	,000
PU2	,000	,874	,000	,000	,000
PU3	,000	,940	,000	,000	,000
PU4	,000	,919	,000	,000	,000
PU5	,000	,924	,000	,000	,000
PU6	,000	,806	,000	,000	,000

**Indirect Effects (Group number 1 - Default model)**

	PEOU	PU	AT	BI	AU
AT	,000	,000	,000	,000	,000
BI	3,429	-,493	,000	,000	,000
AU	,611	-,088	,089	,000	,000
AU3	,002	,000	,000	,001	,000
AU2	,611	-,088	,089	,178	,000
z2	,611	-,088	,089	,178	,000
z1	3,429	-,493	,499	,000	,000
z3	6,871	-,989	,000	,000	,000
PEOU6	,000	,000	,000	,000	,000
BI3	3,084	-,444	,449	,000	,000
BI2	3,083	-,444	,449	,000	,000
BI1	3,429	-,493	,499	,000	,000
AT1	6,871	-,989	,000	,000	,000
AT2	5,880	-,846	,000	,000	,000
AT3	6,045	-,870	,000	,000	,000
PEOU5	,000	,000	,000	,000	,000
PEOU4	,000	,000	,000	,000	,000
PEOU3	,000	,000	,000	,000	,000
PEOU2	,000	,000	,000	,000	,000
PEOU1	,000	,000	,000	,000	,000
PU1	,000	,000	,000	,000	,000
PU2	,000	,000	,000	,000	,000
PU3	,000	,000	,000	,000	,000
PU4	,000	,000	,000	,000	,000
PU5	,000	,000	,000	,000	,000
PU6	,000	,000	,000	,000	,000

**Standardized Indirect Effects (Group number 1 - Default model)**

	PEOU	PU	AT	BI	AU
AT	,000	,000	,000	,000	,000
BI	1,573	-,896	,000	,000	,000
AU	1,573	-,896	1,000	,000	,000
AU3	,001	-,001	,001	,001	,000
AU2	,231	-,132	,147	,147	,000
z2	1,573	-,896	1,000	1,000	,000
z1	1,573	-,896	1,000	,000	,000
z3	1,573	-,896	,000	,000	,000
PEOU6	,000	,000	,000	,000	,000
BI3	,685	-,390	,435	,000	,000
BI2	,649	-,369	,412	,000	,000
BI1	,779	-,443	,495	,000	,000
AT1	1,418	-,807	,000	,000	,000
AT2	1,397	-,795	,000	,000	,000
AT3	1,363	-,776	,000	,000	,000
PEOU5	,000	,000	,000	,000	,000
PEOU4	,000	,000	,000	,000	,000
PEOU3	,000	,000	,000	,000	,000
PEOU2	,000	,000	,000	,000	,000
PEOU1	,000	,000	,000	,000	,000
PU1	,000	,000	,000	,000	,000
PU2	,000	,000	,000	,000	,000
PU3	,000	,000	,000	,000	,000
PU4	,000	,000	,000	,000	,000
PU5	,000	,000	,000	,000	,000
PU6	,000	,000	,000	,000	,000

