Information technology in primary school management

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Abstract. Difficult acceptance of scientific and technological advancement is a common fact. Therefore, it is important to recognize school’s capability to build conducive environment for the implementation of new technology as soon as possible. Such recognition will facilitate information technology implementation in school management. This study employs descriptive research method using quantitative approach to uncover the actual description of information technology acceptance factors in the management of primary schools in Indonesia. Total subjects of this study is 173 primary school teachers, consisted of 38 male teachers and 135 female teachers. The findings show that the school community will accept information technology more willingly if the technology in question is up to date.

1. Introduction
It is a common fact that the members of school community have difficulties in accepting and mastering scientific and technological advancement. Therefore, it is important to recognize school’s capability to build conducive environment for the implementation of new technology as soon as possible. Such recognition will facilitate information technology implementation in school management. The utilization of information technology for educational purposes requires a comprehensive recognition of the characteristics of the 21st century development. It will provide tremendous help in deciding on appropriate educational steps to be taken, including in designing information technology utilization in schools to ensure its effectiveness [1]. The acceptance of information technology is another factor that affects school management effectiveness [2]. Good acceptance of every changes and advancement in technology and in patterns of communication will greatly affect school management effectiveness [3,4].

Several studies have identified the indicators of information technology acceptance [5]. Some studies argued that the use of information system and the frequency of computer use were the primary indicators of information technology acceptance. Others chose user satisfaction and system utilization as the main indicators [6]. Another view argued that an individual’s acceptance of information technology system depended on two factors, i.e. the perception of utility and the perception of easiness. Both perceptions affects the individual’s behavioral intention. A technology user will be interested in and intend to use the technology (behavioral intention) if the individual feels that the system is useful and easy to use [7][8]. Individual and collective acceptance of technology can be explained through the varied usage of the system because utilization of an information technology based system can improve an individual’s or an organization’s performance [9].

The purpose of this study was to description of actual factors that influence the acceptance of information technology in elementary school management. Not all school members want to accept changes in the use of information technology. The actual factors that influence the acceptance of
information technology such as perception of utility, perception of easiness (of usage), utilization attitude, behavioral intention and actual technology use of information technology need to be examined. The implementation of the internet, electronic commerce, electronic data interchange, virtual office, telemedicine, intranet, and so on has broken through the boundaries of communication between humans. The combination of computer technology and telecommunications has produced a revolution in the field of information systems [10]. Figure 1 shows there are four periods of development of information systems, which began from the first time computers were discovered today.

![Figure 1. The era of computer technology development.](image1)

The era of information technology brought computers into the era of revolution. Figure 2 shows that in this era computers function as a facility that can provide competitive advantages for companies, especially those engaged in services [10].

![Figure 2. Illustration of information technology age.](image2)

2. Research methods
This study employs descriptive research method to uncover the actual description of information technology acceptance factors in the management of primary schools in Bandung City, Indonesia. The
respondents for this study are all 173 teachers in primary schools in Panyileukan Sub-District, Bandung City, consisted of 38 male teachers and 135 female teachers. The data was collected using questionnaires and the results were processed using SPSS version 16.00.

3. Results and discussion
The study on information technology acceptance in primary school management in Bandung City focuses on five dimensions, i.e.: Perception of Utility, Perception of Easiness (of usage), Utilization Attitude, Behavioral Intention, and actual technology use. Each dimension has measurable indicators. There are 58 items for these variables, and the following table summarizes the average score, percentage, and categories of responses of 173 teachers in primary schools in Panyileukan Sub-District, Bandung City.

Table 1. Average score, percentage, and category of information technology achievement in primary school management in Bandung City.

|                  | Perception of Utility | Perception of Easiness | Utilization Attitude | Behavioral Intention | Actual Technology Use |
|------------------|-----------------------|------------------------|-----------------------|----------------------|-----------------------|
| N Valid          | 173                   | 173                    | 173                   | 173                  | 173                   |
| Missing          | 0                     | 0                      | 0                     | 0                    | 0                     |
| Mean             | 3.72                  | 3.36                   | 3.23                  | 3.27                 | 3.91                  |
| Std. Deviation   | .564                  | .609                   | .858                  | .748                 | .378                  |
| Minimum          | 2                     | 2                      | 2                     | 2                    | 3                     |
| Maximum          | 5                     | 5                      | 5                     | 5                    | 5                     |
| Percentiles 25   | 3.00                  | 3.00                   | 2.00                  | 3.00                 | 4.00                  |
| 50               | 4.00                  | 3.00                   | 3.00                  | 3.00                 | 4.00                  |
| 75               | 4.00                  | 4.00                   | 4.00                  | 4.00                 | 4.00                  |

The table shows that information technology acceptance in primary schools in Panyileukan Sub-District, Bandung City is 75%, indicating a good acceptance of the changes in information technology system in the schools. The standard of deviation for each dimension is 0.564 for perception of utility, 0.609 for perception of easiness, 0.858 for utilization attitude, 0.748 for behavioral intention, and 0.378 for actual technology use. The average scores are 3.72, 3.36, 3.23, 3.27, and 3.91 for the dimensions of perception of utility, perception of easiness, utilization attitude, behavioral intention, and actual technology use, respectively. It can be seen that actual technology use is the highest scoring dimension and utilization attitude is the lowest scoring dimension in this variable. Thus, the school community will accept information technology more willingly if the technology in question is up to date.

Figure 3 shows the proposed technology acceptance model. This model developed by Davis is known as the Technology Acceptance Model (TAM). The user’s attitude towards the system is the main determinant of whether the user will actually use or reject the system. The attitude of users in turn is influenced by two main beliefs, namely perceptions of usability and perceptions of ease of use, with perceptions of ease of use having a direct influence on perceived benefits[11].
Figure 3. Davis’s technology acceptance model.

Figure 4 states that the use of an information technology system is a response that can be explained or predicted by a user's motivation which in turn is directly influenced by an external stimulus to the capabilities and actual system features [11].

Figure 4. System features and capabilities are largely.

The use of information technology in schools for the benefit of learning and school management is basically related to the actual acceptance and use by educators, education staff, students, or other the members of school community[11,12].

Information technology is a technology utilized for data processing, including to process, retrieve, compile, store, and manipulate data in various ways to acquire high quality information, i.e. relevant, accurate, and timely information, for personal, business, education, and government uses [13,14]. To manage and communicate information electronically, using a computer hardware and various software, latest technology is needed [15,16]. Information technology, which serves to transmit and store information pertaining to system development, installment, and management, will be useless without the support of latest or the most current technology use [1,17]. However, even with latest technology, we cannot ignore the dimension of users’ attitude. This study finds that the dimension of users’ attitude in primary schools in Panyileukan Sub-District, Bandung City scores the lowest. This needs to be remedied because users’ attitude towards a system is the primary determining factor whether they will accept (use) or reject the system. If the users tend to reject the system, the availability of latest technology will be of no use. In conclusion, all dimensions of information technology acceptance in primary schools in Panyileukan Sub-District, Bandung City should operate in synergy to allow for effective school management and improvement in school quality.

4. Conclusion

The description of information technology acquisition in primary schools in Bandung City, Indonesia is in very high category. In other words, primary schools in Bandung City, Indonesia are able to optimally accept any changes in information technology. The information technology acceptance, indicated by the perception of utility, perception of easiness of usage, utilization attitude, behavioral intention, and actual
technology use, is not a problem in primary schools. The dimension of actual technology use is the highest scoring dimension, while the dimension of utilization attitude scores the lowest, in information technology acceptance in primary schools in Bandung City, Indonesia.

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