Product life: designing for longer lifespans

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- Design practice research case studies (industrial design).

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PRODUCT LIFE: DESIGNING FOR LONGER LIFESPANS

CREATIVE DISCIPLINE: Industrial design

RESEARCH METHODS:
- Literature review
- Workshop
- Observation
- Action Research (Design Project)

NUMBER OF DESIGN CASE STUDIES UNDERTAKEN BY THE RESEARCHER: 3

LENGTH OF THESIS: 44000 words

EXAMINATION FORMAT: Thesis and oral examination

DURATION OF STUDY: 4 years full time

EXPERIENCE OF DESIGN PRACTICE BEFORE START OF PHD:
- BDes Industrial Design
- Masters degree in Environmental Management
- Consultancies include Design Resource, Design Edge, X-pace Architects and MPiD

PERSONAL MOTIVATION FOR UNDERTAKING PRACTICE DURING PHD:
- Opportunity to formalise and extend my interest in a field of research through design activity
- Doctoral research offered an opportunity to bring together interest and strengths in industrial design practice to a research setting
- Design practice is mostly framed as a commercial defined activity that drives consumption and obsolescence. There was a desire to explore other frameworks for design practice. This includes design practice in an academic research setting and design as a driver for changing consumption practices.

AIM OF THE RESEARCH:
To identify and develop understanding of strategies that can prolong the lifespans of products and apply such strategies to structured design projects.

RESEARCH QUESTIONS:
- What shapes the consumption and the obsolescence of (consumer electronic) products?
- What can be learnt from existing examples of prolonged product lifespans?
- Can specific examples of prolonged product lifespans be described and structured into formalised strategies?
- Can product lifespan strategies be successfully applied to design projects?
- Do product lifespans strategies offer opportunities for new design innovation to slow product obsolescence?

OBJECTIVES:
- Review the literature and locate the disciplinary contexts of product obsolescence
- Identify existing examples of prolonged product lifespans in the consumer electronics sector
- Organise specific product features, consumer behaviours and societal factors that can prolong product lifespans
- Select and apply specific lifespans strategies to structured design projects.
- Contribute understanding of how design can prolong the lifespans of product in fast moving consumer sectors.
SUMMARY:
The first phase of the PhD commenced with a review of existing examples of prolonged product lifespans through well-established modes of research enquiry such as the literature review, curated examples and case studies. The literature review revealed historical, cultural and example artefacts as well as offering a theoretical framework in which to understand the sociological, psychological and economic dimensions of consumption and product obsolescence. Observational and curated examples of longer lifespan products were enhanced through structured seminar activity involving 20 participants. A four-week pilot design project followed with another group to trial selected design strategies. The pilot project enabled adjustments and refinements to be applied to the third and most significant design activity undertaken as a part of this PhD research. If Phase One of the PhD could be described as ‘analysis’ then Phase Two was a ‘synthesis’ of knowledge - through demonstration design projects. The main undertaking during this phase was the task of applying selected lifespan strategies to demonstration design projects. Each project was documented in detail using a staged design process as typically encountered in industrial design practice.

RATIONALE FOR THE INCLUSION OF DESIGN PRACTICE UNDERTAKEN BY THE RESEARCHER:
This PhD research asks questions about the role of design that is identified as being complicit as a cause of product obsolescence. An aim of this research was to identify and develop understanding of product design strategies that can prolong the lifespan of products. Three specific strategies, Piggybacking, Reassignment and Scripting were identified as a means to address the most significant types of relative obsolescence in consumer electronic products. These identified ‘informal’ strategies were observed, described and then formalised through application to structured design projects. The design practice elements, of the PhD, offer a means to demonstrate the application of specific strategies through design. They were conceived as demonstration design projects to address specific research questions:

- Can informal examples of prolonged product lifespans be described and structured into formalised strategies?
- Can formalised product lifespan strategies be successfully applied to design projects?

Design practice in this PhD demonstrates how product lifespan strategies can be practically applied to the design of products. The design practice offers, to the reader, specific understanding and a tangible examples of theorised product lifespans strategies. Additionally, the design projects enable an evaluation of each applied strategy by selective experts in the field.

HOW THE PHD DESIGN PRACTICE DIFFERED FROM THAT OF COMMERCIAL PRACTICE:
Design projects undertaken within this PhD followed a typical industrial design process. However, this PhD design practice includes specific qualities that make it distinct from other design practices.

Many instances of commercial design practice emphasise outcomes and the meeting of objectives defined by the design brief and business arrangements. Design practice, in this PhD, differs as it documents and reveals the design process (research method) and is less concerned with a finalised design specification. Design as demonstration projects do not aim to produce an optimum or ideal product solution, or the only possible manifestation of the specification. They exist for the sole purpose of demonstrating that the strategies can have practical outcomes and that these outcomes can be evaluated within a specific research context. The realisation or level of completion for each demonstration project varies. Only a sufficient level of completion is required to enable demonstration and evaluation. For instance, where a product lifespan strategy contains a strong technical attribute the product outcome should reflect a level of technical resolution and completeness. While for a user-centred strategy technical resolution is of less importance as the emphasis shifts to behavioural/product interactions. In such instances less a complete designs is sufficient for demonstration and evaluation purposes.

THESIS AVAILABLE AT: http://eprints.kingston.ac.uk/id/eprint/20226

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