Journal of Indonesian Economy and Business
Volume 24, Number 2, 2009, 177 – 204

THE EFFECTS DISPOSITIONAL AND SITUATIONAL COGNITIVE FACTORS ON THE INTENTION TO USE INTERNET: AN EMPIRICAL STUDY OF THE ACCEPTANCE OF INFORMATION TECHNOLOGY AT UNIVERSITAS BENGKULU

Willy Abdillah

Faculty of Economics at Universitas Bengkulu
(aufa_fairuz2000@yahoo.com)

ABSTRACT

The objective of this research is to investigate the effect of dispositional personality and situational cognitive factors on the intention to use the internet. Personality factors were measured by five variables openness to experience, conscientiousness, extraversion, agreeableness and neuroticism. Meanwhile, situational cognitive factors were measured by perceived ease of use, perceived usefulness and self-efficacy. Survey was conducted to 323 students of Faculty of Economics, Universitas Bengkulu, include extension and Magister Management students programme. This research uses non-probability sampling procedure with purposive-judgment method. Primary data were gathered using closed-question form questionnaire. Hypotheses testing were conducted using Partial Least Square with software SmartPLS version 2.0.M3. Results showed that openness to experience, perceived usefulness and self-efficacy significantly affect intention to use internet. Meanwhile, situational cognitive factors were better predictor than personality factors on the intention to use internet. This suggests that the application of information technology acceptance and adoption theory dominantly based on perceptual cognitive factors rather than personality. The current study contributes to higher education managers in terms of how to manage common problems of information system resistance.

***Keywords**: dispositional personality, situational cognitive, Information Technology Acceptance, and Information System.*

INTRODUCTION

The development of information system in business application shows strategic roles in winning the competition. The strategic roles can be seen in the roles of information system in changing business pattern and model. Some companies applying strategic information system roles gain success in industrial competition, such as Amazon.com with its on-*line* bookstore and Google.com with its search engine model (Hartono, 2007b). Furthermore, IT changes relationships patterns and social-economic interaction, such as the emergence of *e-commerce* or e-business (Turban *et al.*, 2008). However, the development of IT does not only show sucesss story but it also shows problems related to *socio-behavioral* factors and other problems related to maintaining and controlling the information system. Some studies showed that behavioral aspects especially the ones related to the acceptance and adoption of information technology influence the success and failure of information system (Hartono, 2007a).

In the development of concept and research about behavioral information system,

there has been a never-ending debate on cognitive and personality factors. The first view assumes that cognitive and personality are unchangeable dispositional factors (Amiel and Sargent, 2004; Landers & Lounsbury, 2006). Personality is defined as inherent characteristics that describe ways of thinking, feeling, and action that differentiate someone from others (Maddi, 1989 in McElroy *et al.*, 2007). Briggs and Myers (1980) stated cognitive is individual preferences that help someone to choose appropriate job for each individual. Based on the explanation above, it can be concluded that cognitive and personality factors are unchangeable ones.

Some studies on behavioural information system reveal that dispositional factors (personality and cognitive) are hard to apply in a situational information system. Thatcher *et al.* (2006) stated that *personality trait* can not be used as a construct on the intention to use internet because internet is a situational information system. Therefore, *computer anxiety* construct must be adapted into *internet anxiety*. Bandura (1982) states that psychological changes can happen when different treatments are applied. For example: the level of one's *self-efficacy* changes when s/he is faced with different assignments. Based on the explanation above, it is concluded that personality and cognitive factors are changeabled by situational factors in a specific context.

Robey (1983) states that there are some studies on the acceptance of IT in behavioural information system that show a tendency to use perception-based instead of personality and cognitive dispositional cognitive factors. For instance, Davis *et al.* (1989) proposed the theory of Technology Acceptance Model (TAM) and Venkantesh & Davis (2000) proposed TAM-2 theory using perception which is a dimension of situational cognitive, *computer anxiety* and *self-efficacy* in developing TAM model which are peronality as well as situational cognititive factors (Lee *et al.*, 2003).

Furthermore, some previous studies showed inconsistency in terms of concepts and findings. Thatcher *et al.* (2007) found out that internet *anxiety* (situational personality) affects *personality trait* and cognitive trust (dispositional cognitive) of users. On the other hand, Agawam & Karahanna (2000) found out personality *trait* (*openness to experience* excerpted into *personal innovativeness*) affects perception and the use of it (situational cognitive).

Based on the studies above, McElroy *et al.* (2007) conducted a study using dispositional factors (*personality trait* dan *cognitive style*) to see the comparison of the two factors on the intention to use internet. The choice of dispositional factors is based on the unfinished debate on the realtionship between personality factors and cognitive ones in behavioral information system. Personality factor is measured by using model *Big Five Factor Personality* model (Costa & McCrae, 1992) and *cognitive style* factors is measured by using *Myers-Briggs Type Indicator* (MBTI) model.

Research findings showed that personality factors are better predictors on the intention to use internet compared to cognitive style ones. However, the model used by McElroy *et al.* (2007) had some limitations. McCrae and Costa (1989) claimed that MBTI had some weaknesses in measuring *cognitive style* in the perspective of *personality trait*. MBTI validity is weak while the construct reliability is sufficient.

A similar research was also conducted by Buchanan *et al.* (2005) by using *International Personality Item Pool* (IPIP) instrument proposed by Goldberg (1990) and measurement method (*psychometric*) conducted by *online system*. There were three reasons for using IPIP instrument: firstly, some previous studies showed that IPIP instrument was better in measuring personality compared to *Big Five Factor*- instrument by Costa and McCrae (1992). Secondly, IPIP is available free of charge. Thirdly, IPIP instrument is shorter,

consisting of 50 questions while *Big Five* consists of 240 questions. Buchanan *et al.* (2005) research also validated IPIP instrument compared to *Big Five* instrument. The finding showed that IPIP was bettter in terms of its validity and reliability.

Theoretically and emprically, by replicating and developing research models conducted by McElroy *et al.* (2007) and Buchanan *et al.* (2005), this paper tries to explain the effects of dispositional factor (*personality trait*) and situational cognitive factors (cognitive perception) on the intention to use internet based on empirical study in an academic environment.

The paper consists of four parts: the first part discusses theoritical framework and the concepts of dispositional personality and situational cognitive. The second part discusses research methods used in this research. The third part discusses the results and findings of the research. The last part is the conclusion and recommendation

THEORETICAL FRAMEWORK

Dispositional Personality Factor

Information system research using the concepts of personality was started by Zmud (1979) who studied the effects of individual dispositional characteristics (*Personality* and *Cognitive style*) on the success of information system implementation. Personality factor is measured in terms of its cognitive and affective structures in responding to an event, a person or a situation. Personality factor is believed to have a strong influence on the success of management information system, ambiguity tolerance, e*xtrovert/introvert*, needs of achievement, the ability to take risk, concepts evaluative defense and the level of anxiety (Klauss & Jewett, 1974 in Zmud, 1979). The research findings showed that dispositional factor (*personality trait* and *cognitive style*) influenced the success of IT usage. However the research at that time did not find consistent personality factor due to the fact that related factors outside MIS were not related to *cognitive style* factor.

Cambre and Cook (1985) found out that computer *anxiety* had negative impacts on the use of IT. The findings supported the research conducted by Lucas (1974: 1975). However, Cambre & Cook (1985) found a new phenomenon about *computer anxiety.* It was not only caused by the lack of IT but also caused by the anxiety from within a person based on his/her perception of IT.

Heinssen *et al.* (1987) validated the level of anxiety of an individual on ccomputer by using *Computer Anxiety Rating Scale* (CARS). The measurements included behavior, cognitive, affective of computer anxiety. The results showed that CARS was a valid and reliable instrument to measure anxiety toward computer. The high level of anxiety toward computer was related to the mathematical ability, the low experience in using computer, and the lack of interest on the computer. During the process of interaction with the computer, an individual with high level of anxiety toward computer showed low expectation and performance as well as high sensitivity toward psychological stimuli. Another finding was gender factor affected the level of anxiety toward computer.

Agarwal & Karahanna (2000) excerpted *personality trait* factor from *Big Five Factor* model- Costa & McCrae (1992) in the field of psychology by using *neuroticism* (*computer anxiety*) and *openness to experience* (*personal innovativeness*) dimensions. Personality factor was then connected to Technology Acceptance Model (TAM) by adding cognitive *absorption construct*. The results finding showed that *cognitive absorption* (*personal innovativeness*) became situational cognitive factor predictor that is the use of perception and the easiness in using it.

Thatcher *et al.* (2007) conducted another study using personality factor in the context of

Information system. They used personality factors, demographic characteristics and individual aspects in the use of internet. Thatcher *et al.* (2007) stated that there were three *personality traits*, which affected *internet anxiety*, namely *computer anxiety*, *computer self-efficacy* and *personal innovativeness*. In the study, Thatcher *et al.* (2007) used the term *internet anxiety* instead of *computer anxiety*, because *computer anxiety* is a permanent and inherent *personality trait*, while *internet anxiety* is a situational personality, which is formed when someone uses internet. Internet causes *anxiety* because it requires users to understand about technology and new application of it. Internet causes emotional disturbances because of the interaction with a novel or unknown situation. Furthermore the use of internet also present the possibility of being attacked by virus, *spyware* or invasion dari privasi *user privacy*. Thus, *computer anxiety* reflects duration of experience with computer, while *internet anxiety* reflects the level of diifficulty with information technology in the context of using internet.

In early 1980s, Bandura (1982) stated that *self-efficacy* can be changed when given different treatments. The changes are due to cognitive proccess in responding to information. The finding showed that *self-efficacy* can be stimulated by cognitive procces and it showed the effect on the expected results. The conclusion is *self-efficacy* is a cognitive factor and not a personality one.

The debates over the differences between personality and cognitive factors in Information System do not have comprehensive theoretical answers. In fact, some studies using the same constructs produced different findings. Therefore, McElroy *et al.* (2007) decided to use grand theory in the field of psychology. The reason was that the debates over personality and cognitive factor in the field of Information System showed inconsistency. Personality factor was measured by using *Big Five Factors; openness to experience*, *conscientiousness*, *extroversion*, *agreeableness* and *neuroticism*) proposed by Costa & McCrae (1992) while cognitive factors were measured by using *cognitive style* MBTI. The purpose of the study is to compare the effects of the two factors on the use of internet. *computer anxiety*, *self-efficacy* and gender are treated as controlling variables. The use of controlling variables is based on the reason that the three variables represent personality and cognitive factors and some previous studies showed significant effects on the personality factor, cognitive factors and the intention to use IT.

The study conducted by McElroy *et a*l. (2007) showed that personality factors were better predictors compared to *cognitive style* ones. However, the study had some limitation because MBTI was not accepted as the appropriate instrument to measure *cognitive style* when related to personality in the context of internet use. McCrae & Costa (1989) claimed that MBTI had a weakness in measuring dalam *cognitive style* in personality perspectivef. The validity of MBTI is poor although the construct reliability is sufficient for this model.

Buchanan *et al.* (2005) conducted a study on the effects of personality factor on the use of internet by using IPIP instrument proposed by Goldberg (1990). There were three reasons to use IPIP namely: some previous research showed that IPIP was better in measuring personality compared to *Big Five Factor*-Costa & McCrae (1992), IPIP was available for free and it was concise, consisting of about 50 items while *Big Five* consists of 240 items. The finding showed that personality factors affected the intention to use internet and IPIP was better in terms of its validity and reliability. It indicated that *narrow traits* instrument measurement like IPIP had a better reliability and validity compared *broader traits* (such as *Big Five Factor*). Ashton (1998) stated that for the purpose of empirical study, *narrow traits* were more appropriate to

use compared to *broader traits* which were suitable for clinical tests.

The application of *Big Five Factor* in the behaviour of internet use had been used by several researchers. Some researchers found out that *openness to experience* had a tendency to do some activities in the virtual world by trying to do some adventures and finding new ideas (Tuten & Bosnjak, 2001). The character represented curiousity to explore new things. It tended to develop fresh ideas, hold unconventional values, have flexibility, and have the authority to decide and act (Costa & McCrae, 1992). Thus, internet can be an appropriate media to express themselves. Based on the explanation above, there are ten hypothesis proposed in this research.

Hypothesis 1: *Openness to experience* factor affects the intention to use internet.

Conscientiousness represents the tendency to be disciplined, well-planned and consistent in achieving goals. A person having this trait tends to be well-planned, organised, and ready to evaluate all his /her activities in order to achieve his /her goals (Costa & McCrae, 1992). In relation to internet use, a person having this trait does not want to use internet for unproductive activities, like *chatting room* but she/he tends to use it for productive activities like searching for articles or academic journals (Landers & Lounsbury, 2006).

Hypothesis 2: Conscientiousness affects the intention to use internet.

Extroversion reflects the tendency to socialize, to behave cheerfully and to be optimistic. This type of person loves to find pleasure in doing his/her activities (Costa & McCrae, 1992). This character usually belongs to teenagers and dynamic adults. Amiel and Sargent (2004) found out that *extroversion* type tend to use internet for the purpose of having virtual social interaction and sharing information in virtual community (such as *chatting room*, face book and bog).

Hypothesis 3: *Extroversion* affects the intention to use internet.

Agreeableness reflects sympathetic, cooperative, and good-natured. People with this characteristic like to help other and expect reciprocal actions in return (Costa & McCrae, 1992). People with these characteristics love simple but beneficial activities. In using internet, Landers & Lounsbury (2006) found out that those with these characteristics are willing to use internet but they are easily frustrated when faced with difficulties.

Hypothesis 4: *Agreeableness* affects the intention to use internet.

Neuroticism reflects some weaknesses in adapting and managing emotional disturbances. Neurotic people tend to be easily frightened, easily moody. They cannot trust other people or system and cannot manage their stress (Costa & McCrae, 1992). Those with these characteristics tend to use internet for socializing with other people, but they use it for engaging in entertainment (*game online*) and searching for their identity in the virtual world (Amiel & Sargent, 2004).

Hypothesis 5: *Neuroticism* affects the intention to use internet.

Situational Cognitive Factors

Cognitive is a term used in psychology to describe the perception a person or the tendency to use perception in responding to information, events, or in solving problems. The concept of cognitive was found in 1960s. It learns how people think, feel, study, memorize, make decisions and how people process (perceive, intepret, retrieve and recall) data in the brain (Hartono, 2007a).

The development of cognitive concept in Information System started when *mainstream* behavioral research emerged in 1960s. Ackoff

(1960) initiated by conducting a case study in exploring the causes of Information System failure. The research triggered other research although the findings failed to indicate the causes of system failure. However, the research indicated that there were some relationships between attitude and behaviour toward the success of Information System.

Schultz & Slevin (1975 in Robey, 1979) proposed the aspect of attitude in the use of Information System. The aspects consists several points, which are; performance interpersonal, changes, goals, support or rejection, client or researcher and interest. The findings showed that there were some effects of user perception on the success of information system. This model was the used by many studies to see the effects of trust, attitudes (cognitive perception) and the intention to use information system.

Fishbein & Ajzen (1975 in Hartono, 2007a) proposed a theory that explained a sequential process and causal relationships among constructs that affected the behaviour in using Information System. This theory assumed that human behaviour was triggered by intention, attitude, and trust affected by subjective norms to do something voluntarily. This theory has been a model for research in Information System. It is *Theory of Reason Action*/TRA.

TRA was criticised by Triandis (1980 in Thompson *et al.*, 1991) becacuse the assumptions used can not be applied to every situation or condition. Basically, human beings do not always behave voluntarily, sometimes human beings behave emotionally or involuntarily. Thus, according to Triandis (1980), TRA should differ cognitive and affective aspects in the behaviour dimension

Davis (1989) developed TRA model by changing belief construct with perception and the easiness to use perception. l TAM model is considered more parsimoniuos in explaining the behaviour in using Information System and is supported by many empirical studies. However, TAM model separates cognitive and affective aspects by making belief construct as sebagai a cognitive aspect and attitude as affective one. The development of TAM was also conducted by Igbaria *et al.* (1996) by adding perceived enjoyment into the initial model of TAM. The addition showed the existence of separation between cognitive and affective in the attitude construct. Van der Heidjen (2004) and Chesney (2006) used the same model to compare utility and enjoyment aspects. The results showed the use of perception had more effects compared to enjoyment in the use of recreational Information System.

In this research, cognitive factors used were taken from the constructs in TAM model (Davis *et al.* 1989), they were perceived usefulness, perceived ease of use and self-efficacy construct from Bandura (1982); Compeau & Higgins (1995); Hsu & Chiu (2004). The choice was based on several reasons,

1. TAM was a behavioral model which was useful in answering question "why did information system fail to be applied?". Not many models included psychological factors in their models.
2. TAM was supported by a solid theory
3. TAM had been tested in many studies and the results showed that TAM had been a good model. TAM was even considered to be better compared to other models such as TRA and TPB.
4. TAM is a parsimonious but valid model.
5. Self-efficacy had been used as a cognitive construct that affectted the use of Information System.

Perceived of Usefulness

Perceived usefulness is the level of belief that someone will perform better when she/he uses technology (Davis, 1989). Based on the definition, it can be concluded that perceived usefulness is a belief in the decision-making process. When someone believes that a system

is useful then s/he is going to use it. On the other hand, when someone thinks that information system is not useful, s/he is not going to use it. Based on Deci's motivation theory (1975 in van der Heijden, 2004), technology acceptance by users is determined by two types of motivation, namely, extrinsic and intrinsic. Intrinsic motivation arises when there is an expectation from the interaction with the application of Information System. Extrinsic motivation arises when there is an expectation of the use of information system received from outside parties. The definition of perceived usefulness describes extrinsic motivation because the usefulness is received from outside in the form of reward for the increased performance.

Previous studies showed that perceived usefulness construct had positive and significant affects on the use of information system (Davis, 1989; Igbaria *et al*. 1997). It is the most important and significant construct in affecting attitude, interest, and behaviour in using technology compared to other constructs.

Venkantesh *et al.* (2003) tested the effects perceived usefulness factor on the use of on the behavior of using IT between men and women. The results showed that the effects of perceived usefulness among men was stronger compared to that of women. It showed that men considered IT as useful compared to how women considered it, therefore, this perception would affect the behavior of men in using IT.

Gardner and Amoroso (2004) developed TAM model by adding external varibles to find out about the acceptance of internet.The four external variables were gender, experience, complexity and willingness The result showed that men tend to have higher perceived usefulness than women.

Taylor and Todd (1995) combined TPB decomposition model by adding age variable as an external factor in the acceptance of technology. The findings showed that younger people tend to be more affected by behaviour (cognitive) variable in using Information System. On the other hand, older people tend to be more affected by perception control variable. The implication of the findings showed that there were various cognitive factors for younger people, while for the younger people there were various perception control variable.

Szajna (1996) tested TAM model revised by Davis *et al.* (1989) by using university students as respondents. Technology acceptance tested was *e-mail*. The methods used were experimental while the instruments used were the same as the ones used by Davis *et.al* (1989). The findings showed that the intention of those students to use *e-mail* was higher in the last fifteen weeks compared to the earlier ones. In other words, there was an increase in the use of internet by the respondents for the last fiffteen weeks. In the *pre-implementation* phase, the perceived usefulness had a direct and significant effects on the intention to use internet while perceived ease of use did not have a significant effect. Besides that, it was also found that perceived ease of use did not have effect on the perceived usefulness. In the *post-implementation* phase, perceived usefulness had a direct and significant effect on the intention to use internet while percieved ease of use did not have a direct effect.

Hyphotesis 6: Perceived Ease of Use factor has positive effects on the intention to use internet with gender and age as the controlling variables.

Perceived Ease of Use

Davis *et al.* (1989) defined perceived ease of use as the level of one's trust in using a certain system without having to make hard efforts. Therefore, information system must be user friendly.

Perceived Ease of Use is one factor in TAM model that has been tested by Davis *et al* (1989). The findings showed that perceived ease of use could explain the reasons why someone uses information system and explain how the newly developed information system can be accepted by users.

Hyphotesis 7: Perceived Ease of Use factor has a positive effect on the intention to use internet with gender dan age as the controlling variables.

Self-Efficacy

This research also used *self-efficacy* construct based on the reason that *self-efficacy* is a situational cognitive construct that can change in a certain context. *Self-efficacy* is defined as the belief to be able to do certain actions persistently in order to face obstacles for the purpose of achieving something (Hartono, 2007a). Bandura (1982) stated that *self-efficacy* is a psychological aspect as a response to different treatments, for example, when a person is given different assignments his/her *self-efficacy* will also be different.

Collins (1985 in Hartono, 2007a) differed mathematics expertise and mathematics behaviour, it means that *self-efficacy* represents individual's perception on his/her ability in using IT to do some activities dalam, it does not reflect expertise components. *Self-efficacy* is measured in terms of two dimensions, na.mely *self-efficacy* as a general construct and as a specific one (Gist *et al*. 1989). However, Compeau and Higgins (1995) suggested the improvement *self-efficacy* measurement. The research conducted by Hill *et al.* (1987) used revised three-item *self-efficacy* measurement scale However, it was indicated that there was an inaccuracy in *self-efficacy*.

Webster and Martocchio (1992; 1993) conducted a study on *self-efficacy* by using a five-item scale developed by Hollenbeck and Brief (1987). Instruments had been used by previous studies like that of Compeau and Higgins (1995). The findings showed that *self-efficacy* affected the intention to use IT, *computer anxiety* (Agarwal dan Karahanna, 2000), adoption of high technology (Hill *et al.* 1986) and the intention to innovate (Burkhat and Brass, 1990).

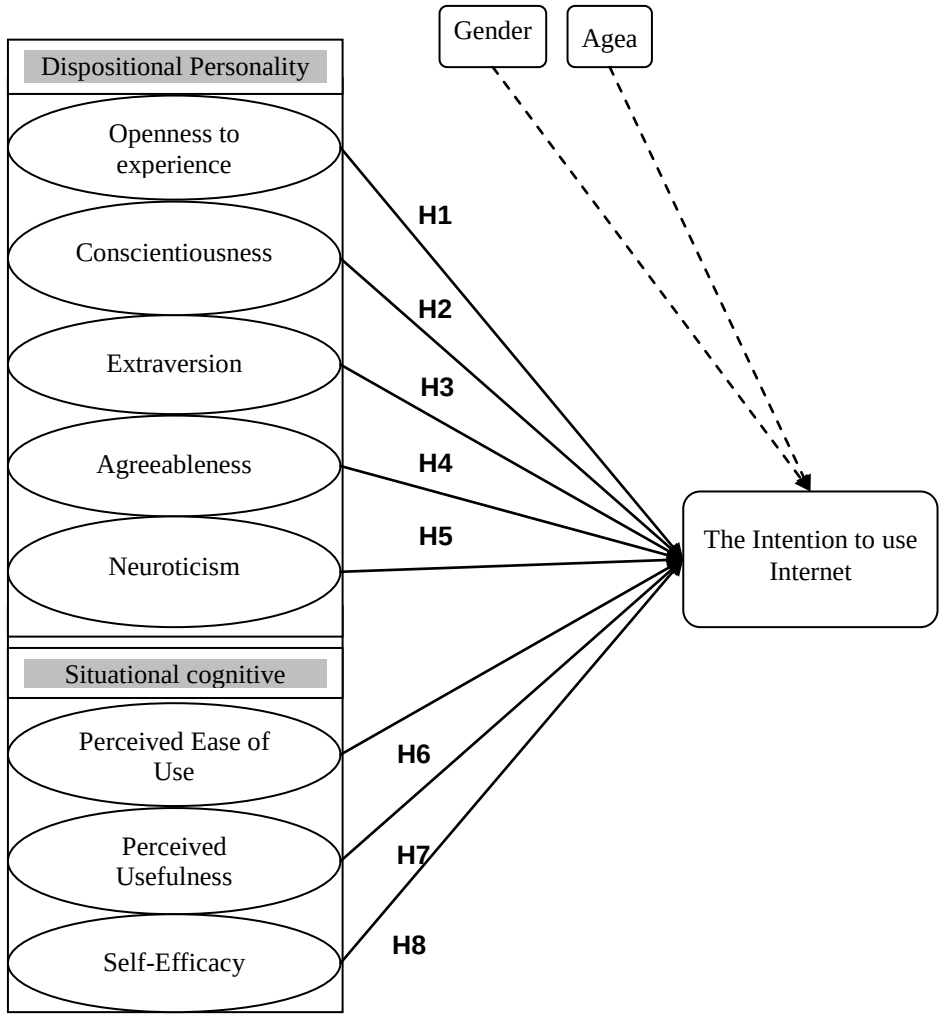
Hypothesis 8: *Self-efficacy* has positive effects on the intention to use internet with gender and age as the controlling variables.

McElroy (2007) developed his study by comparing the two factors namely (*Big Five Factor*) and *cognitive style* (MBTI) to *computer anxiety, self-efficacy* and gender the controlling variables. The findings showed that personality factor is a better predictor compared to *cognitive style*.

Hypothesis 9: Personality factors are dominant factors in affecting the intention to use internet compared to cognitive factors with dengan gender and age as the controlling variables.

Research Framework

The framework for the research is shown in the following (Figure 1).



Explanations:

: Direct effect of independent variable to dependent ones

: Direct effect of controlling variables to dependent ones

Source: Adapted from McElroy, *et al.* (2007); Buchanan, *et al.* (2005); Davis, *et al.* (1989); Bandura (1982); Compeau & Higgins (1995): Hsu & Chiu (2004).

Figure 1. Research Framework

RESEARCH METHODOLOGY

Research Type

Research type is confirmatory descriptive, that is to reexamine and develop an existing research model to describe and explain relationship among variables (personality, cognitive and the intention to use internet). The approach used was survey using many data resources as the bases to analyze and make conclusion.

Operational Definitions and dan Variable Measurement

- Perceived Usefulness is the level of one's beliefs that using technology will improve his/her performance. Perceived usefulness is measured by Likert scale starting from 1 representing *strongly disagree* and 5 representing *strongly agree*. The variable is measured by six questions. The questions are adopted are from Davis et al. research (1989). The questionnaire can be found in the appendix.
- Perceived Ease of Use is the level of one's belief that it does not take hard effort to use a system .It is measured by Likert scale starting from 1 representing *strongly disagree* and 5 representing *strongly agree* The variable is measured by six questions. The questions are adopted are from Davis *et al.* research (1989). The questionnaire can be found in the appendix
- *Self-efficacy* is an estimation of one's ability in doing a certain behaviour based on certain goals. *Self-efficacy* is measured by Likert scale starting from 1 representing *strongly disagree* and 5 representing *strongly agree*. The variable is measured by five questions adapted from the studies conducted by Hsu and Chiu (2004).
- Personality is a series of stable characteristics which tend to be used to see the similarities and differences between one person to another in terms of ways of thinking, feelings, and actions. The measurement used was *Five Factor Personality* from *International Personality Item Pool* (IPIP) proposed by Goldberg (1990) consisting of five elements namely *openness to experience, conscientiousness, extroversion, agreeableness* and *neuroticism*. Each element was measured by Likert scale starting from 1 representing *strongly disagree* up to 5 representing strongly agree. 10 questions adopted from the studies conducted by Buchanan *et al.* (2005). Each personality construct consists of some dimensions called *facet*. The following are the the facet for each construct

  1. *Opennes to experience* consists of *imagination, artistic interest, emotionality, adventurousness, intellect and liberalism.*
  2. *Conscientiousness* consists of *self-efficacy, orderliness, dutifulness, achievement striving, self-discipline and cautiousness.*
  3. *Extroversion* consists of *friendliness, gregariousness, assertiveness, activity level, excitement-seeking and cheerfulness.*
  4. Agreeableness consists of *trust, morality, altruism, cooperation, modesty and symphaty.*
  5. *Neuroticism* consists of *anxiety, anger, depression, self- conscientiousness, immoderation* and *vulnerability.*

  Each *facet* consists of two indicators namely *favorable* which showed positive relationship with the *facet* and *non-favorable* which showed negative relationship with the facet scoring system was used to measure each facet. When a respondent responded *strongly agree* for a favourable indicator, then the item was given 5. On the other hand, if she/he responded *strongly disagree* for a *favorable*, then the score would be 1. For *non-favorable* indicators, if a respondent answered strongly agree, the score would be 1. On the other hand, if a respondent answered *strongly disagree* for a *non-favorable* indicator then the score would be 5.
- The intention to perform a behaviour is a willingness to do something pushed by attitude, interest, and belief. The intention to perform a behavior is measured by Likert scale starting from 1 representing *strongly disagree* up to 5 representing strongly agree. The variables were measured by three questions adopted by a study conducted by Davis *et al* (1989).

Population dan Samples

The population for the research was students of Economics Faculty at Universitas Bengkulu (FE-Unib) who were internet users including students of Master of Management and Extension programme. The choice of the subjects was based on the research criteria, namely internet users at the university. The procedure of samples choice was *non-probability* by using *convenience sampling* technique. According to Hartono (2008a), *convenience sampling* is a sampling method which enables the researcher to choose the samples freely. This method was chosen to facilitate the reaearch. The reason was it has always been hard to get the list of internet user population in Indonesia so probabilistic sampling was difficult to do.

Convenience sampling method was chosen based on the availability to get perfom it, on the other hand the samples were taken because they were available. Hartono (2008a) discussed the strengths and weaknesses of *convenience sampling* method, in terms of cost and time needed, this sampling technique is the cheapest method and because the respondents are easy to access, easy to measure, easy to cooperate. However, it has some drawbacks, namely when the choice is not done properly, the result would be bias when used to make decision. The method demands accuracy in translating the findings of the result.

Type and Collecting Methods of the Data

The data used were primary one from primary source. The data were were taken from the needed respondents. Data collecting method was *cross-sectionally* on June 2008. The data collected were 350 samples and the questions were closed ones.

Validity and Reliability

Internal validity consists of qualitative validity and construct validity. Qualitative validity consists of *face validity* and *content validity*. Qualitative validity is based on the evaluation of experts about the concepts being measured. Some researchers assume it a valid internal validity (Hartono, 2008b: 57). This research used researchers and academicians consideration in the field of information technology.

Construct validity consists of convergent and discriminant validity. Convergen validity test used in this research was the application of SmartPLS version 2.0. The measurement model in reflective indicator was measured based on the the *loading factor* (correlation between score items and construct items). Hair *et al.* (2006) propsed a *rule of thumb* commonly used in the early check of matric factor ±.30 is considered sufficient, ±.40 is considered good, and > 0.50 is considered significant. Thus, the higher the *loading factor*, the more important it is in intepreting the matric factor. For the application of Smart PLS version 2.0., the *rule of thumb* used was *outer loading* > 0.7, *communality* > 0.5 and *average variance extracted* (AVE) > 0.5 (Gozali, 2006).

The discriminant validity test used in this research was SmartPLS version 2.0. The measurement model used was based on *cross loading*. Another method was comparing the root of AVE for each construct to the correlation among constructs in the model.The model has a sufficient discriminant validity if the AVE root for each construct is bigger than the correlation between one construct to another in it. korelasi (Gozali, 2006).

Apart from validity, reliability test was also conducted to measure the consistency. SmartPLS version 2.0.was applied and two methods, namely *Cronbach's alpha* and *Composite Reliability* were conducted. *Cronbach's alpha* measures the lower limit of a construct reliability while *Composite Reliability* measures the real value of a construct (Chin dan Gopal, 1995 in Salisbury *et al.,* 2002). The reliability test conducted in

this research was *Composite Reliability* because it was bettter in estimating the internal consistency of a construct (Werts et al., 1974 in Salisbury et al., 2002). *Rule of thumb* of *alpha* or *Composite Reliability* must be higher than 0,7 although 0,6 is still acceptable (Hair et al., 2006). However, internal consistency test is not something absolute if the construct validity is fulfilled, valid construct must be reliable, while a reliable construct is not always valid (Cooper dan Schindler, 2006).

Hyphothesis Test Techniques

Structural Equation Modelling (SEM) based regression analysis with the help of SmartPLS version 2.0.was used to test the hyphotheses in this research. The researcher used PLS to test measurement model as well as structural one.

PLS adalah is an SEM designed to explain variants and test the significance of the relationship and the results of R^2 . Like in the linear regression, PLS is appropriate to predict and develop a theory Some advantages of PLS compared to dibandingkan SEM (Gozali, 2006), are:

- PLS is more reliable because it does not need many assumptions.
- PLS can be used to predict a model even with a weak theory.
- PLS can be used for data with classic assumption, such as: the data are not normally distributed, multicolinearity and autocorellation
- PLS can be used in small size samples.
- PLS can be used in formative dan reflective constructs.

The research tried to combine some theories and test some factors consisting of two models; personality and cognitive. Therefore, PLS can be used to predict causal relationship and to build a theory. Structural model in PLS was evaluated by using R^2 for dependent construct, *path* coefficient (β) and t-*values* for each *path* for inter-construct significance structural model.

To test hypothesis 9, that is to compare the effects of dispositional personality and situational cognitive on the intention to use internet, the parameter used was by comparing the value of in each factor. According to Tenenhaus, et al. (2004: 179), in using PLS, the inter-factor prediction can be measured by calculating and comparing the value R^2 in each factor. The formula to calculate the value of R^2 is:

$$R^2 = \sum_j \beta_j \text{cor}(y, x_j)$$

Based on the above formula, the researcher can calculate the value of R^2 in each factor so that it can predict the strength of each factor.

DATA ANALYSIS AND DISCUSSION

The Characteristics of Research Sample

There 350 questionnaires distributed among the student of Economics Faculty at Unib, and 348 were returned. Out of 348 questionnaires returned, 323 can be processed and 25 quesitonnaires can not be processed because they were not complete and tended to choose one option. The characteristics of 323 samples can be seen in the table below:

Table 1. Sample Characteristics

Characteristics	Total	Percentage
gender		
Male	135	42%
Female	188	58%
Total	323	100%
age		
Less than 20 years	219	68%
21 - 30 years	95	29%
More than 30 years	9	3%
Total	323	100%

Source: Proccesed Raw Material (2008)

Based on the frequency above, it can be seen that the majority of the respondents were young adults with university education. This is the basis to decide the characteristics of personality and cognitive among the respondents.While gender distibution showed that the proportion of femele is fewer that of males, although the difference is not significant, so that bias is avoidable because of the balanced proportion.

Measurement Model

Measurement model for validity dan reliability, model determination and coefficient path for the equation is as follow (Figure 2).

CONSTRUCT VALIDITY

Convergent Validity

Convergent validity of measurement model pengukuran using reflective indicator was measured based on the *loading factor*. In this research there were 9 constructs and the indicators were from 3 to 10 indicators. The numeric scale ranged from 1 to 5 (see the appendix).

- Perceived Ease of Use construct was measured by PE1-PE6 indicators. All indicators had over 0.7 loading factor, AVE 0.5 and *communality* > 0.5.
- Perceived Usefulness construct was measured by using PU1-PU6 indicators. All indicators had over 0.7 loading factor, AVE > 0.5 and *communality* > 0.5.
- *Self-efficacy* was measured by using SE1-SE5 indicators. All indicators had over 0.7 loading factor, AVE > 0.5 and *communality* > 0.5.
- The intention to use internet construct was measured by using IT1-IT3 indicators. All indicators had over 0.7 loading factor, AVE > 0.5 and *communality* > 0.5.
- *Openness to experience* construct was measured by using i OP1-OP10 indicators . Only OP1, OP2 dan OP5 indicators had

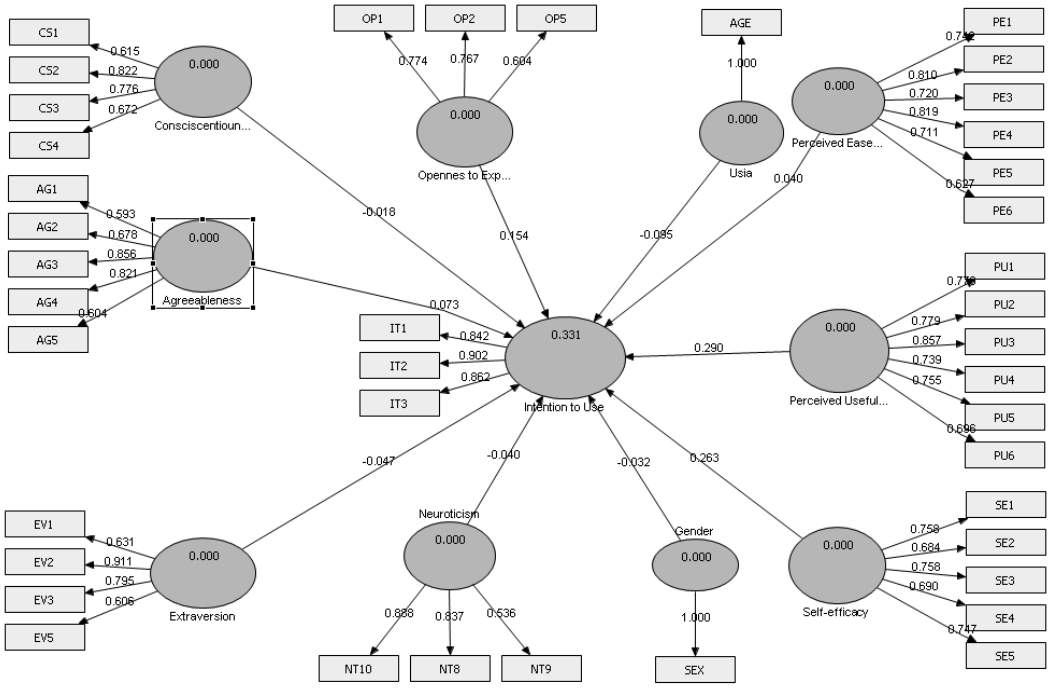


Figure 2. Measurement Model Output

Source: Authors

over 0.7 loading factor, AVE > 0.5 and *communality* > 0.5, while other indicators were not significant.

- *Conscientiousness* construct was measured by using CS1-CS10 indicators, however only CS1-CS4 indicators had over 0.7 loading factor, AVE > 0.5 and *communality* > 0.5, while other indcators were not significant.
- *Agreeableness* construct was measured by using AG1-AG10 indicators, only AG1-AG5 indicators had over 0.7 loading factor, AVE > 0.5 and *communality* > 0.5, other indicators were not significant.
- *Extroversion* construct was measured by using EV1-EV10 indicators, only EV1, EV2, EV3 dan EV5 had over 0.7 loading factor, AVE > 0.5 and *communality* > 0.5, other indicators were not significant.
- *Neuroticism* construct was measured by using indicator NT1-NT10 indicators, only NT8-NT10 had over 0.7 leading factor, AVE > 0.5 and *communality* > 0.5, other indicators were not significant.

Discriminant Validity

Discriminant validity measurement can be measured by two parameters. The first is based on *cross loading* score. Construct and indicator are regarded as having discriminant validity when the loading indicator in one construct is higher than the one in other constructs. The results of the *cross loading* in this research is available in the appendix.

The second parameter used was by comparing the *square root of average variance extracted* (AVE) for each construct to the latent construct in the model. The model has sufficient discriminant validity if the root of each construct is bigger than the correlation between constructs in the model. The value of AVE and square root AVE for each construct are available in the table below.

Table 2. *Average Variance Extracted*

Variable	AVE	AVE root
Agreeableness	0.516614	0.71875865
Conscentiouness	0.527202	0.72608677
Extraversion	0.556712	0.74613136
Gender	1.000000	1
Intention to Use	0.755075	0.86895052
Neuroticism	0.592013	0.76942381
Opennes to Experience	0.517212	0.71917453
Perceived Ease of USe	0.549049	0.74097841
Perceived Usefulness	0.591001	0.76876589
Self-efficacy	0.530409	0.72829184
Age	1.000000	1

Source: Processed Data (2008)

Table 3. Latent Variable Correlation

	AG	CS	EV	Sex	IT	NT	OP	PE	PU	SE	Age
AG	1.000										
CS	0.395	1.000									
EV	0.338	0.242	1.000								
Sex	0.008	-0.105	-0.005	1.000							
IT	0.212	0.163	0.181	-0.083	1.000						
NT	-0.325	-0.241	-0.282	0.012	-0.171	1.000					
OP	0.304	0.239	0.285	-0.128	0.299	-0.264	1.000				
PE	0.036	0.107	0.258	0.015	0.394	-0.150	0.218	1.000			
PU	0.223	0.248	0.264	-0.109	0.488	-0.197	0.261	0.571	1.000		
SE	0.128	0.159	0.263	-0.070	0.442	-0.094	0.175	0.645	0.513	1.000	
Age	-0.033	0.040	0.038	-0.164	0.018	-0.036	0.044	0.092	0.124	0.245	1.000

Source: Processed Data (2008)

The latent variable correlation are as follow:

Based on Table 2 and Table 3 it can be seen that AVE root of each construct has higher value than the correlation of latent inter-construct. Thus, it can be concluded that the indicators used in this research fulfilled discrimination validity criteria

Reliability Test

The reliability of a measurement shows the stability and consistency of an instrument measuring a concept or a variable (Cooper and Schindler, 2006: Hair *et al*., 2006). Reability can be measured by checking the *Cronbach's alpha* and *Composite Reability*.

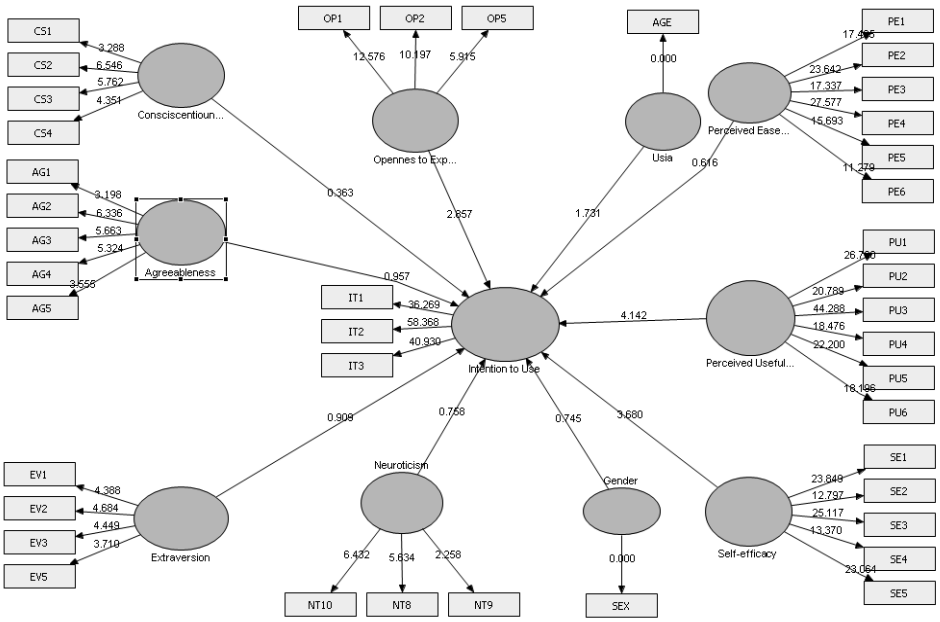
Cronbach's alpha measures the lower limit of a construct reliability, while *Composite Reliability* measures the real value of a construct reliability (Chin and Gopal, 1995 in Salisbury *et al*., 2002). This research used the *Composite Reliability* because it is better in estimating the internal consistency of a construct (Werts et al., 1974 in Salisbury et al., 2002).

The *rule of thumb* of *alpha* or *Composite Reliability* is that it must be higher than 0.7 although 0.6 is still acceptable in an explorative study (Hair *et al*., 2006). The construct reliability is as follow:

Table 4. The Value of Cronbach's Alpha and Composite Realibility

Variable	Cronbachs Alpha	Composite Reliability
Agreeableness	0.761393	0.839230
Conscientiousness	0.713200	0.814938
Extraversion	0.749667	0.830032
Gender	1.000000	1.000000
Intention to Use	0.837575	0.902353
Neuroticism	0.687500	0.806822
Openness to Experience	0.530821	0.760517
Perceived Ease of Use	0.842925	0.878778
Perceived Usefulness	0.860967	0.896210
Self-efficacy	0.782189	0.849301
Age	1.000000	1.000000

Source: Processed Data (2008)



Source: Authors

Figure 3. Structural Model Output

Table 4 shows that the value of *Cronsbach's alpha* and *Composite Reliability* of each construct is above 0.70, so it can be concluded that the measurement used in the research is reliable.

Structural Model

The structural model in PLS was evaluated by *R-square* for dependent variables and *path* coefficient (β) independent variable and then the significance of each t-value of each path is measured *path*.

Below is the coefficient path shown by the value of t and p of each construct.

Based on the value of coefficient *beta* and the the value of *t* above, the result for each hyphothesis is:

1. Hypothesis 1 states that *openness to experience* affects the intention to use internet with gender and age as the controlling variables. The result showed that *openness to experience* factor had positive and significant effects with a beta coefficient beta of 0.153779 and a *t-value* of 2.856958. It means that the first hypothesis was supported. The result were in accordance with the study conducted by Tuten and Bosnjak (2001) that showed that people with the characteristics tend to find out new things and would be motivated to do some activities in the virtual world to explore new ideas. Based on the findings, it can be concluded students who were categorised as young adults and were imaginative tend to use internet. Therefore, it is impotant for an academic institution to consider the information as the basis for making decision in IT investment.
2. Hypothesis 2 states that *conscientiousness* factor affects the intention to use internet with gender and age as the controlling variables. The results showed that the *path* between *conscientiousness* and the intention to use internet had a beta coefficient of -0.018201 and *t-value* of 0.362556. It showed that *conscientiousness* factor did not have effect on the use of internet. It means that hypothesis 2 was not supported. The findings were contradictory to the study conducted by Landers and Lounsbury (2006). *Conscientiousness* reflects a disciplined characteristic and a firm attitude. People with this personality trait tend to refuse unproductive activities, such as *chatting* in the internet. On the other hand, they tend to be interested in productive academic activities. However, the finding showed opposite results. It indicated that the motivation to use internet was related to personal characteristics and can not be predicted by *conscientiousness* factor. The findings of this research informed that the intention to use internet among students

Table 5. Beta Coefficient, t *value* and P *value*

Variable	t value	Beta Unstandardised
Agreeableness -> Intention to Use	0.957022	0.072830
Conscentiouness -> Intention to Use	0.362556	-0.018202
Extroversion -> Intention to Use	0.908501	-0.047278
Gender -> Intention to Use	0.745040	-0.032283
Neuroticism -> Intention to Use	0.758450	-0.039795
Opennes to Experience -> Intention to Use	2.856958	0.153779
Perceived Ease of USe -> Intention to Use	0.616370	0.040379
Perceived Usefulness -> Intention to Use	4.141655	0.290227
Self-efficacy -> Intention to Use	3.680051	0.263113
Age -> Intention to Use	1.731225	-0.094988

Source: Processed Data (2008)

was triggered by curiosity and it did not show the need to use internet for academic purposes (such as: *e-learning* and searching for academic articles). Based on the information, the education institution can make policies to improve academic atmosphere so that the students will be motivated to do productive activities by providing facilities such as *on-line* journals and *on-line* learning.

3. Hypothesis 3 states that *extroversion* factor affects the use of internet with gender and age as the controlling variables. The calculation made by SmartPLS 2.0 showed that H3 was not supported because the beta coefficient value was -0.047278 and the *t-value* was 0.908501. The findings were contradictory to the studies conducted by Amiel and Sargent (2004) that found out people with *extroversion* characteristics tend to use internet for the purpose of kepentingan *on-line socializing*, such as *chatting room* and sharing information in virtual world. The findings of the results indicated that students with *extroversion* characteristics do not tend to use internet for academic purposes instead they use it for entertainment. Thus, the results of the research can be used to develop IT at the campus. To stimulate the acceptance of IT, entertainment aspect needs to be considered.
4. Hypothesis 4 states that *agreeableness* factor affects the intention to use internet with gender and age as the controlling variables. The results showed that *agreeableness* did not have afffect to the intention to use internet. The beta coefficient was 0.072830 and *t-value* was 0.957022. it means that hypothesis 4 was not supported. The results were in accordance with the research conducted by Landers and Lounsbury (2006) who found out that *agreeableness* tend not to use internet. When they use it, the frequency is very low. The information is needed to manage resistance against IT. People with the characteristics can not be forced to use internet, therefore, education process for these people must be done carefully.
5. Hypothesis 5 states that *neuroticism* factor affects the intention to use internet. The finding showed that *neuroticism* factor did not have effect on the intention to use internet. The beta coefficient was -0.039795 and *t-value* was 0.75845. It means that hypothesis 5 was not supported. The findings were in accordance with the research conducted by Amiel and Sargent (2004). They found out that people with *neuroticism* characteristics tend to avoid internet, except for the purpose of being alone such as; playing *on-line* games. The results of the research provided important information that an educational institution need to consider providing special facilities to stimulate with *neuroticism* characteristics to use internet. However, it should be noted that providing special facilities is costly and risky to be misused.
6. Hypothesis 6 states that *perceived ease of use* factor has positive effects on the intention to use internet. The results showed that it did not have positive effect on the intenton to use internet. The beta coefficient was 0.040379 and *t-value* was 0.61637. It means that hypothesis 6 was not supported. The findings of the research were in accordance with the studies conducted by Davis (1989) and Davis et al. (1989) who found out in study 1 that *percieved ease of use* did not have a direct effects on the intention to use internet but it had to be mediated by *perceived usefulness* construct. The results provided information that the acceptance and adoption of IT in an academic environment is not directly affected by *perceived usefulness*. When the finding is related to personality factor, it can be explained that the *openness to experience* characteristics in finding motivated new ideas in using internet is not

caused by whether or not the IT is operated, but rather it caused by the usefulness of it. The difficulty in operating IT among students is not an obstacle for them.

7. Hypothesis 7 states that *perceived usefulness* has positive effects on the intention to use internet. The results showed that it had effects on the intention to use internet. The beta coefficient was 0.290227 and t *value* was 4.11655., It means that artinya hypothesis 7 was supported. The results were in accordance with the research conducted by Davis (1989) and Davis *et al.* (1989) who found out that *perceived usefulness* had direct positive effect on the intention to use internet and it mediated *perceived ease of use* on the intention to use IT. The findings provided important information for the university in developing and investing in IT.
8. Hypothesis 8 states that *self-efficacy* has positive effects on the intention to use terhadap internet. The findings showed that beta coefficient was 0.263113 and t *value* was 3.680051, it means hypothesis 8 was supported. The findings were in accordance with the research conducted by Compeau and Higgins (1995) and Hsu and Chiu (2004) who found out that *self-efficacy* is a predictor of the intention to use IT. The findings indicated that in developing information system it is important to build trust in the ability to use internet. Trust in the ability to use internet should be started from the learning process. It is an important thing to do in order to avoid resistance against IT, especially done by older generation. The findings also showed that gender did not have effects on the intention to use internet, while age had negative effects on the intention to use internet. It means that there were no differences for both men and women in accepting and adopting IT, however, the older a person was, the lesser was the tendency to use internet. There was also a tendency to resist IT. On the other hand, the younger a person was, the more s/he accepted and adopted IT.
9. Hypothesis 9 states that personality factors has more effects the intention to use internet compared to cognitive ones. The findings showed that cognitive factors had more effects on the intention to use internet compared to personality ones. It is shown by the value of R^2 of cognitive factor was 0.274583 while the value of R^2 of personality factor was 0.057740. It means that the ability of variant cognitive factors in explaining the variant of the intention to use internet was 27 percent and was higher than personality factors by 5.7 percent. According to Tenenhaus, *et al*. (2004: 179), to compare the effects of two factors (dispositional personality and situational cognitive) on the variabel dependent variables (the intention to use internet). In PLS it can be done by calculating the value of R^2 of each factor and by comparing those values. The value of R^2 for each factor can be calculated by using the following formula:

$$R^2 = \sum_j \beta_j \text{cor}(y, x_j)$$

Based on R^2 parameter it can be concluded that cognitive factor had more effects on the intention to use internet compared to personality factors. However, it should be noted that R^2 is not a single parameter to measure inter-factor or model. The main consideration is the relevance between the findings and the theory. Therefore, when related to cognitive and personality theory, it can be concluded that the intention to use internet factor is a situational cognitive factor rather than an inherent characteristic. The findings provided important information for the university in making decision to invest in IT. It should be noted that although characteristics are inherent in

each person to decide the intention to use internet, perceptual cognitive aspect (perceived usefulness and *self-efficacy*) were more influential. It is consistent with the academic atmosphere that emphasizes on cognitive aspects, not on personality ones.

In general, the results of R^2 for all independent variables showed weak effects on the dependent variables. The value of R^2 was 0.331 meaning that all independent variables had 33 percent ability to explain dependent ones. However, R^2 was not a single parameter to estimate the significance of the model. The most important thing was that the findings were supported by existing theories. The researcher concluded that the research model proposed and produced by this research was significant and able to explain the acceptance and adoption of internet viewed from perceptual cognitive and dispositional personality

Discussion

The research has three objectives namely to test the effects disposistional personality factor, situational cognitive and to compare those two factors to the intention to use internet The finding showed that only *openness to experience* factor had effects on the intention to use internet, other factors did not. It was in accordance with the research conducted by McElroy *et al.* (2007) and Tuten and Bosnjak (1991) who found out that only *openness to experience* factor had strong effects on the intention to use internet.

People having the characteristics of *openness to experience* tend to like abstracts ideas, new ideas, adventures. Those characteristics tend to encourage them to use internet for the purposes of seeking new ideas, imagining, and exploring in the virtual world. Age had negative effects on the intention to use internet. It means that younger people tend to accept internet compared to older ones. *Openness to experience* factor tends to belong to younger people in this research context, they are university students. Other factors such as; *neuroticism*, *agreeableness*, *extraversion* dan *conscientiousness* did not have effects on the intention to use internet.

Neuroticism is a negative character. It represents unstable, paranoid, worried, in the context of IT acceptance, it did not encourage a person with this trait to use internet. The findings were in accordance with the research conducted by McElroy *et al.* (2007) and Amiel and Sargent (2004) who found out that *neuroticism* trait did not have effect on the intenton to use internet, especially for academic purposes. On the other hand, people having *neuroticism* tend to use internet to fulfill his/her personal satisfaction without involving other people. It is not a predictor of the intention to use internet for academic purposes.

Agreeableness is a trait that is ready to accept other people opinion. It respects and likes to help other people. However, people with this trait were not motivated to use internet especially when faced with difficulties in using it. The findings were in accordance with the research conducted by McElroy et al. (2007) and Landers Lounsbury (2006) who found out that *agreeableness* trait did not have effects on the use of internet. The research found out that *agreeableness* trait tend to belong to older people They tend to find difficulties in using internet for academic purposes. It indicated that this trait was a source of resistance in accepting internet if the organisation did not persuade and educate them well. Thus, the university should apply persuasive approach to people with the trait by giving training and building *on-line* communication forum.

Extroversion represent sociable, open and love being with other people. In the context of using internet, people wtih this trait tend to use n internet for socializing and interacting in virtual world, such as *chatting room* and *blogging*. The findings were in accordance

with the research conducted by McElroy *et al.* (2007) and Amiel and Sargent (2004) who found out that this trait did not have effects in the use of internet especially for academic purposes. People with the trait used internet for fun and social interaction. Based on the information, the university need to accomodate the needs of those people.

Conscientiousness represents disciplined, care for details, stick to plans in making decisions. This trait is ideal for students in the context of using internet. It is a strong predictor in the acceptance of internet for academic purposes. The findings were not in accordance with the research conducted by McElroy *et al.* (2007), who found out the opposite fact that was *conscientiousness* did not have effects on the use of internet. The explanation was that *conscientiousness* trait was not present in the students of Economics Faculty at Unib reflecting unconducive academic environment. The findings provided information for Economics Faculty of Unib to improve the academic atmosphere there.

Hypothesis testing of situational cognitive factor showed that perceived usefulness factor had positive effect on the use of internet. The finding was in accordance with the research conducted by McElroy *et al.* (2007) who found out the same fact. It means that the higher a person believes about the importance of internet, the more s/he is going to use it. It was also in accordance with the research conducted by Davis (1989) and Davis *et al.* (1989) and other research that used TAM model. It was found out that perceived usefulness was the strongest predictor for the intention to use IT.

Compeau and Higgins (1995) and Hsu and Chiu (2004) found out that *self-efficacy* was a predictor of IT usage, especially internet. The findings of the research showed that *self-efficacy* had positive effects on the intention to use internet. It means that the more a person believed that s/he benefits in using internet, the more s/he is going to use it.

Based on the hypothesis testing of cognitive situational, perceived *ease of use* did have positive effects on the intention to use internet. The finding was in accordance with the research conducted by Davis (1989), who found out the same fact. It indicated that the intention to use internet among students was influenced by the cognitive dimension (perception) over the benefit os using IT.

It was also found out that cognitive factors had more effects on the intention to use internet compared to personality factor. The research indicated that in an academic environment, the decision to use IT was more influenced by the rational aspects

The research found that cognitive factor (*perceived usefulness)* was a stronger predictor compared to personality trait. However, individual characteristics (*opennes to experience*)was still a predictor of the acceptance of internet. Therefore, university should make sure that the acceptance and adoption of internet should not be an obstacle in developing information system in it.

In general, the the research contributes and affirms the discrepancy between theory and practice in the IS behavioral research. It can be concluded that the research model supports the findings of many IS studies using perceptual dimension, such as TAM, TPB and UTAUT that showed those constructs were main predictors of perceptual-based IT acceptance (Robey, 1983). Future research should focus on situational personality factor being developed in IS behavioural research and dispositional cognitive rarely studied in empirical research.

CONCLUSIONS

The objective of the research was to compare two main factors that became predictors of IT acceptance, namely cognitive situational factor and dispositional personality factor. The main reason for comparing the two factors was caused by the dicrepancy between

theoretical and empirical research about the acceptance of IT using two factors.

In psychology, the concepts of personality and cognitive are divided into two concepts, namely dispositional and situational. In the context of IS, the concept dispositional is hard to be directly applied because IT tends to be situational. For example, Thatcher *et al.* (2007) found out that *internet anxiety* (situational personality) affected *personality trait* and cognitive belief (dispositional cognitive) of the users. On the other hand, Agarwal dan Karahanna (2000) found out that *personality trait* (*openness to experience* excerpted into *personal innovativeness*) affected *perceived ease of use perceived* and *usefulness* (situational cognitive). McElroy et al. (2007) conducted a study by using dispositional factor (*personality trait* dan *cognitive style*) to see the comparison between the two factors on the intention to use internet. The findings showed that personality factor was a better predictor compared to *cognitive style* factor. This research wanted to reexamine the effects of dispositional personality and situational cognitive on the intention to use internet.

This study was different from the previous ones. It used IPIP model and for situational cognitive it used *perceived ease of use,* perceived of usefulness and *self-efficacy*. The objective of the study was to test the effects of dispositional personality and situational cognitive on the intention to use internet. Besides that, the researcher also wanted to measure and compare the effects of the two factors on the the intention to use internet.

The research design used was decriptive-confirmatory using survey approach. The primary data used were taken *cross-sectionally* from 323 respondents who were internet users at Economics Faculty at Universitas Bengkulu. Sampling procedure used was non-probability with *convenience sampling* technique.

The finding showed that only *openness to experience* variable was a personality factor predictor of the intention to use internet. While, *perceived usefulness* and *self-efficacy* were cognitive factor predictors of the intention to use internet show situational cognitive factors had more effects on the intention to use internet compared to dispositional personality factor as shown by the value of R^2 cognitive factor of 0.274583 which was higher than the value R^2 personality factor which was 0.057740.

The findings of the research provide important contribution for universities developing IT. The findings indicated that the acceptance of internet was mostly dominated by people with *openness to experience* characteristics, people who liked to seek experiences, knowledge, new ideas. Besides that, people will accept and adopt internet if they think that internet benefits them (e.g: improve performance, increase productivity). However, in general individual characteristics were not strong predictors of IT usage. Cognitive perceptual aspects had more effects on the intention to use internet.

Research Limitations

The research had some limitations and weaknesses. First, the research focused on one type of IT, which was internet, so that the findings can not be generalised for other types of IT. Second, the subjects of the research were limited to IT users in an academic environment, so that the findings can not be generalised for other research. Third, the research only measured perceptual-based intention to use internet, not the actual one, so that the parameter used was the opinion of the respondent. Fourth, there were too many questions in the questionnaire, so that bias answers might happen. Many indicators were not valid. Finally, the research only compared dispositional personality factors and situational cognitive without exploring and

comparing other factors being developed in behavioral IS reasearch.

Recommendation

Based on the limitations above, the researcher would like to make some suggestions and recommendations. First, future research can use similar models in measuring the acceptance and adoption of IT apart from web-based internet, such as; cellular-based communication. Second, future research should use wider samples. Third the scopes of measurement can be deveoped into actual usage. Fourth, data collecting should be stricter so that bias can be avoided. Finally, future research should focus on personality factors being developed in IS research and other cognitive factors rarely studied.

REFERENCES

Ackoff, R.L, 1960. 'Unsuccessful Case Studies and Why' *Operations Research*, 2(8), 259-263.

Agarwal, R. and Karahanna, E, 2000. 'Time Flies When You Are Having Fun: Cognitive Absorption and Beliefs About Information Technology Usage'. *MIS Quartely,* 24, 418-430.

Ajzen, I, 1991. 'The Theory of Planned Behavior'. *Organizational Behavior and Human Decision Process*, 50, 179-211.

Amiel, T. and Sargent, S.L, 2004. 'Individual Differences in Internet Usage Motives' *Computers in Human Behavior,* 20(6), 711-726.

Ashton, M.C, 1998. 'Personality and Job Performance: The Importance of Narrow Traits'. *Journal of Organisational Behavior,* 19 (3), 289-304.

Bandura, A, 1982. 'Self-efficacy Mechanism in Human Agency'. *American Psychologist,* 2 (37), 122-147.

Buchanan, T., Jhonson, J.A. and Goldberg, L.R, 2005. 'Implementing a Five-Factor Personality Inventory for Use on The Internet'. *European Journal of Psychology Assessment,* 22 (2), 115-127.

Burkhat, M.E. and Brass, D.J, 1990. 'Changing Patterns or Patterns of Change: The Effects of a Structure and Power'. *Administrative Science Quartely,* 35, 104-127.

Cambre, M.A. and Cook, D.L, 1985. 'Computer Anxiety: Definition, Measurement and Correlates'. *Journal of Educational Computing Research,* 1 (1), 37-54.

Chesney, T, 2006. 'An Acceptance Model for Useful and Fun Information System'. *An Interdisciplinary Journal of Humans in ICT Environments,* 2 (2), 225-235.

Compeau, D.R. and Higgins, C.A, 1995. 'Computer Self-Efficacy: Development of a Measure and Initial Test'. *MIS Quarterly,* 19 (2), 189-211.

Cooper, Donald R. and Pamela S. Schindler ,2006. *Business Research Methods*. 9th ed. New York, NY: Irwin/McGraw-Hill.

Costa, P.T. and McCrae, R.R, 1992. *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) Professional Manual*. Odessa, FL: Psychological Assessment Resources.

Davis, F.D, 1989. 'Perceived Usefulness, Perceived Ease of Use and End User Acceptance of Information Technology'. *MIS Quarterly*, 3 (3), 319-340.

Davis, F.D., Bagozzi, R.P. and Warhsaw, P.R, 1989. 'User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science,* 35 (8), 982-1003.

Gardner, C. and Amoroso, D.L, 2004. "Development of an Instrument to Measure The Acceptance of Internet Technology by Consumers". *Proceedings of the 37th Hawaii International Conference on System Sciences.*

Gist, M.E., Schwoerer, C.E. and Rosen, B, 1989. 'Effects of Alternative Training Methods on Self-Efficacy and

Performance in Computer Sofware Training. *Journal of Applied Psychology*, 6 (74), 884-891.

Goldberg, L. R, 1990. 'An Alternative "Description of Personality: The Big five Factor Structure. *Journal of Personality and Social Psychology*, 59, 1216-1229.

Goodhue, D.L. and Thompson, R.L, 1995. 'Task-Technology Fit and Individual Performance'. *MIS Quarterly*, 213-236.

Gozali, I, 2006. *Structural Equation Modelling: Metode Alternatif dengan Partial Least Square – PLS*, Badan Penerbit Universitas Diponegoro.

Hair, J.F. Jr., Black, W.C., Babin, B.J., Anderson, R.E. and Tatham, R.L, 2006. *Multivariate Data Analysis*, 6th ed. NJ: Pearson Prentice Hall.

Hartono, J.M, 2007a. *Sistem Informasi Keperilakuan [Behavioral Information System]*. 1st Ed. Yogyakarta: Andi Offset.

Hartono, J.M, 2007b. *Sistem Informasi Strategis* [Strategic Information System]. 1st Ed. Yogyakarta: Andi Offset.

Hartono, J.M, 2008a. *Metodologi Penelitian Sistem Informasi* [Research Metodology of Information System]. 1st Ed. Yogyakarta: Andi Offset.

Hartono, J.M, 2008b. *Pedoman Survei Kuesioner: Mengembangkan Kuesioner, Mengatasi Bias dan Meningkatkan Respon* [Survey Questionnaire Guideline: Contruct Qustionnair, Prevent Bias, and Increasing Response]. 1st Ed. Yogyakarta: BPFE.

Heinssen, R.K., Glass, C.R. and Knight, L.A. (1987) Assessing Computer Anxiety: Development and Validation of The Computer Anxiety Rating Scale. *Computers in Human Behavior*, 3 (1), 49-59.

Hill, T., Smith, N.D. and Mann, M.F, 1987. 'Role of Efficacy Expectations in Predicting The Decision to Use Advanced Technologies: The Case of Computers'. *Journal of Applied Psychology*, 2 (72), 307-313.

Hollenbeck, J.R. and Brief, A.P, 1987. 'The Effects of Individual Differences and Goal Origins on Goal Setting and Performance'. *Organisational Behavior and Human Decision Performance*, 3 (40), 392-414.

Hsu, M.H. and Chiu, C.M, 2004. 'Predicting Electronic Service Continuance With a Decompensated Theory of Planned Behavior'. *Behavior and Information Technology*, 23 (5), 359-373.

Igbaria, M., Parasuraman, S. And Baroudy, J.J, 1996. 'A motivational model of micro-computer usage'. *Journal of Management Information System*, 13, 127-143.

Landers, R.N. Lounsbury, J.W, 2006. 'An Investigation of Big Five and Narrow Personality Traits in Relation to Internet Usage'. *Computers in Human Behavior*, 22 (2), 283-293.

Lee, Y., Kozar, K.A. and Larsen, K.R.T. (2003). 'The technology acceptance model: past, present and future'. *Communication of the Association for Information Systems*, 12 (50), 752-780.

Lucas, H.C., Jr, 1974. 'System Quality, User Reactions and Use of Information System'. *Management Informatics*, 3 (4), 207-212.

Lucas, H.C., Jr, 1975. 'User Reactions to Computer Operations'. *Sloan Management Review*, 3 (15), 59-67.

McElroy, J.C., Hendrickson, A.R., Townsend, A.M. and DeMarie, S.M, 2007. 'Dispositional Factors in Internet Use: Personality Versus Cognitive Style. *MIS Quarterly*, 31 (4), 809-820.

McCrae, R.R. and Costa, Jr., P.T, 1989. 'More Reason to Adopt the Five-Factor Model'. *American Psychology*.

Robey, D, 1979. 'User Attitudes and Management Information System Use'.

Academy of Management Journal, 3 (22), 527-538.

Robey, D, 1983. 'Cognitive Style and DSS Design: a Comment on Huber's Paper'. *Management Science*, 29 (2), 580-582.

Salisbury, W.D., Chin, W.W., Gopal, A. and Newsted, P.R, 2002. 'Research Report: Better Theory Through Measurment-Developing a Scale to Capture Consensus on Appropiation'. *Information System Research*, 13 (1), 91-103.

Szajna, B, 1996. 'Empirical Evalution of The Revised Technology Acceptance Model'. *Management Science*, 1 (42), 85-92.

Taylor, S. and Todd, P.A, 1995. 'Under-Standing Information Technology Usage: a Test of Competing Models. *Information System ResearcH*, 6 (1), 144-176.

Tenenhaus, M., Vinzi, V.E., 'Chatelin, Y.M. and Lauro, C. (2005) PLS Path Modelling'. *Computational Statistics and Data Analysis*, 48, 159-205.

Thatcher, J.B., Misty L.L., Jaejoo, L. and McKninght, D. H, 2007. Internet Anxiety: An empirical study of the effects of *personality*, beliefs and social support. *Information Management* 44: 353-363.

Thompson, R.L., Higgins, C.A. and Howell, J.M, 1991. 'Personal Computing: Toward Conceptual Model of Utilisation'. *MIS Quartely*, March.

Turban, E., King, D., McKay, J., Marshall, P., Lee, J. and Viehland, D, 2008. *Electronic Commerce: A Managerial Perspective*, Pearson Education, Inc. NJ: Upper Saddle River.

Tuten, T. and Bosnjak, M, 2001. 'Understanding Differences in Web Usage: The Role of Need for Cognition and The Five Factor Model of Personality. *Social Behavior and Personality*, 29 (4), 391-398.

Van der Heijden, H, 2004. 'User Acceptance of Hedonic Information System'. *MIS Quarterly*, 28, 695-704.

Venkatesh, V. and Davis, F.D, 2000. 'A Theoretical Extension of The Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science*, 46 (2), 186-204.

Venkatesh, V., Morris, M.G., Davis, G.B. and Davis, F.D, 2003. 'User Acceptance of Information Technology: Toward Unified View. *MIS QuarterlY*, 27 (3), 425-478.

Webster, J. And Martocchio, J.J, 1992. Microcomputer Playfulness: Development of a Measure With Workplace Implications. *MIS Quartely*, 2 (16), 201-226.

Webster, J. And Martocchio, J.J, 1993. 'Turning Work Into Play: Implication for Microcomputer Software Training'. *Journal of Management*,

Wikipedia. *Myers-Briggs Type Indicator*, 2008. Availabe at: http://www.wikipedia. org accessed 22 Mei 2008.

Zmud, R.W, 1979. 'Individual Differences and MIS Success: A Review of The Empirical Literature'. *Management Science*, 25 (10), 966-97.

Appendix I

RESEARCH QUESTIONNAIRE

1. Gender : ☐ Male ☐ Female
2. Age : Years

Explanation :

STS : Strongly disagree
TS : Disagree
N : Neutral
S : Agree
SS : Strongly agree

No.	Statements	STS	TS	N	S	SS
I	**Perceived Usefulness**					
1	Using internet makes it easier to finish the assignments					
2	Using internet improve our performance.					
3	Using internet makes it easier to finish the job.					
4	Using internet improves productivity.					
5	Using internet improves the effectiveness					
6	Internet is useful for my job					
II	**Perceived Ease of Use**					
7	Internet is easy to use.					
8	Internet is easy to learn.					
9	Internet enables me to get what I need					
10	Internet is easy to understand.					
11	Internet is flexible for interaction					
12	It is easy to become an expert in using internet.					
III	***Self-efficacy***					
13	I am sure i can finish my academic assignment by internet					
14	I feel sure when I visit a website to finsih my academic assignment					
15	I feel sure I can get the information that I need from the internet to finish my academic assignment.					
16	I feel sure when I download software and data from internet to finish my academic assignment					
17	I feel sure when I send or receive messsage from internet					

No.	Statements	STS	TS	N	S	SS
IV	**The Intention to use Internet**					
18	I hope I can always use internet in the future.					
19	I intend to use internet in the future.					
20	I plan to keep on using internet in the future.					
V	***Neuroticism***					
21	I often feel sad.					
22	I hate myself.					
23	I often do stupid things.					
24	My mood often changes					
25	I become panic easily					
26	I rarely get hurt					
27	I rarely become sad.					
28	I feel comfortable with myself					
29	I do not sweat the small stuffs					
30	I feel happy about myself.					
VI	***Extroversion***					
31	I feel comfortable to be among many people.					
32	I make friends easily					
33	I am able to control social situation.					
34	I like parties.					
35	I know how to approach other people.					
36	I like talking to other people.					
37	I prefer to be behind the scene.					
38	Talking about my experience to other people is embarrasing for me					
39	I do not like to attract other people attention.					
40	I am a timid person					
VII	***Opennes to Experience***					
41	I believe in the importance of art.					
42	I am an imaginative person.					
43	I prefer to vote for a liberal candidate					
44	I like to direct a discussion to a higher level					
45	I like to listen to new ideas					
46	I am not interested in abstract ideas.					
47	I do not like art.					
48	I avoid philosophical discussion.					
49	I do not like visiting museum					
50	I prefer to vote for conservative candidates					

No.	*Statements*	STS	TS	N	S	SS
VIII	***Agreeableness***					
51	I choose the right words when talking with other people.					
52	I am sure other people pay attention to me.					
53	I respect other people					
54	I accept other people as they are					
55	I like helping other people.					
56	I like to speak rudely.					
57	I like to interrupt other people					
58	I often suspect other people					
59	I turn my back to other people.					
60	I often hurt other people.					
IX	***Conscientiousness***					
61	I always have preparation in this life.					
62	I pay attention to details.					
63	I always do things appropriately.					
64	I do my plans well					
65	I always make plans and stick to them.					
66	I like wasting my time.					
67	I often find it difficult to start a job.					
68	I consider my job as an bond.					
69	I have no plans in life.					
70	I tend to avoid assignments.					

Appendix II

Table Cross Loadings

	AG	CS	EV	IT	NT	OP	PE	PU	SE
AG1	0.592773	0.346646	0.164610	0.137439	-0.128612	0.200463	-0.029109	0.104065	0.027418
AG2	0.678467	0.322189	0.329374	0.156145	-0.249517	0.215250	0.080856	0.178083	0.196372
AG3	0.856291	0.316263	0.259487	0.189213	-0.267106	0.255558	-0.012189	0.188985	0.056924
AG4	0.820875	0.222497	0.236995	0.166784	-0.300564	0.220952	0.071481	0.205432	0.122937
AG5	0.603574	0.199907	0.226032	0.078887	-0.202171	0.202580	0.010335	0.084420	0.033571
CS1	0.285910	0.615462	0.193731	0.078440	-0.178622	0.165732	0.041765	0.134770	0.101849
CS2	0.283752	0.821925	0.166705	0.163718	-0.187919	0.192470	0.060008	0.254250	0.071367
CS3	0.327859	0.776436	0.189959	0.121633	-0.146934	0.167614	0.128300	0.190720	0.203271
CS4	0.273853	0.672013	0.184516	0.073520	-0.217804	0.176643	0.084409	0.073689	0.101131
EV1	0.172195	0.077385	0.631006	0.086764	-0.184277	0.167433	0.143089	0.094524	0.103461
EV2	0.357540	0.231195	0.910761	0.203368	-0.276782	0.246640	0.213506	0.254470	0.224980
EV3	0.229427	0.227070	0.795229	0.123084	-0.224863	0.248657	0.246932	0.245410	0.272710
EV5	0.170215	0.150529	0.605642	0.048572	-0.067107	0.194207	0.176095	0.138470	0.173699
IT1	0.166278	0.111283	0.196677	0.841774	-0.161565	0.261868	0.332585	0.388599	0.391416
IT2	0.141350	0.163755	0.113301	0.901896	-0.098825	0.207028	0.354366	0.409184	0.378634
IT3	0.237326	0.148848	0.158826	0.862105	-0.180743	0.304173	0.340635	0.466472	0.380405
NT10	-0.294944	-0.215056	-0.274352	-0.171441	0.887520	-0.226744	-0.138604	-0.180415	-0.068577
NT8	-0.258901	-0.164347	-0.167938	-0.134061	0.837017	-0.240696	-0.093049	-0.150685	-0.063541
NT9	-0.186831	-0.248919	-0.270328	-0.039700	0.536425	-0.110841	-0.166100	-0.130359	-0.165367
OP1	0.220169	0.146766	0.228353	0.226347	-0.178503	0.774121	0.107899	0.183094	0.143986
OP2	0.147470	0.179472	0.224486	0.239750	-0.224670	0.766502	0.261911	0.254072	0.160478
OP5	0.321811	0.197846	0.154114	0.173427	-0.163553	0.604026	0.079588	0.107831	0.058931
PE1	-0.000206	0.046040	0.144696	0.265587	-0.105845	0.222827	0.742099	0.436957	0.376429
PE2	0.056417	0.082518	0.180338	0.264887	-0.107472	0.211832	0.810041	0.423140	0.493332
PE3	0.161785	0.113291	0.184849	0.430568	-0.167915	0.217150	0.719615	0.465108	0.441321
PE4	-0.049378	0.078458	0.284117	0.273709	-0.102411	0.106167	0.819207	0.459427	0.554354
PE5	-0.081451	0.078882	0.150760	0.223321	-0.075246	0.047758	0.710878	0.380756	0.533378
PE6	-0.083944	0.035932	0.223700	0.126301	-0.029771	0.073859	0.626994	0.286624	0.571845
PU1	0.187210	0.161544	0.191373	0.420131	-0.143232	0.114967	0.385831	0.778130	0.283530
PU2	0.151659	0.240452	0.160937	0.378129	-0.186947	0.176227	0.380657	0.779101	0.328677
PU3	0.179456	0.205314	0.228269	0.423097	-0.156416	0.238597	0.530403	0.856707	0.432461
PU4	0.092315	0.144945	0.232072	0.293873	-0.136806	0.230684	0.427586	0.738530	0.449871
PU5	0.197667	0.194680	0.187240	0.360207	-0.133030	0.252879	0.472166	0.755224	0.457949
PU6	0.204898	0.189316	0.226889	0.348084	-0.151993	0.209621	0.437975	0.695547	0.451309
SE1	0.056995	0.142811	0.265822	0.284662	-0.085056	0.130275	0.499533	0.412019	0.758124
SE2	0.041328	0.131556	0.210740	0.253074	-0.133979	0.175244	0.501200	0.348601	0.684339
SE3	0.148088	0.097054	0.159858	0.402432	-0.079064	0.099231	0.421509	0.460400	0.758088
SE4	0.080035	0.115456	0.149421	0.250974	-0.085545	0.104566	0.440238	0.344543	0.689672
SE5	0.108371	0.106577	0.190213	0.365965	0.011557	0.142996	0.510582	0.296244	0.747415