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# Handbook of Research on Trends in Product Design and Development: Technological and Organizational Perspectives

HANDBOOK OF RESEARCH ON

### Trends in Product Design and Development

Technological and Organizational Perspectives



ARLINDO SILVA & RICARDO SIMOES

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Arlindo Silva (Instituto Superior Tecnico, Portugal) and Ricardo Simoes (Polytechnic Institute of Cavado and Ave and University of Minho, Portugal)

Product design and development (PDD) is an area of increasing importance to industrial competitiveness. In a global market, the competitive advantage of companies lies not only in mastering existing processes and methodologies, but also on their ability to pursue different directions, providing increased value to their customers.

The Handbook of Research on Trends in Product Design and Development: Technological and Organizational Perspectives provides a snapshot of the current issues, trends, challenges, and future perspectives of product design and development, which is an area of growing interest and increasingly recognized importance for industrial competitiveness and economic growth. Product design and development is affecting not only industry, but society in general, as new and innovative products shape our way of life. This handbook is unique in that it explores product design and development not only from a technological standpoint, but from a sociological perspective, as well. It includes contributions from 58 experts in 15 countries.

#### **Topics Covered:**

- Brand DNA
- Creative and Visualization Tools
- Ergonomic Analysis
- Knowledge Transfer Partnerships
- Laws of Product Evolution

- New Design Paradigm
- Product Design and Development
- Public Design
- Rapid Manufacturing Systems
- RFID

**Market:** This premier publication is essential for all academic and research library reference collections. It is a crucial tool for academicians, researchers, and practitioners and is ideal for classroom use.

Arlindo Silva has a BSc in Mechanical Engineering at Instituto Superior Tecnico (IST), Lisbon, Portugal, in 1991, MSc in 1995 and PhD in 2001, both in Composite Materials. Assistant Professor at IST, Mechanical Engineering Department. He develops his research activities within the Institute of Mechanical Engineering, in Lisbon, Portugal. Co-author of three books (in Portuguese) on topics related to Mechanical Engineering and Manual Wheelchairs for the Impaired. Published numerous technical papers in refereed journals and conference proceedings, in the areas of rehabilitation of the impaired, composite materials, design ideation, product development and materials selection. Holds numerous patents, filed with his students on products developed in the courses taught at IST. His current research interests are in product development, engineering design methods and materials selection. Currently teaching Mechanical Design, Product Design and Development and Engineering Materials at IST. He is also involved in the MIT-Portugal Program through the Engineering Design and Advanced Manufacturing focus area, in the courses on Product Development and Technology Evaluation and Selection. He is the Vice-President of the CPIN - "Centre for the Promotion of Innovation and Business", a University-based non-profit organization providing integrated solutions for technology-based entrepreneurship, and fostering University spin-offs, currently holding a European Union label of Business Incubation Centre. He is also a member of the Product Development and Management Association, the International Council of Systems Engineering, the Design Research Society, the Design Society and the American Society of Engineering Education.



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