Analysis of the Success of Student Monitoring Information System Implementation Using DeLone And McLean Model

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Abstract. The Primary School implements the Student Monitoring Information System, which is used for communication between the teacher and parents of students regarding student learning. This study analyzes the successful implementation of the Student Monitoring Information System and what factors need to be improved. The method used in the research is the DeLone and McLean Information System Success Model. The results of this study indicate the percentage of successful implementation of the Student Monitoring Information System, including assessment of system quality, information quality, service quality, usage, user satisfaction and net benefits. Overall, the implementation of the Student Monitoring Information System was declared successful, with 90% of respondents agree strongly, 6% of respondents agree, and 4% quite agree with the implementation of the Student Monitoring Information System.

1. Introduction
Information systems are a series of organized procedures that, when executed, provide information to support the organization [1]. Primary schools in the city of solo build a student monitoring information system that is used for communication between teachers and parents of students regarding the conditions of learning in school. The features of this student monitoring information system include student behavior assessment, monitoring worship activities, student attendance and information about activities carried out at school. Before using this web-based information system, communication between the teacher and parents of students uses a connecting book, which students take to school every day. Communication between school and parents allows students to create a better environment, when both contribute together to support academic progress and social development of students. [2] Communication of students, parents of students and teachers in their respective environments positively influences the development of children's thinking abilities and creativity [2]. Measuring the success of information system implementation is very important to assess the effectiveness of implementation [3,4]. This study measures the success of implementing a student monitoring information system, using the DeLone and McLean Information System Success Model.

2. Method
This study used the success factors of The DeLone and McLean's Success Information System Model [3,4]. The research step is carried out, the first step is to set indicators for each factor; the second step, create a questionnaire with a list of questions according to the indicators; the third step, distributing
questionnaires to ten respondents consisting of principals, four teachers and five parents; the fourth step, process the results of the assessment; the fifth step, calculate the percentage of each factor.

2.1 The success factors of The DeLone and McLean Model
The success factors of The DeLone and McLean Model, consists of System Quality, Information Quality, Service Quality, Use, User Satisfaction and Net Benefits[4]. Can be seen in Figure 1.

2.2 The indicators for each factor
Indicator of System Quality[5], among other System Flexibility, System Integration, Time to Respond, Error Recovery, Convenience of Access, Language. Indicator of Information Quality[5], consists of Completeness, Precision, Reliability, Currency, Format of Output. Indicator of Service Quality, consists of Assurance, Empathy, Responsiveness. Indicator of Use[4], among other Daily Use Time and Frequency of Use[5]. Indicator of User Satisfaction[4], among other Repeat Purchases and Repeat Visit. Indicator of Net Benefits[6], among other Speed of accomplishing task, Job Performance and Effectiveness.

3. Result and Discussion
The student monitoring information system is built with features, assessment of student behavior, monitoring worship activities, student attendance and information about activities carried out at school. Can be seen in Figure 2.

3.1 A list of questionnaires used to measure the success of implementation

| No. | Component       | Indicator            | No.Q | Question                                                                 |
|-----|-----------------|----------------------|------|--------------------------------------------------------------------------|
| 1   | System Quality  | System Flexibility   | Q1   | The system is easy to use according to my purpose                        |
|     |                 | System Integration   | Q2   | The system is integrated with academic information systems               |

Figure 1. The DeLone and McLean Model

Figure 2. The Web-base Student Monitoring Information System
3.2 Results of assessment of questionnaires from respondents
Respondents rate with four choices, among them strongly agree, agree, strongly agree and disagree. The distribution of questionnaires to ten respondents consisted of principals, four teachers and five parents. The results of respondents' assessment of system quality, 75% of respondents strongly agreed, 18% of respondents agreed, and 7% of respondents agreed enough, that the system was flexible, the system was easy to use, the system was easy to understand, but the problem was found that the student monitoring information system was not integrated with academic information systems, causing business processes to be disrupted. Respondents' assessment of information quality factors, 96% of respondents strongly agreed, 4% agreed, that information presented by the system was complete, information obtained in accordance with needs, reliable information, current information, information obtained was easy to understand. Assessment of service quality, 80% of respondents strongly agree, 10% of respondents agree, 10% quite agree, about data confidentiality, availability of usage guidelines and the system provides appropriate responses. Respondents' assessment of usage, 90% of respondents very often and 10% of respondents use the system quite often. Respondents' assessment of user satisfaction, 100% of users are very satisfied in using the system and getting the information they expect. Respondents' assessment of net benefits, 97% strongly agreed and 3% agreed that the system had helped work, accelerating the completion of work to improve performance. Percentage of assessment can be seen in Figure 3

| Time to Respond | Q3 | The system is able to provide information quickly |
| Error Recovery | Q4 | The system provides repair facilities, in the event of a failure |
| Convenience of Access Language | Q5 Q6 | I am comfortable using the system, The language presented by the system is easy to understand |
| Completeness | Q7 | The information that I received is complete |
| Precision | Q8 | The information that I get is according to my needs |
| Reliability | Q9 | The information I get is reliable |
| Currency | Q10 | The information I have is current |
| Format of Output | Q11 | The Information is easy to understand |
| Assurance Empathy Responsiveness | Q12 Q13 Q14 | The data that I have is kept confidential, The system provides usage guidelines, System provides the appropriate response |
| Daily Use Time Frequency of Use | Q15 Q16 | How many times a day, I use the system, Frequency of system usage |
| Repeat Purchases | Q17 | I am satisfied with the information that I have obtained |
| Repeat Visit | Q18 | I am satisfied in using the system |
| Speed of accomplishing task | Q19 | The system speeds up my work |
| Job Performance | Q20 | The system allows my performance to be better |
| Effectiveness | Q21 | The system makes my work more effective |
Figure 3. Percentage of Successful Implementation Student Monitoring Information System

4. Conclusion
Implementation of Student Monitoring Information Systems was declared successful, with 90% of respondents strongly agree, 6% of respondents agreed, and 4% quite agree with the implementation of the Student Monitoring Information System.

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