

Business strategies for extending product lifetime

REFURBISHMENT

According to the International Resources Panel (UN Environment) report¹ "the refurbishment process is performed within repair and/or maintenance facilities to increase or restore performance and/ or functionality or to meet applicable technical standards or regulatory requirements".

benefits

to consumers

- Monetary saving (compared to purchase of new items)
- Possibility to recover part of the initial investment
- Possibility to acquire products that are no longer sold as 'new' / that are out of line on the usual channels



to companies

- Market expansion opportunity, increase of product portfolio
- Opportunity to develop new business models
- Working with higher added value materials tends to increase profitability

UPCYCLING

Upcycling is defined as "any measure and activity in the design phase targeting at optimal handling of products as nutrients"². This means the process of converting old or discarded materials into something useful, giving an item a better purpose and improving its quality from one cycle of use to the next one.

Its principles are associated with the circular economy, which means the continuous re-use of products and materials in biological and technical cycles, returning them to society with a higher value than the original one.

benefits

to consumers

- Add value through design or a new function
- Obtain 'one-of-a-kind' items (by purchasing unique pieces)

to companies

- Monetary saving (reduces cost of production by obtaining reclaimed material)
- Reduction of waste generation and treatment requirement



REMANUFACTURING



To remanufacture is to return a used product to at least its original performance with a warranty that is equivalent to or better than that of the newly manufactured product. In most cases, remanufacturing includes "the complete disassembly of all component parts for inspection and cleaning, however in the case of some products (e.g.

industrial digital printers), disassembly only down to the module level may be appropriate"³.

Remanufacturing is an important component of a resource efficient manufacturing industry. By keeping components and their embodied material in use for longer, significant energy use and emissions to air and water can be avoided. In addition, remanufacturing provides opportunities for the creation of highly skilled jobs and economic growth.

benefits

to consumers

- Security for being covered by the warranty with the supplier when in a critical moment of need, due to remanufacturing intrinsic design and agile logistics
- Obtain products with similar or even better performance as "new", faster and cheaper

to companies

- Customer fidelity (once in the loop, customers tend to keep buying remanufactured)
- Market expansion opportunity (by offering not only products, but also services)
- Offering a fast and cheaper solution to consumers, which is very attractive

REPAIRING

To repair a product means "to put something that is damaged, broken, or not working correctly, back into good condition or make it work again"⁴.

If an old product is still functioning, it should not be taken out of circulation, but given a proper destination in order to extend its lifetime. Stimulating repair can help lifetime extension to happen⁵.

benefits

to consumers

- Monetary saving (avoids the purchase of a new item)
- Restore energy efficiency (over time, an appliance can decrease its efficiency)
- Keep esteemed or adequate (in terms of function) items



to companies

- Market expansion opportunity (by offering not only products, but also services and replacement parts)
- Identification of possible improvement points for future products

SECOND-HAND MARKET

Second-hand products are "goods which, at some stage in their production or distribution, have entered into the possession of a person through an act of trade or through any act against payment or free of charge"⁶.

"Second-hand buying goes beyond the simple acquisition of a product discounted by the extent of its wear and tear and encompasses a particular form of shopping that competes with the use of conventional channels"⁶.



benefits

to consumers

- Availability of cheaper products
- Access to a wide range of products available on multiple platforms
- Possibility to find rare products or items that have been taken out of circulation
- Possibility to recover part of the initial investment

to companies

- Market expansion opportunity (sales through websites, apps, stores, fairs, etc.)
- Flexibility to operate in flourishing economic scenarios

This is not an exhaustive list. This infographic summarizes strategies identified in a project gathering success cases around product lifetime extension.

[Click here for more information.](#)

¹ UN Environment. Re-defining Value – The Manufacturing Revolution | ² McDonough Braungart Design Chemistry. Cradle to Cradle Certified Product Standard | ³ UN Environment. Re-defining Value – The Manufacturing Revolution | ⁴ Cambridge Dictionary. Repair definition | ⁵ UN Environment. The Long View Report: Exploring Product Lifetime Extension | ⁶ ROUX & GUIOT. Measuring second-hand shopping motives, antecedents and consequences



Conscious consumption
for a sustainable future



How to be engaged



How consumers

can be involved in **product lifetime extension**

Take good care of products, taking action such as repairing when possible, so that products can be used longer

Let go of the concept that reused, repaired, refurbished and remanufactured products are inferior to new ones.

Change consumption habits to value used products, so they are no longer seen as a "poor" alternative.

Participate in reverse logistics, returning products to producers after use.

Give a proper destination to items that are no longer useful for them but can still be reused by others or recycled.



How companies

can be involved in **product lifetime extension**

Adapt their business models to enable reuse, refurbishment and remanufacturing, considering the whole chain (from design thinking to waste disposal).

Encourage designers to question "what will happen next" when creating new items.

Incorporate second hand materials in production processes.

Develop platforms to connect consumers with similar interests and needs.

Design to last longer, providing services to guarantee the optimization of product usability.

Use advertising in a way that does not provoke discarding products that are still working well.



How governments

can be involved in **product lifetime extension**

Provide legal standards and certifications that regulate the commerce of remanufactured, refurbished and upcycled items.

Offer audit and entrepreneurship support.

Promote consumer awareness campaigns so consumers can understand the importance of product lifetime extension and engage in adopting better consumption habits.

Product lifetime extension benefits for the environment

Reduce the extraction of raw-materials, by optimizing the use of resources already extracted, thus contributing to circular economy.

Reduce waste generation, by avoiding premature discarding and, consequently, land and/or water contamination.

Reduce use of toxic substances (allowing reuse).

Reduce negative impacts throughout the whole life cycle, such as greenhouse gas emission, water and energy consumption.



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