Indicators of Behavioral Intention to Implement Maternal and Child Health Information Systems

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Abstract
This study aimed to analyze the indicators of user's behavioral intention to implement Maternal and Child Health Information System (MCHIS) in Health Department of Ngawi Regency. Population of this cross sectional study was all of midwives in Health Department of Ngawi Regency in 2015 (population size = 217). From all members of the population, data were collected through questionnaires filled out directly by midwives, then analyzed using confirmatory factor analysis. The result of study suggested that the coefficient value for: 1) enthusiasm = 0.811, 2) persuasiveness = 0.970, and 3) willingness = 0.834. Based on the results, it can be concluded that the indicators of behavioral intention to implement MCHIS in Health Department of Ngawi Regency, respectively from the most important were: 1) persuasiveness, 2) willingness, and 3) enthusiasm.
Keywords: Information System, Intention, Enthusiasm, Persuasiveness, Willingness.

I.   INTRODUCTION

In this global era, the management information systems of health based on information dan communication technology has been widely implemented. Many health departments, hospitals, and public health centers have implemented information and communication technology (ICT) to support the work processes in organization, such as information systems of hospital, information systems of public health center, as well as the information system of health department (Sanjaya, 2011). Since the presence of decentralization era in Indonesia, most of the information system of health do not refer to standardized guidelines or are still implementing the version of their own. These conditions lead to problems in merging the data at the level of provincial (Health Ministry of Republic of Indonesia, 2012).

During this time, it had been reported that there were many stand alone information systems of health. This condition led to duplication in recording and reporting activities. In this regard, there were 301 kinds of reports from 8 kinds of the information systems of health, which was reported by the Provincial Health Department. The major problem of information system of health in Indonesia was not yet able to achieve efficiency, which was characterized by: 1) the amount and type of data was overload, 2) the occurrence of duplication of activities, 3) the poor quality of the data, 4) not yet achieved the consistency between the data and need, 5) the inappropriateness of the report, 6) a feedback system was ineffective, 7) low utilization of data and information at the local level for advocacy, the planning of program, management, and monitoring, 8) inefficiency in the use of resources. The cause of the problems might include the following: 1) the "overlap" in data collection and data processing, 2) the lack of integration and coordination in the data management process (Health Ministry of Republic of Indonesia, 2012).

Health Department of Ngawi regency was one of the department that have implemented information systems of maternal and chlid health based on information and communication technology, called "Maternal and Child Health Information System (MCHIS)". The results of a preliminary study through interviews with managers of MCHIS shows that there had been a downward trend in the activity of midwives as user in using the system, thus inhibiting the system at the level of public health center and health department (Health Department of Ngawi regency, 2014). These conditions indicate the occurrence of problem with user acceptance to information systems health.

Based on the problem above, it was deemed necessary to conduct a study concerning midwives intention

to implement Maternal and Child Health Informastion System, especially concerning: 1) enthusiasm, 2) persuasiveness, and 3) willingnes to use information system based on information and communication technology.

II.   METHODS

The population of this cross-sectional study was all of the midwives in Health Department of Ngawi Regency in in 2015, with population size = 217 people. All of people in the population included as respondents, so there was no sampling process (total sampling study). Data were collected through questionnaires about behavioral intention to use filled out directly by midwives as user of MCHIS. These questionnaires consist of three indicators were: 1) enthusiasm, 2) persuasiveness, and 3) willingness to implement MCHIS. Furthermore, the collected data were analyzed by using confirmatory factor analysis (CFA).

III.   RESULTS

Table 1: Distribution of Behavioral Intention of Midwives to Implement MCHIS

Indicators	Categories			
	Very Low	**Low**	**High**	**Very High**
Enthusiasm	47 (21,66%)	137 (63,13%)	32 (14,75%)	1 (0,46%)
Persuasiveness	48 (22,12%)	146 (67,28%)	22 (10,14%)	1 (0,46%)
Willingness	54 (24,88%)	130 (59,91%)	33 (15,21%)	0 (0,00%)

Table 1 shows that the most midwives in Health Department of Ngawi Regency have a low enthusiasm, persuasiveness, and willingness to implement Maternal and Child Health Information System.

Table 2: The result of multivariate data normality examination

Variable	Min	Max	Skew	cr	Kurt	Cr
Enthusiasm	1	7	-0.604	-3.634	-0.462	-1.390
Persuasiveness	1	8	-0.705	-4.237	0.076	-0.230
Willingness	1	8	-0.152	-0.911	-0.344	-1.036
Multivariate					-0.716	-0.963

Note:
Min=minimum value, Max=maximum value, Skew=skewness, Kurt=kurtosis, cr=critical ratio,

Table 2 shows that result of multivariate data normality examination by using confirmatory factor analysis suggested cr = -0.963 (more less than 1.96), that it could be concluded that by means of multivariate, the data was normally distributed, that the result of confirmatory factor analysis can be used for further interpretation.
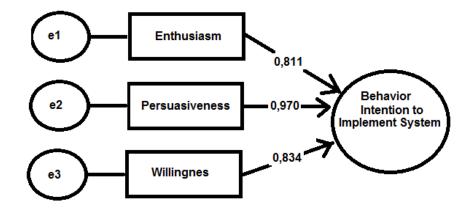
Figure 1. The Result of Confirmatory Factor Analysis

Figure 1 displays that result of analysis suggested that standardized coefficients for each indicators (manifest variables) were respectivelly as follows: 1) enthusiasm to implement system = 0.811, 2) persuasiveness to implement system = 0.970, and 3) willingness to implement system = 0.834. All standardized of coefficient value was approaching 1, that it can be concluded that three of which were significant indicators for measuring behavioral intention to implement Maternal and Child Health Information System.

The p-value for each indicators were as follows: 1) enthusiasm to implement system <0.001, 2) persuasiveness to implement system <0,001, and 3) willingness to implement system <0,001. Since the p-value of all indicators were less than 0,05, it can be concluded that enthusiasm, persuasiveness, and willingness to were valid indicators for user's behavioral intention to implement Maternal and Child Health Information System.

IV.   DISCUSSION

Associated with user's behavioral intention to implementation system, the results showed that the midwives had a lower intention to implement MCHIS. It is characterized by low enthusiasm to implement the information system, low of persuasiveness (behavioral intention to encourage fellow midwives in order to implement the information system), and the lack of willingness (volunteerism) to implement the information system without pressure from others. This condition needs serious attention, because behavioral intention to implement information system is a direct determinant of the actual use information system use by the user (Celix & Yilmaz, 2011; Davis, 1993, Davis, et al., 1989; Venkatesh & Bala, 2008; Venkatesh & Davis, 2000). Behavioral intention to implement information system showed their willingness to use the information system without coercion, and volunteerism users like this is needed to ensure the continuity of the implementation of the Maternal and child health Information Systems.

The results showed that the indicators of behavioral intention to implementation MCHIS, the most widely getting low and very low ratings are persuasiveness or behavioral intention to encourage fellow users to implement Maternal and Child Health Information Systems. Thus, this factor needs special attention, within the meaning of Health Department of Ngawi regency need to build the efforts to establish an atmosphere of volunteerism and mutual support among midwives in order to the implementation of Maternal and Child Health Information System. This can be done by outbound training, refreshment of understanding on health information systems, and so forth.

If a willingness to implement the information system could be built, it will open greater opportunities for the continuity of the implementation of Maternal and Child Health Information System in Ngawi regency.

This is based on the understanding that action to implementing information system (actual system use) will be lasting if it is based on intent or a willingness to use it (Celix & Yilmaz, 2011; Davis, 1993, Davis, et al., 1989; Venkatesh & Bala, 2008; Venkatesh & Davis, 2000).

V. CONCLUSION

Based on results of study, it can be concluded that the indicators of behavioral intention to implement Maternal and Child Health Information System in Health Department of Ngawi Regency, respectively from the most important are: 1) persuasiveness, 2) willingness, and 3) enthusiasm.

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