Business Models in the Data Economy: A Case Study from the Business Partner Data Domain

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Agenda

1. Introduction
2. Related Work
3. Research Methodology
4. Results Presentation
5. Conclusion and Outlook
1.1 Motivation and Research Question

- First proposals to view data as a resource were made in the 1980s (Wang et al. 1993; Goodhue et al. 1988)

- Concepts for managing physical goods were transferred to managing the “data resource”, e.g. TDQM (Levitin & Redman 1998; Wang 1998)

- The relevance of business partner data was recognized when studying “corporate household data” (Madnick et al. 2002)

- The practitioners’ community observes the emergence of the “data economy” (Newman 2011)

How and why do business models of business partner data providers differ?
1.2 Business Partner Data: An Example from a Global Electrical Engineering and Manufacturing Group

- Organisational Data
  - Name
  - Block indicator

- Hierarchy Information

- Identification
  - Unique identifier
  - Chamber of commerce no.

- Contact Data
  - Division
  - Telephone
  - Email

- Data Source
  - System ID
  - Local System ID

- Address Data
  - Street and city
  - Country
  - ZIP code

- Banking Information
  - Bank
  - IBAN
  - BIC code

- Purchasing Data
  - Currency
  - Incoterms
2.1 Related Work on Business Model Theory

- **Foundations of Business Model Theory**
  - Resource-Based View of the Firm (Wernerfelt 1984; Barney 1991)
  - Industrial Organization Perspective (Bain 1968)
  - The Strategy Process Perspective (Ginsberg 1994)

- **Strategic Resources are according to Barney (1991):**
  - Valuable
  - Rare
  - In-imitable
  - Non-substitutable

- **Examples of recent business model work**
  - Business model generation (Osterwalder & Pigneur 2010)
  - Electronic business models (Zott & Amit 2010)
2.2 Business Model Framework by Hedman & Kalling (2003)
3.1 Research Methodology

- Case study research was applied to study a contemporary phenomenon in its natural environment (Benbasat et al. 1987; Eisenhardt 1989)

- Research process according to five guiding points proposed by Yin (2002)

- Conceptual framework following the business model approach by Hedman & Kalling (2003)

- Case selection within a focus group (Morgan & Krüger 1993)

- Data collection through interviews, internal presentations, public records
## 4.1 Case Study Overview

<table>
<thead>
<tr>
<th></th>
<th>Avox</th>
<th>Bureau van Dijk (BvD)</th>
<th>Dun &amp; Bradstreet (D&amp;B)</th>
<th>Factual</th>
<th>Infochimps</th>
<th>InfoGroup One Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customers</td>
<td>n/a</td>
<td>6,000 clients, 50,000 users.</td>
<td>100,000 from various industries.</td>
<td>n/a</td>
<td>n/a</td>
<td>Several thousands.</td>
</tr>
<tr>
<td>Offering</td>
<td>One million entities, three service types, web services.</td>
<td>85 million companies, data and software support, web services, sales force.</td>
<td>177 million business entities, data and related services, web services, sales force.</td>
<td>Open data platform, API use for free or at a charge.</td>
<td>15,000 data sets, open data platform, four different pricing models, web service.</td>
<td>18 million companies, 20 million executives, data and software, web service.</td>
</tr>
<tr>
<td>Activities and organization</td>
<td>Data retrieval, analysis, cleansing and provision</td>
<td>Monitoring of mergers and acquisitions, data analysis and provision.</td>
<td>Data collection and optimization, provision of quality data services.</td>
<td>Data mining, data retrieval, data acquisition from external parties.</td>
<td>Data collection, infrastructure development, hosting, and distribution.</td>
<td>Selection of content providers, data collection, “data blending”, data updates.</td>
</tr>
<tr>
<td>Resources</td>
<td>38 analysts to verify and cleanse data, central database</td>
<td>500 employees in 32 offices, central database (ORBIS).</td>
<td>More than 5,000 employees, central database</td>
<td>21 employees, central open data platform.</td>
<td>Less than 50 employees, central data platform.</td>
<td>104 employees.</td>
</tr>
<tr>
<td>Factor and production inputs</td>
<td>Third-party vendors, official data sources, customers.</td>
<td>More than 100 different data sources.</td>
<td>Official sources, partnering, contact to companies</td>
<td>Open data community.</td>
<td>Open data community.</td>
<td>50 “world-class” suppliers, 2,500 data sources.</td>
</tr>
</tbody>
</table>
### 4.2 Business Model Analysis: Offering in the Case of InfoChimps

<table>
<thead>
<tr>
<th>Pricing model</th>
<th>“Baboon”</th>
<th>“Brass Monkey”</th>
<th>“Silverback”</th>
<th>“Golden Ape”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fee</td>
<td>free</td>
<td>20 USD/month</td>
<td>250 USD/month</td>
<td>4,000 USD/month</td>
</tr>
<tr>
<td>Allowed API calls per month</td>
<td>100,000</td>
<td>500,000</td>
<td>2,000,000</td>
<td>15,000,000</td>
</tr>
<tr>
<td>Allowed calls per hour</td>
<td>2,000</td>
<td>4,000</td>
<td>20,000</td>
<td>100,000</td>
</tr>
</tbody>
</table>
### 4.3 Key Resources of Business Partner Data Providers

<table>
<thead>
<tr>
<th></th>
<th>Valuable</th>
<th>Rare</th>
<th>Inimitable</th>
<th>Non-substitutable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Expertise and Knowledge</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Database</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Information Technology and Procedures</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Network Access and Relationships</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Capital</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
4.4 Business Model Patterns for Business Partner Data Providers

**Pattern I**
Buyer-Supplier Relationship

**Pattern II**
Community Sourcing

**Pattern III**
Crowd Sourcing

Legend:
- Business Partner Data Provider
- Business Partner Data Consumer
- Data Source
- Data flow.
4.5 Resource Allocation Patterns

- Labor
- Expertise and Knowledge
- Database
- Information Technology and Procedures
- Network Access and Relationships
- Capital

Resource Allocation Levels:
- Low
- Medium
- High

Institutions:
- Factual, Infochimps
- Avox
- BvD, D&B, InfoGroup One Source

Institute of Information Management

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5.1 An Analysis and Positioning Framework for Business Partner Data Providers

- **crowd-sourced data**
- **managed data**
- **budget pricing**
- **premium pricing**

- **D&B**
- **Factual**
- **Avox**

- **high market share**
- **broad offering**
- **established crowd-sourcer**
- **well-established traditional supplier**
- **new market entrant**
- **niche provider**
- **low market share**
- **(or) niche offering**

- **unmanaged data**
- **self-sourced data**
- **managed data**
5.2 Conclusion and Outlook

Findings

- Three business model patterns exist
- A positioning framework is suggested

Contribution

- Among the early papers addressing business partner data domain
- Results may be applied for business models around “intangibles” in general
- Practitioners may benefit from the analysis of the domain

Limitations

- Small case base
- Explorative nature of study, threats to generalizability
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