Brunel University of London

POLICY BRIEF

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Improving product repairability indexes by considering real user experience

Dr Fabrizio Ceschin and Laura Torca-Adell

Policy Context: UK households throw away 155,000 tonnes of unwanted electricals each year, nearly half of which could be repaired or reused, with high professional repair cost being one of the key barriers to product repair. UK regulations and EU directives (2024/1781/EU, 2024/1799/EU and 2024/825/EU) emphasise product repairability as a key aspect to foster product longevity and waste prevention for small electrical devices. Coupled with this, repairability indexes (scoring systems designed to inform consumers on how easily a product can be repaired) have been developed to support consumer choices. However, both the regulations and the repairability indexes focus on professional repairs rather than user self-repair.

Policy Advice: Product repairability regulations should consider and promote end-user self-repair in addition to professional repair. Product repairability indexes should include user-centred factors and distinguish between professional repairs and end-user repairs. This will incentivise manufacturers to design products that enable end-user repair and encourage end-users to make more sustainable purchasing decisions.

Key Research Findings

Our observational study investigated how end-users perceive and experience the repairability of small electrical devices, and found that:

- End-users perceive product repairability to be more challenging than the calculated repairability index suggests, indicating that these indexes do not fully consider user-centred factors.
- The key design barriers faced by end-users are accessibility to internal parts, fault identification and lack of information such as repair manual/guidance.
- Overall, there is a lack of integration of user-centred factors in product repairability indexes. As a consequence, manufacturers are not incentivised to design products that can be easily repaired by the end-users.

Policy Recommendations

In order to foster self-repair by end-users of small electrical devices, which will in turn increase product longevity and reduce landfill waste, we recommend:

- **Ecodesign regulations should include and promote end-user self-repair (**where appropriate, considering health & safety requirements). Current regulations should complement the focus on professional repairers by providing guidance to manufacturers on how to design products to enable end-users' self-repair.
- **Introduce financial incentives to support end-users self-repair**, for example by lowering taxes on products designed for that purpose, or allowing end-users to deduct expenses related to product repairs from their taxable income.
- **Product repairability indexes should distinguish between professional repairs and end-user repairs.** This can be achieved by providing two scores, one for professional repairers and one for end-users. This would create incentives for the manufacturers to design products that also consider the end-users repair perspective.
- **Product repairability indexes for end-users should consider user-centred factors.** Key aspects to include and prioritize in the index are accessibility to internal components and fault identification. This will encourage manufacturers to design products that enable users to easily access key internal parts, as well as provide guidance on how to identify faults and carry out repair tasks.
- **Product repairability indexes should be tested with end-users.** To validate the reliability of calculated repairability indexes, protocols and metrics should be established on how end-users should be involved in assessing the actual repairability potential of products.

Work with me

Dr Fabrizio Ceschin is a Reader in Design, director of the Design for Sustainability research group and co-director of the Design Research Centre at Brunel University of London. He is an expert in integrating sustainability and circularity in the design of products, services and systems with over 15 years of research track-record. Laura Torca-Adell is a visiting PhD researcher at Brunel University of London.

Contact Dr Ceschin at fabrizio.ceschin@brunel.ac.uk if you would like to learn more about his research, invite him to speak to your team, or ask for advice or guidance on how to develop repairability indexes for electrical devices that promote end user self repair.

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