**Industrial market’s Distribution Networks in the Virtual Environment**

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**Research questions**

RQ1: What are the current changes and trends in distribution?
RQ2: What is the mechanism by which a distribution network operates in virtual environment?
RQ3: What are the benefits and disadvantages of industrial distribution networks in the virtual environment?

**Methodology**

1. **Literature review** to understand the current levels of knowledge and research in the correlated areas concerning: distribution, business networks and relationships, industrial network theory.
2. **Content analysis** of B2B internet websites to make objective and systematic inferences about the intentions, attitudes, and ongoing processes by identifying specified characteristics in textual messages of annual reports, catalogues, stakeholders information, companies web pages.
3. **Case study**, which implies detailed examination of how world leading companies manage distribution using online services and investigate managerial practice of internet-based distribution of chemicals.

**Historical view on a distribution research**

Adapted: Gadde 2008; Gripsrud, 2004; Wilkinson, 2001; Ford.

**Present-day distribution**

- Mass-distribution → Customization
- Unification → Specialization of actors in multi channels
- Self-sufficient → Interdependency
- Localization → Internationalization
- Hierarchic structure → Network-like
- Real (off-line) → Virtual (on-line) relationships

**Two types of distribution networks**

Real  
Virtual
Operates in Russia since 2000
Provides wide range of chemicals, mainly for small and medium producers
Annual turnover 50 Mn USD

Distribution Network

Actors in the network

- Producers of chemicals (domestic and foreign)
- Customers
- Transport Cos (international and domestic)
- Finance Agents (banks, insurance companies)
- Local Authorities (tax administration, customs, etc)

Supply chain

Producer
Sales office
Storehouse
Representative office in Russia
Financial provider
Third party logistic supplier

Consumer A
Consumer B
Consumer C
Dynamic of Internet usage

<table>
<thead>
<tr>
<th>% of companies from the total amount</th>
<th>Organizations using Internet</th>
<th>Organizations with web-site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>49.1</td>
<td>53.4</td>
</tr>
<tr>
<td>Food and beverage production</td>
<td>25.0</td>
<td>28.1</td>
</tr>
<tr>
<td>Textile and wearing industry</td>
<td>35.1</td>
<td>35.6</td>
</tr>
<tr>
<td>Woodworking</td>
<td>49.3</td>
<td>50.4</td>
</tr>
<tr>
<td>Oil production</td>
<td>24.6</td>
<td>25.2</td>
</tr>
<tr>
<td>Chemical industry</td>
<td>15.1</td>
<td>16.1</td>
</tr>
<tr>
<td>Rubber and plastic products</td>
<td>14.6</td>
<td>15.6</td>
</tr>
</tbody>
</table>

The term ‘virtualisation’ and the verb ‘to virtualise’ to denote the process of moving an activity (or a set of activities) from a physical, paper-based form to a computerised, internet-based form.

Interactions in virtual environment

1. Distribution in virtual env.
   - Network participants interact with each other directly without any intermediaries
   - Such distribution scheme has got decentralized structure with **equipotent participants**
   - Functions of focal distributor are rearranged between specialized actors of the network
   - The system gets rid of multi-service distributor

1. H 1: Virtual technologies facilitate **reduction** of operational cost of distribution and production.
   1.1. Information technologies make the routine procedures easier and less time-consuming.
   1.2. Communications and decision making are less costly in the virtual networks.
   1.3. Virtual networks relationships support and development requests much less money than offline network’s relationships.
H 2: Virtual environment creates simplified access to the intellectual resources owned and controlled by other market agents. Intensiveness of information flow in virtual networks expands new opportunities – access to new markets, new marketing techniques and technologies.

+2.1. Increase of innovations > new opportunities
-2.2. Increase of risk to loose strategically important information > Companies have to spend more resources for protection of information.

H 3: Internet-based business is highly available for numerous agents due to the low entrance barriers and small start-up capital.

3.1. Possibility of appearance of unconscionable partner is higher > importance of partnerships and networks aimed to anticipate impostures increases.
+ Development of legislation and legal protection of participants of on-line business.

H 4: Virtual networks have got weaker influence on the company’s freedom; there are fewer limitations of partner’s activities.

4.1. Possibility to loose independency by company is lower.
> In the future virtual strategic partnerships could substitute challenging, resources-consuming, risking processes of merger and acquisition.

From the microeconomic point of view
H 5: Communications are less personalized.
> Companies are less depended on managers and stuff turnover.
Per contra lack or absence of interpersonal face to face communication reduces the level of trust and leads to the increase of transaction costs, uncertainty, and unpredictability.

From the macroeconomic point of view
H 6: Virtualization decreases level of monopolisation and increase competition on the market.

6.1. Internet-based business is available for numerous agents.
The Internet is a vehicle that would revolutionize the dynamics of international business, allowing small companies to compete in the global market place (Quelch and Klein, 1996).

6.2. Customers from local markets can reach global agents via internet.

H 7: Virtual network platforms create an easier access to the expert’s opinion.
For example foresight technologies can be successfully used for consulting of network agents.
Further research

- strengthening of the theory by giving more attention to the virtual network theory
- implement deeper content analysis of B2B internet websites
- executing semi-structured interviews with purchasing and sales executives from the leading industrial companies - users of virtual distribution networks

Thank you for your attention!

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