INTENSIFYING USE OF BIG DATA FOR BUSINESS DEVELOPMENT IN SOCIETY 5.0

Olena Voronkova

Oksana Hordei

Bohdan Patsai
Important

The use of Big Data is particular interest to owners of enterprises selling goods and services. Big data is one of the opportunities to increase business results while meeting the needs of each client. Use of Big Data is especially actual during economic crisis and in the conditions of growing competition.
Differentiation of buyers into groups with different demand functions and subsequent pricing for each such group occurs during market segmentation. Segmentation is usually carried out by gender, age, income level, social status. There is the practice of setting different prices for students, senior citizens, people with disabilities and people of working age. Segmentation of end consumers is being made taking into account price and non-price ways of increase influence on sales (Figure 1).
Figure 1. Classification of loyalty programs

- **Price**
  - **Discount**
    - **Discount card**
    - **Personalized discount card**
  - **Discount accumulators**
  - **Bonus**
    - **Personalized discount card**
  - **Certificate**
    - **Certificate, voucher**
  - **Regular customers’ clubs**
  - **Social customer groups**

- **Non-price**
  - **Social networks, fan clubs, etc.**
  - **Personal card**
Internet trade has the greatest relevance during the lockdown. It is devoid of such shortcomings that are characteristic of the real sector of the economy:

- is not strictly connected with the territory of the physical existence of the consumer;
- can be carried out without any territorial restrictions;
- the rapid development of the information society and information growth gave impetus to the development of new methods of its implementation.
The term «Big Data» usually refers to a series of approaches, tools and methods for processing of structured and unstructured large volumes and the different nature data to obtain a consumer acceptable results.
Facts

The introduction of the term «Big Data» is associated with Clifford Lynch (2008) who was an editor of Nature magazine and prepared a series of topical works.
Facts

Quite often the «triple V» criterion is used to describe «Big Data»:

*volume, velocity, variety.*

Some leading manufacturers of business intelligence software, such as SAS, additionally use two more:

*variability and complexity.*
In particular IBM, creating a full profile from social network data in the Big Data Analytical System, uses all the data that is more or less related to a specific consumer (Table).
Table. The data structure that is used to form a complete social user profile

<table>
<thead>
<tr>
<th>Full social customer profile</th>
<th>Personal characteristics</th>
<th>Identifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Interests</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Social status</td>
</tr>
<tr>
<td>Relationships</td>
<td></td>
<td>Personal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Business</td>
</tr>
<tr>
<td>Chronological activity</td>
<td></td>
<td>Purchase intention</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Current location</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Feedback on products and services</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Incident</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Loyalty Facts</td>
</tr>
<tr>
<td>Goods and interests</td>
<td></td>
<td>Personal relation to goods</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shopping history</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Recommendations</td>
</tr>
<tr>
<td>Politics</td>
<td></td>
<td>Attitude to power</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Political views</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Perception of reform</td>
</tr>
<tr>
<td>Life events</td>
<td></td>
<td>Personal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reactions to events</td>
</tr>
</tbody>
</table>
For convenience we had built Event-driven process chain (EPC) diagram. EPC is often used to describe the workflow in ArisExpress (Figure 2) environment.

If the visitor is not a consumer of goods and services, HTTP-cookie analysis of the web page is carried out that allow carrying out authentication, storage of personal user preferences and settings, session state tracking of user access, maintain user statistics.
Figure 2. Structurally Logical Pricing Scheme in an EPC Chart
CONCLUSION

- The economic situation in the world is extremely dependent on the geopolitical risks that can now be observed (for example a corona virus pandemic).
- Therefore the widespread use of Big Data concept may increase the profitability of enterprises.
- The use of Big Data methods will become an additional source of budget revenues after taxation.
- This will maximally satisfy the needs of consumers whose incomes have recently been declining due to devaluation and inflationary processes.
- In order to increase competitiveness of European goods and services markets the use of big data is a mandatory requirement of our time.
Thanks for attention!
Olena Voronkova  
Doctor of Economic Sciences, Professor, Professor of the Financial Markets Department,  
University of the State Fiscal Service of Ukraine, Irpin City, Kyiv Region, Ukraine  
E-mail address: Voronkova303@gmail.com

Oksana Hordei  
Doctor of Economic Sciences, Professor, Professor of the Department of Finance named after L.L. Tarangul, University of the State Fiscal Service of Ukraine, Irpin City, Kyiv Region, Ukraine  
E-mail address: ohordei@gmail.com

Bohdan Patsai  
PhD of Physical and Mathematical Sciences, Associate Professor, Teacher of Informatics, Mathematics, Irpin Educational Association «Irpin Lyceum of Innovative Technologies – Small Academy of Sciences» Irpin City, Kyiv Region, Ukraine  
E-mail address: b.pacaj@gmail.com