Applying consumer and market research methods to support the introduction of new library and other central services

Prof. Dr. Reinhold Decker

Department of Economics and Business Administration
University of Bielefeld

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Introduction

The crucial question:

What is a new (library) service?

Modifications of existent services

“Revolutionary inventions”
Introduction

Why do so many new products and services fail?

- Introduction of a “non-superior” p/s
- Overestimation of the future demand
- Cannibalization by multi-new p/s strategies
- Provider- instead of user-driven p/s development
- Focusing on feasibility instead of utility
5 steps in new service development:

1. Perception of innovation opportunities
2. Idea generation and screening
3. Concept development and evaluation
4. Implementation
5. Training of employees
1. Perception of innovation opportunities

- Employees
- Complaints
- Users
- Other libraries
- New technologies
- Market research

Environmental scanning (ES)
1. Perception of innovation opportunities

ES in librarianship:

**Aim:** Attaining enduring *early-mover advantages* by early detecting *future challenges* to new service development from *weak signals* in education, science, technology, politics, and society

**In brief:** Detecting changing user requests and needs as soon as possible

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1. Perception of innovation opportunities

Information Foraging Theory allows to analyze changes of the library environment in a human-like manner. (Pirolli/Card 1999)

Vector Space Model is the link to the personal information infrastructure or mental model. (Marchionini 1995)

Case-Based Reasoning enables the integration of new knowledge in terms of cases. (Kolodner 1993)
1. Perception of innovation opportunities
2. Idea generation and screening

The detection of new ideas:

- by means of creativity techniques

**TRIZ** = “Theory of inventive problem solving”

**Basis:** analysis of more than 40,000 patents

**Applications:** mainly in engineering
2. Idea generation and screening

Industry:

Service sector:

TRIZ:
- Technological trends
- Ideality
- Analysis of contradictions

This approach:
- Environmental scanning
- Conjoint analysis
- Quality function deployment
2. Idea generation and screening

The pre-selection of ideas:

- by means of screening techniques
  (Scoring methods, Check lists, Kano model, …)

![Diagram showing the relationship between satisfaction, performance, and expectations with "Excitement," "Threshold," and "Expectation" categories.]
3. Concept development and evaluation

Four step procedure:

1. Develop the ideas into concrete concepts ("stimuli").
2. Test these concepts with groups of target users.
3. Choose the one that best matches user preferences.
4. Check its organizational/technical implications.

by means of

Two step conjoint analysis
and
Quality function deployment
### 3. Concept development and evaluation

#### Conjoint analysis – the search space:

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Relevant attribute levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>Stylistic correction (of a rough translation) [A1]</td>
</tr>
<tr>
<td></td>
<td>Full text translation (“deluxe”) [A2]</td>
</tr>
<tr>
<td></td>
<td>Rough translation [A3]</td>
</tr>
<tr>
<td>Translation direction</td>
<td>German → English [B1]</td>
</tr>
<tr>
<td></td>
<td>English → German [B2]</td>
</tr>
<tr>
<td></td>
<td>German → French [B3]</td>
</tr>
<tr>
<td>Service provider</td>
<td>Licensed translator [C1]</td>
</tr>
<tr>
<td></td>
<td>Native speaker (in the target language) [C2]</td>
</tr>
<tr>
<td></td>
<td>“Intelligent” translation tool [C3]</td>
</tr>
<tr>
<td>Terms of payment</td>
<td>Charge per hour [D1]</td>
</tr>
<tr>
<td></td>
<td>Charge per page [D2]</td>
</tr>
<tr>
<td>Price</td>
<td>1.-- € [E1]</td>
</tr>
<tr>
<td></td>
<td>25.-- € [E2]</td>
</tr>
<tr>
<td></td>
<td>50.-- € [E3]</td>
</tr>
</tbody>
</table>

162 possible stimuli!
3. Concept development and evaluation

Conjoint analysis – the stimuli:

Service A

- Full text translation
- German → English
- Licensed translator
- Charge per hour
  - 50.-- €

Service Z

- Rough translation
  - German → English
- Translation tool
- Charge per page
  - 1.-- €
Conjoint analysis – the utility values:

The translation direction strongly determines the total utility of the particular service.
### 3. Concept development and evaluation

**Conjoint analysis** – the basis of decision making:

#### Service A:

<table>
<thead>
<tr>
<th>Service</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full text translation</td>
<td>0.40</td>
</tr>
<tr>
<td>German → English</td>
<td>0.37</td>
</tr>
<tr>
<td>Licensed translator</td>
<td>0.40</td>
</tr>
<tr>
<td>Charge per hour</td>
<td>0.06</td>
</tr>
<tr>
<td>50.-- €</td>
<td>0.03</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1.26</strong></td>
</tr>
</tbody>
</table>

#### Service Z:

<table>
<thead>
<tr>
<th>Service</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rough translation</td>
<td>0.32</td>
</tr>
<tr>
<td>German → English</td>
<td>0.37</td>
</tr>
<tr>
<td>Translation tool</td>
<td>0.15</td>
</tr>
<tr>
<td>Charge per page</td>
<td>0.10</td>
</tr>
<tr>
<td>1.-- €</td>
<td>0.31</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1.25</strong></td>
</tr>
</tbody>
</table>

**Minimum = 0.60 ↔ 1.62 = Maximum**
3. Concept development and evaluation

Conjoint analysis – the choice simulation:

Real world simulations often require …
- the inclusion of a “None” option
- the consideration of service-specific attribute levels
- the consideration of interactions

Choice-based conjoint analysis

Optimal new service regarding user utility
3. Concept development and evaluation

Do user requirements match with realization criteria?

Quality function deployment

<table>
<thead>
<tr>
<th>User requirements</th>
<th>Reliability</th>
<th>Pricing</th>
<th>Flexibility</th>
<th>Rapidness</th>
<th>Quality assurance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9</td>
<td>0.8</td>
<td>0.7</td>
<td>0.1</td>
<td>0.3</td>
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<tr>
<td></td>
<td>7</td>
<td>0.5</td>
<td>0.4</td>
<td>0.0</td>
<td>0.9</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>0.4</td>
<td>0.2</td>
<td>0.0</td>
<td>0.4</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>0.7</td>
<td>0.7</td>
<td>0.2</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>0.7</td>
<td>0.8</td>
<td>0.0</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Comparison with translation agency

<table>
<thead>
<tr>
<th>Weighting score</th>
<th>107</th>
<th>134</th>
<th>63</th>
<th>112</th>
<th>72</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty of realization</td>
<td>-</td>
<td>- -</td>
<td>++</td>
<td>0</td>
<td>+</td>
</tr>
</tbody>
</table>
4. Implementation

Starting with the blueprint:

**Contact** → **Briefing** → **Contract** → **Service** → **Delivery**

**Line of visibility**
- Forwarding → Task specification
- Depiction of services → Discussion of crucial points
- Reception of user request → Clarification of liabilities
- Definition of deadlines → Fixing terms of payment
- Translation → Listing of activities
- Encashment → Return → Invoicing

**Line of interaction**
- Manager → Translator → Manager → Translator → Manager
Outlook: a current DFG project

Relevant topics:
- Conditions of media use
- Information retrieval
- Advisory services
- User training

Analysis of library services
Development of concepts
Preference measurement
Simulation study
Generalization
Validation

Target users:
- Students
- Sc. assistants
- Professors
- Administrative staff
- Residents of Bielefeld & OWL

Economically and organizationally justifiable services with a high probability of utilization

A general framework for systematically developing new services
## Background

### Commercial applications of conjoint analysis:

<table>
<thead>
<tr>
<th></th>
<th>Pricing</th>
<th>New product development</th>
<th>Market segment.</th>
<th>Competition analysis</th>
<th>Positioning analysis</th>
<th>Advertising design</th>
<th>Distribution design</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Europe (1986 - 1991)</strong></td>
<td>46 %</td>
<td>36 %</td>
<td>29 %</td>
<td>22 %</td>
<td>13 %</td>
<td>2 %</td>
<td></td>
</tr>
<tr>
<td><strong>USA (1981 - 1985)</strong></td>
<td>38 %</td>
<td>47 %</td>
<td>33 %</td>
<td>40 %</td>
<td>33 %</td>
<td>18 %</td>
<td>5 %</td>
</tr>
<tr>
<td><strong>Germany (1993 - 1998)</strong></td>
<td>59 %</td>
<td>74 %</td>
<td>48 %</td>
<td>41 %</td>
<td>2 %</td>
<td>1 %</td>
<td></td>
</tr>
</tbody>
</table>
“There is always a way to do it better ... find it!”

Thomas A. Edison