Investigating the life-span of cork products through a longitudinal approach with users – interim results

Ana Carina Pereira, Design for Sustainability, NL; Forest Research Centre, PT
16-5-2012
Overview

- **Introduction** to the research
- **Methodological** aspects
- **Results** of the study
- **Conclusions**
- **Interaction** and questions
1. Introduction
Cork

A renewable material

- Bark of cork oak tree; removed maintaining vitality; slow re-growth
- Forests in Mediterranean; multiple important functions
- Applications: wine stoppers; construction; ...; design
- Cork materials: white and black agglomerates; rubber-cork; cork textile; ...
Product life-span

- Long life-spans for sustainability
- Life-span and cork – resource conservation
- Influenced by multiple factors – complexity
- Different levels: product, user, context
The ‘construction’ of life-span

Conceptual working model

- New product in market
  - Social/ cultural ...

- Performance
- Quality
- Durability...

- Experience
- Attachment ...

- Materials (focus)

- How the product is used

Products

Users

General context

Context of use

Interact
Research Questions

- How is the life-span of cork products?
- What are the aspects influencing life-span?
- How are these aspects interrelated?
- What can be learnt about the material?
2. Methodology
Study setup

- **Longitudinal study** on the use of cork products
- **Planning** (months): 3m, 8m, 16m, 24m, 36m
- **18 cork products**, incl. different cork materials
- **31 participants** in Portugal (convenience)
- **Methods**: interviews and photographs
The products
A selection

Household

- Bath mat dry
- Soap dish
- Place mat bk
- Fruit bowl

Personal Use

- Keychain
- Notebook

Investigating the life-span of cork products
The interview

Contents

A – Use of the product (characterization)
  • Context and Intensity of use

B – Product appreciation (general)
  • Like using and Satisfaction

C – Product evaluation (specific – 5 aspects)
  • Performance, Quality, Durability, Aesthetics, Attachment

D – Comparison/ others (several)
  • Differences in time, Maintenance
3.

Results
Results

General appreciation of the products

- In general the appreciation of the products is good or very good; with few exceptions everything is well after 8 months of use;
- Cases: 61 product-user situations;

- Satisfaction/ recommendation:
Product evaluation

5 aspects
(Low) Attachment – 3 cases

PB – Bath mat wet
- Looses ink (brown)
- Performance, aesthetics
- Bathroom facelift
- Cat (ill, urine)

PI – Place mat wt
- Aesthetic suggestions
- Has new towels
- User’s age: mid 80’s
- Kind of product

PO – Notebook
- Binding problem
- Affects quality/ perform
- High aesthetic apprec.
- Conflict – use or not
Life-span

Different layers of context

- Shower base
- Bathroom
- House
- Tiles
- Facelift
- Cat

<table>
<thead>
<tr>
<th>Categorization/ case</th>
<th>PB – Bath mat wet, U24</th>
<th>PI – Place mat wt, U19</th>
<th>PO – Notebook, U1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product aspects</strong></td>
<td>Looses ink; affects performance</td>
<td>Kind of product (towel versus place mat)</td>
<td>Binding problem; Affects quality</td>
</tr>
<tr>
<td><strong>User characteristics</strong></td>
<td>Product changes; Aesthetic repercussions</td>
<td>Aesthetic suggestions; User’s age: mid 80’s</td>
<td>Aesthetic appreciation</td>
</tr>
<tr>
<td><strong>Contexts</strong></td>
<td>Cat (ill, urine) Facelift in bathroom</td>
<td>Has new towels</td>
<td>–</td>
</tr>
</tbody>
</table>
Case detail
PB – Bath mat wet

- Cat (ill, urine) - motive

- Accumulation of water (tiles)?
- Product defect? Cleaning?

How? Why?

Looses ink

Stains the tiles joints
Colour change, faded irregularly
Got deformed, warp when dry
Facelift of bathroom
Ink, contact with body

Needs cleaning
Less pretty
While trying to have it standing, lack of suckers
Aesthetic displacement
Son baths seated in mat, doubts health & hygiene

Multiple problems & high interrelations

- Usability: no suckers

Pleasant texture and damping

Independent

Investigating the life-span of cork products
Interrelations
PI – Place mat wt
Interrelations
PO – Notebook

Investigating the life-span of cork products
Material related aspects

Surface changes
- Colour – darkening
- Dirt versus ageing
- Easy to clean
- Aesthetic appreciation

Water interaction
- Deterioration in centre
- Cork is impermeable
- Transfer to cork materials
- Reflected in products
Conclusions
Conclusions

- **Literature:** already important work but more research is needed;
- **Methodology:** longitudinal study – appropriate, original, enriching;

- **Life-span of cork products:** for now is good, with few exceptions;
- **Influencing aspects:** diverse (in case) – product, user, contexts;
- **Interrelations:** perceptible in some situations; whole vs 1 issue;
- **Material related aspects:** surface changes, water interaction, (...).
5.

Interaction and Questions
Life-span of fruit bowls
How long do your fruit bowls last?

<table>
<thead>
<tr>
<th>Participants</th>
<th>Life-span (y)</th>
<th>Influencing aspects</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>3,5</td>
<td>broken</td>
<td>glass</td>
</tr>
</tbody>
</table>
Investigating the life-span of cork products through a longitudinal approach with users – interim results

Ana Carina Pereira, a.c.dasilvapereira@tudelft.nl
16-5-2012