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Perancangan Furnitur Modular untuk Masyarakat Urban Dinamis melalui Kerangka Ekonomi Sirkular
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Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

INTISARI

Mobilitas hunian yang tinggi pada masyarakat urban dinamis, khususnya di konteks hunian mikro, menyebabkan ketidakefisienan penggunaan furnitur akibat karakter furnitur konvensional yang bersifat monolitik, berat, sulit dibongkar, dan kurang adaptif, sehingga sering kali dibuang meskipun masih layak pakai dan berkontribusi terhadap peningkatan limbah furnitur. Penelitian ini bertujuan merancang konsep furnitur modular yang mampu merespons kebutuhan mobilitas hunian sekaligus mendukung keberlanjutan melalui penerapan prinsip ekonomi sirkular.

Metode penelitian menggunakan pendekatan *research through design* melalui analisis kebutuhan pengguna, studi literatur dan preseden, perumusan strategi desain sirkular berbasis kerangka *Multi-hierarchical Design for X*, serta pengembangan konsep furnitur modular berbasis parameter desain sirkular. Strategi desain dirumuskan ke dalam tiga siklus sirkular, meliputi *Design for Maintenance and Repair*, *Design for Upgrade and Reuse*, serta *Design for Remanufacture and Recycle*, yang kemudian diterjemahkan ke dalam parameter desain operasional dan diwujudkan dalam konsep desain furnitur modular. Evaluasi desain konseptual dilakukan melalui uji konsep berbasis survei untuk menilai persepsi pengguna terhadap aspek fungsionalitas, modularitas, durabilitas, estetika, dan kesediaan membeli.

Hasil penelitian menunjukkan bahwa konsep furnitur modular yang dikembangkan memperoleh tingkat penerimaan pengguna yang tinggi pada seluruh parameter desain, serta dipersepsikan mampu mendukung kemudahan bongkar-pasang, fleksibilitas konfigurasi, dan perpanjangan umur pakai produk. Temuan ini menegaskan bahwa penerapan pendekatan strategi desain sirkular dalam perancangan furnitur modular berpotensi menjadi solusi strategis dalam mengurangi limbah furnitur dan meningkatkan keberlanjutan produk pada konteks hunian urban dinamis.

Kata kunci: furnitur modular, ekonomi sirkular, mobilitas urban, desain berkelanjutan, hunian mikro

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ABSTRACT

High residential mobility among dynamic urban communities, particularly in micro-housing contexts, leads to inefficient furniture use due to conventional furniture's monolithic, heavy, difficult-to-disassemble, and poorly adaptable characteristics, resulting in premature disposal despite continued functionality and contributing to increased furniture waste. This research aims to develop a modular furniture design concept that responds to residential mobility while supporting sustainability through the integration of circular economy principles.

The study adopts a research-through-design approach involving user needs analysis, literature and precedent studies, the formulation of circular design strategies based on the Multi-hierarchical Design for X framework, and the development of a modular furniture concept derived from circular design parameters. Design strategies are structured into three circular loops, namely Design for Maintenance and Repair, Design for Upgrade and Reuse, and Design for Remanufacture and Recycle, which are translated into operational design parameters and embodied in the modular furniture concept. Conceptual design evaluation is conducted through a survey-based concept test to assess user perceptions of functionality, modularity, durability, aesthetics, and purchase intention.

The results indicate that the proposed modular furniture concept achieves a high level of user acceptance across all design parameters and is perceived as capable of supporting ease of assembly and disassembly, configuration flexibility, and extended product life cycles. These findings demonstrate that applying circular design strategies to modular furniture can serve as a strategic solution to reduce furniture waste and enhance product sustainability in dynamic urban housing contexts.

Keywords: *modular furniture, circular economy, urban mobility, sustainable design, micro-housing*