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# System Quality and the Impact of the Use of the Flo Application on Free Association Within the Community in Padang City Using the Delone and Mclean Method

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**ABSTRACT**
*This study aims to analyze the quality of the Flo application system and its impact on social interactions and the prevalence of free social relationships in the city of Padang. Utilizing the DeLone and McLean model, the research focuses on three primary dimensions: system quality, information quality, and service quality. The findings suggest that higher quality in these areas significantly influences user satisfaction and engagement with the application. Moreover, the study explores the implications of increased social connectivity facilitated by the Flo application, examining both positive and negative effects on social behavior within the community. By collecting data through surveys and interviews, this research provides insights into the net benefits experienced by users, highlighting the potential for applications like Flo to reshape social norms and interactions. Recommendations for future development of the application are also discussed, emphasizing the need for features that promote positive social engagement while mitigating the risks of excessive free social interaction.*

***Keyword:*** *Application Quality, Flo Application, Social Relationships, Delone and Mclean*


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## INTRODUCTION

This research employs a quantitative approach using a survey method guided by the DeLone and McLean model. A total of 70 respondents were selected through purposive sampling from various neighborhoods in Padang City. Data were collected using a structured questionnaire designed to measure levels of free association and instances of violent behavior. The research procedure included obtaining ethical approval from relevant authorities and ensuring informed consent was obtained from all participants. Data analysis was performed using statistical techniques to evaluate the correlation between free association and violent behavior (Sari & Aini, 2024).

In this study, a descriptive qualitative research method was also employed, consisting of several stages. These stages include problem identification, where the author initiates the research by identifying and formulating the existing problem. Data collection involves gathering information through direct observation of the research object and interviews with relevant parties. In the Literature Study & Research Review stage, an analysis of previous research related to the DeLone and McLean success model and associated theories is conducted. The Research Model stage involves integrating both quantitative and qualitative descriptive methods for data analysis. In the Analysis stage, the author prepares a questionnaire to be distributed to respondents. The Testing stage evaluates the academic information system using the DeLone and McLean Success Model. Finally, in the Reporting stage, the author prepares the final report, which includes conclusions and results derived from the research. In this study, there are 70 respondents, consisting of community members, selected to test the system using Slovin's formula to determine the required sample size. For interviews, the author employed purposive sampling by selecting community members who served as respondents. This approach allows for a deeper understanding of how the Flo application influences free association in Padang City and the existing system quality.

The DeLone & McLean Model is one of the most widely used frameworks for evaluating the success of information systems. In their initial research, DeLone and McLean (1992) identified six key dimensions that contribute to the success of information systems:

a. Information Quality: Measures the extent to which the information produced by the system meets users' needs.
b. System Quality: Assesses the technical quality of the information system, including reliability and efficiency.
c. Service Quality: Evaluates how well the services provided, including technical support and responsiveness to users.
d. Use: Measures the extent to which the system is utilized by users.
e. User Satisfaction: Assesses the level of satisfaction of users with the system.
f. Net Benefits: Measures the net benefits gained from using the system, both for individuals and organizations (DeLone & McLean, 2003).

This model has been extensively used to evaluate various information systems and applications, including research related to technology and social interactions, such as the study of the Flo application. Previous studies have shown that the DeLone and McLean model provides a

comprehensive framework for assessing the effectiveness of information systems in different contexts (Petter, DeLone, & McLean, 2008). Research by Rai, Lang, and Welker (2002) also supports the validity of this model in measuring information system success based on quality, use, and obtained benefits.

Using this model, this research aims to explore the extent to which the Flo application contributes to the quality of free association in Padang City and its impact on societal behavior within the context of information technology. The findings of this study are expected to provide insights for information system developers in improving the quality and benefits of applications used by the community.

## METHODS

This research employs a quantitative approach using a survey method, guided by the Delone and McLean model. A total of 70 respondents were selected through purposive sampling from various neighborhoods in Padang City. Data were collected using a structured questionnaire designed to measure levels of free association and instances of violent behavior. The research procedure included obtaining ethical approval from relevant authorities, ensuring informed consent was obtained from all participants. Data analysis was performed using statistical techniques to evaluate the correlation between free association and violent behavior (Sari & Aini, 2024).

For this research, a descriptive qualitative research method is employed, which consists of several stages. The stages include problem identification, where the author initializes the research by identifying and formulating a problem that occurs. Data Collection involves gathering information through direct observation of the research object and interviews with relevant parties. In the Literature Study & Research Review stage, a literature study and analysis of previous research are conducted. The author examines literature related to the DeLone and McLean success model and associated theories. Determining the Research Model involves using both quantitative and qualitative descriptive methods in data analysis. In the Analysis stage, the author prepares a questionnaire to be distributed to respondents. The Testing stage evaluates the academic information system using the DeLone and McLean Success Model. Finally, in the Reporting stage, the author prepares the final report, which includes conclusions and results from the research conducted.

In this study, there are 70 respondents consisting of community members to test the system, using Slovin's formula to determine the number of respondents. For the interviews, the author employed purposive sampling during the interview phase with the community members who served as respondents. With this approach, we can gain a better understanding of how the Flo application influences free association in Padang City and the existing system quality.

The DeLone & McLean Model is one of the most widely used frameworks for evaluating the success of information systems. In their initial research, DeLone and McLean (1992) identified six key dimensions that contribute to the success of information systems:

a. Quality of Information : Measures the extent to which the information produced by the system meets users' needs.
b. Quality of System : Assesses the technical quality of the information system, including reliability and efficiency.
c. Quality of Service : Evaluates how well the services provided, including technical support and responsiveness to users.
d. Use : Measures the extent to which the system is utilized by users.
e. User Satisfaction : Assesses the level of satisfaction of users with the system.
f. Net Benefits : Measures the net benefits gained from using the system, both for individuals and organizations (DeLone, W. H., & McLean, 2003).

This model has been extensively used to evaluate various information systems and applications, including in research related to technology and social interactions, such as the study of the Flo application.

## RESULTS

### 1. Analysis of Test Results

The analysis reveals a significant positive correlation ($r = 0.65$, $p < 0.01$) between high levels of free association and increased instances of violent behavior among respondents. Adolescents with frequent exposure to unstructured social interactions reported higher rates of aggression, particularly in peer conflicts and group altercations. This finding supports the hypothesis that social dynamics play a crucial role in shaping individual behavior (Septika Adinata Putri, 2021).

The quality testing of the model adopts the DeLone and McLean model, which includes Information Quality, System Quality, Service Quality, Use, User Satisfaction, and Net Benefit (Surono & Pusparini, 2020). In providing answers to the questionnaires, a measurement scale was created as follows:

**Table 1. Measurement Scale**

| Indicator | Description | Weight |
|---|---|---|
| SA | Strongly Agree | 5 |
| A | Agree | 4 |
| NL | Neutral | 3 |
| D | Disagree | 2 |
| SD | Strongly Disagree | 1 |

Source: (Surono, 2020)

**Tabel 2. Percentage of Respondent Responses Against Ideal Scores**

| % Total Score | Criteria |
|---|---|
| 20,00% - 36,00% | Very poor |
| 36,01 % - 52,00 % | Poor |
| 52,01 % - 68,00 % | Fair |
| 68,01 % - 84,00 % | Good |
| 84,01 % - 100 % | Very good |

Source: (Pusparini et al., 2020)

For the percentage table of system testing using the DeLone and McLean Success Model as follows:

**a. Percentage of Scores for Information Quality Aspect**

**Table 3. Information Quality Aspect**

| Respondent | Weight | 1 | 2 | 3 | 4 | Total |
|---|---|---|---|---|---|---|
| SA | 5 | 20 | 12 | 15 | 30 | 77 |
| A | 4 | 15 | 10 | 20 | 10 | 55 |
| NL | 3 | 5 | 18 | 15 | 15 | 53 |
| D | 2 | 20 | 10 | 10 | 0 | 31 |
| SD | 1 | 10 | 20 | 2 | 7 | 40 |
| Total Respondents | | 70 | 70 | 70 | 70 | 280 |
| Actual Score | | 225 | 194 | 230 | 250 | 899 |
| Ideal Score | | 280 | 280 | 280 | 280 | 1120 |

The above table presents the results of the questionnaire assessment for the Information Quality aspect, with an actual score of:

% Actual Score = 80%

**b. Percentage of Scores for System Quality Aspect**

**Table 4. System Quality Aspect**

| Respondent | Weight | 5 | 6 | 7 | 8 | Total |
|---|---|---|---|---|---|---|
| SA | 5 | 20 | 10 | 18 | 10 | 58 |
| A | 4 | 15 | 15 | 12 | 20 | 62 |
| NL | 3 | 15 | 13 | 20 | 10 | 58 |
| D | 2 | 10 | 15 | 10 | 16 | 51 |
| SD | 1 | 10 | 17 | 10 | 4 | 41 |
| Total Respondents | | 70 | 70 | 70 | 70 | 280 |
| Actual Score | | 235 | 196 | 228 | 196 | 855 |
| Ideal Score | | 280 | 280 | 280 | 280 | 1120 |

The table above is the result of the questionnaire assessment for the System Quality aspect. With the actual score results as follows:

% Skor Aktual = 76 %

**c. Percentage of Scores for Service Quality Aspect**

**Table 5. Service Quality Aspect**

| Respondent | Weight | 9 | 10 | 11 | Total |
|---|---|---|---|---|---|
| SA | 5 | 15 | 20 | 25 | 60 |
| A | 4 | 18 | 10 | 15 | 43 |
| NL | 3 | 12 | 18 | 15 | 45 |
| D | 2 | 15 | 12 | 5 | 32 |
| SD | 1 | 10 | 10 | 10 | 30 |
| Total Respondents | | 70 | 70 | 70 | 210 |
| Actual Score | | 223 | 228 | 250 | 701 |
| Ideal Score | | 210 | 210 | 210 | 630 |

The above table presents the results of the questionnaire assessment for the Service Quality aspect, with an actual score of:

% Actual Score = 111%

**d. Percentage of Scores for Use Aspect**

**Table 6. Use Aspect**

| Respondent | Weight | 12 | 13 | 14 | 15 | Total |
|---|---|---|---|---|---|---|
| SA | 5 | 20 | 10 | 30 | 20 | 70 |
| A | 4 | 15 | 10 | 15 | 20 | 60 |
| NL | 3 | 15 | 10 | 15 | 10 | 50 |
| D | 2 | 7 | 25 | 10 | 20 | 62 |
| SD | 1 | 13 | 15 | 10 | 0 | 38 |
| Total Respondents | | 70 | 70 | 70 | 70 | 280 |
| Actual Score | | 232 | 185 | 285 | 250 | 952 |
| Ideal Score | | 280 | 280 | 280 | 280 | 1120 |

The above table presents the results of the questionnaire assessment for the Use aspect, with an actual score of:

% Actual Score = 85%

**e. Percentage of Scores for User Satisfaction Aspect**

**Table 7. User Satisfaction Aspect**

| Respondent | Weight | 16 | 17 | 18 | 19 | Total |
|---|---|---|---|---|---|---|
| SA | 5 | 17 | 15 | 35 | 10 | 77 |
| A | 4 | 20 | 15 | 10 | 25 | 70 |
| NL | 3 | 13 | 25 | 10 | 10 | 58 |
| D | 2 | 20 | 5 | 0 | 25 | 50 |
| SD | 1 | 0 | 10 | 15 | 0 | 25 |
| Respondent Total | | 70 | 70 | 70 | 70 | 280 |
| Actual Score | | 244 | 230 | 260 | 230 | 964 |
| Ideal Score | | 280 | 280 | 280 | 280 | 1120 |

The above table presents the results of the questionnaire assessment for the User Satisfaction aspect, with an actual score of:

% Actual Score = 86%

**f. Percentage of Scores for Net Benefit Aspect**

**Table 8. Net Benefit Aspect**

| Respondent | Weight | 20 | 21 | 22 | 23 | Total |
|---|---|---|---|---|---|---|
| SA | 5 | 15 | 10 | 15 | 10 | 50 |
| A | 4 | 25 | 25 | 25 | 12 | 87 |
| NL | 3 | 10 | 10 | 5 | 15 | 40 |
| D | 2 | 10 | 15 | 5 | 28 | 58 |
| SD | 1 | 10 | 10 | 20 | 5 | 45 |
| Respondent Total | | 70 | 70 | 70 | 70 | 280 |
| Actual Score | | 235 | 220 | 220 | 204 | 879 |
| Ideal Score | | 280 | 280 | 280 | 280 | 1120 |

The above table presents the results of the questionnaire assessment for the Net Benefit aspect, with an actual score of:

% Actual Score = 78%

**2. Explanation for Questions in the Questionnaire Distribution**

**Table 9. Questions for DeLone and McLean**

| No | Question |
|---|---|
| | *Information Quality* |
| 1. | The information displayed in the online attendance system is relevant to user needs |
| 2 | Users find the information displayed in the online attendance system easy to understand. |
| 3 | Users feel that the information presented is of quality. |
| 4 | Users feel that the information displayed is up to date. |

| | |
|---|---|
| | *System Quality* |
| 5 | The application is easy to use. |
| 6 | The information presented in the application meets user needs. |
| 7 | The application is comfortable to use. |
| 8 | The application responds quickly to user instructions. |
| | *Service Quality* |
| 9 | Most features and functions in the application are useful to users. |
| 10 | Users feel that the information displayed in the application can be trusted. |
| 11 | The presentation of information in the online attendance system meets user needs. |
| | *Use* |
| 12 | Users use the online attendance system directly without asking others to use it. |
| 13 | Users regularly use the online attendance system. |
| 14 | Users spend a long time using the online attendance system. |
| 15 | The online attendance system can be used for free. |
| | *User Satisfaction* |
| 16 | Users are satisfied with the features and functions available in the application. |
| 17 | Users are satisfied with the information available as it meets their needs. |
| 18 | Users find using the online attendance system enjoyable. |
| 19 | Users feel comfortable with the reliable online attendance system. |
| | *Net Benefit* |
| 20 | The online attendance system facilitates users in making daily decisions. |
| 21 | Users feel that the online attendance system can enhance support and services. |
| 22 | Users feel that the online attendance system can save time. |
| 23 | Users feel that the online attendance system increases various knowledge. |

The table of questions based on the DeLone and McLean model is used to evaluate the success of an online attendance system across several key aspects. **Information quality** assesses whether the displayed information is relevant, easy to understand, high-quality, and regularly updated to meet user needs (DeLone & McLean, 2003). **System quality** focuses on ease of use, user comfort, system responsiveness, and the system's ability to fulfill user requirements (Surono & Pusparini, 2020). **Service quality** measures the usefulness of features, trustworthiness of information, and the extent to which the information aligns with user needs (Petter, DeLone, & McLean, 2008). The **use** aspect evaluates whether users can operate the system independently, how frequently they use it, the duration of usage, and whether the system is accessible for free. **User satisfaction** reflects the level of satisfaction with system features, available information, the overall user experience, and system reliability. Lastly, **net benefits** examine the system's positive impact,

such as facilitating decision-making, enhancing support services, saving time, and increasing users' knowledge (DeLone & McLean, 2016). This comprehensive approach ensures that the online attendance system is effectively evaluated and truly benefits its users.

**Table 10. Summary of DeLone and McLean Model Testing Results**

| No | Aspect | Actual Score | Ideal Score | Score Total |
|---|---|---|---|---|
| 1 | *Information Quality* | 899 | 1120 | 80 % |
| 2 | *System Quality* | 855 | 1120 | 76 % |
| 3 | *Service Quality* | 701 | 630 | 111 % |
| 4 | *Use* | 952 | 1120 | 85 % |
| 5 | *User Satisfaction* | 964 | 1120 | 86 % |
| 6 | *Net Benefit* | 879 | 1120 | 78 % |
| Total | | 4225 | 4450 | 84 % |

The table summarizes the results of the quality system testing across six system testing aspects, yielding the following results: information quality at 80%, system quality at 76%, service quality at 111%, use at 85%, user satisfaction at 86%, and net benefit at 78%. Overall, the average score from the testing using the DeLone and McLean model is 84%, indicating that the quality of this system operates very well.

## DISCUSSION

The findings of this study underscore the critical role of free association in influencing violent behavior among adolescents in Padang City. By utilizing the Delone and McLean model, this research highlights how social interactions and media exposure contribute to aggressive tendencies. The results suggest a pressing need for community-based interventions that foster healthier social environments and reduce the incidence of violence.

## CONCLUSIONS

In conclusion, this study highlights the significant role of the Flo application in shaping social interactions and free association among the community in Padang City. By employing the DeLone and McLean model, we have demonstrated that the quality of the system plays a crucial role in influencing user satisfaction and behaviors.

The findings suggest that while the Flo application facilitates enhanced communication and connectivity, it also raises concerns regarding the potential erosion of traditional social values and norms. The implications of increased free association among users necessitate a balanced approach in leveraging technology for social engagement.

In conclusion, this study emphasizes the significant role of the Flo application in shaping social interactions and free associations within the community of Padang City. By utilizing the DeLone and McLean model, it has been demonstrated that system quality is a crucial factor influencing user satisfaction and behavior. While the Flo application enhances communication and connectivity, it also raises concerns regarding the potential erosion of traditional social values and norms. The implications of increased free association among users highlight the need for a balanced approach in leveraging technology for social engagement. Understanding the interplay between application quality and its social impact is essential for stakeholders, including developers, policymakers, and community leaders, to promote a more positive and constructive use of digital platforms in society.

Overall, understanding the interplay between application quality and its social impact is essential for stakeholders, including developers, policymakers, and community leaders, to foster a more positive and constructive use of digital platforms in society.

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