DETERMINANTS OF ACCEPTANCE AND USE OF HUMAN RESOURCES INFORMATION SYSTEM (HRIS) APPLICATION

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ABSTRACT
The aim of this research is to investigate the relationship between superior-subordinate interaction, experience using computer, application complexity, computer self efficacy, to perceived usefulness, perceived ease of use, attitude of using, behavioral intention, and the use of application of HRIS Application of PT. Kimia Farma (Persero),Tbk. This study was aimed to discover the roles of external variables, including superior-subordinate interaction, computer self efficacy, experience in using computer applications, application complexity variables which influence the use of HRIS Orange information system in PT Kimia Farma, (Persero), Tbk. The study was conducted in the parent company, PT Kimia Farma, (Persero), Tbk, which consists of main office in Jakarta and factories in Medan, Jakarta, Bandung, Semarang and Watudakon (East Java). The population of this study was employees and leaders who worked and were dispersed all over PT Kimia Farma, (Persero), Tbk and sample of 179 people. This study emphasized quantitative approach in data analysis, the data analysis using Generalized Structured Component Analysis (GSCA) approach. The result shows: (a) there were 9 (nine) **positive significant** influence relations, which were: superior-subordinate interaction on behavioral intention, superior-subordinate interaction on use of application, experience in using computer applications on perceived ease of use, computer self efficacy on perceived ease of use, perceived usefulness on attitude of using, perceived usefulness on behavioral intention, perceived ease of use on perceived usefulness, perceived ease of use on attitude of using, and behavioral intention of use of application; (b) there were 3 (three) **negative significant** influence relations, which were application complexity on perceived usefulness, application complexity on perceived ease of use, and application complexity on behavioral intention; (c) there were 3 (three) **insignificant** influence relations, which were: perceived usefulness on use of application, attitude of using on behavioral intention and attitude of using on use of application.
Keywords: Superior-subordinate interaction, experience, complexity, self efficacy, usefulness, ease of use, attitude, behavioral, HRIS

1. Introduction

The importance of information technology in business is undeniable. Many companies in the world want to transform themselves into business power generator through various major investments in information technology such as the implementation of *Enterprise Resources Planning* (ERP). ERP as a company information system includes more comprehensive things such as manufacturing process, maintenance process, distribution process, accounting and financial process, as well as human resources management process of a company. With this more comprehensive scope, system users are expected to easily integrate all processes, whether sales process, delivery process, production process, stock management process, quality control process, or human resources development process. By implementing ERP clearly there is a real need for business people to understand how to manage this important function of the organization through the implementation of information technology.

Information technology is used to improve individual performance as well as organizational performance. The importance of using information technology as a link of performance and the result is widely recognized at analysis level, whether in group or organization (Goodhue and Thompson, 1995; Devaraj and Kohli, 2003). Therefore, organizations which implement information technology should pay attention to how far the success of the system brings positive impacts in improving individual performance as well as overall organizational performance. Managing system and information technology which support current business of a company is a major challenge for managers and business practitioners (O'Brien, 2005).

Impacts which should be studied from the implementation information and communication technology in organization are changes in several fields, including working method and business process. These changes can be represented by, for example, communicating method before using information

technology. Communication by mail can be replaced by email and chatting. Meetings which are usually held in one location can be done by people in different locations by using teleconference. Data processing which usually takes a long time manually can be accelerated significantly and the accuracy level can also be increased.

HRIS is a computer application program which organizes human resources management and administration in a company to support decision-making process by providing various required information. HRIS provides information to all managers related to human resources of the company. Moreover, HRIS is an intersection or meeting of human resources management (MSDM) and information technology science. This system combines information technology into MSDM activities such as planning and processing employee data in a series of standardized steps which are encapsulated in a database. HRIS integrates information from MSDM functions such as organizations, personal administration, attendance, leave, travel, compensation and benefit, recruitment, training administration and employee performance assessment functions. It's clear that the integration of human resources management and information technology is very powerful for a company in managing human resources.

The success of the implementation of human resources information system application, as well as acceptance toward information technology in an organization, should be studied. There are several factors which can explain acceptance toward a technology. Lee *et.al* (2003) in Jogiyanto (2007) maps external variables which influence acceptance toward information technology. Through meta analysis in that study, various acceptance factors are discovered, including: volunteerism, relative benefits, compatibility, trial ability, personal innovativeness, social presence, subjective norm, visibility, work relevance, accessibility, result visibility, management support, preference perception, information quality, and facilitating condition. To model the acceptance factors, a theory related to the use of information technology was used. The model generally used to describe individual's acceptance towed the use of information technology is Technology Acceptance Model (TAM). In this study the information technology used was *Orange* Human Resources Information System (HRIS *Orange*) as the object because it's used by information users in Human Capital Division and other divisions. The use of HRIS Orange application in the company helped human resources data processing, so it could produce human resources information which could be used by the information users.

Different result from past researchers encourages the author to use several new variables in this study to make a research model which never existed before. This proposed model was the characteristic of this study. The difference was the author tried to add Superior-subordinate interaction variable as new part of external variable, in addition to variables of experience, complexity and computer self efficacy. Therefore, the author would like to know factors which influence acceptance and use of HRIS Orange application for employees who use it, so the performance of the information technology applied meets the expectancy of the management of Kimia Farma. Based on this, the author selected research topic titled: **"Determinants of Acceptance and Use of Human Resources Information System Application (HRIS) Study on the Users of HRIS Application of PT. Kimia Farma (Persero),Tbk".** The aim of this research is to investigate the relationship between superior-subordinate interaction, experience using computer, application complexity, computer self efficacy, to perceived usefulness, perceived ease of use, attitude of using, behavioral intention, and the use of application of HRIS Application of PT. Kimia Farma (Persero),Tbk

2. Research Model
2.1 Basic Theories

The concepts in this study were: Interaction described in Leader Member Exchange (LMX) theory, Experience of Using Computer Applications, Technology Complexity, and Computer self efficacy on Perceived Usefulness and Perceived ease of Use. This study started from an effort to understand decision making through information system applied by a company. Information is considered useful in decision making process if the information is presented accurately, on time, and relevantly. Correct used of information means increasing company's knowledge. A company with strong knowledge basis has created a strong basis in facing competitors. Quality information is used by management as a basis for decision-making. Therefore, leadership is a factor which should be considered in determining information system to make decisions.

Furthermore, it's concluded by previous empirical studies that structural relation better variables which influence perceived usefulness and perceived ease of use still should be studied comprehensively. This study was conducted to test the relation between superior-subordinate interaction, experience in using computer, application complexity, and computer self efficacy on perceived usefulness, perceived ease of use, as well as adding other variables such as attitude, usage behavior interest, and real application use of an information system, in this case HRIS Orange application by using TAM (Technology Acceptance Model) as a Framework of Discussion and Hypothesis Development.

Human Resources Information System (HRIS) is an Information system related to information used by human resources management function, which contains information of organizational structure, position, personal administration, payroll, tax, allowance, leave, travel, benefit, attendance, recruitment, training administration and employee performance assessment. In other words Human Resources Information System gives information to all company managers related to human resources of the company. HRIS is a part of an organization which consists of personnel who process human resources data using computer technology. The use of information technology is a expectancy of information technology users in performing their tasks (Thompson *et al.*, 1991).

Model which generally describes and predicts behavioral intentions in various setting is Theory of Reasoned Action (TRA). This model is based on an assumption that human makes rational decisions based on information available for them. Behavioral intention measures the power of purpose to do a certain action. Attitude describes positive or negative feelings of an individual (assessing impacts or evaluative affect) on the performance of the target of an action. Subjective norm refers to someone's perception on most people who will wonder whether s/he should perform that action (Fishbein & Ajzen, 1975). The conceptual model of this research in Figure 1. The novelty of this research is the relationship between Superior-subordinate interaction to behavioral intention in using HRIS Orange application (H1, red line).
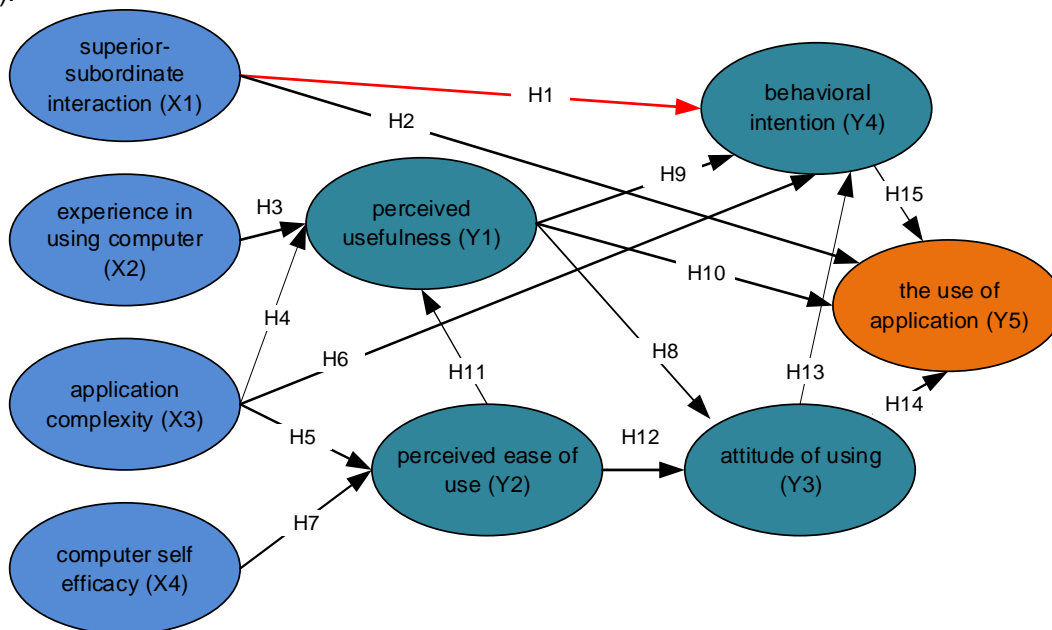

Figure 1: Conceptual Model

2.2 Hypothesis

A hypothesis is an assumption regarding relationship(s) between a dependent variable and one or more independent variable(s). Hypothesis works as a temporary answer regarding various studied relations.

Sugiyono (2002) states that hypothesis is made by first making an argument which contains scientific evidence of previous studies as an introduction to premise. Premise is basic information to deduce hypothesis. With this deductive process, the hypothesis produced is one with certainty of truth because it has gone truth deductive process, where the premise which becomes basic information has been tested for truth.

Based on empirical study in Chapter II, and conceptual model development described above, this study would tests several hypotheses as follows:

H1 :   Superior-subordinate interaction influences behavioral intention in using HRIS Orange application

H2 :   Superior-subordinate interaction directly influences the use of HRIS Orange application

H3 :   Experience in using computer applications influences perceived usefulness in using HRIS Orange application

H4:   Application complexity in using HRIS Orange application influences perceived usefulness in using HRIS Orange application

H5 :   Application complexity in using HRIS Orange application influences perceived ease of use in using HRIS Orange application

H6 :   Application complexity in using HRIS Orange application influences behavioral intention in using HRIS Orange application

H7 :   computer self efficacy influences perceived ease of use in using HRIS Orange application

H8 :   Perceived usefulness influences attitude in using HRIS Orange application

H9 :   Perceived usefulness influences behavioral intention in using HRIS Orange application

H10 : Perceived usefulness influences the use of HRIS Orange application

H11 : Perceived ease in use influences perceived usefulness in using HRIS Orange application.

H12 : Perceived ease of use influences attitude in using HRIS Orange application

H13 : Attitude in using influences behavioral intention in using HRIS Orange application

H14 : Attitude in using directly influences the use of application in using HRIS Orange application

H15 : Behavioral intention influences the use of application in using HRIS Orange application

3. Data Analysis Method

This study was aimed to discover the roles of external variables, including superior-subordinate interaction, computer self efficacy, experience in using computer applications, application complexity variables which influence the use of HRIS Orange information system in PT Kimia Farma, (Persero), Tbk. The study was conducted in the parent company, PT Kimia Farma, (Persero), Tbk, which consists of main office in Jakarta and factories in Medan, Jakarta, Bandung, Semarang and Watudakon (East Java). The population of this study was employees and leaders who worked and were dispersed all over PT Kimia Farma, (Persero), Tbk and sample of 179 people.

The method used in data collection especially in this study included:

a.   Instrument: main data collection instrument in this study was closed questionnaires.

b.   Interview: data collection technique by directly interviewing respondents. This technique was performed to get additional information to complete data which might not be included in the questionnaires.

Documentation: studying documents in the company which were related with the development of implementation of PT Kimia Farma (Persero), Tbk

This study emphasized quantitative approach in data analysis, so the data analysis methods used can be categorized into two, which were descriptive statistical analysis described in the form of frequency, central tendency measurement and dispersion measurement and inferential statistical analysis were done using Generalized Structured Component Analysis (GSCA) approach.

Generally, standard steps in using GSCA according to Solimun, 2012 are: 1) designing structural model (relation between latent variables); 2) designing measurement model (reflective and formative); 3) constructing path diagram; 4) converting path diagram into equation system; 5) estimation: weight, loading and path coefficient; 6) evaluation of goodness of fit criteria and 7) interpreting and modifying model.

4. Results of Generalized Structured Component Analysis (GSCA)
4.1 Results of Measure of Fit Structural Model

Based on the model feasibility test which was structurally measured using FIT and AFIT, FIT value is 0.548 and AFIT value is 0.539. The FIT value shows that total diversity which can be explained by the model is 54,8% (Table 1). It meant the model could explain 54,8 percent of all variables. 54,8 percept of diversity of variables of superior-subordinate interaction, computer experience, application complexity, computer self efficacy, perceived usefulness, perceived ease of use, attitude of using,

intention of using and use of application could be explained by the model, and the remaining 46.2 percent was explained by other variables outside of the model.

Table 1. Results of Measure of Fit Structural Model Test

FIT	0.548
AFIT	0.539

Source: Processed data, 2014

4.2 Results of Measure of Fit Overall Model

Overall model feasibility test was measured using integrated structural model and measurement model. The model feasibility test was performed by assessing GFI and SRMR values. GFI value bigger than 0.900 and SRMR value smaller than 0.080 show that the model used is good fit, while if it approaches the values then it's marginal fit.

Based on overall model feasibility test measured using GFI and SRMR, GFI value is 0.989 and SRMR value is 0.152. GFI value bigger than 0.900 showed that the model was good fit, and SRMR value approaching 0.080 showed that the model used was marginal fit (Table 2).

Table 2. Results of Measure of Fit Overall Model Test

GFI	0.989
SRMR	0.152

Source: Processed data, 2014

4.3. Structural Model

Based on model feasibility test, the proposed conceptual framework met the requirements or could be used as measurement model in this study. Next, the results of structural model testing (inner-model) are similar to Table 3, and displayed as a diagram in Figure 2. There were 3 (three) insignificant relations, which were H10 (Y1→Y5), H13 (Y3→Y4) and H14 (Y3→Y5); so there were 3 (three) hypotheses rejected at α level =5%, which were H10, H13, and H14.

Table 3. Result of Structural Model

Hypothesis	Relationship	Estimate	CR	P-Value
H1	X1 → Y4	0.264	3.34*	0.001
H2	X1 → Y5	0.160	2.33*	0.021
H3	X2 → Y1	0.205	2.73*	0.007
H4	X3 → Y1	-0.211	2.19*	0.030
H5	X3 → Y2	-0.287	3.83*	0.000
H6	X3 → Y4	-0.195	2.15*	0.033
H7	X4 → Y2	0.258	2.93*	0.003
H8	Y1 → Y3	0.360	5.86*	0.000
H9	Y1 → Y4	0.195	2.28*	0.024
H10	Y1 → Y5	0.043	0.56	0.576
H11	Y2 → Y1	0.275	2.97*	0.003
H12	Y2 → Y3	0.390	5.06*	0.000
H13	Y3 → Y4	0.155	1.69	0.093
H14	Y3 → Y5	0.160	1.79	0.075
H15	Y4 → Y5	0.507	9.57*	0.000

* significant at 5% level of significance

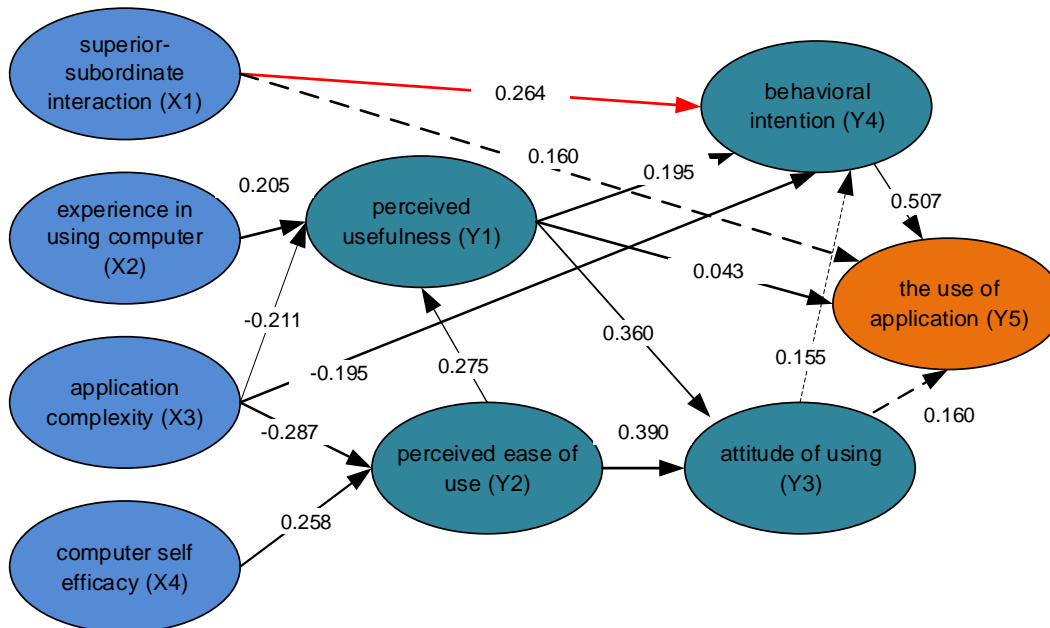Based on table 3 path model could be plotted as follows:

Figure 2. Result of Structural Model

The results of the structural model obtained in this study showed that all variables were significant at level 5%. Further descriptions on inner-model testing are shown in the following descriptions.

1. The influence of superior-subordinate interaction (X1) on behavioral intention (Y4): significant at α level = 5% (p < 0.050). Positive coefficient showed unidirectional relation, so the higher the value of Superior-subordinate interaction, the higher the value of behavioral intention.
2. The influence of superior-subordinate interaction (X1) on the use of application (Y5): significant at α level = 5% (p < 0.050). Positive coefficient showed unidirectional relation, so the higher the value of Superior-subordinate interaction, the higher the value of the use of application.
3. The influence of experience in using computer (X2) on perceived usefulness (Y1): significant at α level = 5% (p < 0.050). Positive coefficient showed unidirectional relation, so the higher the value of experience in using computer, the higher the value of perceived usefulness.
4. The influence of application complexity (X3) on perceived usefulness (Y1): significant at α level = 5% (p < 0.050). Negative coefficient showed inverse relation, so the higher the value of application complexity, the smaller the value of perceived usefulness, and vice versa.
5. The influence of application complexity (X3) on perceived ease of use (Y2): significant at α level =5% (p < 0.050).). Negative coefficient showed inverse relation, so the higher the value of application complexity, the smaller the value of perceived ease of use, and vice versa.
6. The Influence of application complexity (X3) on behavioral intention (Y4): significant at α level = 5% (p < 0.050). Negative coefficient showed inverse relation. It meant changes on the value of application complexity had significant influence behavioral intention. The higher the value of application complexity, the smaller the value of behavioral intention
7. The influence of computer self efficacy (X4) on perceived ease of use (Y2): significant at α level = 5% (p < 0.050). Positive coefficient showed unidirectional relation, so the higher the value of computer self efficacy, the value of perceived ease of use was significantly influenced.
8. Influence of perceived usefulness (Y1) on attitude of using (Y3): significant at α level = 5% (p > 0.050). Positive coefficient showed unidirectional relation, so the higher the value of perceived usefulness, the higher the value of attitude of using.
9. Influence of perceived usefulness (Y1) on behavioral intention (Y4): significant at α level = 5% (p > 0.050). Positive coefficient showed unidirectional relation, so the higher the value of perceived usefulness, the higher the value of behavioral intention.

10. Influence of perceived usefulness (Y1) on the use of application (Y5): not significant at α level = 5% (p > 0.05). Positive coefficient shoed unidirectional relation, meaning the value of perceived usefulness didn't influence the value of the use of application.

11. The influence of perceived ease of use (Y2) on perceived usefulness (Y1): significant at α level = 5% (p < 0.050). Positive coefficient showed unidirectional relation, so the higher the value of perceived ease, the higher the value of perceived usefulness.

12. The influence of perceived ease of use (Y2) on behavioral attitude (Y3): significant at α level = 5% (p < 0.050). Positive coefficient showed unidirectional relation, so the higher the value of perceived ease of use, the higher the behavioral attitude.

13. The influence of attitude of using (Y3) on behavioral intention (Y4): not significant at α level = 5% (p > 0.050). Positive coefficient showed unidirectional relation, meaning the value of behavioral attitude didn't influence the value of behavioral intention.

14. The influence of attitude of using (Y3) on the use of application (Y5): not significant at α level = 5% (p > 0.050). Positive coefficient showed unidirectional relation, meaning the value of behavioral attitude didn't influence the value of the use of application.

15. The influence of behavioral intention (Y4) on the use of application (Y5): significant at α level = 5% (p < 0.050). Positive coefficient showed unidirectional relation, so the higher the value of Behavioral Intention, the higher the value of Real Use of application (Y5).

4   Conclusions

Analysis of GSCA (*Generalized* Structured Component Analysis) structural equation model (inner-model) on 150 (one hundred fifty) sample data on users of Orange Human Resources Information System (HRIS) of PT Kimia Farma (Persero), Tbk., gave the following conclusions: (a) there were 9 (nine) **positive significant** influence relations, which were: superior-subordinate interaction on behavioral intention, superior-subordinate interaction on use of application, experience in using computer applications on perceived ease of use, computer self efficacy on perceived ease of use, perceived usefulness on attitude of using, perceived usefulness on behavioral intention, perceived ease of use on perceived usefulness, perceived ease of use on attitude of using, and behavioral intention of use of application; (b) there were 3 (three) **negative significant** influence relations, which were application complexity on perceived usefulness, application complexity on perceived ease of use, and application complexity on behavioral intention; (c) there were 3 (three) **insignificant** influence relations, which were: perceived usefulness on use of application, attitude of using on behavioral intention and attitude of using on use of application.

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