



CONSUMER PRODUCT INNOVATION AND SUSTAINABLE DESIGN

The evolution and impacts of
successful products

ROBIN ROY



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PREFACE

I have always been interested in the design of things, but as a child I was especially fascinated by the historical technologies and products in the Children's and Domestic Appliances galleries at the Science Museum in London. Later this led me to study undergraduate mechanical engineering and then take a master's degree and PhD in design technology at Manchester University under Christopher Jones, one of the originators of systematic design methods and a broad systems approach to design. After briefly working as a trainee in engineering companies in Britain and Sweden, I was fortunate to be appointed in 1971 as one of the first lecturers in Design at the newly founded Open University (OU). The OU pioneered teaching large numbers of home-based adult students via specially produced books, radio and television programmes, supported by local tutorials and residential schools. The Design group at the OU developed an interdisciplinary and project-based approach to teaching design at a distance, which it has maintained to the present day, but now using online multimedia as well as printed books. For my research I founded the Design Innovation Group in 1979, which focused on investigating the successful practice and management of product design and technical innovation in industry and on developing the new field of sustainable design. This research often arose from the work involved in developing the OU distance learning courses and making the associated television programmes, audios and videos.

As part of my interest in products and their evolving design, I subscribed to the British consumer magazine, *Which?* This publication provides a unique record of how consumer products available in Britain have changed over almost 60 years. In my position as an Emeritus Professor of Design and Environment at the OU, I had the opportunity to make use of my *Which?* archive. The idea for this book was to use my *Which?* collection as a way of tracking the innovation and evolution of a number of consumer durable products, such as washing machines, vacuum cleaners, television equipment and mobile phones. However, I quickly realised

that although *Which?* was a useful basic source, tracking the evolution of such products from their invention in the nineteenth and early twentieth centuries to the present required a considerable amount of additional research and scholarship making use of many other printed and online resources and visiting museums and shops. Arising from my work on sustainable design I was also interested in discovering whether, why and when environmental concerns and regulations influenced the design of these products; what socio-economic and cultural factors influenced their development; and what the products' impacts on the environment and society were.

My aim in writing the book was to use the product case studies to provide general conclusions about patterns of technical innovation and design evolution and the extent to which these patterns fitted existing theories of innovation and design. A more practical aim, linked to my earlier work on successful design and innovation, was to make use of the empirical information from the product case studies to provide lessons and guidelines for designers, engineers, innovators, managers and marketers, as well as for educators of these professions. I hope that these groups will find the book useful as well as interesting.

In writing the book I have discovered that there are many individuals who are so fascinated with certain technologies and products that they collect them, make websites cataloguing and describing them, and even set up museums to show them to the public. There are collections, websites and museums for washing machines, vacuum cleaners, lamps, televisions and mobile phones, which I have found to be most valuable in writing this book. I hope that such collectors, and people who are simply curious about the history and design of consumer products, might find this book interesting and useful too.

Robin Roy

Milton Keynes, February 2015

For June, Alex, Linda, Ella, Joe and Olivia

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