Big Data Analytics potentials as the Main Trend in the Digital Economy

Special Interest Group for Big Data application

December 14, 2019 – Munich

Big Data Analytics – what unite topics in Digital Economy

The industries that will be making the **largest investments** in big data and business analytics solutions:

- o **banking**
- o **discrete manufacturing**
- o **process manufacturing**
- o **federal/central government**
- o **professional services**

2017: $72.4 billion
2020: $101.5 billion

The industries that will experience the **fastest growth** in BDA spending:

- o banking (13.3% CAGR)
- o healthcare (12.8%. CAGR)
- o Insurance (12.8%. CAGR)
- o securities and investment services (12.8%. CAGR)
- o telecommunications (12.8%. CAGR)

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Source: IDC, 2017

Big Data and Business Analytics (BDA): trends and predictions

Proliferation of data – all companies are in **the data business**
Data will be everyone's product. Data will become a product with value to buy, sell or lose

Big Data becomes **fast and approachable**

Variety, not volume or velocity, drives big-data investments

Achieving **Maximum Business Intelligence Machine learning and AI** as a service (MLaaS and AIaaS)
Deep Learning technology is becoming mainstream
The movement towards **conversational interfaces and chatbots** will accelerate

Increasing Data Analytics:
- Increasing **Streaming Analytics**
- Increasing focus on **Cloud-Based Data Analytics**
- **Consumerization of predictive analytics technologies** is supported by cloud prediction services
- More **pre-emptive analytics**: from post-event to real-time and pre-event analysis and action

Source: IDC, Tableau, Forrester

Big Data and Business Analytics (BDA): forecast

Services-related spending will experience the strongest growth with a five-year **CAGR of 14.4%**

Software investments will grow to more than **$70 billion** in 2020, led by purchases of:

- **End-User Query**
- **Reporting and Analysis Tools**
- **Data Warehouse Management Tools**

Non-relational Analytic Data Store and Cognitive Software Platform will experience strong growth (**CAGRs of 38.6% and 23.3% respectively**) as companies expand their big data and analytic activities

BDA-related purchases of **servers and storage** will grow at a **CAGR of 9.0%**, reaching **$29.6 billion in 2020**

Source: IDC, 2017

Proposal - to continue this work with our research group

About 50 participants from more than 40 universities, research institutes, companies, organizations

APPLICATIONS AREAS

- Health
- Ecology
- Manufacturing
- Retail
- Government
- Telecommunications

SESSION TOPICS

- A Scope of Big Data
- Methods & Tools for Big Data
- The Impact of Big Data
- Big Data in Retailing

Program
https://bi.hse.ru/mirror/pubs/share/direct/210782822

Strong interest to Big Data Analytics in AIS:

Established in 2015 by the group of ten international IS scholars the group continues its impressive grow.

THE AMOUNT OF MEMBERS IS CONSTANTLY RISING

- - - The amount of members is constantly rising

RUSSIAN-FRENCH WORKSHOP IN BIG DATA AND APPLICATIONS
universities, research institutes, companies, organizations (RUSSIA)

- Institute for System Dynamics and Control Theory of Siberian Branch of Russian Academy of Sciences

- Institute of Mathematical Problems of Biology of Russian Academy of Sciences - the Branch of Keldysh Institute of Applied Mathematics of Russian Academy of Sciences

- Central Economics and Mathematics Institute of Russian Academy of Sciences

- V.A. Trapeznikov Institute of Control Sciences of Russian Academy of Sciences

- Joint Institute for Nuclear Research

- The Institute for Information Transmission Problems

- Federal Research Center «Computer Science and Control» of Russian Academy of Sciences

- P.N. Lebedev Physical Institute of the Russian Academy of Sciences

- FORS Group

- Central Science Research Telecommunication Institute

- ITMO Univ

- Skolkovo Inst. of Science & Technology

- Lomonosov Moscow State Univ

- HSE

- Interdisciplinary Scientific Cent. Poncelet

- Analytical Center for the Government of RF

- Plekhanov Russian Univ. of Economics

- MTS

- X5 Retail Group

- IBS

- Centre National de la Recherche Scientifique

- Université Paris 1 Panthéon-Sorbonne, Université d'Evry-Val-d'Essonne

- ATOS IT Solutions and Services LLC

- Qwant S.A.S.

- Laboratoire d'Informatique de Grenoble (AMA group)

- Conservatoire National des Arts et Métiers

- RILOS, Retail Intelligence Location Solution

- Universite Toulon / LSIS, EADM MADICS

- Télécom ParisTech

- Institut Mines-Télécom

- INRIA

- CNAM

- ActiveViam

- INRIA Sophia-Antipolis

- Teralab

- Institut de Physique du Globe de Paris

- FactSet SARL

- Retail Intelligence Location Solutions

- Université Paris XII

Center for technological initiatives – new Master programme

Center for technological initiatives on the basis of educational institutions and scientific organizations in area of technologies for the Big Data storage and analysis:

- Translation of the results of basic research through applied research and development in engineering applications for specific industrial partners
- Technology transfer through co-operation with industrial partners, the creation of sustainable partnerships between academic and industrial partners
- Forming leaders developing new technologies through the implementation of educational programmes with obligatory participation in the research centers

QS WORLD UNIVERSITY RANKINGS BY PROGRAM 2018

The Master's programme in Big Data Systems of HSE has high ranks among the world's best Master's programmes in business analytics.

The goal of the project: to develop the infrastructure for self service big data analytics

Adaptive user-oriented services for support of self-service Big Data analytics to make analytical solutions more accessible, to ensure widespread adoption of analytics in various spheres of activity

Important part of the project: formation of hybrid computing infrastructure as the combination of computing resources of different types: desktops, individual servers, computing clusters of different types and capacities, infrastructures, based on different technologies, cloud computing and virtualization.

In addition, these resources may be located in various organizations and/or individuals.

Forming ideas for further work

Webinars - quarterly - new topics?

January, 2020 - WORKSHOP IN BIG DATA AND APPLICATIONS
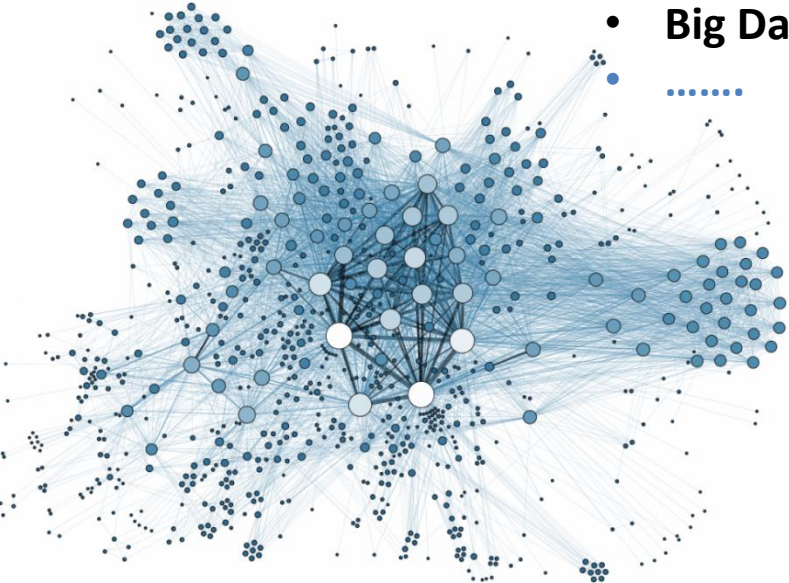
Participation in development process for creation of center of technological initiatives on the basis of educational institutions and scientific organizations in area of technologies for the Big Data storage and analysis

Hackathon (Self-Service Analytics Application)

BIG DATA AND APPLICATIONS: topics proposals

NEW TOPICS

- **Customer Experience**
- **Consumerization of predictive analytics technologies**
- **Big Data and Industry 4.0**
- **Big Data veracity and quality**
- ....

NEW AREAS

- **Finance**
- **Housing**
- **Transportation**
- **Media**
- ......

ICIS 2019 — Munich Germany — Dec. 15-18

https://bm.hse.ru/bigdataapplication

Deadline for paper submission: 8.12.2019

EVENT : 14.12.2019

THANK YOU FOR YOUR ATTENTION

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