

Effective dashboards for urban water security monitoring and evaluation

ABSTRACT

This paper reviews the factors affecting effective dashboards for urban water security monitoring and evaluation. Urban water security is a constantly evolving field influenced by several factors, including changes in climate, ecosystems, socio-economic status, and human beings. Although urban water security has been discussed in some parts of the literature, there has been minimal literature review that focused on the factors of urban water security and the effective dashboards for monitoring and evaluation. Using systematic literature review (SLR) and preferred reporting items for systematic reviews and meta-analysis (PRISMA), this paper reviewed 143 articles. The result shows growth in the environmental informatics landscape since the last ten years when the first article on the urban water management dashboard was published. The visual design was the most frequently discussed factor for dashboards, followed by user customization. It also shows that this topic can go deeper to integrate both factors and design an effective environmental dashboard. The discussion identified three potential opportunities for future research in water security and informatics: i) exploring other dimensions of effective dashboards, ii) considering more research on the environmental dashboard, and iii) investigating the real-life application of dashboards in urban water security.