Research Paper

The Effects of Experience, Complexity, and Computer Self Efficacy Factors towards The Use of Human Resources Information System Application

Teuku Noerman

Human Capital Advisor of PT. Kimia Farma (Persero) Tbk., Indonesia

ABSTRACT:- Information Technology is used to improve either individual or organizational performance. The importance of the use of information technology within the organization is expected to improve the effectiveness and efficiency in working. The aims of this research are examining the effects of Experience, Application Complexity, and Computer Self Efficacy in the implementation of human resources information system application of PT. Kimia Farma (Persero), Tbk., through the media of perceived usefulness, perceived ease of use, behavioral intention, and also actual usage. The research was located on the main company of PT. Kimia Farma (Persero), Tbk, which consists of a Headquarter in Jakarta, and the factories spread in Medan, Jakarta, Bandung, Semarang, and Watudakon (East Java).The technique used to answer the hypothesis of the research is*Generalized Structured Component Analysis* (GSCA). Based on the results of the research, it was concluded that the effect of computer experience, application complexity, and computer self efficacy towards the use of human resources information system application of PT. Kimia Farma (Persero), Tbk.,through the media of perceived usefulness, perceived ease of use, behavioral intention. It means that if the application is perceived to be easy and useful, and the user had an intention to use it, the frequency of the use of human resources information system application of PT. Kimia Farma (Persero), Tbk., will increase due to high experience, the easier application complexity, and high computer self efficacy.

Keywords:- Experience, Complexitiy, Computer Self Efficacy, The Use of HR Information System

I. INTRODUCTION

Information Technology is used to improve either individual or organizational performance. The importance of the use of information technology within the organization is expected to improve the effectiveness and efficiency in working. The organization which implements information technology needs to pay attention to how far the success of the system in bringing positive effect in improving either individual or organizational performance overall. It is a big challenge for the managers and business practitioners to manage the information system and technology which supports the business process of the company (O'Brien, 2005). There is a need to conduct an in-depth research for the success of the implementation of human resources information system and also the acceptance of information technology within the organization. Lee et al. (2003) in Jogiyanto (2007) maps the external variable which affects the acceptance of information technology. Through the meta-analysis on the research, there are some acceptance factors obtained, including: volunteerism, relative profit, compatibility, trialability, personal innovativeness, social presence, subjective norm, visibility, work relevance, accessibility, results visibility, management support, perceived delight, information quality, and the facilitating condition. In order to modelize the acceptance factors, a related theory of the use of information technology is used. A general model used to describe the individual acceptance towards the use of information technology is *Technology Acceptance Model* (TAM).

Potential users believe that certain application is useful for them. Besides its perceived usefulness, the implementation of information technology will also be affected by its perceived ease of use. The perceived usefulness is used to measure how great a user feels that a technology can be useful for him/her. A high "*perceived usefulness*" system is believed to be able to give a positive "*use-performanc*e" relationship. ***Perceived usefulness*** is a level in which someone believes that the user of a certain system will be able to

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improve his/her working achievement. It is also a level in which someone believes that the use of a certain technology will improve his/her working achievement. Based on the matters, it can be concluded that the use of information technology can improve the users' performance and working achievement. *Perceived usefulness* is a belief about the process of making a decision. Therefore, if someone believed that information technology is useful, he/she would use it. In contrast, if someone believed that information technology is less/not useful, he/she would not use it.

On the construct of *perceived ease of use,* a technology can be defined as a measure in which someone believes that the computer is easy to be understood and used (Oye *et al.,* 2012). This belief determines users' attitude toward the use of a system, then toward the intention, behavior and lead to the use of the actual system. Mardikyan et al. (2012) also said that perceived ease of use as a level in which a person believes that by using a particular system, they would be free from the risk of misuse.

In the construct of behavioral intention, it means as a behavioral tendency to keep using any technology (Davis and Warshaw, 1989). The level of use of a computer technology on a person can be predicted from the attitude of the user's attention to the technology, such as the intention to add some supporting tools, motivation to keep using, and also the intention to motivate other users. Hermawan (2008) in Suseno (2009) states that behavioral intention as a someone's intention to do certain behavior.

The change of environment can also result in changes to the organization within a company, which may occur at the time the company is trying to improve and create added value to the company and also in the organizational behavior of the company in conducting its business organization. In an organization, either it is a small or big one, is trying to improve its focus on the matters related to human resources within organization. All of these trends reflect a continuous challenge which encourages PT. Kimia Farma (Persero), Tbk., to improve the available persons in their adaptation to the technology. Here, mastering and responding the information technology

In this research, the information technology used is a Human Resources Information System as the object as it is used by the information users in Human Capital and other divisions. The use of human resources information system application within a company is relatively helpful in managing the human resources data, so it can produce the human resources information which can be used by the user. The researcher wants to find out the factors affecting the acceptance and the use of human resources information system application for the workers who used it, so the performance of the applied information technology meets the expectation from the management of Kimia Farma. Based on the background above, this research aims at examining the effects of Experience, Application Complexity, and Computer Self Efficacy in the implementation of human resources information system application of PT. Kimia Farma (Persero), Tbk., through the media of perceived usefulness, perceived ease of use, behavioral intention, and also actual usage.

II. BASIC THEORY

Computer Experience

Computer Experience is defined as a level in which someone have ever used a technology to ease his/her work. Experience is an action in TAM model to see the effect of experience towards the perceived usefulness and perceived ease of use. This experience is measured by the indicators inside, i,e.: Having many experiences, Perennially usage. Ajzein and Fishbein (1980) found the significant differences between the experienced and the inexperienced users in affecting the actual usage. Taylor and Todd (1995) study about the experienced users shows that there is a strong correlation between the intention of using a technology and the actual usage of an experienced technology. Agarwal and Prasad (1999) express that there is a strong relationship between someone who is experienced in a similar technology. In this research, the researcher wants to find out the relationship between the computer experience towards the perceived usefulness and perceived ease of use.

Computer Self Efficacy

According to Agarwal *et al*. (2000), *Computer Self Efficacy* is regarded as an important variable for the study of individual behavior in the field of information technology. *Computer Self Efficacy* (CSE) is defined by Compeau and Higgins (1995) in Rustiana (2004) as the estimation of someone's computer capability and expertise to do the tasks related to the information technology. Adamson and Shine (2003) defines CSE as an individual's belief about the ability to do some tasks specifically, to measure the degree of the efforts done and the persistence in facing the challenging situation. Maharsi and Mulyadi (2007) simply define CSE as someone's ability in using computer. From the definitions of CSE above, it can be concluded that CSE is an individual estimation over self-ability to do the computational tasks well.

Compeau and Higgins in Rustiana (2004) explains that there are 3 dimensions of CSE, i.e.; (1) *magnitude* (2) *strength* and (3) *generalibility*. *Magnitude* refers to the capability level in using computer. An individual with a high CSE magnitude level is expected to be able to finish the computation tasks which are more complex with a low support and help from other people compared to those with a low CSE magnitude

level. *Strength* refers to the faith level about the individual computer self efficacy to be able to finish his/her computation tasks well. *Generalibility* refers to the differences domain of hardware and software configuration, so the individual who has a high generalibility level is expected to be able to use the different software and system packages, compared to those with a low generalibility level (Adamson and Shine, 2003).

Perceived Usefulness

Perceived Usefulness is a level in which someone believes that the usage of a certain system will improve his/her working achievement. Based on the definition, it can be concluded that the usefulness of the usage of information technology can improve the user's working achievement. Thompson *et al.* (1991) concludes that the usefulness of information technology is an advantage expected by the user of information technology in doing some tasks, and also states that the individual will use information technology if he/she knows the positive advantage/perceived usefulness of the usage.

Venkatesh and Davis (2000) divide the dimension of perceived usefulness to be as follows: the use of the system can *improve job performance*, *increase productivity*, and *enhance effectiveness*. The use of the *system is useful* for the individual.

Perceived Ease of Use

Perceived Ease of Use of a technology is defined as a measure in which someone believes that the computer can be easily understood and used (Davis, 1989). This belief determines users' attitude toward the use of a system, then toward the intention, behavior and lead to the use of the actual system. Venkatesh and Davis (2000) divide the dimensions of the Perceived Ease of Use to be as follows: The interaction of the Individual with the system is *clear and understandable*, *it does not require a lot of effort* to interact with the system, The system is *easy to use*, it is *easy to get the system to do what the user wants to do*.

Attitude toward Usage

Attitude toward Usage in TAM is conceptualized as an attitude toward the use of the system in the form of acceptance or refusal as the effect if someone uses a technology within his/her work (Davis, 1989). Another researcher states that the attitude is an aspect affecting the individual behavior. Someone's attitude consists of cognitive/point of view, affective, and other components related to the behavior *(behavioral components)* (Nasution, 2006). According to Aakers and Myers (1997) the attitude toward usage is a like or dislike attitude toward the use of a product. This attitude can be used to predict someone's behavioral intention to use or not to use a product. *Attitude toward technology usage* is defined as an evaluation from the user about his/her interest in using the technology, Hermawan (2008) in Suseno (2009).

Behavioral Intention to Use

Behavioral Intention to Use is a behavioral tendency to keep using a technology (Davis, 1986). The level of using a computer technology of a user can be predicted from his/her attitude and attention to the technology, for example, his/her intention to add some supporting tools, motivation to keep using the technology, and also intention to motivate other users. Hermawan (2008) in Suseno (2009) defines the behavioral intention as an interest or intention of someone to do a certain behavior. The researcher, then, states that the attention attitude to use is a good prediction to know the *Actual Usage* (Malhotra, 1999). *Behavioral intention to use* is a someone's nature when he/she wants to try a system or technology. It is a nature of human to have a *curiosity*. If the customers faced by a new product, there would be some of them want to try it. Moreover, if the customers do not know the function of the product yet. This kind of curiosity level gives a positive relationship to the *behavioral intention to use*.

Actual Usage

Wibowo (2008) defines the Actual Usage as an actual condition of the system usage. Someone will be satisfied in using the system if he/she believes that the system is easy to be used and will improve his/her productivity, which is reflected from the actual condition of the system usage. (Tangke, 2004). The form of the usage measurement of the actual usage is the frequency and time duration of the usage of information technology (Davis, 1989). The actual technology use is measured by the total of time used to interact with the technology and frequency of the technology usage.

III. RESEARCH METHOD

Methods of Data Collection and Data Analysis Methods

The research was located on the company of PT. Kimia Farma (Persero), Tbk., which consists of a Headquarter in Jakarta, and the factories spread in Medan, Jakarta, Bandung, Semarang, and Watudakon (East Java). It was being a consideration for the research location as the implementation of Human Resources

Information System of PT Kimia Farma (Persero), Tbk., was started to be used since 2012 started from the use in the Headquarter and the factory with 1461 workers.

In this research, the sample collection technique was conducted by using *restricted probability sampling* technique. *Restricted probability sampling* is a technique of selecting the units with the same probability, so a unit can be chosen for a more than once sample (Sekaran, 2003). The samples were collected are spread on the headquarter and factories of PT Kimia Farma (Persero), Tbk., which had implemented the human resources information system application, either by the workers or the managements. From the calculation above, it obtained the sample size of the research of 179. The technique used to answer the hypothesis of the research is *Generalized Structured Component Analysis* (GSCA). This kind of analysis approach used a *least square* method in the process of parameter prediction.

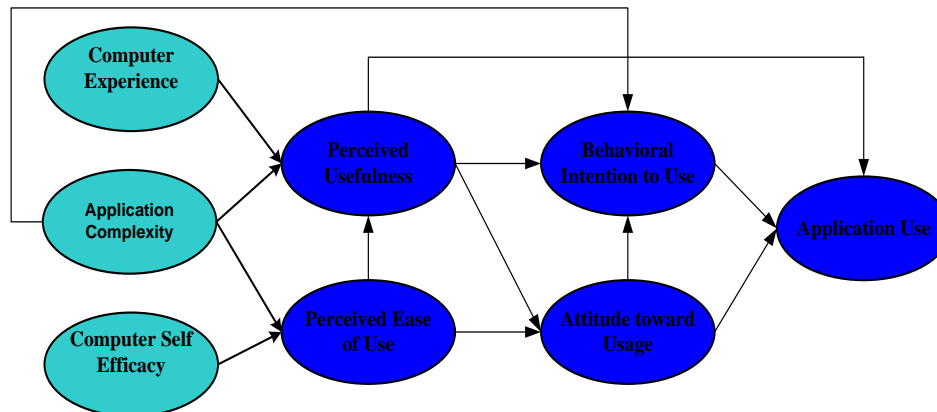Following the conceptual framework of this study:

Figure 1. Conceptual Framework

The results of *Measure of Fit Structural Model*. Based on the overall model feasibility measurement which is measured by using GFI and SRMR, the GFI is obtained for 0.910 and the SRMR for 0.078. The higher GFI of 0.900 and The less SRMR of 0.080 shows that the model used is appropriate.

Table 1. Testing Results Measure of Fit Overall Model

GFI	0.910
SRMR	0.078

Structural Model

Based on the model compatibility test, the proposed conceptual framework meets the requirements or can be used as a measurement model in this study. Furthermore, the results of structural model test (inner-model) are shown on Table 2.

Table 2. Direct Impact Testing

No	Relationship between Variables	Estimate	CR	P-Value	Explanation
1	X1 → Y1	0.200	2.56*	0.010	Significant
2	X2 → Y1	-0.201	2.08*	0.032	Significant
3	X2 → Y2	-0.257	3.85*	0.000	Significant
4	X2 → Y4	-0.187	2.25*	0.030	Significant
5	X3 → Y2	0.234	2.90*	0.003	Significant
6	Y1 → Y3	0.345	5.76*	0.000	Significant
7	Y1 → Y4	0.191	2.18*	0.027	Significant
8	Y1 → Y5	0.034	0.45	0.579	Not Significant
9	Y2 → Y1	0.257	2.86*	0.009	Significant
10	Y2 → Y3	0.388	5.10*	0.000	Significant
11	Y3 → Y4	0.135	1.79	0.090	Not Significant
12	Y3 → Y5	0.157	1.68	0.075	Not Significant
13	Y4 → Y5	0.512	9.66*	0.000	Significant

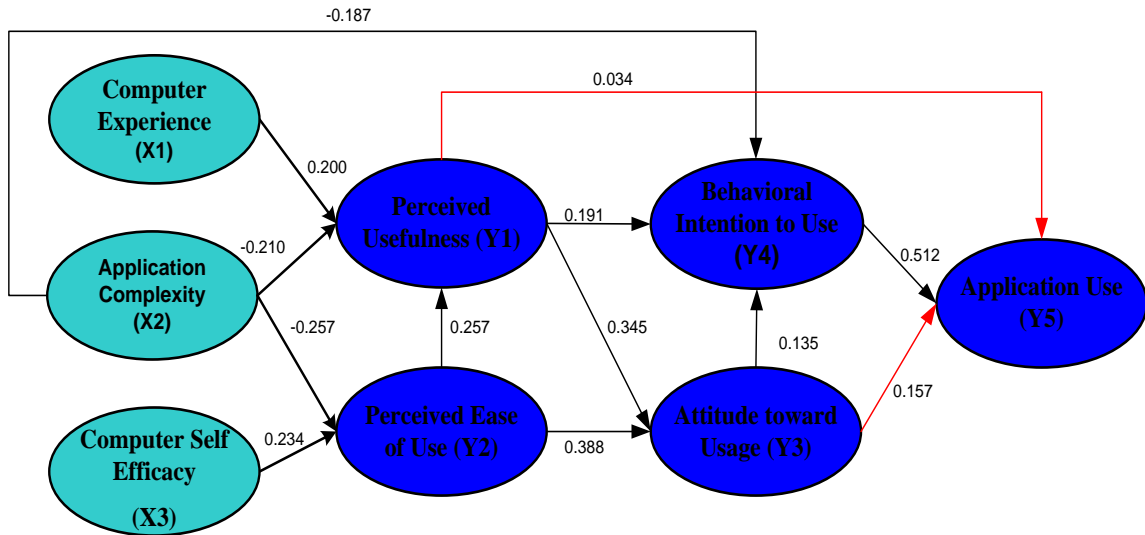*** = significant at the level 0.05**

Figure 2. The Results of Direct Effect Test.

The Structural model obtained in this study, all the variables are significant at 5% level except for the following three direct effects which are not significant, i.e.,: Effect of the attitude toward usage (Y3) to the behavioral intention (Y4), as well as the effect of perceived usefulness (Y1) and the attitude toward usage (Y3) to application use (Y5).
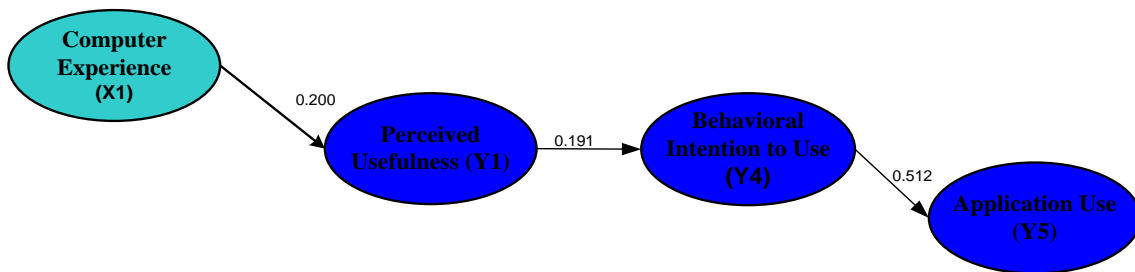

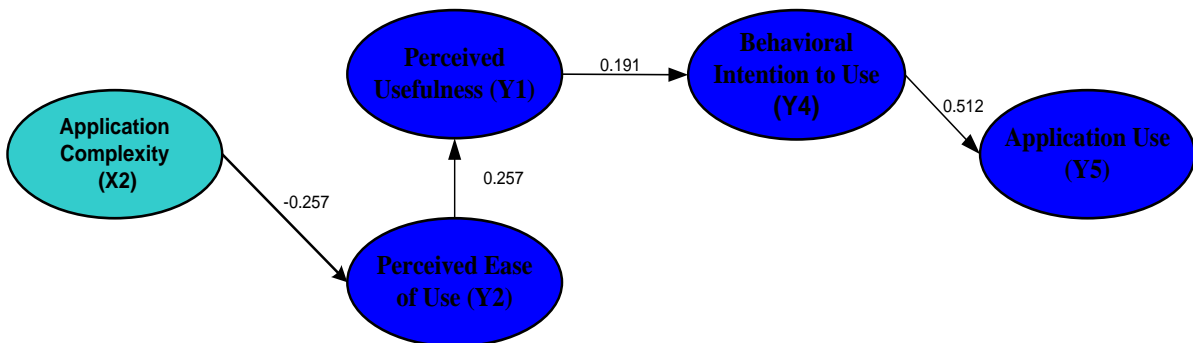**Figure 3. Effect of Indirect Testing Results X1 to Y5**
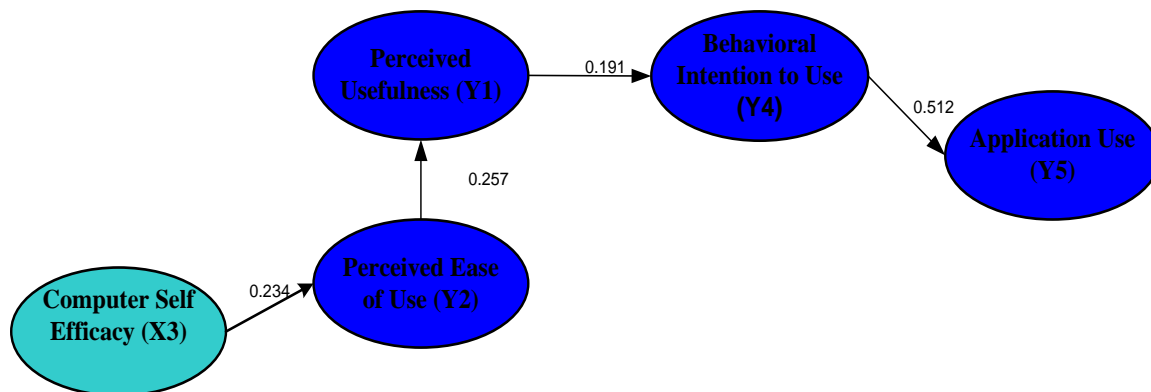

Figure 4. Testing Results Indirect Influence X2 to Y5

Figure 5. Results of Testing Indirect Influence X2 to Y5

Table 3 Structural Model SEM Results: Indirect Influence

Indirect Effects	Indirect Influence Coefficients	Explanation
X1 → Y1 → Y4 → Y5	0.200x0.191x0.512 = 0.019	Significant
X2 → Y2 → Y1 → Y4 → Y5	-0.257x0.257x0.191x0.512 = -0.064	Significant
X3 → Y2 → Y1 → Y4 → Y5	0.234x0.257x0.191x0.512 = 0.058	Significant

Besides the test of the direct effect, there is also an indirect effect one. Indirect effect is a result of multiplication result of some direct effects which formed it. The indirect effect will be stated significant if both direct effects which formed it are also significant. The following is the result of the indirect effect: The table and figure above show that the computer experience has an indirect effect to the use of application through the media of perceived usefulness, perceived ease of use and also behavioral intention. It means that if the application is perceived to be useful and the user had an intention to use it, the high computer experience will result on the high frequency of the use of human resources information system application of PT. Kimia Farma (Persero), Tbk.

The complexity of the application had an indirect effect toward the use of the application through the media of perceived ease of use, perceived usefulness, and also behavioral intention. It means that if the application is perceived to be easy to be used and useful, and the user had an intention to use it, the lighter application complexity, the higher frequency of the use of the human resources information system application of PT. Kimia Farma (Persero), Tbk.

The computer self efficacy on the use of the computer had an indirect effect toward the use of the application through the media of perceived ease of use, perceived usefulness, and also behavioral intention. It means that if the application is perceived to be easy to be used and useful, and the user had an intention to use the application, a high computer self efficacy will result on the high frequency of the use of human resources information system application of PT. Kimia Farma (Persero), Tbk.

This research was coming from the intention to see the acceptance and human resources information system application use factors in PT. Kimia Farma (Persero), Tbk. The model construct of the research referred to the behavioral information system theory named TAM. The experience obtained during operating the computer became a basic capital in affecting the perception level in using information system application. The more computer experience, the easier accepting the perceived usefulness of human resources information system. It is similar to Ajzen and Fishbein (1980) who found that there were some significant differences between the experienced and the inexperienced users in affecting the actual usage. Taylor and Todd (1995) study about the experienced users shows that there is a strong correlation between the intention of using a technology and the actual usage of an experienced user.

The application complexity affects the perceived ease of use and the level of the effect is negative which means that the more complex application used, the less ease of use. The perceived ease of use is interpreted as the level of a worker's belief in using human resources information system which will ease his/her effort. If the perceived usefulness emphasizes the usefulness of a system or technology, the perceived ease of use will emphasize the ease of use of a system or technology. A system which is difficult to be controlled will result on the reducing level of perceived ease of use (Davis, 1989).

The computer self efficacy affects the perceived ease of use in a positive manner which means that the higher computer self efficacy will increase the perceived ease of use of human resources information system. The computer self efficacy is perceived as an individual belief on his/her ability to finish the task specifically, degree the effort, and the persistence in facing the challenging situation to the use of human resources information system application. This theory is in line with the ideas of Maharsi and Mulyadi (2007) that the computer self efficacy is an individual assessment on self-ability to do the computation tasks well. The higher computer self efficacy of the user in operating human resources information system will improve the ability to the easily usage of the information system.

IV. CONCLUSION

Based on the results of the research, it was concluded that the effect of computer experience, application complexity, and computer self efficacytowards the use of human resources information system application of PT. Kimia Farma (Persero), Tbk.,through the media of perceived usefulness, perceived ease of use, behavioral intention. It means that if the application is perceived to be easy and useful, and the user had an intention to use it, the frequency of the use of human resources information system application of PT. Kimia Farma (Persero), Tbk., will increase due to high experience, the easier application complexity, and high computer self efficacy.

There are two things conducted by PT. Kimia Farma (Persero), Tbk., to improve the computer experience aspects of the user. First, in the worker recruitment process, the company has to prioritize the computer experience of the new workers, since the trend tendency of Human Resources which cannot be apart from this kind of technology and needs the expert users in the field. Second, PT. Kimia Farma (Persero), Tbk., has also to be focused on the improvement of usage experience of the available human resources by giving a training for them. The results of the research show that the difficulties in integrating human resources information system application with other applications become the structuring indicator of the application complexity with a diffuse effect. It has to be fixed by PT. Kimia Farma (Persero), Tbk., since the consequency of the implementation of the integrated application needs an integration to fulfill the information of the company which is quick and accurate.

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