

## ABSTRAK

Menurut data ASPI 2025 tercatat bahwa QRIS telah digunakan sebanyak 58 juta pengguna untuk melakukan transaksi pembayaran. Dalam proses penggunaannya, masih ditemukan berbagai masalah seperti kegagalan saat memindai kode QR, kesalahan memasukkan PIN atau nominal transaksi, koneksi internet yang tidak stabil, serta kinerja aplikasi yang kurang optimal. Kondisi tersebut dapat meningkatkan beban yang dirasakan pengguna dan berpotensi menyebabkan *human error* selama proses transaksi. Penelitian ini bertujuan untuk menganalisis tingkat beban kerja mental dan beban kerja fisik serta mengetahui pengaruhnya terhadap *human error* pada pengguna QRIS.

Penelitian menggunakan pendekatan kuantitatif dengan metode survei. Data dikumpulkan melalui penyebaran kuesioner kepada 412 responden pengguna QRIS. Analisis data menggunakan regresi linear berganda untuk menguji pengaruh beban kerja mental dan beban kerja fisik terhadap *human error*. Pengujian dilakukan secara parsial dan simultan guna mengetahui besarnya pengaruh masing-masing variabel.

Hasil penelitian menunjukkan bahwa beban kerja mental berada pada kategori sedang dengan nilai rata-rata dimensi ICL sebesar 3,39; ECL sebesar 3,31; dan GCL sebesar 3,35. Beban kerja fisik berada pada kategori sedang dengan nilai rata-rata sebesar 3,24. Hasil uji parsial menunjukkan bahwa beban kerja mental dan beban kerja fisik berpengaruh positif dan signifikan terhadap *human error*. Beban kerja mental memiliki pengaruh lebih besar dengan koefisien regresi sebesar 0,410 sedangkan beban kerja fisik memiliki koefisien sebesar 0,207. Hasil uji simultan menunjukkan bahwa kedua variabel secara bersama-sama berpengaruh signifikan terhadap *human error* dengan nilai koefisien determinasi ( $R^2$ ) sebesar 0,871 atau 87,1%.

**Kata kunci:** beban kerja mental, beban kerja fisik, *human error*, regresi linear, QRIS

## ABSTRACT

*According to data from ASPI (202), QRIS has been used by 58 million users for payment transactions. Despite its widespread use, various problems may still occur during the transaction proses, including failures in scanning QR codes, error in entering PIN or transaction amounts, unstable internet connections, and suboptimal application performance. These conditions may increase users perceived workload and potentially contribute to human error during QRIS transactions.*

*This study aims to analyze the levels of mental and physical workload among QRIS users and to examine the effects of mental and physical workload on the risk of human error during QRIS transactions. This study employed a quantitative approach using a survey method. Primary data were collected through questionnaires distributed to 412 respondents who were active QRIS users. The data were analyzed using multiple linear regression to examine the effects of mental and physical workload on human error. Partial and simultaneous tests were conducted to determine the individual and combined effects of each independent variable.*

*The results showed that the users mental workload was categorized as moderate, with mean scores of 3.39 for Intrinsic Cognitive Load (ICL), 3.31 for Extraneous Cognitive Load (ECL), and 3.35 for Germane Cognitive Load (GCL). The users' physical workload was also categorized as moderate, with a mean score of 3.24. The partial test results indicated that both mental and physical workload had positive and significant effects on human error. Mental workload had a more dominant effect, with a regression coefficient of 0.410, compared with physical workload, which had a regression coefficient of 0.207. The simultaneous test results showed that mental and physical workload jointly had a significant effect on human error, with a coefficient of determination ( $R^2$ ) of 0.871, indicating that 87.1% of the variance in human error could be explained by the two independent variables. These findings highlight the importance of optimizing user interfaces and improving the stability of payment systems to minimize users' cognitive workload and reduce the occurrence of human error.*

**Keywords:** *Physical workload, mental workload, human error, QRIS, multiple linear regression*