

ABSTRACT

The COVID-19 pandemic has accelerated the adoption of remote work systems, especially in creative industries such as graphic design. While remote work offers flexibility, it also leads to increased mental workload due to multitasking, social isolation, and time pressure. This study aims to evaluate the mental workload of remote graphic designers in West Java, Indonesia, using the NASA-Task Load Index (NASA-TLX) approach combined with cognitive ergonomics. The region has seen significant growth in digital creative employment, making it a relevant case for such an assessment. The method involves six dimensions: mental demand, physical demand, temporal demand, performance, effort, and frustration. Data were collected through online questionnaires and processed using weighting and Weighted Workload (WWL) calculations. A total of 308 respondents from various cities in West Java participated in this study. The results identify key contributing factors to mental workload and analyze its impact on productivity and worker well-being. Two cognitive ergonomics-based interventions that is Task Chunking and Goal Setting Theory, tested and validated for their effectiveness in reducing workload levels. The findings support the development of structured strategies to manage mental workload in remote digital environments, particularly in emerging creative hubs like West Java.

Keywords: Cognitive Ergonomics; Graphic Design; Mental Workload; NASA-TLX; Remote Work.