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What's the Problem with Product Obsolescence? Critical Policy Perspectives from Australia's Right to Repair Inquiry

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Abstract:
Extending product lifetimes is a critical aspect of achieving Circular Economy outcomes, however current policy discussions in Australia do not adequately address product obsolescence (PO). Using a problematisation analysis method, this research aims to uncover how PO is framed within Australia's Right to Repair (R2R) Inquiry and how these problematisations impact the effective transition to a Circular Economy. The document analysis results indicate that Australian regulatory interventions shift responsibility for PO onto consumers, framing the issue as one of consumer choice driving rapid disposal. It was found that despite strong support for design stage interventions in submissions to the Inquiry, the report ultimately recommended against placing PO obligations on producers. Instead, the report suggested introducing labelling requirements, placing the burden of obsolescence on consumers. This framing reflects an ideology of economic rationalism, driven by governmental hesitancy to strongly regulate the private sector. In this representation, the environmental impacts of PO, and the importance of regulation in environmental conservation, are minimised. The Australian approach can be contrasted with the European Union approach which places responsibility on producers to design products in accordance with eco-design requirements and disseminate repairability information, emphasising the role of comprehensive policy mixes in driving positive environmental outcomes. The contrasts between these solutions reflect different understandings of not only what the problem with PO is, but also who is responsible for it. This research posits that without a reconceptualisation of the problem representation of PO in Australia, Circular Economy outcomes will not be achieved.

Introduction

Extending product lifetimes is a significant goal of a Circular Economy (CE) (Ellen Macarthur Foundation, n.d.). However, there is economic disincentive to design products to last or to design them in a way that allows parts or the whole to be repaired, reused, or recycled (Maitre-Ekern & Dalhammar, 2016; Waldman, 1993). As more products become obsolete after a relatively short period or after limited usage, more and more products are dumped earlier in their potential lifetimes, undermining the effective transition to a CE (Box, 1983; Pope, 2017). Whilst shortened product lifetimes have increasingly been brought to the government's attention (Productivity Commission, 2021b), current policy frameworks in Australia do not adequately regulate the issue of product obsolescence.

This paper aims to analyse policy documents targeting PO in Australia to uncover the problematisations inherent in the framing of waste generation within them, and how these problematisations advance or limit the transition to a CE (Bacchi, 2009). Firstly, this paper will provide the background of PO and its policy frameworks in Australia. Secondly, this paper will critically analyse the 'solutions' presented in the Right to Repair (R2R) Inquiry to uncover the problematisations of PO (Bacchi, 2009) and their impact on the systematic transition to CE in Australia (Geels, 2019; Gunningham & Sinclair, 2017). Finally, as part of the method, this paper will discuss the Australian response in context to the problematisations of PO in the European Union (EU).

Background

Product obsolescence (PO) was first proposed in 1932 as a remedy to the Great Depression which advocated for the deliberate manufacture of goods to fail after a short time, stimulating the economy through consumption (Becher & Sibony, 2021). Since then however, it has been

generally agreed that PO is a significant problem that leads to excessive consumption, waste generation, and poor competition practices (Becher & Sibony, 2021; Bisschop et al., 2022; Ellen Macarthur Foundation, 2021; Maitre-Ekern & Dalhammar, 2016; 2024/1781, 2024).

PO is a complex concept made up of several techniques, such as planned, functional, and psychological obsolescence, employed by firms to encourage consumers to buy more and own for shorter periods (Becher & Sibony, 2021). Planned obsolescence includes purposeful design of products to have uneconomically short lives to stimulate further purchases (Becher & Sibony, 2021). Functional obsolescence refers to manufacturers using subpar quality materials, making products irreparable, or forcing software updates that render the product dysfunctional (Becher & Sibony, 2021). Functional obsolescence impacts the recyclability of products at the end-of-life stage too (Productivity Commission, 2021b). Finally, psychological obsolescence refers to the marketing techniques firms employ to instil a desire for "something a little newer, a little better, a little sooner than necessary" (Adamson et al., 2003).

Despite the focus of this paper on PO, it is important to mention that concepts of repairability and durability are inextricable from a comprehensive understanding of PO, both being intrinsic to the advancement of longer product lifetimes (Maitre-Ekern & Dalhammar, 2016). Durability refers to a product's lifetime at design and its ability to withstand the demands of its function, whilst repairability aims to increase lifetimes past their durable expiration (Dalhammar et al., 2023).

Examples of product obsolescence are rife throughout both history and the globe, resulting in economic and environmental failures (Productivity Commission, 2021b). Notably, PO generates negative externalities, namely the creation of waste, which is rarely internalised by the waste creator (Rivera & Lallmahomed, 2016). Due to the complex and varied nature of PO and the arguments made by manufacturers that they do not deliberately induce obsolescence in their products, there appears a significant need for legislative intervention through the introduction of a multi-level multi-policy regulatory framework (Gunningham & Sinclair, 2017; Maitre-Ekern & Dalhammar, 2016; 2024/1781, 2024).

In Australia, there is currently no regulatory obligation on manufacturers to ensure their products do not become prematurely obsolete. Though the Australian Consumer Law (ACL) suggests that manufacturers should ensure their products are durable or repairable, there are no mandated guidelines over what that means in a material context (Competition and Consumer Act 2010 (Commonwealth), Sch 2). In recognition of this gap, the Productivity Commission (an advisory body to the Australian Government) developed a national report into the 'right to repair' in Australia, which aimed to address the "*expense of repair and product design [that] accelerates the transfer of consumer goods into waste*" (Productivity Commission, 2021b).

Submissions to the Inquiry emphasised that issues with durability and repairability begin at the design stage, stating: "*Ideally [products] should be designed to be able to be refurbished, repaired, reused, long before we're focusing on recycling*" (Productivity Commission, 2021a). More submissions further highlighted the unwillingness of manufacturers to engage in sustainable production without regulatory intervention, stating that "*most manufacturers can do whatever they want without seriously considering the waste or environmental impact…* (Productivity Commission, 2021a). Despite these submissions, the report asserted that there was little evidence to support the intentional practice of PO and affirmed the need to stimulate economies of growth (Productivity Commission, 2021b, pp. 22, 24).

Methodology and Scope

This paper will analyse the proposed solutions for PO in the R2R Inquiry through Bacchi's 'what is the problem represented to be' (WPR) approach (Bacchi, 2009). This approach to policy analysis proposes that rather than solving problems, policies produce them. (Bacchi, 2009). This discursive framing of an issue is an important consideration for multi-level perspectives when shaping socio-political interpretations of problems (Geels, 2019). The dissonance between the regulatory suggestions in the submissions and the findings of the Commission demonstrates a lack of understanding of how product design contributes to PO, and therefore CE outcomes. Problematisation analysis demonstrates that

the framing of PO in policy directly impacts the solutions put in place to address it and can act to undermine the development of effective legislative reform. Uncovering problem representations is a useful way to analyse regulatory reforms and provide understandings of the current regulatory barriers impacting the effective transition to a CE.

With mind to Bacchi's acknowledgment that the relevance of WPR questions vary depending on the aims of the study, this paper sets further boundaries by examining solutions with reference to five of six questions from the WPR method. The research identified questions 1, 3, 4, 5, and 6 as most relevant to this paper's aims (Table 1)

Table 1: WPR questions from (Bacchi, 2009)

1	What's the 'problem' represented to be in a specific policy or policy proposal?
3	How has this representation of the 'problem' come about?
4	What is left unproblematic in this problem representation? Where are the silences? Can the 'problem' be thought about differently?
5	What effects are produced by this representation of the 'problem'? Who is likely to benefit from this representation?
6	How has this representation of the problem been questioned, disrupted, and replaced?

The analysis began by focusing on question one through an exploration of the PO solutions proposed by submissions to the R2R Inquiry. The R2R's analysis of the solutions were then reversed to identify the implied problem the analysis disseminated (Bacchi, 2009, p. 48). Although the report ultimately denied that PO is a problem, Bacchi asserts this method can also be used to clarify implications in understandings of issues that are denied "problem" status (Bacchi, 2009). These problematisations were then placed into tables and the representations further interrogated to give rise to Questions 3-6.

For length, a complete list of representations identified within the R2R Inquiry have been amalgamated into Table 2. This approach was replicated for a brief analysis of the EU Eco-design Sustainable Product Regulation (ESPR) to effectively answer question 6 (Table 3).

Table 2: (Productivity Commission, 2021b)

Right to Repair Inquiry	
Proposed Solutions from Submissions/ R2R Inquiry Analysis	**Problem Representation**
Submissions suggested expanding consumer protection laws to explicitly address unfair conduct and consumer harm associated with planned obsolescence. Laws included outright bans on PO. R2R Inquiry argued that existing ACL provisions are adequate and that any bans would be a disproportionate response.	The analysis of this solution posited that government regulation is an overreach. The report silenced submissions that outlined they have trouble accessing ACCC resolutions and upheld a singular submission that ACL provisions will disadvantage consumers. Planned Obsolescence is represented to be a consumer driven but industry fixable issue.
Submissions suggested introducing mandatory design requirements for durability and/or repairability. This included banning or heavily restricting the sale of irreparable consumer electronics and developing minimum repairability standards. R2R Inquiry decided that this would result in costly products and less choice. Although they considered that increased lifetimes may offset increased price, they ultimately decided that consumers would continue to throw away products for a net loss to the consumer. The inquiry suggested that an extension of existing	The analysis of this solution represented that the consumer is at fault for premature obsolescence due to discarding items before their end-of-life silencing drivers of psychological obsolescence. This section discussed the importance of maintaining economic productivity and low prices even at the detriment of the environment. Planned Obsolescence is represented to be an issue of consumer choice, and industry self-regulation should be sufficient to target the issue.

environmental impact protection i.e. carbon price, would be more effective.	
Submissions suggested tax incentives or subsidies for repair. R2R Inquiry decided that the costs associated with funding the program would be too high and there would be limited benefits i.e. not likely to encourage repair practices. They also discussed that these subsidises would also be granted to consumers who are already repairing their products without incentive.	In their analysis of this solution, the report only considers the cost of running the program and suggests funding would be better used to pursue policies that address specific environmental impacts. However, this analysis neglects to address the significant impact waste generation has on environmental outcomes and how policy must be amended to target this issue. In its consideration of the cost/benefits of the program, the report ultimately decided that the economic costs outweigh the benefit of stimulating repairability through tax incentives. The problem representation within this solution is economic, ensuring that costs do not increase.
Submissions suggested improving information standards. R2R considered that manufacturers argue labelling already exists and new labels would impose costs on manufacturers and taxpayers for the delivery of the program. However, they ultimately discussed that there is significant evidence to suggest labelling would be beneficial as it gives consumers access to more information in their purchasing decisions. The R2R Inquiry proposed that a pilot scheme should be introduced.	The analysis of these solutions emphasises the consumer's responsibility to manage durability and repairability. The report does not consider the role of manufacturers in stimulating PO and may not appropriately address planned obsolescence. Using this method, although consumers will know that the product is expected to last 5 years, they may not know other products in the area should last 20 without spending time researching these labels and products in depth. Planned Obsolescence is represented to be an issue of consumer choice and places the onus on being aware of market trends and durability on consumers. This model does place the burden of the information on manufacturers but does not address product labelling from an environmental perspective i.e. increased plastic waste from stickers, booklets, signage etc.

Findings and Discussion

Question 1: What is the Problem Represented to be?

Despite the emphasis on design stage interventions in submissions to the Inquiry, the final report advanced the same narrative as its predecessors, focussing unilaterally on interventions at the consumption stage rather than addressing durability and repairability at design (Productivity Commission, 2021b). In their limited consideration of design stage interventions, the report discussed PO through a purely economic lens, failing to acknowledge environmental problematisations of the issue (Productivity Commission, 2021b).

The submissions to the report highlighted the potential for numerous solutions including mandatory design standards (MDS), tax incentives, specific ACL provisions, and improved access to information (Table 2). In its consideration of these solutions, the report posited that "*evidence on premature obsolescence is mixed*" and *"interventionist responses to premature obsolescence are not needed*" (Productivity Commission, 2021b, p. 36). The cost and benefit analysis of each solution reflected an economic agenda that emphasised the driving role of consumers in perpetuating the issue.

Through its analyses of the proposed solutions within submissions, the report ultimately suggested a pilot scheme for durability labelling standards to address the information gap, placing the onus on pursuing fair and equitable durability standards back onto the consumer. The framing of the issue is, therefore, one of consumer choice stimulating product obsolescence, rather than design limiting product lifetimes.

The solutions proposed in the R2R Inquiry represent rapidly diminishing product lifetimes as a purely economic issue. In doing so, the prevailing economic system is left unquestioned, and the root of the issue unaddressed.

Question 3: Waste as Economic Rationalism

The dominance of economic rhetoric within Australian environmental law has meant that waste regulation has exclusively considered economic harm and health outcomes in its provisions. (Rootes, 2009). China's ban on waste exports in 2018 signalled a paradigm shift in the way Australia thought about waste, forcing the country to trade an export-oriented waste model for one that prioritised resource recovery (Dorninger et al., 2021). Despite this shift and the various commitments made by the Australian Government to implement CE initiatives since 2018 (Department of Climate Change, Energy, the Environment and Water, 2018), the introduction of the Recycling and Waste Reduction Act in 2020 did not take bold action to embed CE outcomes in its policy mechanisms, focusing instead on voluntary industry self-regulation and bans on waste exports (Recycling and Waste Reduction Act 2020 (Commonwealth), 2020).

The prominence of this ever-accumulating waste trade and recovery system reflects an ideology of economic rationalism dichotomous to environmental conservation- a representation that is reflected by the framing of the problem within the R2R Inquiry (Silva et al., 2016). This emphasis on economic productivity in historical regulation has meant that policy that encourages sustainable design and production- concepts vital to addressing product lifetimes- is virtually non-existent in Australia (Gertsakis & Scallan, 2021; Keulemans, 2021).

Question 4: Uncovering the Silences

Despite the Commission acknowledging the need for government intervention to reduce the environmental impacts of PO, they maintained their position that the environmental detriment of continued production does not outweigh the economic detriment of reducing consumption through design interventions (Productivity Commission, 2021b). The report clearly shifted the onus for obsolescence onto the consumer, stating "*the lifespans of products…becoming shorter… is often driven by consumers choosing to replace their products with newer ones rather than products breaking.*" (Productivity Commission, 2021b, p. 226). In this way, the Commission neglected to consider the contributory role companies play in stimulating psychological obsolescence, reframing the problematisation as one of individual choice, instead of industry driving unsustainable economic demands in a finite world.

Furthermore, in their consideration of MDS, the report outlined that this would increase costs to the consumer which would not be offset by the longer lifetimes due to consumer behaviour. What the report did not consider is that increased product lifetimes and their associated costs would have the potential to address psychological obsolescence as consumers may be less likely to prematurely dispose of products due to the increased cost. What this silence reveals is the Commissions' prioritisation of the economic status quo, ensuring that products continue to be cheap so as not to reduce consumption.

It must be acknowledged that the Productivity Commission was not the best forum for discussions of environmental sustainability. Indeed, its advisory role is limited by the linear economic system it occupies and therefore its analysis was guided by the need to balance interests only within this economic system. As such, policy considerations focussed on maintaining economic productivity, whilst environmental issues were not adequately considered in the cost and benefit analysis. Nonetheless, a majority of submissions highlighted that PO is inextricably linked with negative environmental impacts (Productivity Commission, 2021a). Without stringent regulation at the design phase created with environmental considerations in mind, manufacturers will continue to encourage rapid consumption, and linear shortened lifetimes will endure.

Question 5: The Future of Obsolescence in Australia's "Circular Economy"

Extending product lifetimes and reducing waste through design for durability, reuse, and repair, is key to achieving a CE (Bakker et al., 2021). It has been estimated that extending the lifespans of e-products by only 10 per cent in Australia would reduce waste generation by 60,000 tonnes and emissions by 1.2 million tonnes by

2030 (Bontnick et al., 2021, p. 8). Despite the critical role design stage interventions play in supporting CE transitions, PO has not been clearly addressed in Australian waste legislation or policy. Indeed, the National Waste Report 2020 found that between 2018-2019, Australia generated 75.8 million tonnes of waste- an increase of 9% from the previous decade. This is expected to increase to 19% by 2030 (Blue Environment Consulting, 2020, p. x). While the report did not provide specific recommendations, it highlighted the need for more effective waste management solutions in Australia.

Although Australia appears to acknowledge the issue, current problematisations of PO represent a siloed approach to waste management, reflecting an institutional ideology that 'locks in' to uphold incumbent neo-liberal discourse (Walker, 2000). Despite evidence that single policy frameworks are not adequate to manage environmental externalities, the Productivity Commission appears more concerned with economic rhetoric than evidence-based frameworks through their proliferation of a standalone information strategy (Gunningham & Sinclair, 2017; Payne, Nay & Maguire, 2017). Effective management of PO requires a systematic multi-level transition towards CE principles, necessarily supported by ecological framings of the issue and complementary policy mixes (Geels, 2019; Gunningham & Sinclair, 2017). Until Australian regulation addressing shortened product lifetimes is introduced, the future of a CE in Australia will remain untenable.

Question 6: A New Durability Paradigm? Lessons from the European Union

Question Six of Bacchi's method is critical to an analysis of policy mechanisms that guide or disrupt CE, as an oft-quoted barrier to the transition to a CE in Australia is the lack of examples of successful circular initiatives (Feldman et al., 2024). Consequently, it appears critical to consider Australian policy in context to other jurisdictions with stringent PO regulations, such as the European Union (EU).

In 2020, the EU introduced the New Consumer Agenda which emphasised the prioritisation of environmental objectives over economic interests, delineating itself from traditional conceptualisations of environmental regulation (European Commission, 2020). This environmental framing is clearly reflected in their regulatory mechanisms for PO- specifically in the Eco-design for Sustainable Products Regulation (ESPR) (2024/1781, 2024).

The ESPR directly regulates the manufacture of products to ensure they are not being designed with obsolescence in mind. Quite succinctly, Article 5.2 of the ESPR states: "*Ecodesign requirements shall… ensure… that products do not become prematurely obsolete, for reasons that include...[planned and functional obsolescence techniques]*" (2024/1781, 2024). In direct contrast to the R2R Inquiry in Australia, regulation in the EU not only admits but defines the existence of PO. The wording of the definition too places the onus of PO on the producers, framing the issue as one created at the design stage and driven by manufacturers.

Fundamentally, the ESPR recognises PO as a significant environmental issue resulting in significant environmental impacts (2024/1781, 2024, p. (7)). Unlike Australian policy decisions that continue to uphold economic problematisations and assign responsibility to consumers, the EU problematisation of PO frames the issue as one driven by design stage decisions, and as such requiring design stage interventions (Table 3).

Another key consideration in Australia's R2R Inquiry was the increased costs associated with better design. The Commission was concerned about the social utility of regulating durability into product design and ultimately decided the economic and social costs outweighed the environmental detriment. However, the ESPR addressed this consideration, simultaneously mandating eco-design requirements to reduce PO, and maintaining that products should, as much as reasonable, remain affordable (2024/1781, 2024, p. Article 5 (11) (c)). This problematisation does not diminish the individual responsibility or benefit of the consumer, but rather balances the interests of the environment and the consumer to promote conscientious and lasting product ownership through the durability focus within their frameworks.

In EU conceptualisations of the issue, it is evident that the economy of a product should reflect its true cost- to the manufacturer, the consumer, and the wider environment.

Table 3: Policy (2024/1781, 2024)

Eco-Design for Sustainable Product Regulation	
Solution	**Problem Representation**
Ecodesign requirements	Article 5 sets out that ecodesign requirements must be set out on a number of environmental objectives such as expected generation of waste, recycled content, material efficiency etc and specifically states that the requirements should ensure that products do not become prematurely obsolete. The representation of the problem of PO is one framed in environmental sustainability considerations. Article 5.9(a)(i) requires requirements to consider "Union priorities for the climate, the environment, energy efficiency, resource efficiency and security, including a non-toxic circular economy, and other related Union priorities and targets". It's important to note that although the regulation does require that the requirements do not significantly negatively impact affordability, it states that this should be calculated in relation to access to second-hand products, durability, and life cycle costs. This assessment does not consider whether consumers throw away products prematurely, therefore targeting psychological obsolescence. This solution problematises PO as an environmental public policy issue necessarily mitigated by appropriate mandatory government intervention
Information Requirements and Digital Product Passport/Labels	Article 7 sets out minimum information requirements in relation to its performance under Article 5 requirements. The information should include how to use, maintain, and repair the product to maximise durability and minimise its impact on the environment; collection options at end-of-life; substances of concern used in the product; and include a score for its durability, repairability etc. These information requirements must be disseminated via a Digital Passport, Label, online website, or in a user manual. Article 9 sets out the requirements for the creation of a Digital Product Passport to assist in better information requirement dissemination and better tracking of product lifecycles across the value chain. Article 16 sets out requirements for labels pursuant to Article 7. These information requirements demonstrate the understanding of consumers' role in mitigating waste without problematising the issue as economic or consumer driven. Through the burden of information being placed on the manufacturer/importer, the solution represents the problem as one driven by design stage decisions and further problematised by consumer misinformation. The focus on substances of concern within this article also represents an overarching emphasis on improving environmental outcomes in product development.
Transparency or Ban of Destruction of Unsold Consumer Goods	Articles 23 – 25 set out the requirements for reducing the destruction of unsold consumer goods including through provisions to take necessary measures to prevent the destruction, transparency, and information standards, as well as a total prohibition on certain products by 2026. The products on the prohibited list are decided in relation to their environmental impacts of destruction. This prohibition can be derogated for a number of reasons including unfitness for recycling or remanufacture; health and safety; non-acceptance of donations; and where destruction has the least negative environmental impacts. In this way, the problem with PO and waste generation lies with the purposeful over-manufacture of products and as such the responsibility for discarding the products ethically and sustainably is placed on the manufacturer/discarder. The specific emphasis on the environmental impacts of destruction reflects a problematisation centred on enduring positive environmental outcomes through policy frameworks. The problem is represented as an environmental conservation issue.

Conclusions

Product Obsolescence and rapid waste generation is a significant problem for the global community. However, the policy frameworks between regions differ greatly and represent vastly different understandings of what the problem is, and who is responsible for it. In Australia, PO has been recognised as an economic problem, driven by consumer choice, and as such the regulatory response has been to shift responsibility onto consumers through the introduction of a product labelling scheme. This creates no obligation for producers of goods and fails to internalise the negative externalities associated with waste. This standalone policy mechanism does not adequately address the root cause of PO and works to uphold the economic status quo to the detriment of CE outcomes.

This approach is in contrast with policy mechanisms in the EU, where the environmental problematisation of PO has resulted in a host of regulatory tools that address environmental concerns by placing responsibility onto the producers through eco-design and information standards. The comprehensive, multi-policy framework introduced in the ESPR reflects a deep understanding of the driving role regulation plays in a systemic transition to a CE.

To adequately address the issue of PO and effectively transition to a CE, Australian regulation must adopt the problematisations reflected in EU policy to create environmentally focussed multi-level and multi-policy regulatory frameworks that intervene in PO at the design stage of the product lifecycle. Without a reframing of the problematisations inherent in Australian understandings of PO, firms will continue to employ strategies that reduce product lifetimes to the detriment of the Circular Economy in Australia.

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