The Influence of Human, Organization, and Technological Factors on User Satisfaction of the MCH E-Cohort Application in Jambi (Case Study of Jambi City Puskesmas)

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A B S T R A C T

The study aims to determine the direct influence of Human, Organizational, and Technological Factors on Maternal and Child Health (MCH) e-Cohort user satisfaction. This type of research is quantitative research using SEM-PLS. using primary data with a total sampling of 78 respondents from twenty health centers in Jambi City. The results showed that there was a direct relationship between Human and Technological factors on MCH e-cohort user satisfaction at the Jambi City Health Center, and there was no relationship between Organization and MCH e-cohort user satisfaction at the Jambi City Health Center

INTRODUCTION

Maternal and child mortality information is important data used by management to accurately measure and monitor data on maternal and child mortality. To ensure quality data, a good management and data collection system is needed to ensure accuracy and completeness. (Bappenas, 2022)

Reported maternal and child data is important information for policy decisions. If the data received is inaccurate, it will become an obstacle in finding the factors that cause maternal and child mortality and the policies taken will be wrong. So important is a good and accurate application system that can support the decision and application of an information system.

The e-Cohort application has been developed by the government in 2020, through the Ministry of Health in collaboration with the United State Agency International Development (USAID). This application replaces the manual recording of MCH cohorts. Through the e-cohort application system, data will be integrated into the Indonesian MCH program and become an important database for monitoring maternal and child health.

The implementation of the maternal and child health e-cohort application still encounters obstacles and is inseparable in Jambi province, precisely the Jambi City puskesmas, where there are still encounters such as unstable internet connections, training and socialization of applications that still need to be added, especially for health workers.

The HOT-Fit model is one of the theories for evaluating information systems. In this model there are important components in information systems, namely humans, organizations, and technology, and explains comprehensively in the form of interpreting the complexity of the mutual relationship between humans, organizations, and technology.(Yusof et al., 2008)

The human component assesses information systems based on the user side of the system and user satisfaction. System users are closely related to who uses, level of use, training, knowledge, expectations, and attitudes of accepting or rejecting the system. Meanwhile, user satisfaction is the overall evaluation of the user's experience in using the information system and the impact that the user feels in using the information system. User satisfaction can be related to the perceived benefits and attitudes of information system users which are influenced by personal characteristics..

The organizational component assesses the system from the aspects of organizational structure and organizational environment. The organizational structure consists of type, politics, hierarchy, system planning and control, taking management strategy satisfaction and staff support is an important part of measuring the success of the system. Organizational structure is the result of the process taken by managers to solve four personal parts consisting of division of labor, departmentalization, range of constraints, and delegation. An organization, in which there are positions, duties, authority, and responsibility.(Gibson & Ivancevich, 1996)

The organizational environment is institutions or forces that exist outside the organization and can potentially affect organizational performance. Some environmental factors are (1) Conditions or situations that directly or indirectly affect the movement and life of the organization because conditions or situations will always change. (2) Place or location is closely related to communication and transportation issues that must be carried out by the organization. (3) The operating area targeted by the organization's activities.

The assessment of the technology component is the aspect of system quality, information quality and service quality. (1) System quality, is an assessment of system users on the quality of the system in meeting user needs. Information systems in health care institutions involve the interconnection of features in the system including system performance and user interface.

Information quality, defined as the quality of information produced by the information system, including patient medical records, reports and prescriptions. Service quality is a system user's assessment of the quality of service in meeting user needs. Service quality focuses on the overall support received by the system or technology service

provider. The assessment in this component is responsiveness, certainty, empathy, and service follow-up.

Benefits are a balance between the positive and negative impacts of information system users. Benefits can be accessed using direct benefits, job effects, efficiency and effectiveness, reducing error rates, controlling expenses and costs. The higher the positive impact generated, the more successful the application of information systems. The relationship between people, organizations, and technology in this model can be seen in the following figure.
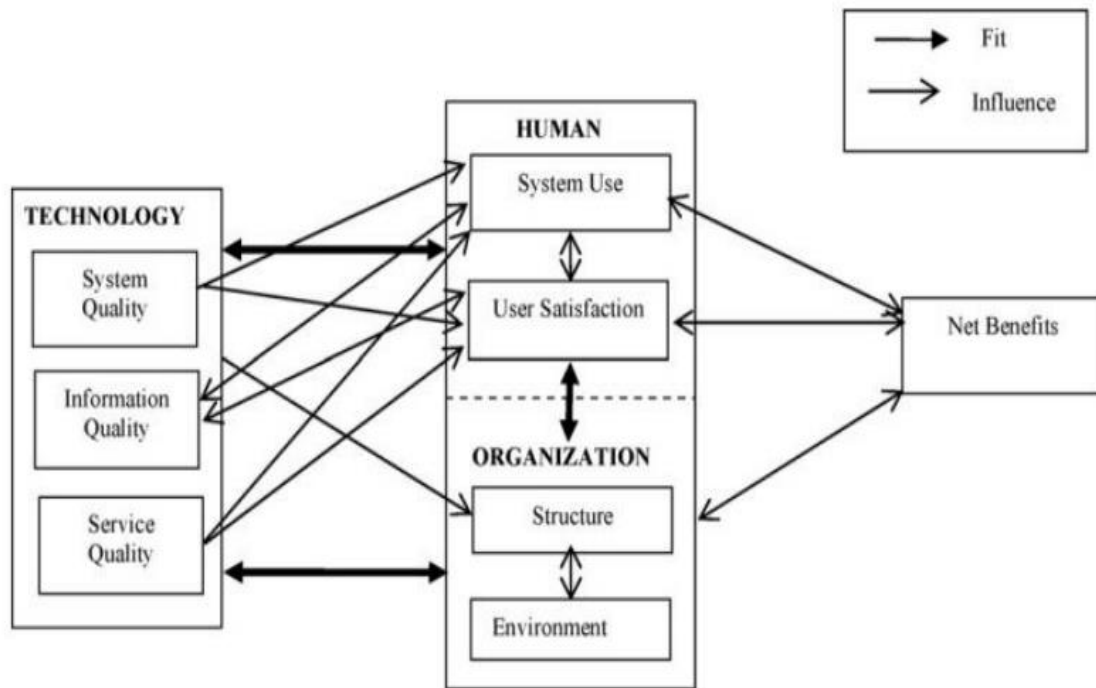

Figure 1. HOT- Fit Model

METHODS

The research subjects used were all health centers in Jambi City, totaling 20 The study population was all midwives and officers who used the MCH e-cohort application system totaling 78 respondents. with the sampling technique using saturated samples, so that the total sample was 78 respondents. Research using primary data. The distribution of research instruments was carried out for four weeks, and used an ordinal scale. With the model in the study as follows:
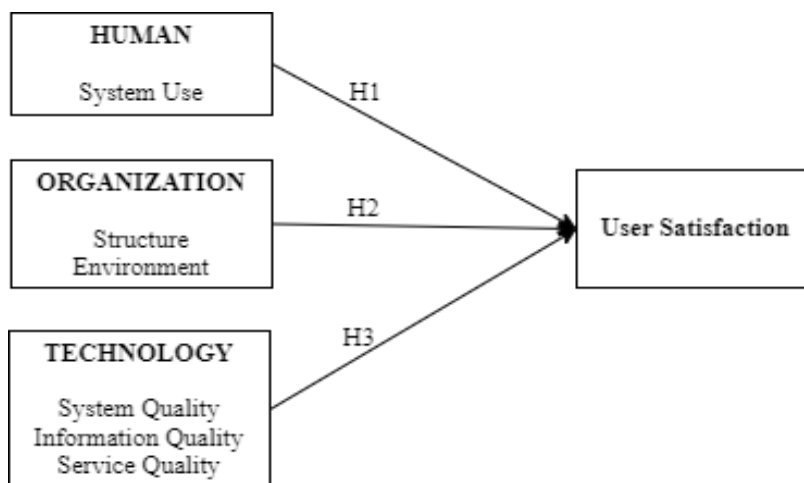

Figure 2. Research Model

Hypotheses proposed in the study
H1: There is a human influence on User Satisfaction
H2: There is an organizational influence on User Satisfaction
H3: There is an influence of technology on User Satisfaction

RESULTS AND DISCUSSION

Data is said to be valid if the AVE value is> 0.5, the CR and CA values are> 0.7. The processed results show that the data has met the Valid and reliable requirements.

Table 1. Results of CR, CA and AVE Values

Variable	CR	CA	AVE
Human Factor (X1)	0,985	0,979	0,941
Organization Factor (X2)	0,961	0,918	0,925
Technology Factor (X3)	0,938	0,901	0,836
User Satisfaction (Y)	0,951	0,937	0,767

Source: Researcher Processed Data

The discriminant value of the variables shows the results that the indicators used in the study have met the good discriminant validity test, the results can be seen as follows:

Table 2. Discriminant Variable

Variable	X_1	X_2	X_3	Y
X_1	0,970	0,709	0,867	0,882
X_2	0,709	0,962	0,798	0,673
X_3	0,867	0,789	0,914	0,857
Y	0,861	0,673	0,857	0,892

Source: Researcher Processed Data

The R-squared value (R2) shows strong results for the KP variable, which is 0.8. The structural model path diagram can be seen as follows
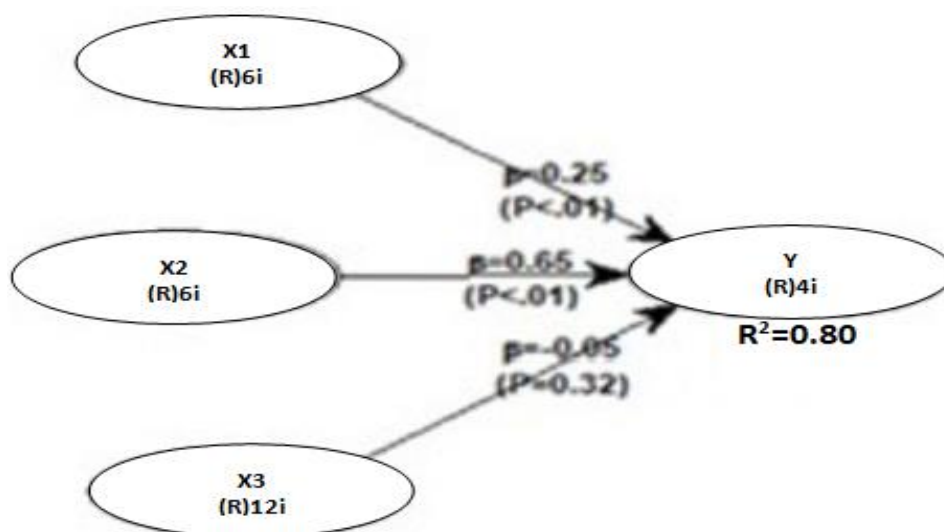

Figure 2 *Path Analysis Coefficient*

Hypothesis testing can be seen from the path coefficient value and probability value (p-value), which can be seen in the following table:

Table 3. Hypothesis Test Results

Var	Path Coef	P-Value	Result
X_1-Y	-0,065	0,01	Accepted
X_2-Y	-0,054	0,32	Rejected
X_3-Y	0,26	0,01	Accepted

Source : Researcher Processed Data

The results accept hypothesis one, which means that there is a human influence on user satisfaction. Humans as the main resource of application users are required to have knowledge. Respondents in this study felt the benefits of using the MCH e-cohort that has been implemented at the Jambi City Health Center. Respondents feel more efficient and work becomes lighter. Humans as the main resource are the main factor that has a close relationship with user satisfaction. Where user satisfaction can be seen and assessed from the respondent's experience using the MCH e-cohort application. This research is supported by research conducted by (Asih Prasetyowati, 2016; Ningrum & Budiani, 2023).

The results reject hypothesis two, which shows that there is no organizational influence on user satisfaction. The use of the e-cohort application system in an organization includes everything in the internal and external environment of the organization. The results showed a negative relationship direction even though the respondent data showed that both internal and external organizational data supported the use of this e-cohort application. The difficulty encountered is that there are still places where the use of applications that are still not accessible to intermet and the responsibilities of respondents in humanitarian tasks that must be preceded. The results of this study are supported by research conducted by (Febrita et al., 2021) and not supported in line with research (Soraya et al., 2019).

The results of the study accept hypothesis three. Which shows the influence of technology on user satisfaction of the MCH e-cohort application.

Respondent data supports both in terms of system quality, information quality and service quality of the MCH e-cohort system and supports theory. Research is in line with the results of previous research (Puspita et al., 2020)

CONCLUSION

The results of the study found that people and technology affect the satisfaction of users of the MCH e-cohort application, and the organization does not affect the satisfaction of using the MCH e-Cohort.

REFERENCES

Asih Prasetyowati, R. K. (2016). *The Influence of Hot Factors (Human, Organizational, and Technological) on Primary Care Information System User Satisfaction in the Semarang City Region.*63–67.

Bappenas. (2022). *Minimum Service Standard (MSS) Levelling Study Report.* https://sikompak.bappenas.go.id/pembelajaran/view/56/id/other_doc/Laporan Minimum Service Standard Levelling Study/download.pdf

Febrita, H., Martunis, Syahrizal, D., Abdat, M., & Bakhtiar. (2021). Analysis of Hospital Information Management System Using Human Organization Fit Model. *Indonesian Journal of Health Administration*, *9*(1), 23–32. https://doi.org/10.20473/jaki.v9i1.2021.23-32

Gibson, & Ivancevich, D. (1996). *Organisasi Jilid I* (8th ed.). Binarupa Aksara.

Ningrum, N. S., & Budiani, M. S. (2023). The Relationship between Perceived Usefulness and Customer Satisfaction in Users of Health Application X. Udayana Journal of Psychology,*10*(1), 261. https://doi.org/10.24843/jpu.2023.v10.i01.p06

Puspita, S. C., Supriyantoro, ., & Hasyim, . (2020). Analysis of Hospital Information System Implementation Using the Human-Organization-Technology (HOT) Fit Method: A Case Study Hospital in Indonesia. *European Journal of Business and Management Research*, *5*(6), 1–8. https://doi.org/10.24018/ejbmr.2020.5.6.592

Soraya, I., Adawiyah, W. R., & Sutrisna, E. (2019). Testing the Hot Fit Model on the Drug Management Information System at the Pharmacy Installation Rsgmp Unsoed Purwokerto. Journal of Economics, Business, and Accounting, *21*(1), 1–16. https://doi.org/10.32424/jeba.v21i1.1261

Yusof, M. M., Kuljis, J., Papazafeiropoulou, A., & Stergioulas, L. K. (2008). An evaluation framework for Health Information Systems: human, organization and technology-fit factors (HOT-fit). *International Journal of Medical Informatics*, *77*(6), 386–398.