

## ABSTRACT

### ***RFID TRANSACTION APPLICATION DESIGN WITH COMPARISON SPEED LEVEL OF QRIS (CASE STUDY: CANTEEN SMP TELKOM PURWOKERTO)***

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*Advances in the field of technology in human life, especially in payment systems and transaction activities, starting from exchanging goods to carry out transactions have developed into using digital money in the form of electronic money. Transactions in canteens, especially school canteens, have many buyers at several times at once, so long queues often occur, causing transaction activities to be less effective, so a fast and accurate payment system is needed. This research focuses on designing a payment system using RFID scanner technology and RFID tags on cards. Then a comparison will be made with QRIS and the data will be analyzed to choose which digital payment system is more appropriate to implement in the school canteen. First, the author conducted a survey and observation at the SMP Telkom Purwokerto school canteen to collect data on needs if implementation was to be carried out. Then the author designed an RFID payment system and web application interface for transactions. The RFID and QRIS systems were tested and data was taken. The data taken was reading speed, transaction speed and system reliability. From this data, it was found that RFID reading was 4.37 seconds faster than QRIS, RFID had a faster processing time of 8.3 seconds compared to QRIS, and RFID had higher reliability with a reliability level of 93.3% compared to 80% for QRIS. With the results of the comparative analysis between QRIS and RFID as payment methods that have been obtained, it can be concluded that RFID is the more recommended system to be implemented in the Purwokerto Telkom Middle School canteen. It is hoped that this research can help schools or canteen managers in choosing the right payment system to implement.*

**Kata kunci :** *electronic money, RFID, digital payment, QRIS, school canteen.*